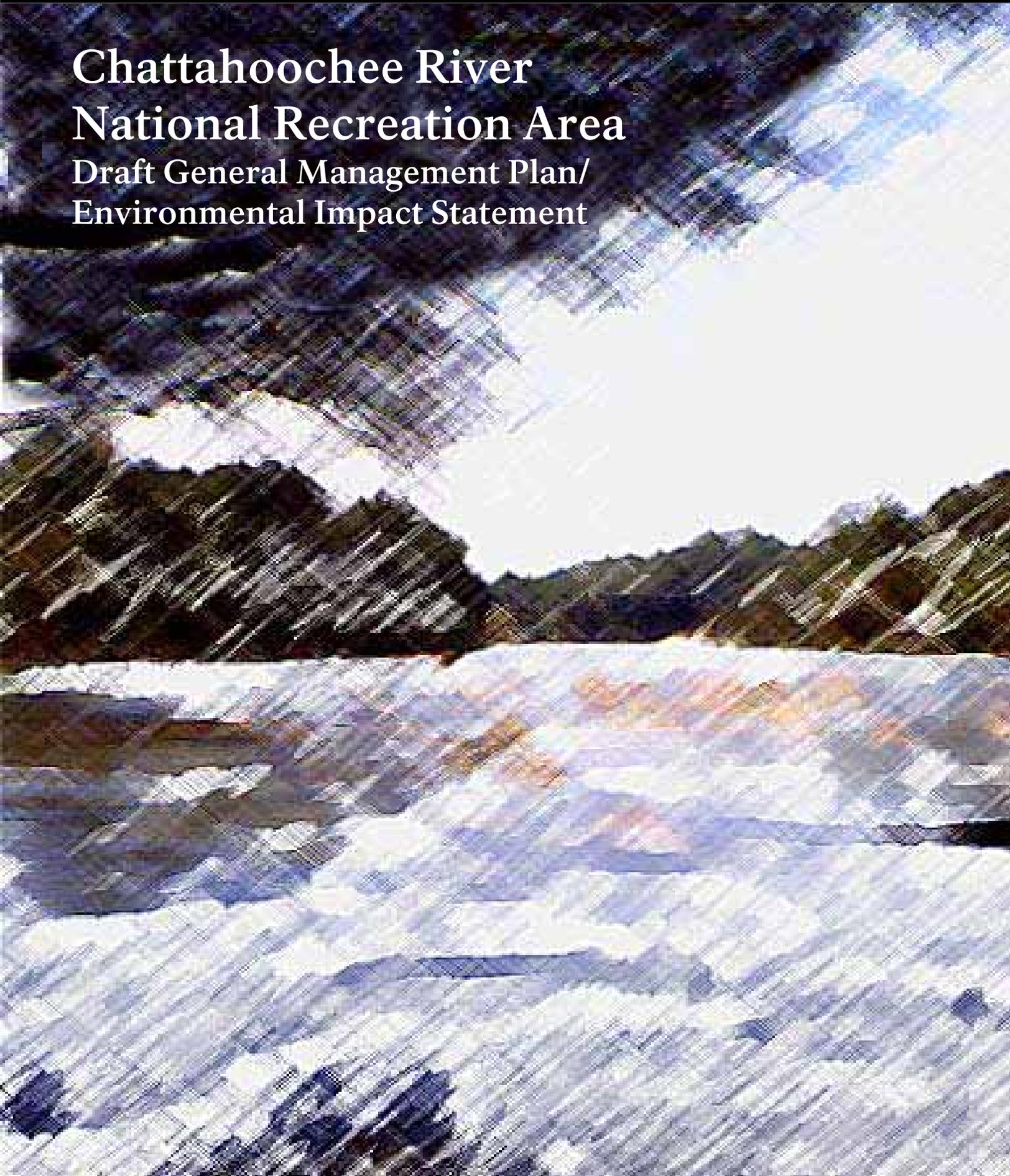


National Park Service  
U.S. Department of the Interior  
Chattahoochee River  
National Recreation Area  
Georgia



# Chattahoochee River National Recreation Area Draft General Management Plan/ Environmental Impact Statement



**Draft  
General Management Plan/  
Environmental Impact Statement  
Chattahoochee River  
National Recreation Area**

Atlanta, Georgia



**United States Department of the Interior  
National Park Service**

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May, 2004



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**Chattahoochee River National Recreation Area  
Draft General Management Plan and Environmental Impact Statement**

**CHATTAHOOCHEE RIVER NATIONAL RECREATION AREA**

Atlanta, Georgia

This *Draft General Management Plan Amendment/Environmental Impact Statement* evaluates four alternatives for the future management of the Chattahoochee River National Recreation Area. It defines the strategies that will allow for diverse visitor use of the Chattahoochee River National Recreation Area, protect park resources, and provide for the enjoyment of the people. The National Park Service is the lead agency for this project.

The Centralized Access Alternative, the preferred alternative, would draw visitors toward a system of three hubs in which administrative and interpretive facilities would provide visitor information, rest rooms, parking lot and roads, trail heads, and access to the Chattahoochee River. The hubs would provide an opportunity to optimize the visitors' experience and understanding of the park. The visitors' experience would be focused on the interpretive activities and other facilities available while in the hubs, and provide for solitude and natural settings outside the hubs. This alternative would allow the National Park Service to concentrate limited resources in hubs, while maintaining a wide variety of visitor use.

The Focus on Solitude Alternative would minimize development in the park and maximize the opportunity for visitors to experience solitude in natural settings that are relatively insulated from the surrounding urban conditions, particularly in newly acquired areas. This alternative would allow continued use of existing facilities. Some areas subject to active use would continue such use, but with the option to improve resource conditions through various means.

The Expanded Use Alternative would expand and distribute visitor access throughout the park, including newly acquired parcels, and would provide a wide variety of visitor experiences. New facilities would be developed or existing facilities would be refurbished. Connectivity to existing neighborhoods would be optimized and expanded. The National Park Service could provide for a wide variety of visitor experiences and would provide trail linkages to areas outside the park.

The Continue Current Management or No Action Alternative would continue the current management practices into the future. There would be only minor changes in resources management, visitor programs, or facilities beyond regular maintenance activities. The current park road system would be retained, and existing traffic management practices would continue.

The potential environmental consequences are addressed for each alternative, including impacts to natural resources, cultural resources, transportation, and visitor and community values.

National Park Service  
Superintendent  
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## EXECUTIVE SUMMARY

### OVERVIEW

This general management plan and environmental impact statement is the basic guidance document for managing the Chattahoochee River National Recreation Area. The purposes of this plan are to specify resource conditions and visitor experiences to be achieved in the park and to provide the foundation for decision-making and preparation of more specific resource plans regarding park management.

The final general management plan will be the second comprehensive plan prepared for the Chattahoochee River National Recreation Area by the National Park Service. When completed, it will represent an agreement by the National Park Service with the public on how the park will be used and managed during the plan period. This plan represents the results of a multi-year planning process that began in 1999. It complies with applicable National Park Service planning guidance, including: Management Policies 2001 (NPS 2000c), and *Director's Order #12 and Handbook: Conservation Planning, Environmental Impact Analysis, and Decision Making* (NPS 2001b). The geographic area covered by this plan includes 10,000 acres of land located along 48 miles of the Chattahoochee River corridor extending from Peachtree Creek in Atlanta north to Buford Dam, Lake Lanier. The area includes the 6,800 acres within the park's boundaries as of 1984 and an additional 3,200 acres designated for the park by Congress in 1999.

Since the 1989 general management plan was prepared, the Atlanta metropolitan area has grown rapidly. The counties that border the Chattahoochee River National Recreation Area (Cobb, Fulton, Forsyth, and Gwinnett) are among the fastest growing in the United States. This rapid development has resulted in industrial, commercial, and housing developments close to the narrow, linear park. Simultaneously, the number and variety of visitor uses have increased dramatically, especially in the past decade. As a result, the updated general management plan must address problems associated with physical encroachment and increased levels and types of visitor use. Three key management issues have been identified for the park.

The first key management issue is to determine the most appropriate levels of service for visitor interpretation and education in the park. Key issues include:

How can the park accommodate an increasing numbers of visitors and still provide effective infrastructure, such as water and wastewater facilities, roads, and parking areas?

How can the park provide effective educational and interpretive programs for increasing numbers of visitors?

A second key management issue is to determine suitable locations for administration and visitor facilities. Key questions are:

What are the most appropriate locations to support administration and operations functions while minimizing resource disturbance?

Should these facilities be concentrated in a few locations or spread out over a larger geographical area?

What is the basis for deciding where facilities should be located, and what types should be constructed?

The third key management issue is to determine how to manage the park to allow for quality visitor experiences while protecting natural and cultural resources. The park is located in a long, narrow river corridor surrounded by rapidly developing communities and park is therefore highly sensitive to potential effects of encroachment and use. Key issues include:

Physical disturbance of soils on construction sites in developing areas immediately around the park can lead to sedimentation of the Chattahoochee River and streams within the park, with resulting adverse impacts on aquatic life and water quality. How can the park deal effectively with non-point pollution and sedimentation?

Water quality in streams within the park, including the Chattahoochee



River, can be adversely impacted by nonpoint runoff from impervious surfaces in adjoining developed areas. Pollutants such as fecal coliform bacteria, trace metals, and organic compounds can be introduced via this mechanism. How can the National Park Service maintain water quality in streams within the park?

Exotic species encroaching from neighboring areas may threaten native species in the park. How can the National Park Service manage the control of exotic species to prevent or minimize the effects to native species?

Encroachment by development can lead to creation of numerous informal, unmaintained (social) trails in the park created by people from adjoining residential areas. Social trails disturb native vegetation and can lead to soil erosion, especially in steeper areas. How can the National Park Service manage trails to prevent or minimize the effects of social trails?

Increased numbers of visitors require water and wastewater infrastructure as well as education and interpretation services. Construction and operation of these types of facilities, along with associated roads and parking areas, can affect and have affected the park's natural habitats and cultural resources. How can the park manage the construction and operation of these facilities to minimize impacts on natural and cultural resources?

The potential solutions to these issues are reflected in the management alternatives analyzed in this general management plan and environmental impact statement. The alternatives address the adequacy and appropriateness of park services and facilities and the challenges posed by managing a large, linear park in the center of a major, rapidly developing metropolitan area.

As with all national parks, management of the Chattahoochee River National Recreation Area is guided by numerous congressional acts, Executive

Orders, regulatory requirements, and National Park Service policies. In addition to the approaches contained in the alternatives in this general management plan, the National Park Service strives to implement these legislative, executive, and policy requirements in the park. The "Servicewide Policies and Mandates" section identifies the desired conditions that the National Park Service will work to attain regardless of the alternative that is selected and the types of actions the National Park Service will take to achieve those desired conditions.

Specific resources and values, called impact topics, were used to focus the planning process and the assessment of the consequences of each of four alternatives. Four criteria were used to determine the impact topics. They included resources cited in the establishing legislation for the park or the parkway, resources critical to maintaining the significance and character of the park, resources recognized as important by laws or regulations, and resources of concern to the public, as expressed during scoping. Impact topics were organized into three categories.

Natural resources, including air quality, the Chattahoochee River and its tributaries, wetlands and floodplains, deciduous forests, protected and rare species, and other native wildlife.

Cultural resources, including archeological resources, historic buildings, structures, objects, and properties of traditional religious and cultural significance.

Visitor and community values, including traditional park character and visitor experience, regional and local transportation, and community character.

Decision points were then generated for the park by soliciting comments at six public meetings located throughout the corridor during the fall of 2000 and at meetings with agencies. Decision points are statements that specify a range of possible future conditions in the park, based on public input. The decision points are used as the basis for developing the alternatives in the environmental impact statement for the general management plan. The following decision points were developed.



Should present practices of management, preservation, and protection of natural and cultural resources be maintained, or should these management, preservation, and protection practices be expanded in volume, type, and scope?

Should the park enhance visitor access and use with associated facilities, or should the park restrict use and access to selected areas?

Should the park widen its circle of influence, or should the park restrict its focus to activities within park boundaries?

Four alternatives were developed to provide different approaches for addressing the decision points. To design these alternatives, the National Park Service conducted public scoping, developed the above decision points, and then screened a larger number of alternatives, refining them based on public input. Following the general definition of the alternatives, the National Park Service identified management prescriptions (future uses) potentially applicable for implementing the alternatives. The prescriptions are possible future uses of the park that reflect concerns and issues identified by the public during the scoping process.

Five management prescriptions define the target visitor experiences and resource conditions that could occur under the four alternatives for the Chattahoochee River National Recreation Area. Each alternative is a combination of several management prescriptions. None of the alternatives would use all of the prescriptions, and the locations where some of the prescriptions would be applied vary among alternatives. The prescriptions emphasize desired conditions and visitor experiences for forests, the Chattahoochee River, cultural resources, recreation areas, visitor facilities, and administration and operations areas.

Using a system of zones, the management prescriptions were then mapped to specific areas of the park to define the future uses in the park as defined under the various prescriptions. The following five management zones were developed.

**Developed Zone:** The developed zone would provide the highest number of recreational and educational facilities for visitors. This zone would be characterized by a rela-

tively high density of people in a relatively urbanized setting. The opportunity for solitude would be low, but the potential for educational opportunities would be high. Appropriate activities would include day hiking, off-road and street biking, horseback riding, jogging, picnicking, natural and cultural resources observation, interpretative activities, fishing, canoeing, rafting, kayaking, and use of motorized vessels. This zone would include facilities such as buildings, roads, parking lots, and paved trails.

**Natural Area Recreation Zone:** This zone would allow certain types of high-use recreation in a relatively undisturbed natural environment. The number of visitors in this zone would be relatively high, so the opportunity for experiencing solitude would be moderate compared to the urban primitive zone. Unpaved trails would be appropriate in this zone, as well as activities such as off-road bicycling.

**Urban Primitive Zone:** This zone allows visitors to experience a relatively natural environment and a relatively low probability of encountering many people during a given visit to the park. This zone would provide a relatively undisturbed environment that could be enjoyed by visitors interested in nature and natural settings. Few people would be encountered in this zone, use of non-motorized vessels would be allowed. Unpaved trails would be appropriate.

**Pristine River Zone:** This zone would provide visitors with an experience as close to a natural undisturbed river corridor as possible, given the urban environment in which the park is located. Trails would not be allowed close to the river; access would be possible by boat via boat ramps located outside this zone. Although the region outside the park continues to be developed, the intent of this zone is to provide a river experience of quiet and solitude to the extent practicable, enabling visitors to appreciate the natural values of the Chattahoochee River environment.

**Cultural Resource Zone:** This zone would protect cultural resources within the park, while allowing the public to enjoy and un-



derstand the value of these resources. The number of visitors to cultural resource zones could be high, depending on the type of resource. Opportunity for solitude and enjoyment of the natural environment would vary according to location. This zone would be a clearly defined area that includes archeological or historic resources. This zone could include individual sites already listed on the National Register of Historic Places or, in the future, could include formally designated cultural landscapes.

## DESCRIPTIONS OF ALTERNATIVES

Guidelines for preparing environmental impact statements require that the preferred alternative be identified in the draft environmental impact statement unless the decision-maker has no preference. The National Park Service would find any of the three action alternatives acceptable as the basic approach for future management of the Chattahoochee River National Recreation Area. However, the National Park Service has identified the Centralized Access Alternative as the preferred alternative. The following is a summary of the key features of each of the alternatives.

### Continue Current Management or No Action Alternative

This alternative would continue the current management pattern into the future. It represents the No Action Alternative required by the Council on Environmental Quality (1978) guidelines for implementing the National Environmental Policy Act and *Director's Order #12: Conservation Planning, Environmental Impact Analysis, and Decision Making* (NPS 2001b).

Under the No Action Alternative, the park would be maintained and managed using the current management strategy. There would be no major changes in resources management, visitor programs, or facilities beyond regular maintenance. The current park road system would be retained, and existing traffic management would continue.

### Focus on Solitude Alternative

This alternative would implement management programs to minimize development in the park and maximize the opportunity for visitors to experience solitude in natural settings relatively insulated from the surrounding urban conditions, particularly in newly acquired areas. This approach would involve reducing or minimizing recreational sites and facilities within the newly acquired areas of the park, but would allow continued use of existing facilities in the original units. Some areas subject to heavy use would continue such use, with the option to improve conditions through various means; for example, by changing visitor use patterns to mitigate potentially adverse impacts on natural and cultural resources. The focus on solitude would redirect visitation initiatives to provide experiences in a relatively natural area with few visitors. This alternative would have the following specific features:

Visitors would experience the natural environment wherever feasible through a system of non-paved walking trails, primitive areas of beauty, and locations along the riverbanks defined as pristine river zones where no trails or structures would be allowed near the river. Areas designated as pristine river zones could be viewed from the river in non-motorized vessels.

This alternative would allow few new facilities to be constructed within park boundaries; the majority of new facilities would be built outside the park. Newly acquired additions, as authorized by Congress along the Chattahoochee River corridor, would remain in the more natural state, with unpaved trails only. River use would be encouraged through canoes, rafts, non-gas motorized vessels, and other recreation opportunities. No new paved roads would be built under this alternative.

Visitors would be provided with a quality experience in a wide variety of environments available in the park, with an emphasis on environmental education. The visitor experience would be highly facilitated through learning.



Parcels added to the park under the newly expanded boundaries would remain in, or be restored to, a largely natural state. Areas with significant cultural resources would be managed to protect values in accordance with National Register standards. Limited facilities would be added; for example, small gravel parking lots, primitive trails, and interpretive signage.

### **Centralized Access Alternative – The Preferred Alternative**

In this alternative, visitors would be drawn toward a system of relatively developed hubs in which administrative and interpretive facilities are located. Hubs, at a minimum, would provide visitor information, rest rooms, parking lot and roads, trail head, and access to the river; such facilities would be minimized outside hubs. The hubs would be placed at strategic locations along the 48-mile-long park to optimize visitors' experience and understanding of the park. This alternative would have the following features:

Visitors' experience would be focused on the interpretive activities and other facilities available in the hubs. Visitors, in lower numbers, could enjoy the extensive natural habitats and cultural resources in the undeveloped portions of the park. Visitor activities in natural areas outside the hubs would be focused on achieving solitude in an urban environment.

Visitor services would be expanded while simultaneously maintaining green space throughout the park by coordinating public/private partnerships at carefully selected centers (hubs) of the park.

The opportunity for instituting National Park Service education and interpretive programs, visitor services, and connectivity at key regional locations would be enhanced. This alternative would allow the National Park Service to concentrate limited resources into hub areas. This alternative would discourage expanded new entrances to the park and would encourage National Park Service supervision, education, and monitoring where use is greatest.

The visitor experience would be more gregarious, with more opportunity for socializing and involvement in group activities and less opportunity for solitude in the vicinity of the hubs. However, the opportunity for solitude would still exist at park locations outside the hubs. A nine-mile pristine river zone would be established between McGinnis Ferry Road and Highway 20 that would provide visitors with the opportunity to experience the river in a relatively natural condition.

Motor vessels (gasoline-driven motors) would be defined as an appropriate use in the upper portion of Bull Sluice Lake. Bull Sluice Lake is the only lake within the 48-mile park, providing a unique recreation opportunity for the use of motorized vessels.

### **Expanded Use Alternative**

In this alternative, expanding and distributing access throughout the park, including newly acquired parcels, would provide varying visitor experiences. New facilities would be developed or existing facilities would be refurbished. Connectivity to existing neighborhoods would be optimized, providing similar visitor experiences throughout the park. This alternative would have the following specific features:

Because this linear park is located adjacent to the most densely developed neighborhoods and business communities of the metropolitan area, access to the park could be expanded in the future for current and new visitors.

The National Park Service could expand visitor experiences to local visitors and day use visitors from business parks and neighborhoods and would provide trail linkages to city- and county-funded and supervised parks.

Trails from existing and proposed developments would be managed to encourage use by an expanded group of visitors. This would require a higher level of self-help and individual reliance from a wide range of sources.

A proactive National Park Service outreach program would de-emphasize solitude and



emphasize a more social, community-based group experience. Expanding uses and access would require a redefinition of gathering spaces surrounding the national park, which would be used for picnics, celebrations, neighborhood meetings, and family walks. Visitor experience would be characterized as one of convenience and personal attachment.

Facilities for the park would be necessarily distributed throughout the 48 miles, based on availability of resources and local community support to serve a greater and more diverse population of residents. This alternative would have the potential to strengthen community involvement in environmental protection of the park and its resources. Local self-help education and voluntary public/private partnerships could enhance park stewardship.

## ENVIRONMENTAL CONSEQUENCES

The environmental consequences section describes the effects of the alternative on each of the 10 impact topics.

The process of determining environmental consequences included identifying the regulations and policies applicable to each impact topic, and then defining the methods to conduct the analysis. This included defining impact intensities such as negligible, minor, moderate, or major effects for each impact topic; determining whether the effects were adverse or beneficial; and establishing time frames for long-term and short-term effects. The impacts associated with the construction and operation phases of each alternative were also defined. Cumulative effects of park action inside the park on park resources and visitor experience, as well as cumulative effects of actions in the local and regional area surrounding the park on park resources, were also assessed. The impact analysis compared future conditions under potential new types of management practices (action alternatives) to future conditions that would occur if current management practices were to continue unchanged (Continue Current Management / No Action Alternative). The following is a summary of the results of the environmental impact assessment:

### Impacts of the No Action Alternative:

Overall, the No Action Alternative provides a baseline against which the effects of the action alternatives can be evaluated. Under the No Action Alternative, present management practices, resource conditions/trends, and the current visitor experiences/trends would continue into the future. In addition, under the No Action Alternative, the park's boundaries would not be increased to 10,000 acres. The No Action Alternative would thus essentially continue the existing conditions and management practices in the park. Because park staff resources are limited, visitor education would be minimal. The park is currently experiencing problems with soil erosion, sedimentation of streams from surrounding development, excessive growth of invasive species of plants, and excessive use of social trails (trails not constructed and maintained by National Park Service but created by visitors). In addition, cultural resources are being degraded through physical disturbance. Impairment of cultural resources is therefore possible under the No Action Alternative. In this sense, the park is not in compliance with all applicable National Park Service policies, mandates, and regulations. Implementation of the No Action Alternative would result in a continuation of these problems and of non-compliance in some instances.

Limited construction and continued maintenance would occur under the No Action Alternative. The park would continue to repair and maintain roads, boat ramps, trails, parking lots, and buildings at current levels. Some new facilities would be constructed and operated in the park, however.

The overall effects of the No Action Alternative on natural resources would lead to gradual long-term reduction of the value of natural and cultural resources in the park, as a result of less effective resource and trail management in comparison with the action alternatives. However, National Environmental Policy Act environmental assessments would still be required for the majority of new park facilities, and this would provide assurance that avoidance of potentially adverse direct



and cumulative impacts would be achieved to the maximum extent possible.

**Impacts of the Focus on Solitude Alternative:** Approximately 69 percent of the park (6,900 acres of the total 10,000 acres) would be left in a more natural state as urban primitive and pristine river zones. Slightly more than 2.7 percent of the park (276 acres) would be included in developed zones. However, the primary visitor experience would be focused on achieving solitude and isolation. Approximately 32 percent of the park (3,200 acres) would be designated as developed, natural area recreation, and cultural resource zones.

Increased educational and research opportunities would occur compared to the No Action Alternative. The Focus on Solitude Alternative would focus on providing visitors the maximum amount of opportunity to experience the natural features of the park, but with relatively few access points along the 48-mile corridor. Construction would be more limited under this alternative than the No Action Alternative, and would still be completed according to the requirements of the National Environmental Policy Act and National Park Service policies.

Effects of construction and operation of new facilities would be of lower intensity as compared with the No Action Alternative because the overall level of construction activity would be less than the No Action Alternative, and because resource management plans, commercial services plans, and trail plans would be prepared and implemented.

**Impacts of the Preferred Alternative – Centralized Access:** Approximately 40 percent of the park (4,000 acres of the total 10,000 acres) would be available to visitors through the developed, natural area recreation, and cultural resource zones. Five developed zones would be allowed under this alternative, totaling approximately 2.7 percent of the total park area (272 acres). However, the actual amount of disturbed land within the developed zone would be much smaller, since only a fraction of each zone would actually be physically disturbed. This same principle applies to construction activities in

any of the other zones. In addition, National Environmental Policy Act environmental assessments would still be required for the majority of new park facilities, and this would provide assurance that avoidance of potentially adverse direct and cumulative impacts was achieved to the maximum extent possible. These environmental assessments would be tiered to the general management plan/environmental impact statement as a means of assuring that all issues identified by the public during scoping are addressed effectively.

Under this alternative, visitors would be drawn to a maximum of up to three hubs and five developed zones distributed along the length of the 48-mile park corridor. Trails would also be constructed in certain areas. Hubs and trails, as well as any other new park facilities, would be sited according to the avoidance, minimization, and compensation sequencing requirements of the National Environmental Policy Act and the non-impairment policy of the National Park Service. This could involve use of innovative approaches, such as locating hubs outside park boundaries or joint use of adjoining, existing facilities.

This alternative would allow increased educational opportunities for visitors through centralized facilities and access to resources and information from park rangers. Visitors would still have ample opportunity to experience solitude and other similar activities in natural areas between the hubs. An intermediate level of construction would occur in the hubs and for trail systems or other National Park Service facilities, in comparison with the No Action Alternative.

In general, relative effects of this alternative on the environment would therefore be moderate in comparison to the No Action Alternative. The general effects of this alternative as a result of construction would be greater than the No Action alternative because some new construction would take place in the hubs and developed zones. However, the long-term effects of the Centralized Access Alternative would be beneficial, because it would include planning for and ef-



fective management of various natural and cultural resources, commercial services, and trail management. The No Action Alternative would not develop or implement these plans.

**Impacts of the Expanded Use Alternative:** Approximately 85 percent (8,500 acres of the total 10,000 acres) of the park would be available to visitors through the developed, natural area recreation, and cultural resource zones. However, visitor use would be focused and concentrated on a variety of access points and a total of eleven developed zones distributed throughout the park. Numerous types of facilities would be constructed and operated within these developed zones, such as boat access points, trail heads, and interpretive facilities. Trails would be constructed in a greater number of areas than under the other alternatives, with approximately 74 percent of the park (7,400 acres) designated as natural area recreation zone. Because visitor use would be concentrated in the developed zones, however, visitors would still be able to utilize the extensive areas between these zones for less structured activities.

Access points and trails, and any other new park facilities would be sited according to the avoidance, minimization and compensation sequencing requirements of the National Environmental Policy Act. Development would be limited as a result, and sites where construction would be proposed would be carefully selected and managed to avoid adverse effects of soil erosion and habitat disturbance. Implementation of this alternative could also involve use of innovative approaches such as locating facilities outside park boundaries, or joint use of adjoining, existing facilities.

This alternative would have the highest relative degree of impact on the environment compared to the No Action Alternative. However, the park would benefit from the development and implementation of resource management plans, commercial services plans, and trail plans. These plans would be designed to protect and restore natural and cultural resources in the park.

All three action alternatives would have a major beneficial long-term impact on community and visitor values as a result of the improved education and interpretation facilities. Compared to the No Action Alternative, these would provide greater opportunities for the public to learn about and experience the park's natural and cultural resources. The action alternatives would also enhance the efficiency of park administration and improve monitoring and other protective services provided by park rangers.

None of the action alternatives would result in impairment of natural or cultural resources or transportation. All action alternatives would include development and implementation of a resource management plan, a water resource management plan, a fisheries management plan, a collections management plan, a commercial services plan, fire management plan, and an integrated trails system plan. These plans would provide effective means for balancing the desired forms of use of the park by visitors while allowing for preservation and protection of park natural and cultural resources.

The vast majority of the effects of the action alternatives would not result in major, adverse long-term effects on the cultural or natural resources of the park. The Focus on Solitude Alternative would result in a major, long-term, adverse effect on visitors who desire more active forms of recreation in the park because this alternative would pose the most restrictions on these types of use. This alternative would have a major beneficial effect on visitors who valued a less active and more nature-oriented experience within the park, however. The Expanded Use Alternative was also estimated to result in major adverse long-term effects on transportation at six locations in the park. However, detailed site-specific transportation analyses would be conducted as part of tiered environmental assessments for future proposed projects and measures to minimize or reduce impacts would be developed. As part of these environmental assessments, possible site-specific traffic solutions such as traffic calming measures or altered flow patterns at park access points would be identified. This would result in improved localized conditions, which would be considered moderate, beneficial, long-term effects on transportation systems associated with the park. The overall adverse impacts of the Expanded Use Alternative on trans-



portation are defined as being moderate and long-term as a result of these factors.

Major, long-term, adverse effects were predicted to result from the continued cumulative effects of development around the narrow, linear park, but these are outside the direct control of park management. The primary effects of development in areas surrounding the park include excessive storm water runoff and associated effects on surface water hydrology, water quality, and aquatic resources, physical encroachment, spread of exotic species, and high levels of visitor use on informal trails. These cumulative effects are not the result of management actions taken at the park, but do present an opportunity for development of outreach and partnership programs designed to address these issues.

#### **MITIGATION MEASURES OF THE ACTION ALTERNATIVES**

Mitigation and best management practices were included throughout the formulation of the alternatives included in this general management plan. Measures taken to protect natural resources include siting new facilities in disturbed areas whenever feasible to avoid causing new effects on resources. Boardwalks, fences, signs, and similar measures would route people away from sensitive resources, such as wetlands or riparian habitats, while permitting access to important viewpoints. Wetland and sensitive riparian habitats would be delineated by qualified specialists and clearly marked before construction work proceeded.

Mitigation actions would also occur prior to construction to minimize immediate and long-term effects to rare, threatened, and endangered species, wetlands, and terrestrial ecological resources. Adverse effects to cultural resources would be minimized by applying the Secretary of the Interior's Standards for Archeology and Historic Preservation and by using visual screens and/or sensitive designs compatible with historic resources. In addition, all action alternatives would include development and implementation of a resource management plan, a water resource management plan, a fisheries management plan, a collections management plan, a commercial services plan, a fire management plan, and an integrated trails

system plan, which would significantly mitigate adverse effects on park resources.

#### **SELECTING THE PREFERRED ALTERNATIVE**

A choosing by advantages workshop was held to select a preferred alternative. The choosing by advantages method provides a trackable, objective, logical procedure for assigning numerical scores that show the relative advantage of alternatives. The National Park Service uses this method to allow a non-biased selection of the preferred alternative from a set of initial draft alternatives.

Using this method, the advantages of the three draft alternatives were scored and compared; the alternative with the highest score was determined to be the preferred alternative. The preferred alternative was then further analyzed to incorporate additional advantageous features from the other two draft alternatives, thereby raising the score of the preferred alternative while achieving the highest degree of advantage. The workshop identified the Centralized Access Alternative as the preferred alternative.

#### **ENVIRONMENTALLY PREFERRED ALTERNATIVE**

By reviewing potential effects on resources and effects of visitor use, and developing proposed measures for mitigating effects on natural and cultural resources, the National Park Service has determined that the environmental preferable alternative is the Centralized Access Alternative. While some specific actions under the Focus on Solitude Alternative may achieve similar, or in some cases greater, levels of protection for certain cultural resources and natural resources compared to the Centralized Access Alternative, the Centralized Access Alternative best achieves the six conditions prescribed under the National Environmental Policy Act Section 101. While many actions in other alternatives may be similar to the environmentally preferred alternative in their effect and consequence, the Centralized Access Alternative:

Provides a high level of protection of natural and cultural resources while concurrently attaining the widest range of neutral and benefi-



cial uses of the environment without degradation;

Maintains an environment that supports diversity and variety of individual choice; and

Integrates resource protection with opportunities for an appropriate range of visitor uses.



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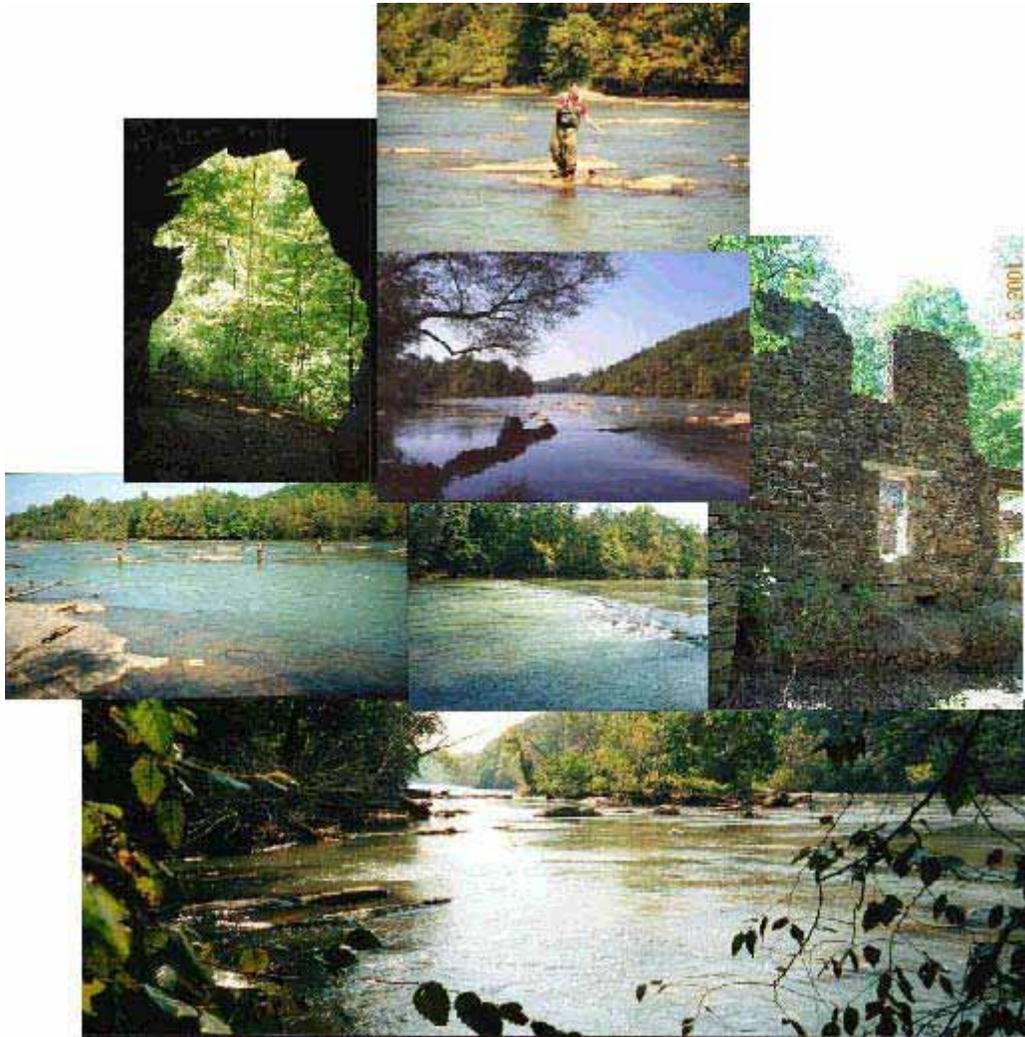
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## PURPOSE OF AND NEED FOR ACTION



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## PURPOSE OF THE GENERAL MANAGEMENT PLAN

The purpose of this general management plan and environmental impact statement is to present a plan for managing the Chattahoochee River National Recreation Area for the next 15 to 20 years. The Chattahoochee River National Recreation Area is a 48-mile-long park located in the rapidly developing area between Atlanta, Georgia, and Lake Lanier, Georgia. The current park boundaries include 10,000 acres of land situated in a narrow corridor along the Chattahoochee River. The Region map and Vicinity map show the location of the current park boundaries in relationship to the state of Georgia and the Atlanta region. The Previous Conditions map shows the location and extent of the boundaries as defined in the previous general management plan for the park, which was prepared in 1989. The Water Features map highlights the Chattahoochee River and its main tributaries.

General management plans represent the broadest level of planning conducted by the National Park Service and are intended to provide overall guidance for making informed decisions about future conditions in national parks. General plans are updated by the National Park Service every 10 to 15 years and are required to be in compliance with the National Environmental Policy Act. According to policy, the environmental impact statement is prepared simultaneously with the general management plan under the guidelines established in Management Policies 2001 (NPS 2000c) and *Director's Order #12: Conservation Planning, Environmental Impact Analysis, and Decision-making* (NPS 2001b).

The general management plan does not address site-specific projects such as visitor centers or other structures. These types of detailed proposals are addressed in the future implementation phase of park service planning by preparing National Environmental Policy Act environmental assessments that “tier” directly to the general management plan. The general management plan provides the basis for making decisions about site-specific proposals in the future, and can be used by the park supervisor to decide what activities are appropriate for different areas of the park.

The Chattahoochee River National Recreation Area is visited by more than 2.6 million people every year and is ranked 27th in the nation in number of visitors (NPS 2000d). This high degree of use and associated demands on facilities and resources are expected to increase in the future, as the park is located in one of the most rapidly developing parts of the United States. For example, Forsyth County, located along a several-mile length of the northern portion of the park, is currently the fastest growing county in the nation. The area between Lake Lanier and Atlanta is projected to be fully developed in the next 20 years. These levels of growth and the associated population and land use changes have the potential to significantly affect park resources. The updated general management plan is intended to help the National Park Service plan for the future under these conditions.

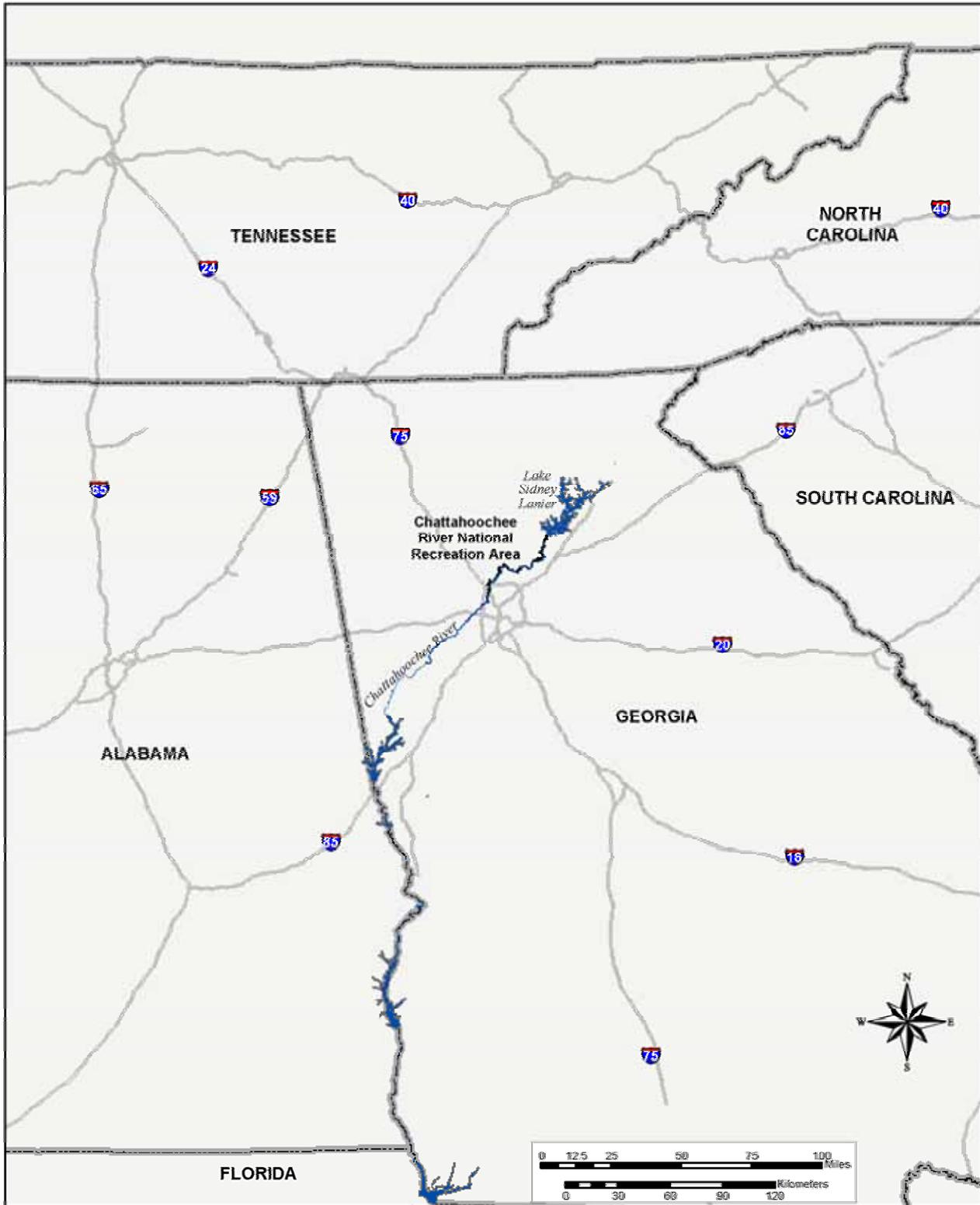
This plan is the basic tool for managing the park for the next 10 to 15 years. The specific purposes of this general management plan are to:

- Specify resource conditions and visitor experiences to be achieved in the park
- Provide the basic foundation for decision-making regarding the management of the park

When completed, the general management plan will represent a commitment to the public by the National Park Service on how the park will be used and managed. As such, it is intended to

- Confirm the significance of the park
- Establish the direction and values that should be considered in planning to achieve the purposes defined in the establishing legislation of the park
- Define management prescriptions (desired future conditions) that establish the goals of the National Park Service and the public with regard to visitor experience, natural resources, and cultural resources, including the types and locations of resource management activities, visitor activities, and development that are appropriate within each management prescription





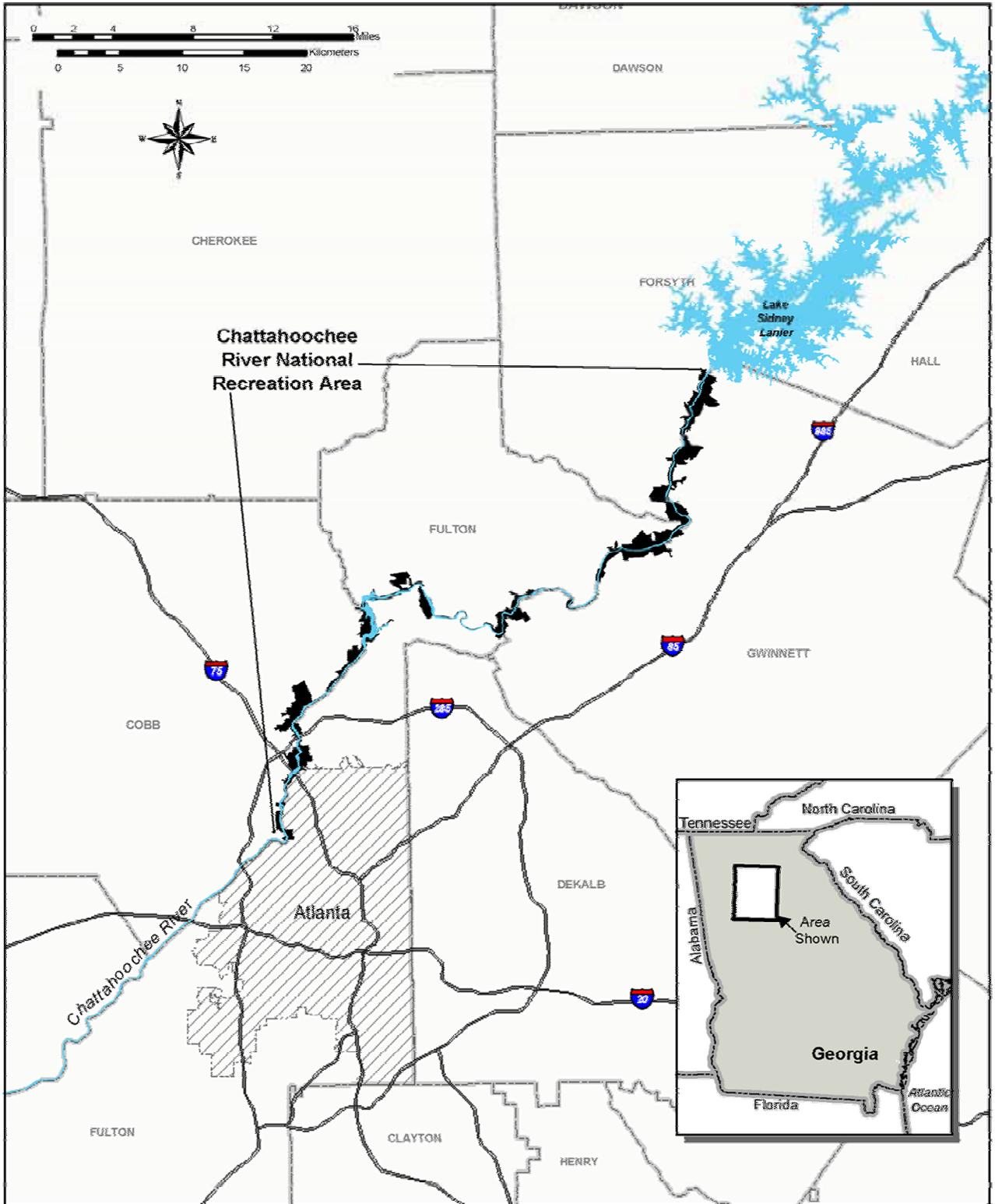
## Regional Map

### Chattahoochee River National Recreation Area

U.S. Department of the Interior - National Park Service

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## Vicinity Map

### Chattahoochee River National Recreation Area

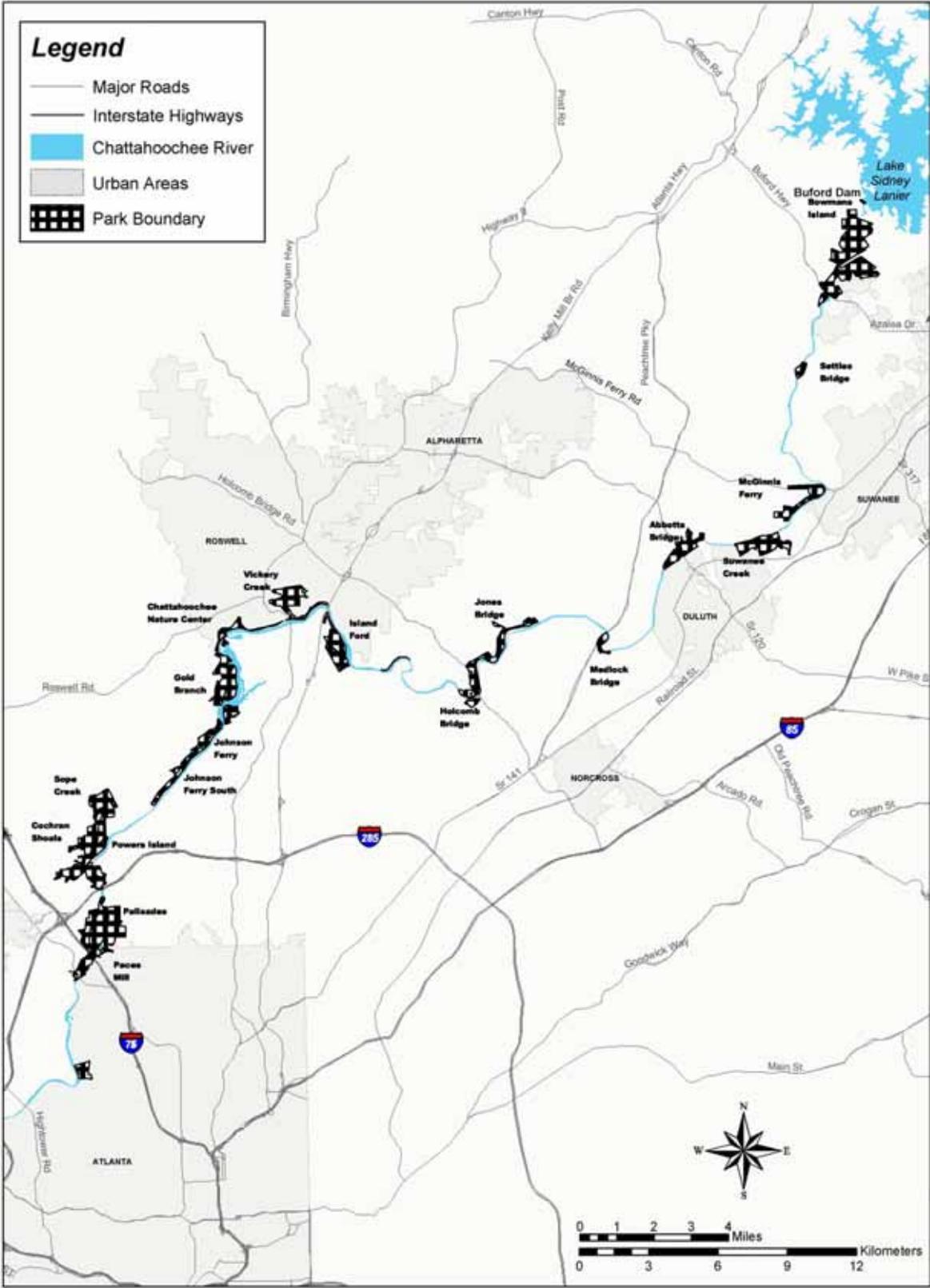
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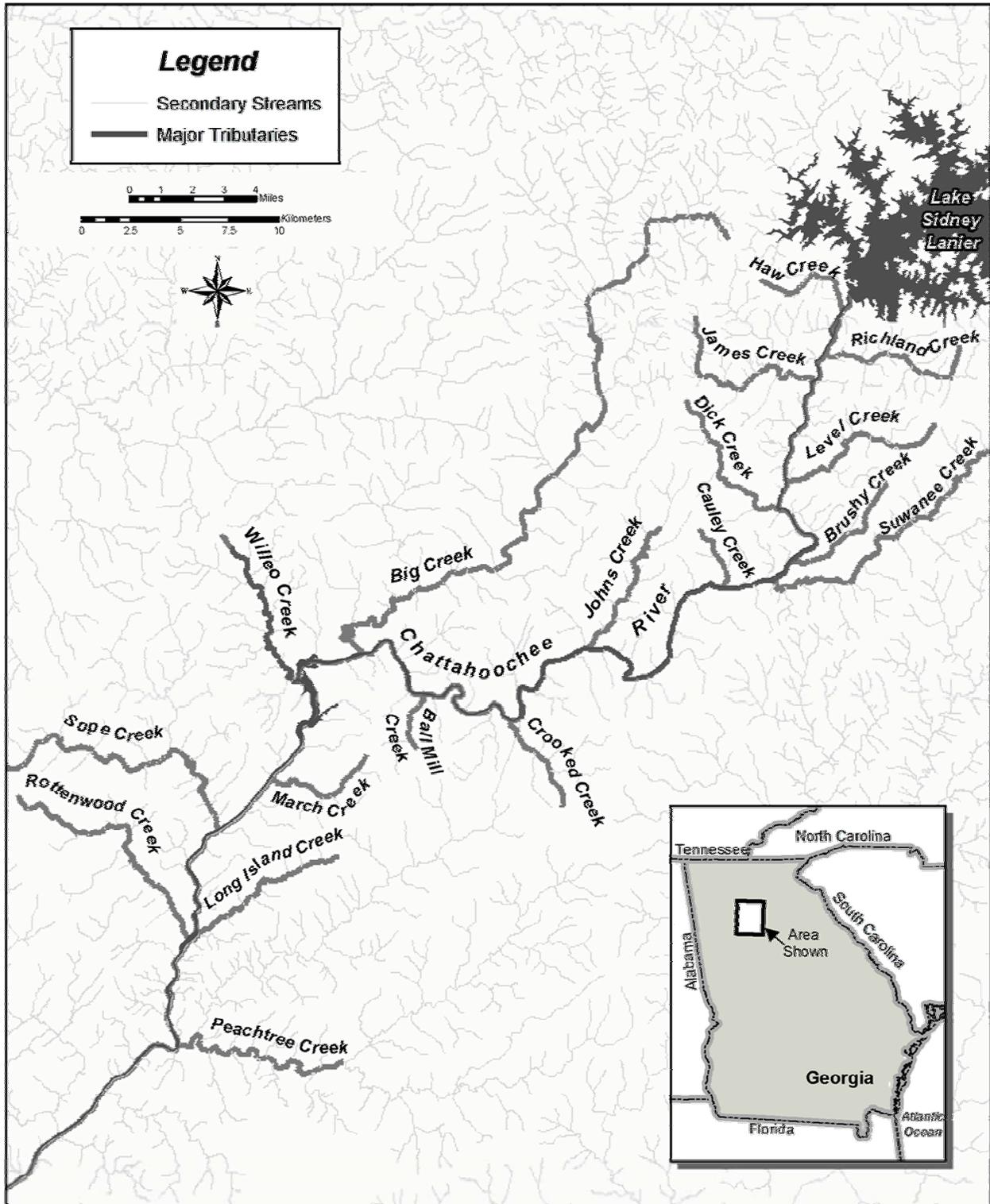


### Previous Conditions Map (1989 GMP) Chattahoochee River National Recreation Area

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# Water Features

## Chattahoochee River National Recreation Area

U.S. Department of the Interior - National Park Service

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Determine areas to which the management prescriptions should be applied to achieve the overall management goals of the park

Illustrate ranges and types of appropriate management actions suitable to maintain and improve conditions

Assist National Park Service staff in determining whether actions proposed by the National Park Service or others are consistent with the goals embodied in the management prescription where the action would occur

Serve as the basis for shorter-term management documents such as five-year strategic plans, annual performance plans, and implementation plans

Some future visitor experience, natural resource, and cultural resource conditions of the park are specified in law and policy. Others are open to debate and must be determined through planning. The alternatives in this general management plan address the resource and experience conditions that ultimately are consistent with federal laws and regulations and National Park Service policies.

The National Park Service views the public as integral team members in establishing the desired resource and experience conditions that will guide the management of the park. Measures taken by the National Park Service to include the public as a partner in general management planning for the Chattahoochee River National Recreation Area include:

Soliciting public participation in the planning process and incorporating suggestions from the public into the proposed park management alternatives

Performing public scoping to identify important impact topics and evaluating the effects of the alternatives to those impact topics in the draft environmental impact statement

Inviting the public to comment on this draft general management plan and using that input in the preparation of the final general management plan

Because the general management plan does not propose site-specific actions or describe how particular programs or projects should be ranked

or implemented, those decisions will be addressed during the more detailed planning associated with strategic plans, annual performance plans, and implementation plans. Such plans will be derived from the goals, future conditions, and appropriate types of activities established in this general management plan. The general management plan provides a broad-scale set of prescriptions and zones within the park that serve as a decision-making tool for the future, when site-specific proposals for various park facilities or programs are made. These future proposed activities will be evaluated in separate National Environmental Policy Act documents that will be tiered to the general management plan, allowing the National Park Service to make informed decisions that conform to the National Environmental Policy Act.

## NEED FOR THE GENERAL MANAGEMENT PLAN

A general management plan is needed to meet the requirements of the National Parks and Recreation Act of 1978 and National Park Service policy, which mandate development of a general management plan for each park. The last general management plan for Chattahoochee River National Recreation Area was prepared in 1989. Because National Park Service policy requires that general management plans be updated approximately every 10 to 15 years, the park plan must be revised during 2004.

The Act of October 30, 1984 (Public Law 98-568) increased the park size from 6,300 acres to 6,800 acres to protect the 48-mile segment of the Chattahoochee River and adjoining lands. President Jimmy Carter, a native of Georgia, was instrumental in initiating this expansion. In 1999, the authorized boundary of the park was expanded from 6,800 acres to 10,000 acres. The general management plan must be updated to consider these new parcels of land. Moreover, the park is located in one of the most rapidly growing parts of the nation, making it potentially subject to adverse impacts caused by overuse and environmental degradation. The plan will help protect the park from these potentially adverse impacts through development of an appropriate management program.

This general management plan provides broad direction for the park's future. It is needed to assist



park managers in making purposeful decisions based on a deliberate vision of the park. In view of the rapidly developing nature of the Chattahoochee River corridor and the intense use of the park, the general management plan is a critical element in protecting the park's resources while at the same time providing for quality visitor experiences.

General management planning is needed to:

Clarify the levels of resource protection and public use that must be achieved for the park, based on the park-specific purpose and significance, plus the body of laws and policies directing park management

Determine the best mix of resource protection and visitor experiences beyond what is prescribed by law and policy based on the

Purposes of the park

Range of public expectations and concerns

Resources occurring within the park

Effects of alternative management plans on existing natural, cultural, and social conditions

Long-term economic costs

Establish the degree to which the park should be managed to

Preserve and enhance its natural and cultural resources

Provide recreation

Accommodate urban transportation and connectivity

## **PARK HISTORY AND USE RELATIVE TO MANAGEMENT PLANNING**

In 1916, Congress passed the Organic Act, which created the National Park Service to “preserve unimpaired the natural and cultural resources and values of the national park system for the enjoyment, education, and inspiration of this and future generations.” Thus, any management actions in the park must recognize that preserving the natural and cultural resources and values of the park is paramount, and that any visitor activities associated with “enjoyment, education, and inspiration”

can occur only to the extent that they do not impair the natural and cultural resources and values for future generations.

Congress established the Chattahoochee River National Recreation Area in 1978, and determined that the “natural, scenic, recreation, historic, and other values of a forty- eight- mile segment of the Chattahoochee River and certain adjoining lands in the State of Georgia from Buford Dam downstream to Peachtree Creek are of special national significance, and that such values should be preserved and protected from developments and uses which would substantially impair or destroy them.”

Legislation passed on December 9, 1999 (Pub. L. 106- 154, Sec. 1, 106 Stat. 1736) expanded the park to 10,000 acres (Appendix D). This law specified:

“The Chattahoochee River National Recreation Area in the State of Georgia is a nationally significant resource;

The Chattahoochee River National Recreation Area has been adversely affected by land use changes occurring inside and outside the recreation area;

The population of the metropolitan Atlanta area continues to expand northward, leaving dwindling opportunities to protect the scenic, recreational, natural, and historical values of the 2,000- foot- wide corridor adjacent to each bank of the Chattahoochee River and its impoundments in the 48- mile segment known as the 'area of national concern';

The State of Georgia has enacted the Metropolitan River Protection Act to ensure protection of the corridor located within 2,000 feet of each bank of the Chattahoochee River, or the corridor located within the 100- year floodplain, whichever is larger;

The corridor located within the 100- year floodplain includes the area of national concern;

Since establishment of the Chattahoochee River National Recreation Area, visitor use of the recreation area has shifted dramatically from waterborne to water- related and land-based activities;



The State of Georgia and political subdivisions of the state along the Chattahoochee River have indicated willingness to join in a cooperative effort with the federal government to link existing units of the recreation area through a series of linear corridors to be established within the area of national concern and elsewhere on the river; and

If Congress appropriates funds in support of the cooperative effort described in paragraph (7), funding from the State, political subdivisions of the State, private foundations, corporate entities, private individuals, and other sources will be available to fund more than half the estimated cost of the cooperative effort.”

The park has historically been comprised of 16 “units” encompassing approximately 6,800 acres of land. The units, shown on the Previous Conditions map, were assigned names that reflected the local community features and historical resources. The 16 units, from north to south, are:

Bowman’s Island	Settles Bridge
McGinnis Ferry	Suwanee Creek
Abbotts Bridge	Medlock Bridge
Jones Bridge	Holcomb Bridge
Island Ford	Vickery Creek
Gold Branch	Cochran Shoals
Johnsons Ferry (South)	Johnsons Ferry (Main)
Palisades (East)	Palisades (West)

The expansion to 10,000 acres was the result of more than 15 years of coordination by the National Park Service in cooperation with the Trust for Public Land and other organizations. The non-federal land holdings within the expanded park boundary can be acquired by the National Park Service only if the owners are “willing sellers.” The National Park Service is currently negotiating with multiple landowners regarding acquiring the additional parcels.

The 1989 general management plan included the management of a proposed U.S. Army Corps of Engineers water re-regulation dam, which was to

be built a short distance below the existing Buford Dam. However, that project was never constructed and is no longer being considered by the U.S. Army Corps of Engineers. Therefore, the alternatives in this general management plan have eliminated consideration of the dam in the Chattahoochee River National Recreation Area.

Since the 1989 plan was prepared, the Atlanta area has grown rapidly. The counties that surround the 48-mile Chattahoochee River National Recreation Area (Cobb, Fulton, Forsyth, Gwinnett, and Dekalb) are among the fastest growing in the nation. This rapid development has resulted in construction of industrial, commercial, and housing developments close to the narrow, linear park. The number of visitors and the variety of visitor uses have fluctuated over the years. As a result, the updated general management plan addresses problems associated with physical encroachment and increased levels and types of visitor use. The following is a summary of three key management issues that have been identified for the park.

The first key management issue is how to determine the most appropriate levels of service for visitor interpretation and education in the park, in view of the increasing numbers of people and types of uses. Key questions are:

How can the park accommodate increasing numbers of visitors and still provide effective infrastructure such as water and wastewater facilities, roads, and parking areas?

How can the park provide effective educational and interpretive programs for increasing numbers of visitors?

A second key management issue is to determine suitable locations for administration and visitor facilities. Key questions include:

What are the most appropriate locations to support administration and operations functions, with a focus on minimizing resource disturbance?

Should these facilities be concentrated in a few locations or spread out over a larger geographical area?



What is the basis for deciding where facilities should be located and what types should be constructed?

The third key management issue is how to manage the park to protect natural and cultural resources and to allow for quality visitor experience. The park is located in a long, narrow river corridor surrounded by rapidly developing communities and is therefore highly sensitive to potential effects of encroachment and overuse. Key issues include the following:

Physical disturbance of soils on construction sites in developing areas immediately around the park can lead to soil erosion in streams within the park and the Chattahoochee River, with resulting adverse impacts on aquatic life and water quality.

Water quality in streams within the park, including the Chattahoochee River, can be adversely impacted by nonpoint runoff from impervious surfaces in adjoining developed areas. Pollutants such as fecal coliform bacteria, trace metals, and organic compounds can be introduced via this mechanism.

Encroachment by development can lead to creation of numerous informal, unmaintained (social) trails in the park created by people in adjoining residential areas. Social trails disturb native vegetation and can lead to soil erosion, especially in steeper sloped areas.

Increased numbers of visitors require water and wastewater infrastructure as well as education and interpretation services. Construction and operation of appropriate facilities, along with associated roads and parking areas, can affect the park's natural habitats and cultural resources.

The potential solutions to these issues are reflected in the management alternatives analyzed in this general management plan and environmental impact statement. The alternatives address the adequacy and appropriateness of park services and facilities and the challenges posed by managing a large, linear park area in the center of a major, rapidly developing metropolitan area.

## **GEOGRAPHIC AREA COVERED BY THE GENERAL MANAGEMENT PLAN**

The Chattahoochee River National Recreation Area includes a maximum of 10,000 acres of land distributed along a 48-mile, linear corridor between Peachtree Creek, Atlanta, and Buford Dam. The Vicinity and Regional maps show the area covered by this general management plan. The park includes the 16 original units as well as the newly acquired land. As can be seen in the figures, the park is a linear corridor surrounded by rapidly developing urban and suburban areas.

## **PLANNING DIRECTION OR GUIDANCE**

### **Park Mission**

The primary purpose of the original Chattahoochee River National Recreation Area was to recognize the unique geological features associated with the Palisades area south of Johnson's Ferry. The cliffs in the area were formed geological processes (continental drift) associated with the Brevard Fault. The original park, established in 1978, included an area primarily in the vicinity of these cliffs, which form an imposing rampart overlooking the Chattahoochee River. The cliffs, together with the surrounding native forested uplands and river bottom areas along the 48-mile river corridor, were determined to be a unique resource worthy of national park status. Certain cultural resources, including a major Native American rock shelter and industrial mill sites, were also present in this area.

The park has been expanded twice and now encompass 10,000 acres. The purposes of the park as defined by the most recent legislation are as follows:

“To increase the level of protection of the open spaces within the area of national concern along the Chattahoochee River and to enhance visitor enjoyment of the open spaces by adding land-based linear corridors to link existing units of the recreation area;

To ensure that the Chattahoochee River National Recreation Area is managed to standardize acquisition, planning, design, con-



struction, and operation of the linear corridor; and

To authorize the appropriation of Federal funds to cover a portion of the costs of the Federal, State, local, and private cooperative effort to add additional areas to the recreation area so as to establish a series of linear corridors linking existing units of the recreation area and to protect other open spaces of the Chattahoochee River corridor.”

In addition, the House Report states, “the National Recreation Area is ‘not’ intended to provide playing fields, highly developed recreation centers or many other worthwhile programs offered by these agencies. Rather, the river and the associated lands are to be the resource base upon which the National Park Service can function to provide opportunities consistent with national park operations.”

As part of this general management plan, the following formal statement of the purpose of the park was developed:

“The purpose of Chattahoochee River National Recreation Area is to lead the preservation and protection of the 48- mile Chattahoochee River corridor from Buford Dam to Peachtree Creek, and its associated natural and cultural resources, for the benefit and enjoyment of the people.”

This purpose statement, required as part of the formal National Park Service planning procedures, was the first step in the development of this general management plan. The statement forms the basis for all subsequent steps in the planning process.

**Park Significance.** The significance of the natural and cultural resources in Chattahoochee River National Recreation Area is summarized in the statements that follow. This information was used in the planning process to ensure that the park’s natural and cultural resources are protected in accordance with the governing laws, regulations, policies, and mandates.

**Geological Significance.** The park’s entire 48-mile- long corridor runs along the Brevard Fault Zone, which forms the Chattahoochee River channel. Typically, rivers meander and change course over time. Because it is essentially “locked” in place

by the fault, the Chattahoochee River is one of the oldest and most stable river channels within the United States.

The Brevard Fault is a major geological feature extending for more than 320 miles. It forms, in part, the dividing line between two physiographic provinces: the Appalachian Mountains and the Piedmont Plateau. The steep and rocky Palisades section of the park is generally considered to be the best location along the entire Brevard Fault Zone to view and study this major geologic feature.

**Biological Significance.** The park contains a diverse assemblage of relatively undisturbed mesic hardwood floodplain, bluff, and ravine forests; seasonally and temporarily flooded bottomland forested wetlands; and emergent and scrub- shrub wetlands.

The mixed habitat types within the old and stable Chattahoochee River channel form a biological link with the Appalachian Mountains. This has resulted in high biodiversity within the park. For example, more than 850 species of vascular plants exist within the park, including species associated with both the southern piedmont and mountain habitats. This number of vascular plants is one of the highest within the national park system. It is especially noteworthy that this unusually high level of biodiversity is located in an area accessible to a large metropolitan population.

The diverse habitats in the park support numerous rare plants and animals, including both aquatic and terrestrial species. This includes several species defined as special status by the Georgia Natural Heritage Program, Georgia Department of Natural Resources, and U.S. Fish and Wildlife Service. These species warrant special regulations to assist their long- term survival and protection.

**Significance of Cultural Resources.** The park vicinity has been occupied by humans since the Archaic period, approximately 8,000 years ago. Remaining Native American cultural features include rock- shelters, fish weirs, and occupied Native American sites. In addition, the park contains numerous Woodland Period sites along the river corridor (1000 B.C. –1000 A.D.), as reported in the previous General Management Plan (NPS 1989) Woodland period (1000 B.C. to 1000 A.D.) is one of



the least investigated periods of Georgia prehistory and represents an area of potentially high archeological significance and research potential for the park. There are no similar counterparts in the region. At least six of these archeological sites are eligible for listing on the National Register of Historic Places.

The park contains more than 200 archeological sites. These sites, and the more than 7,000 associated archeological artifacts, document the historical and prehistoric use and cultural adaptation of the early cultures, up to and including the Creek and Cherokee Nations. The Chattahoochee River is considered to have been the transitory border between these two great cultures.

The park also contains numerous historical features from the early American culture. This includes Civil War sites, pre-Civil War home sites and farmhouses, at least 10 early ferry crossings, and pre-Civil War paper mill and woolen mill sites. These mills are listed on the National Register of Historic Places. The park maintains museum collections as well as with the National Park Service Southeast Archeological Center, which supports the park with research, collections, and information management.

Coordination was conducted with American Indian Tribes (Creek and Cherokee Nations) to identify any concerns and issues regarding places of traditional cultural importance (ethnographic resources) in the park. The existing literature and park records were also investigated to determine whether these resources exist in the park. No ethnographic resources have yet been identified to date. However, no formal study to identify such areas has been carried out at the park. Therefore it is not possible to assess impacts to ethnographic resources by any of the management alternatives at this time.

**Recreation Significance.** The park constitutes an important outdoor recreation resource to several million people located in the Atlanta metropolitan area. The park's green space and the river improve the quality of life by serving as a sanctuary and by providing a variety of outdoor recreation opportunities such as hiking, nature viewing, paddling, boating, and fishing. The Chattahoochee River is inhabited by 22 species of game fish.

The park provides a scenic river corridor with opportunities for natural solitude and seclusion within relatively undisturbed forests, wetlands, bluffs, ravines, and open water areas. The opportunity is enhanced by the close proximity to a major metropolitan area.

### Mission Goals

This section defines in broad terms the ideals that the National Park Service is striving to attain, as they apply to Chattahoochee River National Recreation Area.

### Special Mandates and Administrative Commitments

Special mandates and administrative commitments refer to park-specific requirements. These formal agreements often are established concurrently with the creation of a park. The Chattahoochee River National Recreation Area does not have any special mandates that would affect this general management plan and future planning activities.

### Servicewide Mandates and Policies

As with all National Park Service units, management of the Chattahoochee River National Recreation Area is guided by numerous congressional acts and executive orders in addition to the enabling legislation. Many of the laws and executive orders that guide park management, with their legal citations, are listed in Appendix A. These include the 1916 Organic Act creating the National Park Service, the General Authorities Act of 1970, and the Act of March 27, 1978, relating to the management of the national park system. Others have much broader application, such as the Endangered Species Act, the National Historic Preservation Act, Executive Order 11988 addressing flood plain protection, and Executive Order 11990 addressing the protection of wetlands. An overview of these and other laws and regulations is provided in Appendix B.

The National Park Service has established policies for all units under its stewardship. These are identified and explained in the National Park Service guidance manual *Management Policies 2001* (NPS 2000c).



These servicewide legal mandates and policies can be categorized as:

- Natural resource management requirements
- Cultural resource management requirements
- Visitor experience and park use requirements
- Special use management requirements

The alternatives considered in this document incorporate and comply with the provisions of these mandates and policies. Desired conditions prescribed by servicewide mandates and policies, and the corresponding regulatory and legal sources of each, are summarized in the sections that follow. Detailed inventories or steps to be taken to implement management policies will be developed in individual management plans. These are identified in the “Recommendations for Future Planning Efforts” section.

The National Park Service is required to comply with these established laws and mandates. Consequently, this general management plan does not consider whether it is appropriate to protect endangered species, control exotics species, improve water quality, protect archeological sites, provide for handicapped access, or conserve artifacts.

**Natural Resource Management Requirements.** Categories included under natural resource management requirements include air quality, water resources, geologic resources, native species, and wildfire.

*Air Quality* – Current laws and policies require that the following conditions be achieved in the park.

Desired Conditions	Sources
Air quality in the park meets national ambient air quality standards for specified pollutants.	Clean Air Act <i>National Park Service Management Policies</i>
Park activities do not contribute to deterioration in air quality.	Clean Air Act <i>National Park Service Management Policies</i>

The National Park Service cannot control air quality within the metropolitan Atlanta area regional airshed, which encompasses the park. Therefore, the park must cooperate with regional agencies and

the United States Environmental Protection Agency to monitor air quality and to work toward air quality improvements. The National Park Service will take the following kinds of actions to meet legal and policy requirements related to air quality in the park.

Conduct air quality monitoring in conjunction with regional air quality agencies. This could include enhanced monitoring of localized air quality, either by establishing long-term monitoring stations in the Chattahoochee River valley or by conducting sampling during pollution high- risk periods.

Participate in regional air pollution control planning efforts.

Review permit applications for major new air pollution sources that could affect the park.

Conduct park operations in compliance with federal, state, and local air quality regulations.

*Water Resources* – Current laws and policies require that the following condition be achieved in the park.

Desired Condition	Source
Surface waters and groundwater are protected or restored such that water quality as a minimum meets all applicable federal and Georgia water quality standards.	Clean Water Act Executive Order 11514 <i>NPS Management Policies</i> State of Georgia Erosion and Sedimentation Act (OCGA 12- 7- 1) The Metropolitan River Protection Act (OCGA 12- 5- 440) Georgia Planning Act of 1989 (OCGA 12- 2- 8)
NPS and NPS- permitted programs and facilities are maintained and operated to avoid pollution of surface waters and groundwater.	Clean Water Act Executive Order 12088 <i>NPS Management Policies</i> Georgia Erosion and Sedimentation Act (OCGA 12- 7- 1) The Metropolitan River Protection Act (OCGA 12- 5- 440)



Desired Condition	Source
Natural floodplain values are preserved or restored.	Georgia Planning Act of 1989 (OCGA 12- 2- 8)
	Executive Order 11988
	Rivers and Harbors Act
	Clean Water Act
The natural and beneficial values of wetlands are preserved and enhanced.	NPS <i>Management Policies</i>
	Georgia Planning Act of 1989 (OCGA 12- 2- 8)
	NPS 77- 1
	Executive Order 11990
	Rivers and Harbors Act
	Clean Water Act
	NPS <i>Management Policies</i>
	NPS 79- 1

Metropolitan North Georgia Water Planning District

Support the investigation and mitigation of artificially accelerated streambank erosion and stream bed incision and their effects on natural riparian habitats.

Apply best management practices to all pollution- generating activities and facilities in the park, such as maintenance and storage facilities and parking areas.

Minimize the use of pesticides, fertilizers, and other chemicals and manage them in conformance with National Park Service policy and federal regulations.

Promote greater public understanding of water resource issues in the park and encourage public support for and participation in improvements in the Chattahoochee River watershed.

The National Park Service will continue to take the following kinds of actions to meet legal and policy requirements related to water resources:

Continue to support the goals of the Atlanta Regional Commission and the Metropolitan North Georgia Water Planning District as they relate to the Chattahoochee River watershed and its tributaries and continue to participate in the regional program as a partner.

Continue to work closely with other agencies in assuring proper monitoring, inspection, and repair of sanitary sewers in the park to reduce the impacts of these structures. Coordinating agencies include, but are not limited to, the:

Georgia Department of Natural Resources, Environmental Protection Division

Cobb County, Gwinnett County, Forsyth County, and Fulton County governments

Local city governments

Atlanta Regional Commission

U.S. Environmental Protection Agency

*Geologic Resources* –Current laws and policies require that the following condition be achieved in the park.

Desired Condition	Source
Include Brevard Fault and associated cliffs in original park area	Park enabling legislation
Maintain natural soil resources and processes function in as natural a condition as possible, except where special management considerations are allowable under policy. Areas of special management considerations are determined through management zoning decisions in this general management plan.	Park enabling legislation NPS <i>Management Policies</i>
Retain soils classified by the U.S. Department of Agriculture, Natural Resources Conservation Service as prime or unique farmland soils.	Council on Environmental Quality 1980 memorandum on prime and unique farmlands



Soils in some portions of the park are adversely affected by accelerated erosion, compaction, and deposition caused by human activities. The National Park Service will take the following kinds of actions to comply with legal and policy requirements.

Survey areas of the park with soil resource problems and take actions appropriate to specific management zones to prevent further artificial erosion, compaction, or deposition and to restore original contours, as practical.

Avoid disturbance of prime farmland soils.

Participate in interagency efforts to reduce artificial erosion from accelerated runoff and streamflows, in conformance with “Water Resources,” above.

Apply effective best management practices to problem areas of soil erosion and compaction in a manner that stops or minimizes erosion, restores soil productivity, and re-establishes or sustains a self-perpetuating vegetative cover.

*Native Species* – Current laws and policies require that the following conditions be achieved in the park.

Desired Condition	Source
Federal- and state- listed threatened and endangered species and their habitats are protected and sustained.	Endangered Species Act Official Code of Georgia Annotated (OCGA) 12- 16- 1 Georgia Environmental Policy Act NPS <i>Management Policies</i>
Populations of native plant and animal species function in as natural condition as possible except where special management considerations are warranted. Areas of special management considerations are determined through management zoning decisions in this general management plan.	Park enabling legislation NPS <i>Management Policies</i>

Desired Condition	Source
Native species populations which have been severely reduced in or extirpated from the park are restored where feasible and sustainable.	Park enabling legislation NPS <i>Management Policies</i>
Exotic species are reduced in numbers and area, or are eliminated, from the natural areas of the park. In the park, these include Chinese privet, English ivy, kudzu, Japanese honeysuckle, and other species. In addition, non- native species of brown trout and rainbow trout have been introduced from a state- run hatchery.	NPS <i>Management Policies</i>

The park contains the oldest and most extensive protected areas of native vegetation in the Atlanta metropolitan area. However, because the park is more than 48 miles in length and extremely narrow, the potential for adverse impacts of encroaching development on native animals and vegetation is high. In addition, many of the native fish species within the main stem of the Chattahoochee River have been impacted or extirpated due to the unnaturally cold temperatures resulting from the operation of Buford Dam. The National Park Service will therefore take the following actions to comply with legal and policy requirements related to native terrestrial and aquatic species.

Conduct further inventories of the plants and animals in the park. Use the inventories as a baseline against which to regularly monitor the distribution and condition of selected species, including indicators of ecosystem condition and diversity, rare or protected species, and invasive exotics. Modify management plans based on the results of monitoring.

Encourage and support active and diverse research that contributes to management knowledge of native species in the park.



Implement measures to restore native species and natural habitats. In particular, protect and restore natural aquatic and floodplain habitats in the park where they can be sustained, including freshwater springs and ephemeral wetlands.

Review park fishing regulations and revise them as appropriate to support native fish populations to the extent practicable within the limitations caused by the dam and releases from Lake Lanier.

Continue to participate in regional ecosystem-level undertakings to restore native species, such as the regional Biosphere Program. Support and implement measures to manage fish populations within the park. Conduct research to assess the effects non-native fish may have on native aquatic resources.

Manage exclusively for native plant species in natural zones. In other management zones, limit plantings of nonnative species to noninvasive plants that are appropriate for cultural resource zones or operational needs.

Control or eliminate exotic plants and animals, exotic diseases, and pest species where there is a reasonable expectation of success and sustainability. Base control efforts on the potential threat to

Legally protected or uncommon native species and habitats

Visitor health or safety

Scenic and aesthetic quality

Common native species and habitats

Provide interpretive and educational programs on preservation of native species for visitors. Programs could include such subjects as xeriscaping®, control of domestic animals, and avoidance of boundary encroachments, and could be presented through such forums as workshops and newsletters.

*Fire Management* – Current laws and policies require that the following conditions be achieved in the park.

Desired Condition	Source
Fire management procedures in the park will be in accordance with the approved Fire Management Plan (currently in draft stage). Fire management procedures could include techniques such as prescribed burns, fuel reduction, and similar methods.	NPS <i>Management Policies</i> Director's Order #18

Large wildfires in the park, if they were to occur, could pose a threat to residences and commercial development adjoining the park and would produce unacceptable levels of air pollution. To prevent such fires, the National Park Service may take the following kinds of actions to comply with fire management legal and policy requirements.

Suppress all wildfires as quickly as possible.

Maintain a cooperative agreement with the various local fire departments for wildfire suppression in the park.

Consider limited controlled burns for natural resources management.

**Cultural Resource Management Requirements.** Categories included in cultural resource management requirements include archeological resources, historic properties, archives, and collections.

*Archeological Resources* – Current laws and policies require that the following conditions be achieved in the park.

Desired Condition	Source
Archeological sites are identified and inventoried, and their significance is determined and documented.	National Historic Preservation Act Executive Order 11593 Executive Order 13007
Archeological sites are protected in an undisturbed condition unless it is determined through formal processes that disturbance or natural	Archeological and Historic Preservation Act Archeological Resources Protection Act



Desired Condition	Source
deterioration is unavoidable, or that removal of artifacts or physical disturbance is justified by research or interpretive requirements.	<i>Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation</i> (1983)
In those cases where disturbance or deterioration is unavoidable, anticipated adverse effects to the site are mitigated. Such mitigation commonly consists of recordation and data recovery by archeologists who meet the Secretary of the Interior's Professional Qualifications Standards. Mitigation could also include other measures such as site burial.	Programmatic Memorandum of Agreement among the NPS, Advisory Council on Historic Preservation, and National Council of State Historic Preservation Officers (1995) NPS <i>Management Policies</i> Director's Order #28: Cultural Resource Management Guideline (June 11, 1998) 36 Code of Federal Regulations 800 National Environmental Policy Act Native American Graves Protection and Repatriation Act National Parks Act of August 25, 1916 The Antiquities Act of 1906

The archeological sites in the park have not been systematically surveyed or inventoried. Precise information about the location, characteristics, significance, and condition of the majority of archeological resources in the park is lacking, and impacts are difficult to measure. For example, over 180 cultural resource sites have been identified in the park to date through reconnaissance level assessments, but detailed surveys have been conducted on less than 20 percent of these sites. Actions that the National Park Service will take to meet legal and policy requirements related to archeological sites include:

Survey and inventory archeological resources and document their significance.

Treat all archeological resources as eligible for listing on the National Register of His-

toric Places pending the concurrence of the Georgia State Historic Preservation Officer or a formal eligibility determination by the Keeper of the National Register if the National Park Service and the Georgia State Historic Preservation Officer do not agree on a site's eligibility.

Protect all archeological resources determined eligible for listing or listed on the National Register of Historic Places. If disturbance to such resources is unavoidable, conduct formal consultation with the Advisory Council on Historic Preservation and the Georgia State Historic Preservation Officer in accordance with the National Historic Preservation Act.

Review and assess all proposed undertakings that could affect archeological resources to ensure that all feasible measures are taken to avoid disturbing resources, minimize damage to them, or recover data that otherwise would be lost.

*Historic Properties* – Current laws and policies require that the following conditions be achieved in the park for historic properties, such as buildings, structures, roads, trails, and cultural landscapes.

Desired Condition	Source
Historic properties are inventoried and their significance and integrity are evaluated under National Register criteria.	National Historic Preservation Act Executive Order 11593 Archeological and Historic Preservation Act
The qualities of historic properties that contribute to their actual listing or their eligibility for listing on the National Register of Historic Places are protected in accordance with the Secretary of the Interior's standards, unless it is determined through a formal process that disturbance or natural deterioration is unavoidable.	<i>Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation</i> (1983) Programmatic Memorandum of Agreement among the NPS, Advisory Council on Historic Preservation, and National Council of State Historic Preservation Officers (1995) NPS <i>Management Policies</i> Director's Order #28:



Desired Condition	Source
	<i>Cultural Resource Management Guideline (June 11, 1998)</i>

Many of the historic properties in the park exhibit deterioration due to a lack of systematic preservation maintenance. The National Park Service will take the following kinds of actions to meet legal and policy requirements related to historic properties.

Complete a systematic survey, inventory, and evaluation of historic properties under National Register criteria in compliance with Section 110 of the National Historic Preservation Act.

Submit the inventory and evaluation results to the Georgia State Historic Preservation Officer for concurrence. Complete National Register nomination forms for eligible properties, and submit to the Keeper of the National Register for review and listing on the National Register.

Determine the appropriate level of preservation for each historic property formally determined to be eligible for listing or actually listed on the National Register, subject to the Secretary of the Interior's standards.

Implement and maintain the appropriate level of preservation for such properties.

Analyze the design elements, such as materials, colors, shape, massing, scale, architectural details, and site details, of historic structures and cultural landscapes in the park. These sites could include such features as bridges, trails, roads and intersections, curbing, signs, picnic tables, and embayments. Use this information to guide rehabilitation and maintenance of sites and structures and to ensure that future park structures are compatible with the historic character in design and materials.

Complete cultural landscape inventory(ies) to identify landscapes potentially eligible for listing in the National Register and to assist in future management decisions for landscapes and associated features, both cultural and natural.

Update the National Park Service's List of Classified Structures and the Cultural Landscape Database.

*Visitor Experience and Park Use Requirements* – Current laws and policies require that the following conditions be achieved in the Chattahoochee National Recreation Area.

Desired Condition	Source
Visitor and employee safety and health are protected.	NPS <i>Management Policies</i>
Visitors understand and appreciate park values and resources and have the information necessary to adapt to the park environments. Visitors have opportunities to enjoy the park in ways that leave park resources unimpaired for future generations.	NPS Organic Act Park enabling legislation NPS <i>Management Policies</i>
Park recreational uses are promoted and regulated. Basic visitor needs are met in keeping with the park purposes.	NPS Organic Act Park enabling legislation Title 36 of the Code of Federal Regulations NPS <i>Management Policies</i> NPS Ban on Personal Watercraft
To the extent feasible, facilities, programs, and services in the park are accessible to and usable by all people, including those with disabilities.	Americans with Disabilities Act Architectural Barriers Act Rehabilitation Act NPS <i>Management Policies</i>

Regulations governing visitor use and behavior in units of the national park system are contained in Title 36 of the U.S. Code of Federal Regulations (36 Code of Federal Regulations). These regulations have force of law and include a variety of use limitations, such as limits on commercial activities. The following two regulations are especially pertinent to planning for the park because of issues raised by the public during scoping.



Pets must be crated, caged, restrained on a leash (6 feet long or less), or otherwise physically confined at all times (36 Code of Federal Regulations 2.15).

Bicycles are prohibited except on roads, parking areas, and designated routes (36 Code of Federal Regulations 4.30).

The National Park Service will take the following kinds of actions to meet legal and policy requirements related to visitor experience and park use:

Provide opportunities for visitors to understand, appreciate, and enjoy the park.

Ensure that all park programs and facilities are accessible to the extent feasible.

Continue to enforce the regulations in 36 Code of Federal Regulations.

These laws, regulations, and policies leave room for judgment regarding the best mix of types and levels of visitor use activities, programs, and facilities. The alternatives presented and evaluated in this draft general management plan represent three approaches to visitor experience and park use.

**Special Use Management Requirements** –Special uses refer to the use of park lands for non-park purposes. Current laws and policies require that the following conditions be achieved in the park with regard to the management of special uses.

Desired Condition	Source
Park resources or public enjoyment of the park are not denigrated by non-conforming uses.	Telecommunications Act 16 United States Code 5 16 United States Code 79
Telecommunication structures are permitted in the park to the extent that they do not jeopardize the park's mission and resources.	23 United States Code 317 36 Code of Federal Regulations 14 NPS <i>Management Policies</i>
No new nonconforming use or rights-of-way are permitted through the park without specific statutory authority and approval by the director of	<i>Director's Order 53, Special Park Uses</i> (NPS 2000b)

Desired Condition	Source
the NPS or his/her representative and only if there is no practicable alternative to such use of NPS lands.	

The park has ongoing special use concerns associated with the presence of sanitary sewer lines, natural gas transmission lines, and water supply lines within the park. Combined sanitary and storm water sewers periodically discharge raw sewage into the Chattahoochee River during storm events. The water resource section describes the types of actions that the National Park Service will take to meet legal and policy requirements related to sanitary and combined sewers as well as other types of discharges.

A new special use management concern at the park involves locating telecommunications infrastructure inside the park. The Telecommunications Act of 1996 directs all federal agencies to assist in achieving a seamless telecommunications system throughout the nation by accommodating requests from telecommunication companies for the use of property, rights-of-way, and easements to the extent allowable under the agency's mission. Unlike other nonconforming uses, the National Park Service is legally obligated to permit telecommunication infrastructure within the park if such facilities can be structured to avoid interference with the park purposes. The National Park Service anticipates receiving multiple applications under the act for telecommunication installations within the park.

The National Park Service will take the following kinds of actions to meet legal and policy requirements related to the use of park lands for telecommunications infrastructure.

Determine appropriate locations and stipulations before permitting telecommunication infrastructure on park lands. The goal will be to ensure the protection of park resources, visitor and neighbor safety, and the quality of visitor experiences while endeavoring to respond positively to applications. Sites and stipulations will be based in part on the man-



agement zoning established in this general management plan.

## PLANNING OPPORTUNITIES AND ISSUES

### Decision Points

Decision points were generated for the park by soliciting comments at six public meetings held throughout the corridor during the fall of 2000, and through input from various stakeholder groups and the general public. Decision points are statements that specify a range of possible future conditions in the park, based on public input. The decision points are used as the basis for developing the alternatives in the environmental impact statement for the general management plan.

A variety of issues and concerns were identified by the general public, park staff, and other agencies during scoping for this general management plan. Additional information on issues identification is provided in the “Consultation and Coordination” section. Some of the comments were outside the scope of this general management plan. Some concerns identified during scoping are already prescribed by law, regulation, or policy, or would be in violation of such requirements. These types of issues are discussed in the preceding section, “Servicewide Mandates and Policies.” Because they are mandatory requirements, these matters are not subject to the decision making process presented in this general management plan.

Other issues identified during scoping were at an operational or developmental level of detail. Such issues are most appropriately associated with the park’s five- year strategic plan or annual implementation plans. Those plans will be based on the resource conditions and visitor experiences to be achieved in the park that are established in the final general management plan.

Based on public comments and agency concerns, three decision points were identified. This draft general management plan focuses on addressing these decision points, which are summarized as follows:

### **Should present practices of management, preservation, and protection of natural and cultural resources be maintained, or should these management, preservation, and protection practices be expanded in volume, type, and scope?**

This decision point was developed in response to concerns expressed by the public regarding the potential impacts of projected increased future development and increased visitor use on the park. This decision point was developed in recognition of the rapidly developing nature of the areas surrounding the park, and the park’s mandate to prevent impairment.

Natural and cultural resources within the park, including the Chattahoochee River, are threatened by the effects of encroaching development and increased public use. Encroachment can adversely affect water quality and aquatic life of streams within the park as a result of soil erosion and stormwater runoff from impervious areas outside park boundaries. Social trails created by new developments in areas adjoining the park can eliminate valuable riparian habitat along the Chattahoochee River and cause soil erosion. Sewage spills pose a potential threat to water quality and aquatic resources in the park, including the Chattahoochee River. Encroachment can also lead to physical disturbance of natural habitats and cultural resources within the park. Increased park use can also adversely affect cultural resources; this has already occurred at some locations in the park.

Expanding management activities to increase the level of protection for natural and cultural resources will require funding. Associated cost will depend on the specific level of protection required or proposed. This decision point provides the initial step that recognizes the need for added protection and the associated costs.

### **Should the park enhance visitor access and use with associated facilities, or should the park restrict use and access to selected areas?**

This decision point was developed in response to public comments indicating a desire for increased access to the park, especially trails. Other possible ways of increasing access could include new facilities such as boat ramps, interpretive centers, restrooms, parking areas, and roads. The park is cur-



rently used by nearly 3 million people each year, and is ranked 27<sup>th</sup> in the nation for visitor use. Although the Organic Act directs the National Park Service to allow visitors the opportunity to enjoy the natural and cultural resources in the park, it also specifies that these same resources cannot be impaired by these types of activities and projects. This decision point was used to develop management alternatives that defined a range of levels of access that would allow the public to enjoy and experience the natural and cultural resources within the park while protecting these same resources.

### **Should the park widen its circle of influence, or should the park restrict its focus to activities within park boundaries?**

This decision point explores the issue of whether the National Park Service should actively seek to partner with surrounding governments and organizations to enhance, protect, or restore park values, or should the National Park Service continue with its current management practices. This decision point was developed because, as a narrow corridor heavily influenced by adjoining development, the park might be more effectively managed if the surrounding local governments and stakeholder organizations were involved. The park is currently managed primarily on an internal basis, with limited input by the surrounding city and county governments or stakeholder organizations. Current management coordination with surrounding governments and other groups primarily involves negotiation of utility easements, property acquisitions, or review of projects that adjoin the park and are collocated along the river corridor and that might impact park resources directly or indirectly.

Increased partnering with surrounding governments and stakeholder organizations implies that the park would receive support from these organizations. This decision point therefore has a cost implication in the management alternatives developed in the plan.

### **Impact Topics – Resources and Values at Stake in the Planning Process**

Specific resources and values, called impact topics, focus the planning process and the assessment of

potential consequences of the alternatives. The following four criteria were used to determine park resources and values:

*Resources cited in the establishing legislation for the park.* The establishing legislation for the park is included in Appendix D. A summary of relevant elements of the legislation is provided in the sections “Park History and Use Relative to Management Planning” and “Park Purposes.”

*Resources critical to maintaining the significance and character of the park.* The section “Park Significance” describes the defining features of the park that were used to establish the resources that are critical to maintaining its significance and character.

*Resources recognized as important by laws or regulations.* Appendix A provides a list of many important congressional acts and executive orders that guide the management of all National Park Service facilities, including the park. A summary of some of the relevant elements of these acts and orders is provided in the section “Servicewide Mandates and Policies.”

*Values of concern to the public during scoping for the general management plan.* The National Park Service conducted an extensive public information and scoping program to acquire input from the public and from other agencies. This helped the National Park Service develop alternatives and identify resources and values of high interest in the park.

These criteria were applied to a set of impact topics/National Environmental Policy Act resource categories by checking off which were applicable. This approach helped establish each impact topic as a resource or value at stake in the planning process. A more detailed description of each impact topic and the effects of each of the three proposed management alternatives are described in Sections 3 and 4.

**Natural Resources.** A major reason for establishing the Chattahoochee River National Recreation Area was to protect its natural resources and its abundant natural scenery, which are particularly valuable because the park lies within a large metropolitan area. The following summarizes each type



of natural resource in the park and the corresponding, relevant regulatory and legal framework.

*Air Quality* – The Clean Air Act mandates compliance with air quality standards. In addition, during scoping members of the public expressed concerns over threats to air quality from heavy traffic in the Atlanta Region. Poor air quality has the potential to adversely affect biotic resources, cultural resources, and visitor health and experience.

*Chattahoochee River and Its Tributaries* – The establishing legislation for the park specifies that the Chattahoochee River, including the bed of the river, and its tributaries are essential resources to be protected. In addition, many federal laws and executive orders protecting the nation’s waters apply to the Chattahoochee River watershed.

As the park’s name suggests, the Chattahoochee River is fundamental to the park’s character. The vegetated river corridor and its tributaries represent a unique natural resource in the Atlanta metropolitan area. Even though the rapidly developing urban areas surrounding the park affect water quality and quantity, the Chattahoochee River and its tributaries are inhabited by over 20 species of native fish and other aquatic species, in addition to the non- native stocked trout fisheries maintained by the Georgia Department of Natural Resources. The importance of the Chattahoochee River as a central scenic and recreational attraction in the park was reaffirmed by numerous scoping comments and by the approximately 3 million visitors to the park each year.

*Wetlands and Floodplains* – These are included in the discussion of water resources in “Servicewide Mandates and Policies.” Wetlands and floodplains are regulated by legislation and executive orders because of their value as biological resources and their contributions to flood control, respectively.

Wetlands are located along the Chattahoochee River floodplain and at seeps (places where water trickles out of the ground to form pools) along the lower slopes of the valley walls and along tributaries. The floodplains along the Chattahoochee River and major tributaries support mature mesic southern bottomland hardwood forests as well as a variety of forested, scrub/shrub, and emergent wetland types. These sensitive habitats have un-

usually large numbers of plant and animal species and contribute significantly to the biological diversity of the park. For example, over 850 vascular plants have been identified within the park boundaries in a recent survey. The 48- mile corridor is located in an area where the ranges of northern and southern vascular plants overlap, adding to the overall diversity of the area.

*Deciduous Forests* – The statements of park significance include several references to the forest’s contribution to the park’s character. The rich southern mesic hardwood forests within the boundaries of the park comprise an essential component of the landscape and scenic qualities of the park, buffer the park from the surrounding urbanization, and provide habitat for wildlife and plant species. During scoping, many comments were received about the value of the native forests and the need to maintain them.

*Protected and Rare Species* – The Endangered Species Act and *Management Policies* (NPS 2000c) requires the protection of rare species and their habitats. The Chattahoochee River National Recreation Area provides habitat for several federally endangered species and a large number of species of plants and animals listed by the Georgia Heritage Trust Program.

*Other Native Wildlife* –Native animals represent an important park resource that captures the public’s imagination. During scoping, many people commented on the value of seeing wildlife in the park, especially in contrast to the surrounding urban environment. The white- tailed deer, the largest and most conspicuous mammal, was the most frequently mentioned. Recreational birding also was identified as a popular park activity during scoping. Birding is especially popular, for example, in the wetlands at the Cochran Shoals unit.

*Prime and Unique Farmlands* – A number of soil types in the northern portion of the park (north of Holcomb Bridge Road) are classified as prime farmlands. Federal agencies are required to assess the effects of their actions on prime and unique farmlands (Council on Environmental Quality 1980).

**Cultural Resources.** The park’s cultural resources are recognized as exceptional because they illus-



trate significant aspects of the historic development of the area from prehistoric times to the present. Historic features such as the Sope Creek Mills and the Hyde Farm help define the significance and character of the park and are protected by multiple legislative, executive, and National Park Service policies.

**Visitor and Community Values.** In reviewing the range of comments received during scoping, the following topics appear to capture the values expressed by the public.

*Traditional Park Character and Visitor Experience* – The significance statements presented near the beginning of this general management plan reflect the importance of the overall visitor experience in defining the park’s character. Frequent scoping comments were concerned with protecting the park’s natural qualities, not only for the ecological resources, but for its restorative value to people as a place of natural beauty and escape from the nearby urban setting. Scenery, opportunities to learn about the natural world, natural quiet, and the ability to hear natural sounds were often highlighted. There was near unanimity that the natural character should be preserved and protected from disturbance from development.

People also emphasized the traditional, familiar character of the park’s recreational features and their desire to see this character maintained. While many said that park facilities need repair and improved maintenance, the public appeared to be mostly satisfied with the range of recreational opportunities offered by the park. Other comments emphasized:

The lasting value of the park as a gathering place for family and friends

The importance of shared experiences such as walking, picnicking, bicycling, horseback riding, and participating in other activities that have become associated with the park

Individual and physically challenging recreation such as biking, boating, fishing, jogging, and hiking

The historic resources present within the park and their appreciation by the public

*Local and Regional Transportation* – Local and regional transportation was identified as an impact topic primarily because of concerns expressed during scoping. Many members of the public identified the value of both paved and unpaved trails and expressed a desire to have an expanded trail system. The scoping comments pointed out that trails should be effectively linked to the various local communities located along the 48- mile park.

Other people value the park corridor for the opportunity to promote nonmotorized and less polluting alternatives to automobiles, especially bicycle use. Public comments reflected the desire to increase use of off- road bicycles and other walking trails in the park through development of an interconnected trail system. Other people expressed concern about the effects of increased off- road bicycling on erosion and water quality.

*Community Character* – Community character also was identified as an impact topic during scoping. Most of those who commented described the park as a major asset to the quality of life in the Atlanta metropolitan area. The scenic and recreational amenities are much appreciated, and many said that proximity and access to the park were important factors in their choice of neighborhoods. A number of people who identified themselves as park neighbors also stressed that their neighborhoods could be affected by changes in park experiences.

### Issue Topics Considered but Dismissed

As described in the “Consultation and Coordination” section, the identification of issues and development of alternatives evolved through a series of meetings and other opportunities for public input. However, not all issues raised by the public are included in this general management plan.

As the National Park Service learned more about public concerns, the alternatives were modified to more effectively address the public’s comments. This evolution resulted in the elimination from further consideration of some possible management actions that were proposed early in the process. Other issues raised by the public were not considered because they:

Were not feasible



Are already prescribed by law, regulation, or policy

Would be in violation of laws, regulations, or policies

Appendix C provides a complete list of the issues.

The following is a discussion of the impact topics and a rationale for eliminating them from further consideration. The decisions regarding categorization of the issues were made by an National Park Service planning team following the public scoping meetings:

**Groundwater Quantity:** Implementation of a particular management alternative would not have any impact on groundwater quantity, either positive or negative. Groundwater quantity is affected by various physical, geological, and hydrologic factors outside the control of park management.

**Groundwater Quality:** Facilities would be required to comply with appropriate design, build, and operating specifications and procedures. There would be negligible impacts to groundwater quality. Groundwater quality is affected by factors such as transportation- or industrial- related spills of hazardous chemicals or industrial and commercial operations outside of park boundaries.

**Special Status Species that Do not Occur in the Park:** Management alternatives would have a negligible affect on rare, threatened, or endangered species in areas outside the park or in neighboring states. The park provides temporary habitat for some migratory species of protected animals from other states and from outside the park boundaries, but habitat for these species within the park would be preserved under any alternative selected, even with varying degrees of fragmentation. Therefore, this issue does not merit further analysis.

**Physiography/Topography:** Alternative park management activities could result in some ground disturbing activities related to construction of parking lots, buildings, and roads. However, these activities would result in negligible impacts to topography or physiography within the park boundaries.

**Climate:** None of the management alternatives would result in climate modification.

**Wild and Scenic Rivers:** The Chattahoochee River is not a federally- designated Wild and Scenic River, and therefore no impacts would occur.

**Indian Trust Resources:** Designated Indian Trust Resources do not exist within the park and therefore would not be impacted by any management alternative.

**Sacred Sites:** No Native American sacred sites have as yet been identified within the park. Project- specific consultation has been initiated with potentially interested Tribes; however, this has not led to the identification of any sacred sites in the park, and no formal study to identify such sites has been carried out. At this time it is not possible to assess potential impacts to sacred sites by any of the management alternatives.

**Ethnographic Resources:** Some places of traditional cultural importance may be eligible for inclusion in the National Register of Historic Places as traditional cultural properties because of their association with cultural practices or beliefs of a living community that are rooted in that community's history and are important in maintaining the continuing cultural identity of the community. Traditional cultural properties have not been identified within the park boundaries; however, no formal study to identify such properties has been carried out at in the park. Therefore it is not possible to assess impacts to ethnographic resources by any of the management alternatives at this time.

**Cultural Landscapes:** Cultural landscapes reflect the relationship between what is natural and what is man- made. According to the Secretary of the Interior's guidance document (1996), a cultural landscape is "a geographic area (including both cultural and natural resources and the wildlife or domestic animals therein) associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values."

A cultural landscape inventory documents the qualities and attributes of a cultural landscape that make it significant and worthy of



preservation. The goal of the National Park Service is to locate and evaluate cultural landscapes and provide information on their location, historical development, characteristics and features, and management to assist park managers in planning, programming, and recording treatment and management decisions.

In 2001, the National Park Service initiated a cultural landscape inventory of several areas within the park considered potentially eligible on the National Register. The inventory underway as of the date of this document identified eight potential cultural landscapes within the park: Sope Creek Mill complex, Scribner Cemetery area, Collin's/Yardum homesite area, Hyde Farm/Power's Cabin area, Hewlett Lodge/park headquarters area, Roger's farm area, Allenbrook/Joy Mill Complex, and Aker's Mill complex.

Because cultural landscapes within the park are under evaluation, the potential impacts caused by the proposed alternatives cannot be adequately defined. Any activities proposed in the future would include environmental assessments tiered to this document, and cultural landscapes would be evaluated at that time.

**Noise:** The largest noise generator in the vicinity of the park is traffic. The alternatives considered would result in negligible impacts to the overall traffic patterns or volumes projected to occur in the areas surrounding the park. Traffic in the area would continue to increase, as described in the transportation section, regardless of whether any of the management plan alternatives are instituted.

#### **Socially or Culturally Disadvantaged**

**Populations:** Executive Order 12898 regarding "Federal Actions to address Environmental Justice in Minority Populations and Low- Income Populations." requires, as of February 11, 1994, that each federal agency make achieving environmental justice part of its mission by identifying and addressing disproportionately high and adverse human health effects of its programs, policies, or activities on minority or low- income populations. The order applies to all federal actions that require National Environmental Policy

Act documentation, and has three general objectives: 1) focus the attention of federal agencies on the human health and general environmental conditions in minority and low- income communities with the goal of achieving environmental justice; 2) foster nondiscrimination in federal programs that could substantially affect human health or the environment; and 3) give minority and low- income communities greater opportunities for public participation on matters relating to human health and safety.

An assessment of the alternatives were assessed during the planning process determined that none would result in discernable adverse effects upon any minority or low- income population or community. The following is a summary of the rationale for this conclusion:

Implementation of the plan would not result in any identified effects specific to any minority or low- income population or community. Development of new park facilities that might occur under any of the alternatives would occur in compliance within prescribed zones located throughout the 48- mile park corridor. Adverse human health or socioeconomic effects on minority or low- income populations or communities are not projected anywhere along the park corridor.

Impacts on the socioeconomic environment due to implementation of any of the alternatives would be minor or positive and would occur primarily within the local and regional geographic area or near the park. These impacts would be spread over a broad geographical area at hubs located along the 48- mile park and would occur over a long period of time. Impacts on the socioeconomic environment are expected to be negligible and would not alter the character of any local community in a negative way. Connections or increased access to the park at any location along the 48- mile park will have a beneficial effect on the social and economic resources in these areas.



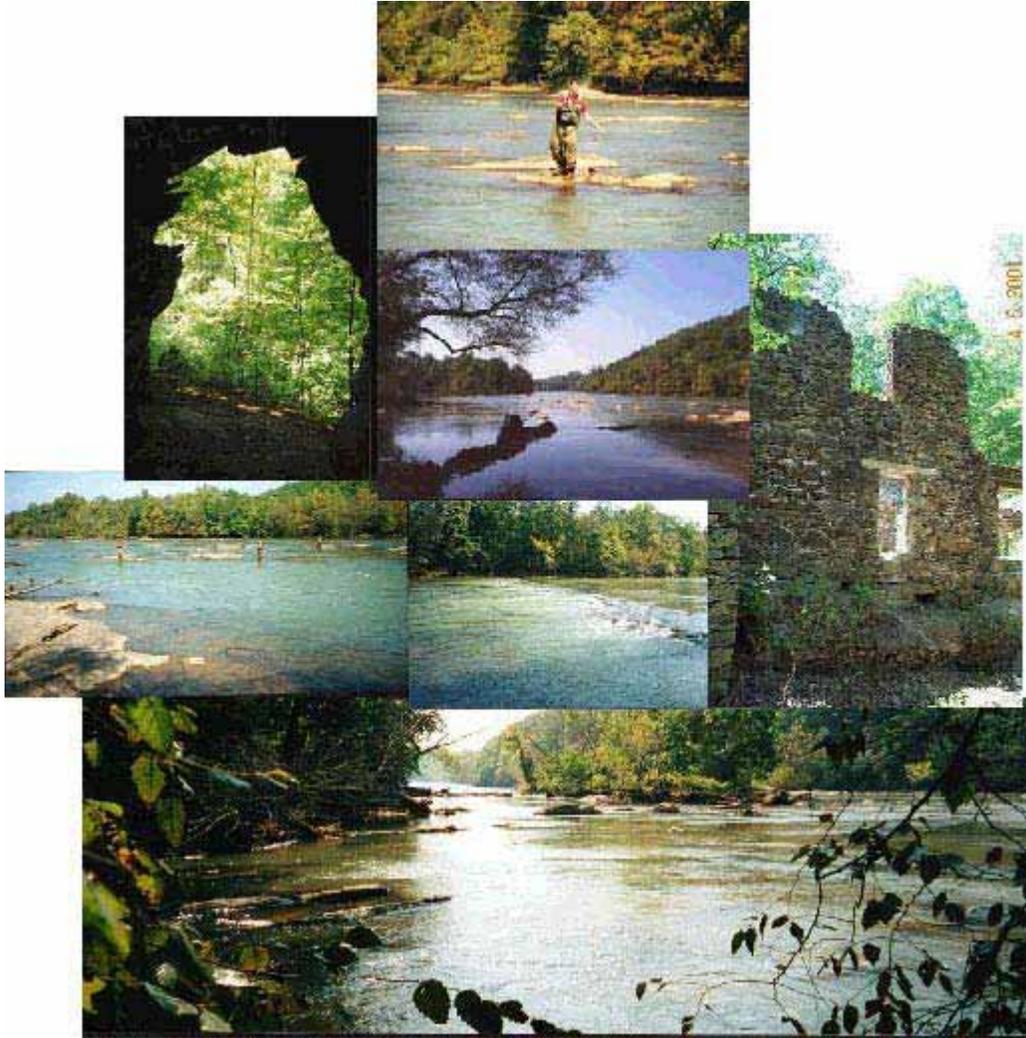
**Energy Resources:** Implementation of the alternatives would involve varying use of energy resources, but these impacts would be minor in nature and would result in negligible impacts to regional energy resources.

**Public Health and Safety:** The National Park Service is charged with providing a safe and healthy environment within the park boundaries. This would be required under any management alternative and does not require additional analysis.

**Natural or Depletable Resource Requirements & Conservation Potential:** The management alternatives would result in the negligible depletion of natural resources and would not adversely affect potential conservation of natural resources within the park.



**ALTERNATIVES**



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## ALTERNATIVES

This section describes each management prescription developed for the park. Each alternative combines several management prescriptions, and the locations where the prescriptions are applied vary across alternatives.

The subsection “Formulation of Alternatives” describes how the alternatives were created based on scoping. Following their initial definition, the development of the alternatives was a two-step process.

The National Park Service identified management prescriptions that potentially were applicable to the park. Each management prescription was defined by desired visitor experiences and resource conditions. This helped establish the kinds of activities or facilities within each prescription that would achieve those targeted conditions.

The management prescriptions were then mapped to specific areas of the park to create the three action alternatives that are evaluated in the general management plan and environmental impact statement.

### POTENTIAL MANAGEMENT PRESCRIPTIONS

This section defines all management prescriptions that could be applied to the park under any of the alternatives. The management prescriptions define the desired future resource conditions and visitor experiences, including the appropriate kinds and levels of management and use.

A management prescription is an approach for administering or treating the resources or uses of a specified area, based on desired outcomes. Management prescriptions include target goals or objectives for one or more resources and/or visitor experiences that are present within the prescription area. The alternatives for the park consist of multiple zones with different management prescriptions. Together, the management prescriptions within an alternative meet all goals of the park.

Different physical, biological, and social conditions are emphasized in each zone. The factors that define each management prescription are the:

Desired visitor experience

Desired natural and cultural resource conditions

These factors then indicate the types of activities or facilities that are appropriate within the zone. Regardless of the target visitor experience or resource condition, all management prescriptions conform to park-specific purpose, significance, and mission goals and to the servicewide mandates and policies. For example, an archeological site would be protected, regardless of whether it occurs in any given zone. However, the use of that site for educational purposes could vary, depending on the management prescription assigned to the area where the resource is located.

The five management prescriptions identified as potentially applicable to the park are described below and summarized in Table 1. The prescriptions emphasize desired conditions and visitor experiences for forests, cultural resources, recreation areas, visitor facilities, and administration and operations areas. The following is a summary of each prescription developed during the completion of this general management planning effort for the park.

### DEVELOPED ZONE

The developed zone would provide the highest level of recreational and educational facilities for visitors. This zone would be characterized by a relatively high density of people in a relatively urbanized setting. The opportunity for solitude would be low, but the potential for educational opportunities would be high. This area would be characterized by buildings, roads, parking lots, and paved trails.



*Chattahoochee River National Recreation Area  
Draft General Management Plan/EIS*

Table 1: Summary of Chattahoochee River National Recreation Area Management Prescriptions

Category	Developed Zone	Natural Area Recreation Zone	Urban Primitive Zone	Pristine River Zone	Cultural Resource Zone
<b>Visitor Experience</b>					
Degree of isolation	Low	Moderate	High	High	Variable according to location
Feeling of closeness to nature	Low	Low/moderate	High	High	Variable according to location
Opportunity to experience solitude/tranquility	Low	Moderate	High	High	Variable according to location
Degree of challenge/risk	Low	Moderate	Moderate	High degree of challenge and risk, self reliance	Low
Degree of encounters with other visitors	High	Moderate to High	Low	Low or infrequent rate due to river access only (limited access policy)	Moderate
Knowledge and use of outdoor recreation skills	Low	Moderate	Moderate	High	Low
Diversity of experience	High	High	High	High	Low
Degree of facilitation (education/outreach)	High	Moderate	Low	Low	High
Proximity to basic facilities	High	Moderate	Low	Low	Low
Safety risk	Low/very safe area	Moderate	Moderate	Moderate	Low



**Table 1: Summary of Chattahoochee River National Recreation Area Management Prescriptions**

Category	Developed Zone	Natural Area Recreation Zone	Urban Primitive Zone	Pristine River Zone	Cultural Resource Zone
Access	Highly accessible	Moderate to High	Low	Low  River viewshed/access only/ river-based activities only; no crafts or vehicles or modes of transport off- river.	High
<b>Resource Condition or Character</b>					
Level of resource and visitor management required to protect resources and provide safety	High level of management required for facilities and maintenance	Intensely managed zone to ensure resource protection and public safety  Moderate to high level of staff presence/activity  Moderate to high level of management required	Moderate level of both resource and visitor protection required	High level of management required	High
Park Service tolerance for resource degradation	Low tolerance for resource degradation in this zone  Increased built environment  High level of impervious space/developed space	Natural environment modified for essential visitor and park operation needs, but changes would harmonize with the natural environment  Low tolerance for natural resource degradation.	Low	Zero tolerance for degradation	Low



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Table 1: Summary of Chattahoochee River National Recreation Area Management Prescriptions

Category	Developed Zone	Natural Area Recreation Zone	Urban Primitive Zone	Pristine River Zone	Cultural Resource Zone
<b>Resource Condition or Character (Continued)</b>					
Character of natural and cultural resources (pristine, developed, other categories)	Only highly localized development in this zone. Park Service would have a low tolerance for natural or cultural resource alteration	Areas predominantly natural but sights and sounds of people clearly evident  Semi- built environment  Moderate level of impervious space/developed space	High	Natural Appearing Landscape  “Pristine- like”	Managed for maintaining quality of cultural resources
<b>Types of Activities</b>					
Day hiking	Appropriate	Appropriate	Day hiking would be appropriate on “primitive” trails  Footpaths/limited trails	No trails	Appropriate
Biking	Appropriate	Appropriate	Not appropriate	Not appropriate	Not appropriate
Picnicking	Appropriate	Appropriate	Not appropriate	Hikers could eat lunch in this zone, but no picnic tables or related facilities would be placed in these areas	Not appropriate
Nature observation	Appropriate	Appropriate	Appropriate, but this zone would be primarily water oriented	Wildlife sanctuary	Appropriate



**Table 1: Summary of Chattahoochee River National Recreation Area Management Prescriptions**

Category	Developed Zone	Natural Area Recreation Zone	Urban Primitive Zone	Pristine River Zone	Cultural Resource Zone
<b>Types of Activities (Continued)</b>					
Fishing	Appropriate	Appropriate	Appropriate from bank or river	Fishing from the river would be the only type of fishing allowed in this zone (no fishing from the bank)	Not Appropriate
Equestrian	Appropriate	Existing trails only	Not appropriate	Not appropriate	Not appropriate
Scientific research	Appropriate	Appropriate	Appropriate	Appropriate, but limited activities only	Appropriate
Canoeing, rafting, kayaking	Appropriate	Appropriate	Appropriate	No crafts or vehicles or modes of transport off- river.	Appropriate in vicinity of resource
Habitat restoration	Appropriate	Appropriate	Appropriate	Appropriate	Appropriate  Habitat might also be altered to maintain character and quality of cultural resource. This would include use of non- native vegetation in some instances, potentially.
<b>Types of Facilities</b>					
Trails	Appropriate	No paved trails; natural unpaved trails only	Primitive trails appropriate  Foot paths/limited trails	Not appropriate	Appropriate



*Chattahoochee River National Recreation Area  
Draft General Management Plan/EIS*

Table 1: Summary of Chattahoochee River National Recreation Area Management Prescriptions

Category	Developed Zone	Natural Area Recreation Zone	Urban Primitive Zone	Pristine River Zone	Cultural Resource Zone
<b>Types of Facilities (Continued)</b>					
Visitor and Administrative Facilities	Appropriate	Kiosks, rain shelters and similar low level facilities are appropriate; no large or major facilities are appropriate; limited concession facilities allowed	Not appropriate	Not appropriate No developed conditions or man-made facilities.	Appropriate
Parking areas	Appropriate	Appropriate	Not appropriate	Not appropriate	Not appropriate
Picnic areas	Appropriate	Appropriate	Not appropriate	Not appropriate	Not appropriate
Motorized Vessels (Personalized watercraft are banned within the park)	Appropriate	Appropriate with established limits	Not appropriate	Not appropriate	Not appropriate
Restrooms	Appropriate	Appropriate	Not appropriate	Not appropriate	Appropriate
Roads	Appropriate	Limited access roads	Not appropriate	Not appropriate	Not appropriate
Bridges	Appropriate	Foot bridges appropriate	Not appropriate	Not appropriate	Not appropriate
Kiosks	Appropriate	Appropriate	Not appropriate	Not appropriate	Appropriate

Under 36 CODE OF FEDERAL REGULATIONS 1.4, vessels are defined as every type or description of craft, other than a seaplane on the water, used or capable of being used as a means of transportation on water, including a buoyant device permitting or capable of free flotation

“Appropriate” is defined as those visitor experiences, resource conditions and types of activities acceptable given conditions within the zone.



## Visitor Experience

In this zone, visitors would have convenient inter-modal access to public park buildings and facilities and ample opportunity for social experiences, with a high probability of encountering other visitors or park staff. The developed zone would act as an organizing hub for core administration, transportation, information, and facilities. Visitors of all ages and athletic ability would be able to use outdoor skills and experience introductory- level park adventure and education. Facilities would provide a strategically attractive option for users to fulfill short park visits.

In the park's developed zone, visitors would have little need to physically exert themselves or use outdoor skills, and opportunities for adventure would not be important. Visitors would not have to make a long time commitment to see the area.

## Resource Condition or Character

Resources in the developed zone may be modified for visitor and park operational needs. Visitors and facilities would be intensively managed for resource protection and visitor safety. These changes would be instituted in a manner harmonious with the natural environment ("green" engineering principals). The developed zone would thus consist of a semi- built environment with moderate levels of impervious surface and space and a moderate amount of developed areas for park facilities. The area would be predominantly natural, but the sights and sounds of people would be clearly evident as visitors experience the park.

## Appropriate Kinds of Activities or Facilities

A wide variety of activities would be allowed in the developed zone. Appropriate activities would include day hiking, off- road and street biking, horseback riding, jogging, picnicking, nature and cultural resource observation, interpretative activities, fishing, canoeing, rafting, kayaking, and use of motorized vessels.

Types of acceptable facilities in this zone would include trails, visitor centers, administrative facilities, parking areas, scientific research areas, rest-

rooms, roads and bridges, kiosks, and interpretive centers.

## NATURAL AREA RECREATION ZONE

The concept behind this zone is to allow certain types of active recreation in a relatively undisturbed natural environment. The number of visitors in this zone would be relatively high, so the opportunity for experiencing solitude would be moderate as compared with the urban primitive zone. Unpaved trails would be appropriate in this zone, as would activities such as off- road bicycling.

## Visitor Experience

This zone would be essentially natural, but would experience a relatively high amount of visitor use. At certain times of day or season, opportunities for solitude would occur, but in general the probability of encountering other visitors would be high. The degree of isolation and feeling of closeness to nature would be relatively moderate, limited by the presence of other people. The outdoor challenge for visitors in this zone would be greater than in the developed zone. Access to this zone would be relatively easy. A high diversity of experiences would be possible in this zone, with a moderate amount of facilitation by the National Park Service.

## Resource Condition or Character

This zone would require a moderate to high degree of management to protect visitors and resources within this zone because of the large numbers of users in a natural setting. Some portions of the natural environment could be modified for trails and other uses, but the overall setting would consist of natural habitats. There would be a low tolerance for natural resource degradation, and resources would be managed to maintain natural conditions free of exotic vegetation to the extent practicable. Any trails or other facilities would harmonize with the natural environment. The sights and sounds of people would be clearly evident.

## Appropriate Kinds of Activities or Facilities

A wide variety of activities would be allowed in the natural area recreation zone, but with specific



restrictions. Appropriate activities would include day hiking, off- road and street biking, picnicking, nature observation, interpretative activities, scientific research, fishing, canoeing, rafting, and kayaking. Use of motorized vessels would be allowed with certain restrictions. Unpaved trails would be designed to accommodate a variety of exercise pursuits that may vary from activities on foot to those on bicycle and horseback, however equestrian trails would be developed. Facilities in this zone would be minimal to support the activities described above, including restrooms, kiosks, rain shelters, and picnic tables.

### **URBAN PRIMITIVE ZONE**

The urban primitive zone would provide a relatively undisturbed environment that the visitor interested in nature and natural settings could enjoy. Few people would be encountered in this zone, but biking and boating would be appropriate activities. Unpaved trails would be appropriate. The concept of this zone is to allow visitors to experience a relatively natural environment with a relatively low probability of encountering many people during a given visit to the park.

#### **Visitor Experience**

In the park's urban primitive zone, opportunities for closeness to nature, tranquility, and the application of outdoor skills would be common. The level of encounters with other visitors and staff would be low. Visitors would need an average degree of outdoor skills and would employ a moderate variety of these types of skills during their stay in the park. This zone would feel farther away from comforts and conveniences than the developed zone. Visitors would be able to have a large variety of outdoor experiences.

#### **Resource Condition or Character**

A moderate to high level of management would be provided for resource protection and visitor safety in the urban primitive zone. National Park Service tolerance for resource degradation due to visitor use in this zone would be very low. Habitats would be restored and maintained in as natural a condition as possible. Subtle onsite controls and restrictions could be present, such as trail markers or

restrictions on off- trail use. The area would be predominantly natural, and the sights and sounds of people would be infrequent.

### **Appropriate Kinds of Activities or Facilities**

A limited variety of experiences would occur in the urban primitive zone. Appropriate activities would include day hiking on primitive trails only, nature observation, interpretative activities, fishing, scientific research, canoeing, rafting, and kayaking.

### **PRISTINE RIVER ZONE**

The concept behind this zone is to provide visitors with an experience as close to a natural undisturbed river corridor as possible. Trails would not be allowed in the core of this area, and access would primarily be by boat. In recognition of the fact that the park is located in a rapidly developing corridor, this zone is expected to be relatively limited in extent. As the areas surrounding the park develop, encroachment on this zone may occur. This area would provide a high degree of solitude and enable visitors to appreciate the natural values of the Chattahoochee River environment.

#### **Visitor Experience**

This would be a special limited access part of the park that would allow visitors to float down a relatively undisturbed section of the Chattahoochee River. This area would allow visitors to feel very close to nature, even in an urban setting. This would require strict preservation of a portion of the river corridor habitats on both sides of the river, so that modern development would not be noticeable in the river viewshed wherever possible; thus, the degree of isolation would be very high. This zone would provide a good opportunity to experience solitude and tranquility in an urban setting, which would be a highly valued experience for many. The degree of challenge or risk would be high since no facilities and few park staff would be present, and the visitor would need to know how to apply outdoor skills. Visitors would therefore need a high degree of self- reliance. The possibility of encountering other visitors would be lower in this zone compared to others.

### **Resource Condition or Character**

This zone would be restored to and maintained at its natural state to the extent practicable. In an urban park, this translates into a relatively high degree of management for exotic species of plants and a high degree of protection of the resources from degradation by human uses. There would be zero tolerance for resource degradation in this zone. This zone would be managed to be as “pristine-like” as possible.

### **Appropriate Kinds of Activities or Facilities**

The types of allowable experiences in this zone would include nature observations, limited river-based interpretative activities, use of non-motorized vessels, and fishing from the river only. Viewing would be allowed only from the river. Boat take-outs and put-ins would be allowed above and below this zone. Trails would only occur along the perimeter of this zone, away from the river. No constructed facilities of any type would be appropriate in this zone.

## **CULTURAL RESOURCE ZONE**

This zone was established with the specific goal of protecting cultural resources within the park, while allowing the public to enjoy and understand the value of these resources. The number of visitors to cultural resource zones could be high, depending on the type of resource. Opportunity for solitude and enjoyment of the natural environment would be lower in this zone.

### **Visitor Experience**

This zone would be a clearly defined area that includes archeological or historic resources. This zone could include individual sites already listed on the National Register of Historic Places or, in the future, could include formally designated cultural landscapes. Limited but relatively easy access would be provided for visitors to observe and learn about the resources, but the primary objective would be to protect the resource and to maintain its character. Additional goals would be to rehabilitate resources according to National Park Service guidelines and to protect the rehabilitated resource in the future.

This zone would be managed to restore features that were originally associated with the resource. For example, this might require habitat manipulation to achieve similar plant communities that were present historically. However, development of park facilities in this zone would be limited to protect the historical or archeological resources and to provide for an optimal visitor experience. Natural resources would be protected where consistent with cultural resource values.

The probability of encountering other visitors would be moderate. The visitor would experience a variable degree of isolation and feeling of closeness to nature, depending on where the resource is located. The outdoor challenge for a visitor in this zone would be low.

### **Resource Condition or Character**

This zone would require a high degree of management to protect visitors and resources because of the potentially high numbers of users in the vicinity of identified and highly sensitive cultural resources. The natural community could be altered to the degree necessary to restore or maintain the character of identified cultural resources.

Some portions of the natural environment within this zone could be modified for trails and other uses that could include impervious surfaces. Any trails or other facilities would harmonize with the cultural and natural environment where practical. The sights and sounds of people would be clearly evident, but variable.

### **Appropriate Kinds of Activities or Facilities**

A more limited variety of activities would be allowed in this zone in order to protect identified cultural resources and values. Appropriate kinds of experiences would include day hiking, nature observation, interpretative activities, scientific research, canoeing, rafting, kayaking, and use of non-motorized vessels. Facilities in this zone would include trails, restrooms, kiosks, and opportunities for interpretive activities. All facilities and uses within this zone would be consistent with the inherent cultural resource values.



## FORMULATION OF ALTERNATIVES

The following four alternatives are considered in the general management plan:

- Continue Current Management or No Action Alternative
- Focus on Solitude Alternative
- Centralized Access Alternative
- Expanded Use Alternative

The management alternatives in this general management plan have been developed according to guidelines provided in *Director's Order No. 12*. The three action alternatives embody the range of what the public and the National Park Service want to see accomplished with regard to visitor experience, natural resource conditions, and cultural resource conditions. They are based on outcomes, or actual conditions on the ground, as expressed by the management prescriptions. Implementation of any of the management alternatives would be allowable under the existing laws, regulations, policies, and mandates of the National Park Service. The No Action Alternative, which is defined as continuing the current park management practices into the future, is provided in accordance with National Environmental Policy Act guidelines.

The following is a summary of the detailed steps used to develop the alternatives:

Written public comments were received at six separate meetings held in each of the four counties that encompass the park and two local cities in the project area during the fall of 2000. All public meetings were announced in the newspaper and through posting in area libraries and other public places. The public submitted comment cards that were provided by the National Park Service for collecting comments. Over 200 written comments were received.

Comments were initially sorted by topic; the following issue categories resulted: (1) Access, (2) Facility Needs, (3) Ecology, (4) Impacts, (5) Use, (6) Boundaries, (7) Trails, (8) Outreach, (9) Private Property, (10) Transit, (11) Fisheries/Fishing, (12) Enforcement, and (13) Restoration.

The organized comments were reviewed by the National Park Service planning team, then further sorted into the following categories as per the requirements of National Park Service planning guidelines: (1) things that cannot be done because they are inconsistent with existing laws or National Park Service policies; (2) actions that must be done because they are mandated by existing laws, regulations, policies, or mandates; (3) interests or concerns that have been raised and that are appropriate to consider in a general management plan; and (4) actions that are more appropriately addressed by other types of plans, such as an implementation plan.

A set of decision points was developed from the smaller set of comments carried forth for consideration in the general management plan. Decision points are generalized statements that describe a range of possible future conditions in the park.

The resources within the park that are at stake and which could be impacted by implementation of a general management plan alternative were identified.

Resource values potentially at stake were identified, and a determination regarding whether they could be impacted was made. If the answer was yes, then these were carried forward into the list of impact topics to be considered in this document. Topics that were not determined to be affected would not be carried forward.

This information was used to develop a range of desired future conditions, or prescriptions, for the park. These were developed without mapping or relating the prescriptions to features on the ground in the park.

A set of management alternatives was then developed by applying the prescriptions to zones on a map.

The draft management alternatives were tested to make sure there were clearly defined differences as required by the National Environmental Policy Act and National Park Service Management Policies 2001 (NPS 2000c). A set of final management alternatives was developed in a series of workshops held by the planning team.

The draft management alternatives were then applied to zones on maps as National Environmental Policy Act alternatives. One map was created for each management alternative. The no action alternative was also mapped using the information contained in the previous general management plan and environmental impact statement published in 1989.

The formalized description of the management alternatives as developed and adopted during the National Park Service planning process is described in the paragraphs that follow. Each management alternative takes into consideration National Park Service mandates as well as laws and policies, and provides for appropriate levels of protection of the resources in accordance with these laws and policies. The planning team followed this premise during the development of each alternative.

#### **CONTINUE CURRENT MANAGEMENT OR NO ACTION ALTERNATIVE**

National Environmental Policy Act guidelines require an assessment of the impacts of the No Action Alternative, which is defined as continuing the current park management practices into the future. Current management practices, policies, or park programs— such as maintenance, law enforcement, and operational practices – would continue to be implemented with no major changes. Current resources management programming would remain unchanged from the present level. Such programming includes preserving historic ruins, mills, archaeological resources, and wetlands; removing exotic species; river bank preservation; and water quality monitoring.

Visitor services such as environmental education, search and rescue, interpretation (on and off site), concessions, facility planning and maintenance (restrooms/ water fountains), and access to the river would remain unchanged. Visitors would have a wide variety of experiences in the park, such as hiking, fishing, and boating. The goal would be to protect resources through regulatory compliance and National Park Service policies.

The strategy of no action would provide limited development, principally to open new locations at the request of local governments and stakeholders on their terms but in compliance with National Park Service mandates for environmental protection; cultural, historic and natural preservation; recreation; and education. However, the park is currently not in full compliance with all of these requirements. Continuation of past practices would therefore imply that the park would continue to be out of compliance.

The Continue Current Management/No Action Alternative map shows the park as it now exists.

#### **FOCUS ON SOLITUDE ALTERNATIVE**

This alternative would implement management programs that would minimize development in the park and maximize the opportunity for visitors to experience solitude in natural settings. This approach would involve reducing or minimizing recreational sites and facilities within the newly acquired areas of the park, but would allow continued use of the existing facilities in the original named units to adhere to present practices. Some areas subject to heavy use would be allowed to continue in this manner, with the option to improve conditions through various means; for example, by changing visitor use patterns to mitigate potentially adverse impacts on natural and cultural resources. Newly acquired areas would be managed to provide maximum resource protection and solitude for visitors. The focus on solitude in the newly acquired areas would redirect visitation initiatives to having an experience in a relatively natural area, create sanctuary locations along the river, and insulate visitors from the urban conditions that surround the park.

As a rapidly expanding city of the 1990s, Atlanta has been highly successful in developing commerce, business, and growth, but has not been as effective at controlling nonpoint sources of water pollution, maintaining air quality, and providing a suitable amount of park space to serve the expanding communities. Recognizing the crowded urban environment surrounding the park, this alternative offers a respite from active lifestyles in the area.



Not unexpectedly, solitude is listed as the most desired visitor experience in the 1989 and 1994 visitor surveys for the park. Visitors are predominantly seeking a peaceful natural setting for observing wildlife, forests, the river, cultural and historic scenes. This alternative would provide for this experience in newly acquired portions of the park as well as in those areas of the park where this is currently possible.

Under this alternative, visitors would experience the natural environment wherever feasible. This would be provided through a system of unpaved walking trails, primitive areas of beauty, and locations along the riverbanks defined as pristine river zones allowing no structures of any kind and only limited trails located away from the river. Areas designated as pristine river zones could be viewed from the river in non-motorized vessels. Trail access would, however, be provided in other areas of the park under other planning prescriptions. These areas would provide visitors with solitude during day hikes.

This alternative emphasizes planning representative of “un” development, in that any construction of park facilities that violates minimum standards for preservation of natural habitat, aesthetic beauty, and cultural and historical resources would be inappropriate. The basis for this alternative is that the park corridor along the Chattahoochee River would be a green buffer or oasis from the busy life of urban Atlanta.

This alternative would allow only minimal growth within park boundaries; the majority of new facilities would be built outside the park. Certain targeted locations within the existing park framework could also be returned to a natural state. Newly acquired additions, as authorized by Congress along the Chattahoochee River corridor, would remain in the more natural state, with unpaved trails only. Unpaved trails would provide internal linkages to various existing facilities and gateways within the park. River use would be encouraged through canoes, rafts, and non-gas-motorized vessels, and recreation opportunities such as fishing, bird watching, research, education, and preservation would be emphasized. No new paved roads would be built under this alternative.

In this alternative, visitors would receive a quality experience in the wide variety of environments available in the park, with an emphasis on environmental education. The visitors experience would be highly facilitated through learning. Targeted facilities within existing developed areas would be restored to a more natural condition. For example, parking lots and buildings would be removed in select areas.

Parcels being added to the park under the newly expanded boundaries would remain in, or be restored to, a largely natural state. Areas with significant cultural resources would be managed to protect values in accordance with National Register standards. Limited facilities would be added, for example, small gravel parking lots, primitive trails, and interpretive signage.

Newly acquired areas of the park would be managed to provide visitors a relatively high degree of solitude in a natural setting within the constraints imposed by the urbanized nature of the surrounding area. The Focus on Solitude Alternative map shows the distribution of zones under this alternative.

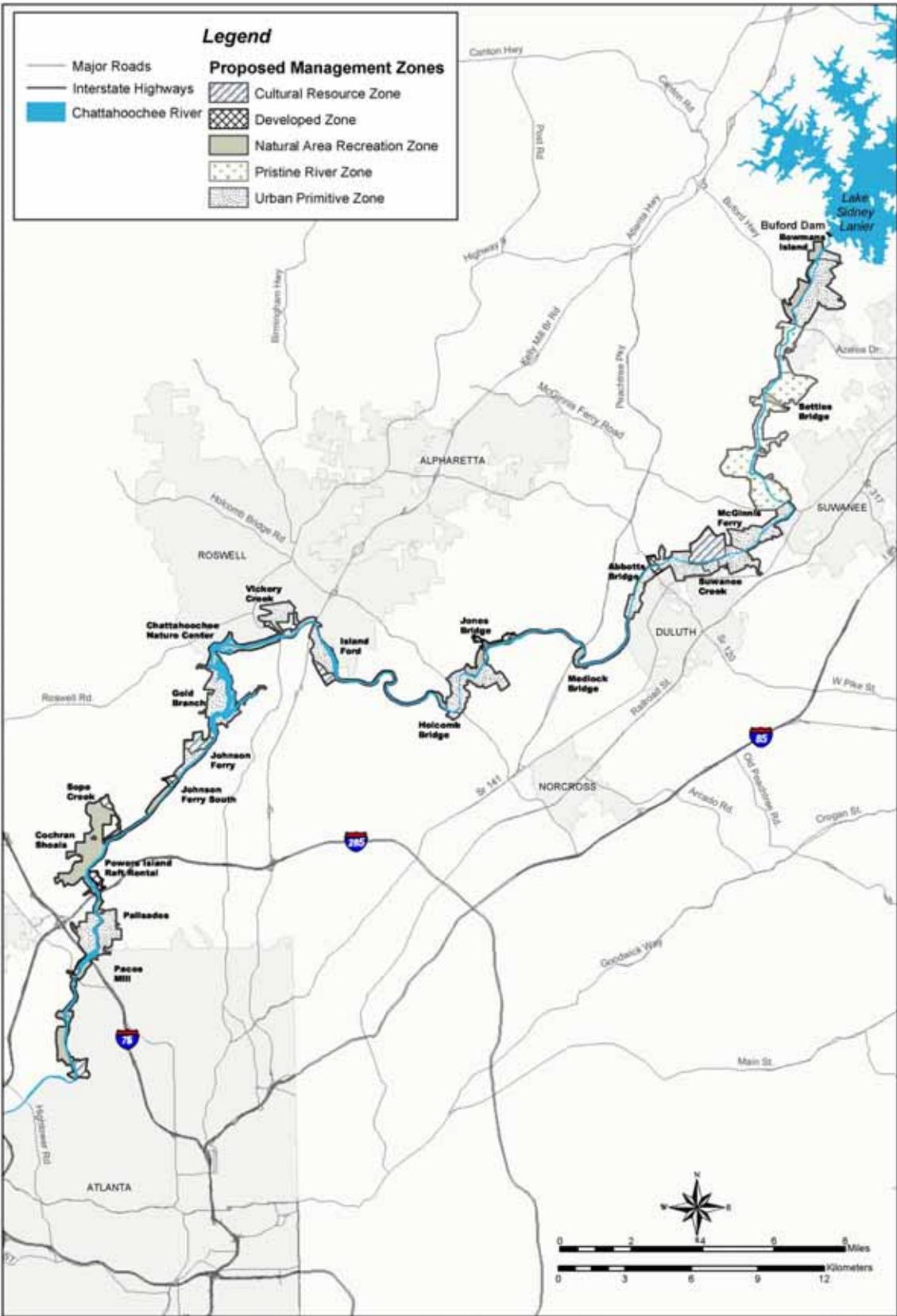
#### **CENTRALIZED ACCESS - THE PREFERRED ALTERNATIVE**

In this alternative, visitors would be drawn toward a system of hubs in which administrative, commercial, and interpretive facilities are located. Hubs, at a minimum, would provide visitor information, rest rooms, parking lot and roads, trail head, and river access. Trailheads and parking lots would be minimized outside hubs. The hubs would be placed at strategic locations along the 48-mile-long park to optimize visitor experience and understanding.

Visitor experience would focus around the interpretive activities and other facilities available in the hubs. Visitors, in lower numbers, could enjoy the extensive natural habitats and cultural resources in the undeveloped portions of the park, where activities would be focused on achieving solitude in an urban environment.



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# Focus on Solitude Alternative

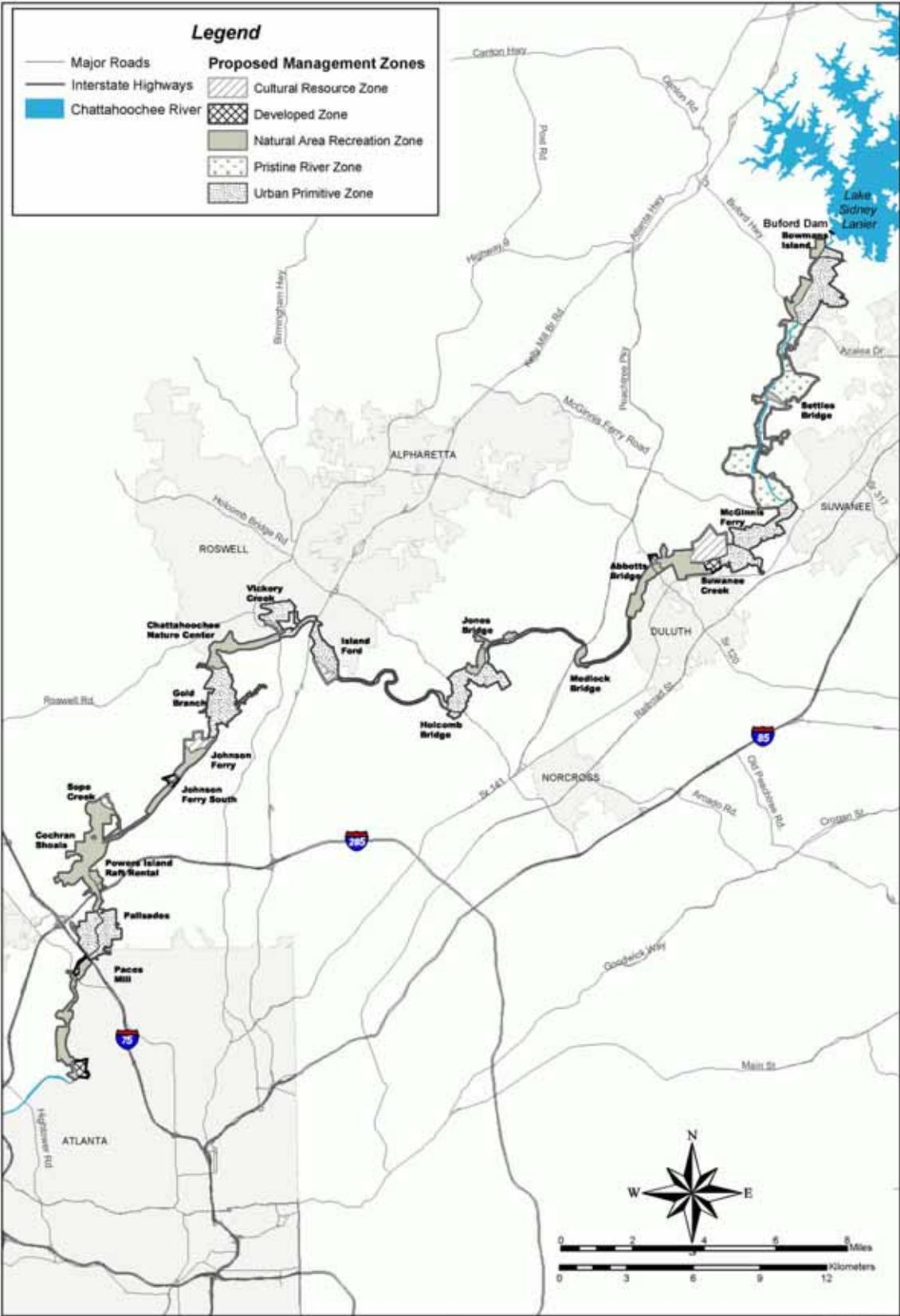
## Chattahoochee River National Recreation Area

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**Centralized Access - Preferred Alternative**

Chattahoochee River National Recreation Area

U.S. Department of the Interior - National Park Service

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The majority of the park would be managed in its natural state, with access provided primarily via the hubs. Levels of visitor use within the developed hubs would be relatively high, and a wide variety of experiences would be possible.

The centralized access alternative was designed to improve public service within the 48- mile- long park by using gateways to meet the challenge presented by the linear shape. With several million residents in the region, transportation access to the park is through congested neighborhood scale arterials and collector streets.

The centralized access alternative would expand services while maintaining green space throughout the 10,000- acre park. This would be accomplished by coordinating public/private partnerships at carefully selected centers (hubs) of park development and management. The centers would be selected to better provide access at designated areas along the north, central, and southern portions of the park. These centralized areas would provide: (1) park services; (2) National Park Service staff as required; (3) developed, multi modal facilities where shuttles and automobiles could be parked; and (4) visitor access to trail heads to remote zones. The centralized access points would provide put- in or rental boating facilities for water access, visitor participation opportunities at the more active park recreation facilities, and on- site informational materials on cultural and natural resources throughout the park.

A centralized access strategy would also enhance the opportunity for instituting National Park Service education programs at key regional locations to better reach a growing population and service area. This alternative would allow the National Park Service to concentrate its limited resources in heavily populated core areas of the corridor rather than distributing staff and resources uniformly. The centralized access concept envisions higher minimum standards for transportation connectivity, and places greater emphasis on public-private partnerships with educational non- profits, cities, counties, and regional agencies. This alternative would discourage expanded new entrances to the park and would encourage National Park Service supervision, education, monitoring, and enforcement where park use is greatest.

The visitor experience in this alternative would be more participatory, with more opportunity for socializing and involvement in group activities and less opportunity for solitude near the hubs. However, opportunities for solitude would still exist at various locations in the park. In particular, a nine-mile pristine river zone would be established between McGinnis Ferry Road and Highway 20, with the exception of a limited access point for visitors and non- motorized vessels at Settles Bridge. This feature would provide visitors with the opportunity to experience the river in a relatively natural condition. No trails would be allowed on the river bank in this zone, and no fuel- powered vessels would be allowed; vessels with electric motors would, however, be allowed.

A survey of this area by the National Park Service during the preparation of the general management plan and environmental impact statement determined that it was characterized by a high degree of natural qualities, despite the fact that development has occurred in some areas on either side of the river. When viewing from the river, a boater would see a forested buffer of large trees for the majority of the nine- mile stretch of river. Inclusion of this extensive pristine river zone in this alternative is one of its major features.

A special feature of this alternative is that it would define the use of motorized vessels (gasoline- driven motors) as an appropriate use in the upper portion of Bull Sluice Lake, located in the vicinity of the City of Roswell. Under this alternative, use of motorized vessels would be allowed from Highway 9, just north of River mile 317, to River mile 315 within the lake. Appropriate uses would include water skiing as well as cruising in gas- powered vessels. Bull Sluice Lake is the only lake within the 48- mile park and provides a unique recreation opportunity for use of motorized vessels. The lake is located within heavily developed Roswell, and is conveniently situated for this purpose.

The use of motorized vessels would not be permitted in Bull Sluice Lake below River Mile 315, which demarcates the northern end of the area currently defined as the Gold Branch Unit. This is a several- hundred acre area that remains in a relatively naturally forested state. The lake in this area is also characterized by extensive freshwater emergent wetlands that provide an unusual non- motorized



boating opportunity for visitors in non- motorized vessels. This alternative would allow continued use of the upper part of the lake for motorized vessels, while protecting the lower part of the lake in the vicinity of the Gold Branch Unit from noise and impacts caused by the movement of speed boats. The Centralized Access – Preferred Alternative map shows the distribution of zones under this alternative.

## **EXPANDED USE ALTERNATIVE**

In this alternative, expanding and distributing access throughout the park, including on newly acquired parcels, would provide a variety of visitor experiences. New facilities would be developed or existing facilities would be refurbished. Connectivity to existing neighborhoods would be optimized, providing similar visitor experiences throughout the park.

In the metropolitan Atlanta region, parks are at a premium. Expanding use of the park to meet the resultant demand is a viable alternate that could be achieved within the limits imposed by the various laws, regulations, policies, and mandates of the National Park Service. According to National Park Service- sponsored surveys, typical visitors to the park are young, business- oriented single users, principally males, generally white, and suburban. Access to the park could be expanded in the future for all visitors, as this linear park is located adjacent to the most densely developed neighborhoods and business communities of the metropolitan area.

Implementation of this alternative would enable the National Park Service to expand use to local visitors, including families, and to visitors from business parks and neighborhoods. It would also provide trail linkages to city- and county- funded and supervised parks. This alternate concept would provide an opportunity for a general broadening of park knowledge and interest in the National Park Service through increased use of the park.

People in urban areas such as Atlanta seldom experience relatively undisturbed natural areas or view wildlife in a natural habitat. Under this alternative, social trails from existing and proposed developments would be managed to encourage use by an expanded user group. The expanded use

alternative would require a higher level of self- help and individual reliance from a wide range of associations and from parents, business organizations, and local governments.

This alternate concept would require a proactive National Park Service outreach program. Expanded use would de- emphasize solitude and emphasize a more social, community- based group experience that envisions the park as an extension of the communities surrounding it. Expanding uses and access would require a redefinition of gathering spaces surrounding the national park that would be used for picnics, celebrations, neighborhood meetings, and family walks, and would be characterized as a visitor experience of convenience and personal attachment.

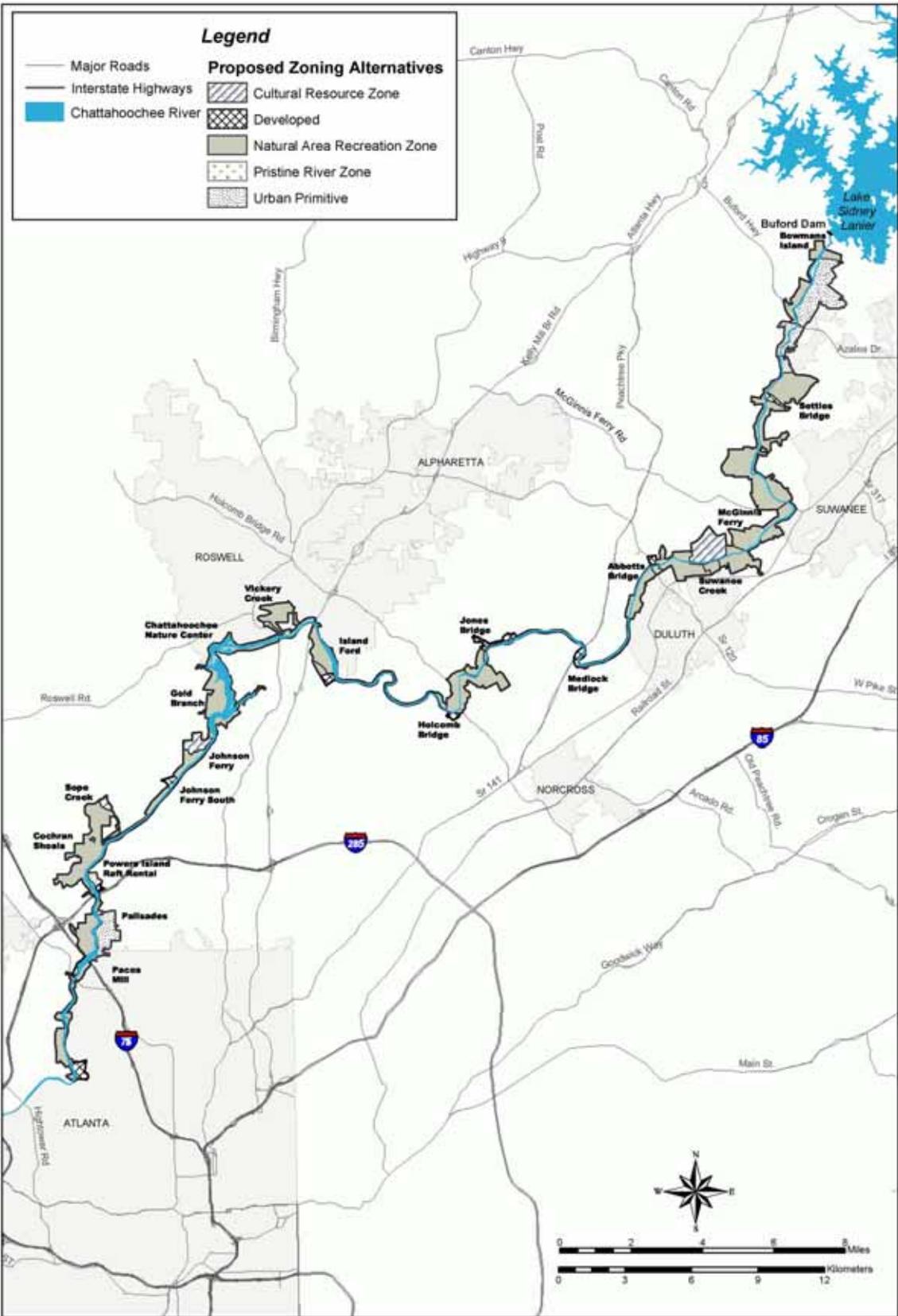
Facilities for the park would be necessarily distributed throughout the 48 miles, based on availability of resources and local community support. The park plan would emphasize expanded citizen involvement and enforcement of access restrictions. A greater and more diverse population of residents would be served. This alternative would have the potential to strengthen community involvement in environmental protection of the park and its resources. Local self- help education and voluntary public/private partnerships could enhance park stewardship.

The Expanded Use Alternative map shows the distribution of zones under this alternative.

## **COMPARATIVE COST ANALYSIS**

The estimates in this section regarding the general costs of implementing the alternatives were developed based on fiscal year 2002 dollars. The actual cost of implementing the general management plan will ultimately depend on funding by the National Park Service and Congress over the life of the plan, as well as the ability to partner with other agencies or groups.

Cost estimates were developed through an evaluation of capital and annual operating costs for each of the proposed three action alternatives and the No Action Alternative. The National Park Service uses a broad range of costing techniques including Class A, Class B, and Class C levels of cost



# Expanded Use Alternative

## Chattahoochee River National Recreation Area

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estimating. The capital costs estimates provided are in the form of category “C” estimates, which are general, or order- of- magnitude, estimates. The accepted industry range of Class C estimates is -30 percent to +50 percent. Therefore, a \$1,000,000 estimate has an actual range of between \$700,000 and \$1,500,000. Class A and B estimates are based upon more detailed information, and represent design and construction finances at the time of actual development activities.

Estimates are based on guidance from the National Park Service *Cost Estimating Guideline with Class C Cost Data: New Construction* (2001A).

### Capital Costs

The comparable costs related to the 15- 20 year capital infrastructure construction time frame of the general management plan and environmental impact statement is an estimated \$10,160,000 for the Focus on Solitude Alternative, \$19,833,000 for the Centralized Access Alternative, and \$30,341,000 for the Expanded Use Alternative. The No Action Alternative assumes that no capital improvements will be made. All costs are Class “C” estimates. Estimates for transportation improvements and for education and visitor buildings are total Class “C” costs and do not reflect cost sharing anticipated from other federal, state, county, or municipal agencies or from the private sector.

Certain major capital costs are common to all alternatives. These include construction of the integrated trail system, key pedestrian bridges, park signage, and cultural resource projects. The capital costs of these elements are repeated in the estimates of each alternative to reflect general estimated costs of implementation. A cost cannot be estimated at this time for natural resource restoration, which includes actions to address invasive exotic species, stream bank restoration, and wetlands restoration. These costs cannot be quantified due to site- specific details that are not available for a Class “C” evaluation. The Focus on Solitude Alternative, in particular, has natural restoration activities that require significant individualized site analysis and costs estimated to be higher than the other alternatives.

### Operating Costs

Annual operating and maintenance costs for the park are estimated at \$700,000. This includes maintenance of existing facilities and minimal or no maintenance of new acreage added to the park.

### Costs for Staffing

Staffing costs are based on the assumption that the park will continue to expand up to the authorized 10,000- acres. The costs for staffing have been adjusted to address the need for additional full time employees, or equivalents, for the existing level of service and for expanded geographic responsibilities, expanded partnering responsibilities, increased levels of management and patrolling relative to the increased size of the park, and increased population of the adjacent communities. The existing (No Action) staffing level is approximately 39 fulltime employees with an annual budget of \$1,936,000. It is estimated that an additional 34 full time employees are needed to staff cultural and natural resource management programs, and 19 full time employees are needed to address visitor resource assessment programs. Combined, these comprise a projected need for 53 full time employees, with a cost equivalent of \$2,120,000 at an average salary of \$40,000.

The Focus on Solitude requires an estimated 83 additional staff to address the proposed increase in environmental restoration, cultural and historic preservation, trail monitoring, and educational outreach. The estimated additional staffing cost for the alternative is \$3,320,000. Adding the projected need in staff, the total need is \$5,440,000.

The Centralized Access Alternative requires an additional 37 full time employees, or equivalents, to address education and service delivery, principally through the hub locations. The additional staff costs are estimated at \$1,480,000, a lower cost than the Focus on Solitude alternative because of the central location of staff and services. Combined with the projected need, the total staff need for this alternative is \$3,600,000.

The Expanded Use Alternative requires 79 staff to be distributed throughout the system, with a special need for patrolling and surveillance. The additional staff cost is estimated at \$3,160,000. Com-



bined with the current projected need, the total staffing proposed for the Expanded Use Alternative is \$5,280,000.

These estimates are based on Class C conceptual level cost estimates. The actual cost of staffing each alternative would vary according to the GS rating, experience level, and education and professional certifications as well as the deployment of staff needed to provide minimum levels of satisfactory park services.

### Costs Comparison

Table 2 lists the cost for each alternative, presented according to the assumptions outlined above.

Comparative costs for the alternatives include construction costs and total life-cycle costs (Table 3). Development and estimated construction costs include demolition, materials, roads, trails, exhibits, signs, restrooms, and restoration projects. Estimated costs are based on costs for similar types of development in other parks provided by the National Park Service Denver Service Center. Life-Cycle costs include the costs of operating buildings, the staffing required, maintenance, and replacement costs of alternative elements. The life-Cycle costs presented in Table 3 are for a 25-year period of time. The cost figures are expressed in 2002 dollars (see also Appendix C).

**Table 2: Grand Total Cost per Alternative**

<u>Alternative</u>	<u>Capital</u>	<u>Operating</u>	<u>Staff</u>	<u>Total</u>
<b><u>Focus on Solitude</u></b>	10,160,000	230,000	3,320,000	
Existing		700,000	1,936,000	
Projected Need			2,120,000	
<b>Total</b>	<b>10,160,000</b>	<b>930,000</b>	<b>7,376,000</b>	<b>18,466,000</b>
<b><u>Centralized Access</u></b>	19,833,000	230,000	1,480,000	
Existing		700,000	1,936,000	
Projected Need			2,120,000	
<b>Total</b>	<b>19,833,000</b>	<b>930,000</b>	<b>5,536,000</b>	<b>26,299,000</b>
<b><u>Expanded Use</u></b>	30,341,000	230,000	3,160,000	
Existing		700,000	1,936,000	
Projected Need			2,120,000	
<b>Total</b>	<b>30,341,000</b>	<b>930,000</b>	<b>7,216,000</b>	<b>38,487,000</b>
<b><u>No Action</u></b>	NA	700,000	1,936,000	
Projected Need			2,120,000	
<b>Total</b>	<b>NA</b>	<b>700,000</b>	<b>4,056,000</b>	<b>NA</b>

**Table 3: Summary of Comparative Costs (FY 2002 Dollars, see Appendix C)**

	Focus on Solitude	Centralized Access (Preferred)	Expanded Use	No Action
Gross Construction, Operating and Staffing Costs	18,466,000	26,299,000	38,487,000	NA
Total Life- Cycle Costs (Present Worth)	105,731,000	93,504,000	122,792,000	55,424,000

**MITIGATION MEASURES OF THE ACTION ALTERNATIVE**

Mitigation involves measures taken to avoid, reduce, or minimize potentially adverse impacts. It is a key concept in resource management planning. Here, it provides a means for accommodating visitor interactions and park operations with natural and cultural resources and their tolerances for disturbances.

Mitigation and best management practices are regularly used to ensure that the park’s natural and cultural resources are protected and preserved for future visitors without impairment. In the legislation creating the National Park Service, Congress charged it with managing lands under its stewardship “in such manner and by such means as will leave them unimpaired for the enjoyment of future generations” (NPS Organic Act, 16 United States Code 1). As a result, the National Park Service routinely evaluates and implements mitigation whenever conditions occur that could adversely affect the sustainability of park resources.

Mitigation was included throughout the formulation of the alternatives included in this general management plan. Table 4 provides a summary of mitigation measures proposed for each action alternative.

Common mitigation practices that would be applied to each action alternative are described in this subsection. Measures taken to protect natural resources include siting new facilities in previously disturbed areas while also avoiding cultural resources whenever feasible to avoid causing new impacts. Boardwalks, fences, signs, and similar measures would be used to route people away from

sensitive resources, such as wetlands or riparian habitats, while still permitting access to important viewpoints. Wetland and sensitive riparian habitats would be delineated by qualified specialists and clearly marked before construction work proceeded. In addition, all action alternatives would include development and implementation of a resource management plan, a water resource management plan, a fisheries management plan, a collections management plan, a commercial services plan, and an integrated trails system plan, which would significantly mitigate adverse effects on park resources.

Construction zones would be identified and fenced with temporary fencing or a similar material prior to any construction activity. The fencing would define the construction zone and confine activity to the minimum area required. All protection measures would be clearly stated in construction specifications, and workers would be instructed to avoid areas beyond the fencing. Measures to control dust and erosion during construction could include the following: watering dry soils; using silt fences and sedimentation controls; stabilizing soils during and after construction with specially designed fabrics, certified straw, or other materials; covering haul trucks; and revegetating disturbed areas with native species as soon as possible after construction.

Standard noise abatement measures would be implemented during park operations and construction activities. These measures could include: scheduling activities to minimize impacts, use of the best available noise control techniques, use of hydraulically or electrically powered tools, and keeping distance from sensitive uses or resources.



**Table 4: Summary of Mitigation Measures Associated With The Alternatives**

<b>Impact Category</b>	<b>Focus on Solitude Alternative</b>	<b>Centralized Access – Preferred Alternative</b>	<b>Expanded Use Alternative</b>	<b>Continue Current Management or No Action Alternative</b>
Air Quality	None	None	None	None
Water Resources	Storm water runoff would be controlled with the same best management practices listed under the No Action Alternative. Additional protective measures would include a resource management plan, water resource management plan, fisheries management plan, and integrated trails systems plan.	Storm water runoff would be controlled with the same best management practices listed under the No Action Alternative. Additional protective measures would include a resource management plan, water resource management plan, fisheries management plan, and integrated trails systems plan.	Storm water runoff would be controlled with the same best management practices listed under the No Action Alternative. Additional protective measures would include a resource management plan, water resource management plan, fisheries management plan, and integrated trails systems plan.	Best management practices would be implemented to control the amount and quality of runoff. These would include erosion control measures such as type C silt fencing in slopes greater than 3 percent, mulching, sedimentation ponds, and use of cocoa fiber and seeding of native grasses.
Floodplains and Wetlands	Floodplains and wetlands would continue to be protected by conducting individual environmental assessments for construction projects. Best management practices would also be employed. Additional protective measures would also include implementation of a resource management plan, water resource management plan, and integrated trails systems plan.	Floodplains and wetlands would continue to be protected by conducting individual environmental assessments for construction projects. Best management practices would also be employed. Implementation of a resource management plan, water resource management plan, and integrated trails systems plan for the park would provide a systematic framework for wetland and floodplain protection, restoration, and preservation. Increased numbers of park staff would explain to visitors the importance of protecting and preserving these resources, and would provide	Floodplains and wetlands would continue to be protected by conducting individual environmental assessments for construction projects. Best management practices would also be employed. Implementation of a resource management plan, water resource management plan, and integrated trails systems plan would provide a systematic framework for wetland and floodplain protection, restoration, and preservation. Increased numbers of park staff would explain to visitors the importance of protecting and preserving these resources, and would provide	Floodplains and wetlands would continue to be protected by conducting individual environmental assessments for construction projects. Best management practices would also be employed.



**Table 4: Summary of Mitigation Measures Associated With The Alternatives**

Impact Category	Focus on Solitude Alternative	Centralized Access – Preferred Alternative	Expanded Use Alternative	Continue Current Management or No Action Alternative
Floodplains and Wetlands (Continued)		increased monitoring and enforcement of existing wetland and floodplain regulations and policies.	increased monitoring and enforcement of existing wetland and floodplain regulations and policies.	
Rare, Threatened, and Endangered Species	Efforts to document and protect the park’s rare, threatened, and endangered species would continue and could potentially expand under this alternative. New areas that could be added to the park under this alternative would increase the areas offering protection. Implementation of a resource management plan, a fisheries management plan, and an integrated trails system plan could also result in long-term habitat improvements and restoration activities.	Efforts to document and protect the park’s rare, threatened, and endangered species would continue and could potentially expand under this alternative. New areas that could be added to the park under this alternative would increase the areas offering protection. Increased staffing levels in the park and implementation of a resource management plan, a fisheries management plan, and an integrated trails system plan could also result in long-term habitat improvements and restoration activities.	Efforts to document and protect the park’s rare, threatened, and endangered species would continue and could potentially expand under this alternative. Increased staffing levels in the park and implementation of a resource management plan, a fisheries management plan, and an integrated trails system plan could also result in long-term habitat improvements and restoration activities. Public partnerships and education programs would also result in improved protection for these resources.	Efforts to document and protect these species populations currently present in the park would be completed under site-specific environmental assessments.



**Table 4: Summary of Mitigation Measures Associated With The Alternatives**

<b>Impact Category</b>	<b>Focus on Solitude Alternative</b>	<b>Centralized Access – Preferred Alternative</b>	<b>Expanded Use Alternative</b>	<b>Continue Current Management or No Action Alternative</b>
Terrestrial Ecological Resources	Current park management practices, such as completing environmental assessments prior to construction, minimizing tree clearing, avoiding sensitive upland forested areas, and controlling the presence and distribution of invasive species, would continue. Measures would also include implementation of a resource management plan, water resource management plan, and integrated trails systems plan, as well as increased education, research, restoration, monitoring, and agency coordination.	Current park management practices, such as completing environmental assessments prior to construction, minimizing tree clearing, avoiding sensitive upland forested areas, and controlling the presence and distribution of invasive species, would continue. Measures would also include implementation of an integrated trails system plan, water resource management plan, resource management plan, as well as increased education, agency coordination, and staffing levels.	Current park management practices, such as completing environmental assessments prior to construction, minimizing tree clearing, avoiding sensitive upland forested areas, and controlling the presence and distribution of invasive species, would continue. Measures would also include implementation of an integrated trails system plan, water resource management plan, resource management plan, as well as increased education, agency coordination, and staffing levels.	Current park management practices, such as completing environmental assessments prior to construction, minimizing tree clearing, avoiding sensitive upland forested areas, and controlling the presence and distribution of invasive species, would continue.
Prime and Unique Farmlands and Soils	Conducting an environmental assessment and/or instituting best management practices would minimize impacts to these resources. Implementation of an integrated trails system plan and a resource management plan would further enhance protection.	Conducting an environmental assessment and/or instituting best management practices would minimize impacts to these resources. Implementation of an integrated trails system plan and a resource management plan would further enhance protection.	Conducting an environmental assessment and/or instituting best management practices would minimize impacts to these resources. Implementation of an integrated trails system plan and a resource management plan would further enhance protection.	Conducting an environmental assessment and/or instituting best management practices would minimize impacts to these resources.



**Table 4: Summary of Mitigation Measures Associated With The Alternatives**

Impact Category	Focus on Solitude Alternative	Centralized Access – Preferred Alternative	Expanded Use Alternative	Continue Current Management or No Action Alternative
Archeological Resources	<p>Avoidance and minimization of potentially adverse effects on archeological resources would be achieved during the environmental assessment by: (1) identification of resources that could potentially exist on each site by completion of archeological field surveys and reports; and (2) completion of data recovery and preservation actions on proposed construction sites where archeological resources are identified. A resource management plan would also be prepared. If, during construction, any previously unknown archeological resources are discovered, all work in the immediate vicinity of the discovery would be halted until the resources could be identified and documented and an appropriate mitigation strategy developed in consultation with the Georgia State Historic Preservation Office. In addition to data recovery and preservation, mitigation could also include other measures such as site burial.</p>	<p>Avoidance and minimization of potentially adverse effects on archeological resources would be achieved during the environmental assessment by: (1) identification of resources that could potentially exist on each site by completion of archeological field surveys and reports; and (2) completion of data recovery and preservation actions as needed. A resource management plan would be prepared. If, during construction, any previously unknown archeological resources are discovered, all work in the immediate vicinity of the discovery would be halted until the resources could be identified and documented and an appropriate mitigation strategy developed in consultation with the Georgia State Historic Preservation Office. In addition to data recovery and preservation, mitigation could also include other measures such as site burial.</p>	<p>Avoidance and minimization of potentially adverse effects on archeological resources would be achieved during the environmental assessment by: (1) identification of resources that could potentially exist on each site by completion of archeological field surveys and reports; and (2) completion of data recovery and preservation actions as needed. A resource management plan would be prepared. If, during construction, any previously unknown archeological resources are discovered, all work in the immediate vicinity of the discovery would be halted until the resources could be identified and documented and an appropriate mitigation strategy developed in consultation with the Georgia State Historic Preservation Office. In addition to data recovery and preservation, mitigation could also include other measures such as site burial.</p>	<p>Avoidance and minimization of potentially adverse effects on archeological resources would be achieved during the environmental assessment by: (1) identification of resources that could potentially exist on each site by completion of archeological field surveys and reports; and (2) completion of data recovery and preservation actions as needed. A resource management plan would be prepared. If, during construction, any previously unknown archeological resources are discovered, all work in the immediate vicinity of the discovery would be halted until the resources could be identified and documented and an appropriate mitigation strategy developed in consultation with the Georgia State Historic Preservation Office. In addition to data recovery and preservation, mitigation could also include other measures such as site burial.</p>



Table 4: Summary of Mitigation Measures Associated With The Alternatives

Impact Category	Focus on Solitude Alternative	Centralized Access – Preferred Alternative	Expanded Use Alternative	Continue Current Management or No Action Alternative
<p>Historic Buildings, Structures, and Objects</p>	<p>These resources would be afforded enhanced protection and preservation through systematic integrated inventory, research, and preservation programs in 10 cultural resource zones as well as a resource management plan. Rehabilitation of historic structures and cultural landscapes would occur, with some historic structures being returned to their original uses and others being rehabilitated and adaptively reused in accordance with park resource values.</p> <p>Efforts would be made to avoid adverse impacts to cultural resources by identifying historic properties prior to an undertaking, avoiding effects to historic properties where possible, and by using visual screens and/or sensitive designs that are compatible with historic resources. Studies carried out in advance of undertakings to identify historic properties and assess effects will comply with the requirements of Sections 106</p>	<p>These resources would be afforded enhanced protection and preservation through systematic integrated inventory, research, and preservation programs in nine cultural resource zones as well as implementation of a resource management plan. Rehabilitation of historic structures and cultural landscapes would occur, with some historic structures being returned to their original uses and others being rehabilitated and adaptively reused in accordance with park resource values.</p> <p>Avoidance and minimization of potentially adverse effects on archeological resources would be achieved during the environmental assessment by: (1) identification of resources that could potentially exist on each site by completion of archeological field surveys and reports; and (2) completion of data recovery and preservation actions on proposed construction sites where archeological resources are identified. All assessments would be completed by archeologists who meet the Secretary of the Interior’s</p>	<p>These resources would be afforded enhanced protection and preservation through systematic integrated inventory, research, and preservation programs in seven cultural resource zones as well as implementation of a resource management plan. Rehabilitation of historic structures and cultural landscapes would occur, with some historic structures being returned to their original uses and others being rehabilitated and adaptively reused in accordance with park resource values.</p> <p>Avoidance and minimization of potentially adverse effects on archeological resources would be achieved during the environmental assessment by: (1) identification of resources that could potentially exist on each site by completion of archeological field surveys and reports; and (2) completion of data recovery and preservation actions on proposed construction sites where archeological resources are identified. All assessments would be completed by archeologists who meet the Secretary of the Interior’s</p>	<p>Few of these resources in the park would be afforded enhanced protection and preservation treatment. If a site was discovered during construction, data recovery and preservation efforts would partly mitigate impacts.</p> <p>Avoidance and minimization of potentially adverse effects on archeological resources would be achieved during the environmental assessment by: (1) identification of resources that could potentially exist on each site by completion of archeological field surveys and reports; and (2) completion of data recovery and preservation actions on proposed construction sites where archeological resources are identified. All assessments would be completed by archeologists who meet the Secretary of the Interior’s Professional Qualifications Standards. If, during construction, any previously unknown archeological resources are discovered, all work in the immediate vicinity of the discovery would be halted until the resources could be identified and documented and an appropriate mitigation strategy devel-</p>



**Table 4: Summary of Mitigation Measures Associated With The Alternatives**

Impact Category	Focus on Solitude Alternative	Centralized Access – Preferred Alternative	Expanded Use Alternative	Continue Current Management or No Action Alternative
Historic Buildings, Structures, and Objects (Cont'd)	and 110 of the NHPA, 36 CFR 60, 36 CFR 800, and NPS Director’s Order 28. In addition, a resource management plan will would be prepared. Mitigation measures may include data recovery of identified National Register eligible archeological sites and documentation of built resources in accordance with Historic American Buildings Survey/Historic American Engineering Record standards. If, during construction, any previously unknown resources are discovered, all work in the immediate vicinity of the discovery would be halted until the resources could be identified and documented and an appropriate mitigation strategy developed in consultation with the Georgia State Historic Preservation Office.	Professional Qualifications Standards. If, during construction, any previously unknown archeological resources are discovered, all work in the immediate vicinity of the discovery would be halted until the resources could be identified and documented and an appropriate mitigation strategy developed in consultation with the Georgia State Historic Preservation Office.	Professional Qualifications Standards. If, during construction, any previously unknown archeological resources are discovered, all work in the immediate vicinity of the discovery would be halted until the resources could be identified and documented and an appropriate mitigation strategy developed in consultation with the Georgia State Historic Preservation Office.	oped in consultation with the Georgia State Historic Preservation Office.
Transportation	Implementation of an integrated trails system plan would minimize impacts.	Implementation of an integrated trails system plan would minimize impacts.	Implementation of an integrated trails system plan would minimize impacts.	With no change in management approaches, existing transportation problems would continue.



**Table 4: Summary of Mitigation Measures Associated With The Alternatives**

<b>Impact Category</b>	<b>Focus on Solitude Alternative</b>	<b>Centralized Access – Preferred Alternative</b>	<b>Expanded Use Alternative</b>	<b>Continue Current Management or No Action Alternative</b>
<p>Visitor and Community Values</p>	<p>This alternative would include increased education and research opportunities, ranger contact, and coordination with local agencies for monitoring and protecting park resources. Implementation of a resource management plan, and an integrated trails systems plan would enhance visitor experience over the long term.</p>	<p>A system of hubs would create a more efficient and cohesive working environment and a widely distributed park ranger presence, thus better serving park visitors. Improvement to facilities used for administration, operation, and visitor activities would enhance educational and interpretive experiences. Implementation of a resource management plan, and an integrated trails systems plan would enhance visitor experience over the long-term.</p>	<p>Expanded access and facilities would create a widely distributed park ranger presence, thus better serving park visitors. Improvement to facilities used for administration, operation, and visitor activities would enhance educational and interpretive experiences. Implementation of a resource management plan, and an integrated trails systems plan would enhance visitor experience over the long- term.</p>	<p>Visitor and community values would continue to be shaped by present management programs and policies, which are unlikely to be able to handle increased levels of visitation.</p>



Following completion of construction activities, all areas of disturbed soils and vegetation would be regraded and revegetated as soon as possible. Natural topographic features would be restored to the extent possible using excavated soils from other park projects, and native species would be used in all revegetation efforts. Restoration efforts would be maximized by using salvaged topsoil and native vegetation and by monitoring revegetation success for several growing seasons as appropriate. Undesirable species would be monitored and control strategies initiated if needed.

For all action alternatives, mitigation actions would occur prior to construction to minimize immediate and long-term impacts to rare, threatened, and endangered species. Surveys would be conducted for such species as warranted. Facilities would be sited and designed so as to avoid adverse effects to such species whenever possible. If avoidance is infeasible, adverse effects would be minimized and compensated for, as appropriate, and in consultation with appropriate resource agencies.

Efforts would also be made to avoid adverse impacts to cultural resources by identifying historic properties prior to an undertaking, avoiding effects to historic properties where possible, following the Secretary of the Interior's Standards for Archeology and Historic Preservation and by using visual screens and/or sensitive designs that are compatible with historic resources. Studies carried out in advance of undertakings to identify historic properties and assess effects will comply with the requirements of Sections 106 and 110 of the National Historic Preservation Act, 36 CFR 60, 36 CFR 800, and National Park Service Director's Order- 28. Mitigation measures, in consultation with the Georgia State Historic Preservation Office, may include data recovery of identified National Register eligible archeological sites and documentation of built resources in accordance with Historic American Buildings Survey/Historic American Engineering Record standards. If, during construction, any previously unknown archeological resources are discovered, all work in the immediate vicinity of the discovery would be halted until the resources could be identified and documented and an appropriate mitigation strategy developed in consultation with the Georgia State Historic Preservation Office.

## SELECTING THE PREFERRED ALTERNATIVE

In order to develop the preferred alternative, all of the alternatives were evaluated using the Choosing by Advantages process. This approach was used to minimize the potential influence of individual biases and opinions. This process, which has been used by government agencies and the private sector, evaluates different alternatives by identifying and comparing the relative advantages of each according to a set of criteria.

One of the greatest strengths of the Choosing by Advantages process is its fundamental philosophy: decisions must be anchored in relevant facts. For example, the question "is it more important to protect natural resources or cultural resources?" is "unanchored", because it has no relevant facts on which to make a decision.

The Choosing by Advantages process, instead, asks which alternative gives the greatest advantage. To answer this question, relevant facts were used to determine the advantages the alternatives provide. The criteria used to evaluate the alternatives were derived from the impact topics. Alternatives were evaluated to see how they:

- Maximize protection of cultural resources including archeological resources, historic resources, historic structures/buildings, cultural landscapes, and museum collections.

- Maximize protection of natural resources (for example, biotic communities, threatened and endangered species, water resources, and air quality).

- Provide diverse visitor experiences and opportunities (diversity of visitor activities, education and orientation, visitor facilities and services, and visitor experience values).

- Limit effects on neighbors (adjacent communities, local and state agencies).

- Improve operational efficiency (staffing, infrastructure, visitor facilities and services, and the role of commercial operators).

Alternatives were rated on the attributes relating to each of these factors listed. (A detailed list of factors developed is provided in Appendix C). The



advantages of the attributes were compared. The Centralized Access Alternative was selected as the preferred alternative through this process. It was modified to include aspects of the other alternatives that provided the greatest advantages.

Selection of the Centralized Access Alternative was based on the findings of the choosing by advantages workshop and the overall ability of this alternative to meet park objectives, support the purpose of the park, and minimize adverse effects to the resources of the park while providing for public use and enjoyment. The preferred alternative is also the environmentally preferred alternative, as defined in the section that follows.

### ENVIRONMENTALLY PREFERRED ALTERNATIVE

According to Council on Environmental Quality regulations implementing the National Environmental Policy Act, and the National Park Service National Environmental Policy Act guidelines (*Director's Order #12*), an environmentally preferred alternative must be identified in environmental documents. Section 101(b) of the National Environmental Policy Act identifies the following criteria to help determine the environmentally preferred alternative.

1. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations
2. Ensure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings
3. Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences
4. Preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice
5. Achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities

6. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources

The No Action Alternative represents the current management direction for the Chattahoochee River National Recreation Area. There would be no major changes in resources management, visitor programs, or facilities beyond regular maintenance. Visitor services, such as environmental education, search and rescue, interpretation, facility planning and maintenance, and boating access would remain unchanged. The current park road system and river access would be retained, and existing river and road traffic management practices would continue into the future.

Because staffing and funding levels would not be expected to change dramatically under the No Action Alternative, diversity of educational opportunities would continue to be limited, and the park's ability to respond to the ever-increasing demand to address compliance issues with regard to natural and cultural resource protection would continue to be a challenge. Overall, visitor opportunities to observe and appreciate resources with a minimum of inadvertent or intentional damage would continue, according to current plans, policies, and procedures available to resource management personnel at the park. Protection of cultural and natural resources would be less enhanced than under other alternatives.

The No Action Alternative does not fully realize provisions 1, 3, 4, 5, or 6 of the criteria prescribed under Section 101 of the National Environmental Policy Act. The Centralized Access and Expanded Use alternatives provide for improved and more varied visitor experience, and the Focus on Solitude Alternative provides for the greatest level of resource protection.

Under the Centralized Access Alternative, visitors would be drawn toward a system of relatively developed hubs in which administrative and interpretive facilities are located. Hubs, at a minimum, would provide visitor information, rest room, parking lot and roads, trail head, and access to the river. Trailheads and parking lots would be minimized outside the hubs.

The visitor experience would be focused on the educational activities and other facilities available in the hubs. Visitor activities in natural areas outside the hubs would be focused on achieving solitude in an urban environment. The opportunity for instituting NPS educational and interpretive programs, visitor services, and connectivity at key regional locations would be enhanced.

The Centralized Access Alternative best achieves the six goals prescribed under Section 101 of the National Environmental Policy Act. Compared to the other action alternatives, the Centralized Access Alternative better accomplishes goals 3 and 5 by providing more diverse visitor experiences, and better provides for goal 4 and 6 than do the No Action or Expanded Use Alternative.

The Focus on Solitude Alternative would implement management programs that would minimize development in the park and maximize the opportunity for visitors to experience solitude in natural settings. This approach would involve reducing or minimizing recreational sites and facilities within the newly acquired areas of the park, but would allow continued use of the existing facilities in the original named units to adhere to recent practices. Some areas subject to heavy use would be allowed to continue such use, with the option to improve conditions through various means. Newly acquired areas would remain in a more natural state, with only unpaved trails being constructed. Areas with significant cultural resources would be managed to protect values in accordance with National Register standards, with only limited facilities added such as small gravel parking lots, primitive trails, and interpretive signage.

The Focus on Solitude Alternative provides the greatest level of protection to the cultural and natural resources of the park, best meeting goal 4 compared to other alternatives, but does not meet goals 2, 3, and 5 to the same degree as does the Centralized Access Alternative.

The Expanded Use Alternative provides for expanding and distributing access throughout the park, including newly acquired parcels, thereby providing the widest opportunity for increased and diverse visitor experiences. New facilities would be developed or existing facilities would be refur-

bished, and connectivity to existing neighborhoods would be optimized.

Expanded use would require a proactive outreach program with dedicated resources to manage the increased visitation to the park. This alternative would be more on the successful development of public/private partnerships than would other action alternatives. Compared to other alternatives, the emphasis would be more on social experience than solitude, providing for the widest range of visitor experiences and access. However, there would be a higher potential for impacts to natural and cultural resources under this alternative. The Expanded Use Alternative does not meet goals, 3, 4, and 6 to the same degree as either the Focus on Solitude or Centralized Access Alternatives.

In summary, based on potential resource and visitor impacts and on proposed mitigation for impacts to natural and cultural resources, the National Park Service has determined that the environmental preferable alternative is the Centralized Access Alternative. While some specific actions under the Focus on Solitude Alternative may achieve similar, or in some cases greater, levels of protection for certain cultural and natural resources than under the Centralized Access Alternative, in whole, the Centralized Access Alternative best achieves the six goals prescribed under Section 101 of the National Environmental Policy Act. While many of the actions in other alternatives may be similar to this alternative in their effect and consequence, the Centralized Access Alternative 1) provides a high level of protection of natural and cultural resources while concurrently attaining the widest range of neutral and beneficial uses of the environment without degradation; 2) maintains an environment that supports diversity and variety of individual choice; and 3) integrates resource protection with opportunities for an appropriate range of visitor uses.

## SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Table 5 presents a summary of environmental consequences, showing each alternative's potential effects by impact topic. Detailed descriptions of the context, intensity, and duration of impacts are provided in the "Environmental Consequences" section.



**TABLE 5: SUMMARY OF IMPACTS OF THE ALTERNATIVES**

Impact Category	Continue Current Management or No Action Alternative	Centralized Access – Preferred Alternative	Focus on Solitude Alternative	Expanded Use Alternative
Air Quality	<p>The No Action Alternative would result in negligible, adverse long-term direct and cumulative effects on air quality because of the small volumes of air emissions that would occur from the few facilities that would be constructed and operated.</p> <p>As the population and traffic congestion around the park increases in the future, degraded air quality could affect park resources in as yet unidentified ways. This would probably constitute a moderate adverse, long-term cumulative effect on air quality that would occur under all of the alternatives.</p>	<p>The volume of air emissions of construction and operation produced under this alternative would be higher than those produced under the No Action Alternative. Because the few new facilities would be constructed and operated, however, the overall effects on air quality and natural resources would still be negligible, adverse and long-term.</p> <p>Implementation of the Centralized Access Alternative would not cause any adverse cumulative impacts on air quality and natural resources, because the total volume of air emissions under this alternative would be negligible in comparison with the volume of air emissions originating outside the park.</p>	<p>Emissions generated from limited construction, maintenance and operation activities under the Focus on Solitude Alternative would cause negligible, adverse long-term effects on air quality and natural resources. Growth in the area surrounding the park would cause moderate, adverse cumulative effects on air quality that would not be under the control of the park management.</p>	<p>The relative amount of air emissions of construction and operation produced under the Expanded Use Alternative would be higher than those produced under the No Action Alternative. Because the relatively few new facilities would be constructed and operated, however, the overall effects on air quality would nevertheless be minor, adverse and long-term.</p>
Water Resources	<p>Construction and maintenance of park facilities under this alternative would have negligible, adverse, direct short- and long-term effects on surface water hydrology, water quality and</p>	<p>The Centralized Access Alternative would have minor, adverse, short-term direct impacts on surface water hydrology, water quality, and aquatic resources resulting</p>	<p>The Focus on Solitude Alternative would have negligible, adverse, direct short-term and long-term effects on surface water hydrology, water quality, and aquatic resources resulting</p>	<p>The Expanded Use Alternative would have moderate, adverse, direct short-term and long-term impacts on surface water hydrology, water quality, and aquatic resources resulting from con-</p>



**TABLE 5: SUMMARY OF IMPACTS OF THE ALTERNATIVES**

Impact Category	Continue Current Management or No Action Alternative	Centralized Access – Preferred Alternative	Focus on Solitude Alternative	Expanded Use Alternative
Water Resources (Continued)	<p>aquatic resources inside the park. During operation, the effects of increasing visitor use would have moderate, adverse, long- term direct and cumulative effects on water resources related to increased erosion on trails and other areas. Water resources in the park, including the Chattahoochee River, would continue to be primarily influenced by urban development in the surrounding urban watershed, however. Lack of implementation of resource and trail management plans would have moderate, adverse, long- term direct on water resources in the park, since these plans would emphasize measures to control erosion and minimize disturbance of soil. These activities could result in major, long- term adverse cumulative effects on water resources in the park.</p>	<p>from construction and maintenance activities. These would be of greater intensity than the impacts on water resources resulting under the No Action Alternative. These effects would be offset to some degree by the implementation of resource and trail management plans, and by completion of environmental assessments that are tiered to the general management plan/environmental impact statement.</p> <p>Minor, adverse, long- term direct effects on water resources would result from surface runoff during operation. These would also be of greater intensity than the effects of the No Action Alternative. The potential effects of construction and operation of park facilities would be mitigated by implementation of resource management programs inside the park, and by completion of environmental assessments that are tiered to the general management</p>	<p>from construction and maintenance activities associated with park facilities. Negligible increases in surface runoff would also result from impervious surfaces during operation under this alternative. Implementation of resource and trail management plans under this alternative would result in a major, beneficial direct and cumulative effect on water resources. The overall direct effect of this alternative on water resources in the park would therefore be negligible, adverse, and long- term.</p> <p>Water resources would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park under all of the alternatives, including the Focus on Solitude Alternative. This would constitute a major, adverse long- term cumulative effect on water resources. These effects would be outside of the park’s ability to control, however, and are not related to park actions.</p>	<p>struction and maintenance activities. These would of greater intensity than the effects on water resources resulting under the No Action Alternative.</p> <p>Moderate, adverse, long- term direct effects on surface water hydrology, water quality, and aquatic resources resulting from surface runoff during operation would also result during operation. Effects of operation on surface water hydrology, water quality, and aquatic resources would be greater than those produced by the No Action Alternative. The potential effects of construction and operation of park facilities would be mitigated by implementation of resource management programs inside the park. This would constitute a major, long- term, direct beneficial cumulative effect.</p> <p>Water resources would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park under all of the alternatives. These potential effects</p>



**TABLE 5: SUMMARY OF IMPACTS OF THE ALTERNATIVES**

Impact Category	Continue Current Management or No Action Alternative	Centralized Access – Preferred Alternative	Focus on Solitude Alternative	Expanded Use Alternative
Water Resources (Continued)		<p>plan/environmental impact statement. This would constitute a major, long- term, direct beneficial cumulative effect on surface water hydrology, water quality, and aquatic resources.</p> <p>Water resources would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park under all of the alternatives. These potential effects would be mitigated to some extent by implementation of resource management programs in the park, as well as coordination efforts with the surrounding communities, resulting in a major beneficial, long- term cumulative effect on surface water hydrology, water quality, and aquatic resources..</p>		<p>would be mitigated to some extent by implementation of resource management programs in the park, as well as coordination efforts with the surrounding communities, resulting in a major beneficial, long- term cumulative effect on water resources.</p> <p>None of the activities conducted by the National Park Service under the Expanded Use Alternative would cause impairment of park resources as a result of effects on hydrology, water quality or aquatic ecology within park boundaries, because the amount of surface water runoff and sedimentation during construction and operation of the park would be very small in comparison with the much larger volume of surface water runoff and sedimentation originating outside the park in developed areas. This is a cumulative effect that is outside of the park’s control. In addition, best management practices, and resource and trail management plans would be developed and implemented under the Expanded Use Alternative, which would</p>



TABLE 5: SUMMARY OF IMPACTS OF THE ALTERNATIVES

Impact Category	Continue Current Management or No Action Alternative	Centralized Access – Preferred Alternative	Focus on Solitude Alternative	Expanded Use Alternative
Water Resources (Continued)				result in reduction and minimization of potential runoff of stormwater during construction and operation of the park. The three criteria for impairment would therefore not be met for this impact topic.
Wetlands and Floodplains	Construction and operation of park facilities under the No Action Alternative would result in minor, adverse, long- term direct and cumulative effects on wetlands and floodplains, since the amount of facility construction and operation would be very limited. Since no new park areas would be added under this alternative, it would have a negligible, beneficial, direct effect in this regard. However, the park would continue to experience major, adverse, long- term direct and cumulative effects on wetlands and floodplains resulting from erosion and sedimentation associated with stormwater runoff originating in developed areas outside the park. These effects would continue to occur because the park is narrow, over 48 miles long, and is located in	Implementation of the Centralized Access Alternative would result in minor, adverse long- term direct effects on wetlands and floodplains, since the amount of facility construction and operation would be intermediate. Implementation of resource and trail management programs would result in a moderate, beneficial, long- term effect on wetlands and floodplains in the park. Cumulative impacts from stormwater runoff originating in developed areas outside the park would cause major, adverse, long- term effects on wetlands and floodplains, however, due to erosion and sedimentation during major storm events.	Implementation of the Focus on Solitude Alternative would result in negligible, adverse long- term effects on wetlands and floodplains, since the amount of facility construction and operation would be very limited, in relation to the No Action Alternative. Cumulative impacts from stormwater runoff originating in developed areas outside the park would be expected to cause major, long- term adverse impacts on wetlands and floodplains, however, due to erosion and sedimentation during major storm events.	Implementation of the Expanded Use Alternative would result in minor, adverse long- term direct effects on wetlands and floodplains. The amount of facility construction and operation would be the greatest of all the alternatives in relation to the No Action Alternative, but implementation of resource and trail management programs would result in a moderate, beneficial, long- term effect on wetlands and floodplains in the park. Cumulative impacts from stormwater runoff originating in developed areas outside the park would, however, cause major, long- term adverse impacts on wetlands and floodplains, however, due to erosion and sedimentation during major storm events.



**TABLE 5: SUMMARY OF IMPACTS OF THE ALTERNATIVES**

Impact Category	Continue Current Management or No Action Alternative	Centralized Access – Preferred Alternative	Focus on Solitude Alternative	Expanded Use Alternative
Wetlands and Floodplains	the center of a rapidly developing urban area. The effects of stormwater runoff cannot be directly controlled by the park and resolution of this issue would ultimately depend on the effectiveness of watershed planning efforts in the surrounding communities.			
Rare, Threatened, and Endangered Species	Implementation of the No Action Alternative would result in moderate, long- term adverse direct and cumulative effects on rare, threatened and endangered species, since some new facilities would be constructed and operated, resource and trail management plans would not be implemented, and habitat degradation through overuse and invasion of exotic species is more likely to occur. Efforts to document and protect rare, threatened and endangered species populations currently present in the park would continue to be completed under site- specific environmental assessments, however, which would help avoid or minimize potentially adverse effects on these species.. None of	Implementation of the Centralized Access Alternative would result in overall minor, adverse, long- term direct and cumulative effects on rare, threatened and endangered species, since the number of new facilities to be constructed and operated would be very limited, and a resource management plan and trails management plan would be implemented. New areas could also be added to the park and these could contain protected species. Efforts to document and protect rare, threatened and endangered species populations currently present in the park would continue to be maintained and potentially expanded. These factors would	Implementation of the Focus on Solitude Alternative would result in negligible, long- term, adverse direct and cumulative effects on rare, threatened and endangered species, since the number of new facilities to be constructed and operated would be very limited in comparison with the No Action Alternative, and a resource management plan and an integrated trails system plan would be implemented. Efforts to document and protect rare, threatened and endangered species populations currently present in the park would continue to be maintained and potentially expanded. New areas could also be added to the park and these could contain protected species. This would con-	Implementation of the Expanded Use Alternative would result in overall minor, adverse, long- term direct and cumulative effects on rare, threatened and endangered species, since environmental assessments would be required for each project, and a resource management plan and trails management plan would be implemented. New areas could also be added to the park and these could contain protected species. Efforts to document and protect rare, threatened and endangered species populations currently present in the park would continue to be maintained and potentially expanded. These factors would constitute moderate long- term beneficial direct and cumulative impacts. The overall direct and



**TABLE 5: SUMMARY OF IMPACTS OF THE ALTERNATIVES**

Impact Category	Continue Current Management or No Action Alternative	Centralized Access – Preferred Alternative	Focus on Solitude Alternative	Expanded Use Alternative
Rare, Threatened, and Endangered Species (Continued)	the activities conducted by the NPS under the No Action Alternative would cause impairment of habitat for protected or the species themselves, because environmental assessments would be completed for each new park facility that identifies the potential or actual occurrence of protected species at each site, and these resources could be avoided. During operation, increased use of trails under the No Action Alternative would have the potential to cause some impacts on protected species habitat as a result of soil erosion and creation of new social trails. However, park management will still conduct trail maintenance activities, although to a lesser extent as compared with the action alternatives. As a result, park actions under the No Action Alternative would not lead to impairment of protected species habitat since the three criteria for impairment would not be met.	constitute moderate long-term beneficial direct and cumulative impacts.	stitute a moderate overall long-term beneficial effect.	cumulative impacts on protected species were therefore estimated to be minor, adverse and long-term.



**TABLE 5: SUMMARY OF IMPACTS OF THE ALTERNATIVES**

Impact Category	Continue Current Management or No Action Alternative	Centralized Access – Preferred Alternative	Focus on Solitude Alternative	Expanded Use Alternative
Terrestrial Ecological Resources	<p>Overall, this alternative would have minor long- term direct and cumulative effects on terrestrial ecological resources as a result of the limited amount of facility construction that would occur. During operation, this alternative would result in moderate, long-term, adverse effects on terrestrial ecological resources because of less effective management visitor uses, the lack of resource and trail management plans, and because the park would not be expanded. At selected sites along heavily used or improperly designed or maintained trails where accelerated erosion is occurring, problems would continue and probably worsen.</p>	<p>This alternative would result in an intermediate amount of land disturbance as compared with the No Action Alternative. The construction phase of the Centralized Access Alternative would therefore have minor, adverse, short- and long- term direct and cumulative effects on terrestrial ecological resources because of the greater degree of facility construction and operation in developed zones and up to three hubs. These impacts would be avoided and minimized because tiered environmental assessments would be required for each project.</p> <p>During operation, more visitors would be attracted to the park via developed zones and up to three hubs, resulting in an increased potential for visitor-related damage to habitats. Tiered environmental assessments would also be required prior to selecting a site for a project, however, and impacts would be avoided and/or</p>	<p>The Focus on Solitude Alternative would have negligible, adverse, direct and cumulative impacts on terrestrial ecological resources because of the limited land disturbance and more passive forms of visitor use that would occur under this alternative as compared to the No Action Alternative. Tiered environmental assessments would also be required prior to selecting a site for a project, and impacts could be avoided or minimized. Implementation of a resource management plan, integrated trails system plan, and increased research, education, coordination, and staffing levels would have moderate, long- term beneficial effects on these resources in the park.</p>	<p>This alternative would result in the highest relative amount of land disturbance as compared with the No Action Alternative, but these impacts would be avoided and minimized because tiered environmental assessments would required for each project. The construction phase of the Expanded Use Alternative would therefore have minor, adverse, short- and long- term direct and cumulative impacts on terrestrial resources related to facility construction and operation in the developed zones.</p> <p>During operation, more visitors would be attracted to the park via the developed zones in comparison with the No Action Alternative, resulting in an increased potential for visitor- related damage to habitats. Tiered environmental assessments would also be required prior to selecting a site for a project, however, and impacts would be avoided and/or minimized to the extent possible. Implementation of a resource management plan, integrated trails</p>



TABLE 5: SUMMARY OF IMPACTS OF THE ALTERNATIVES

Impact Category	Continue Current Management or No Action Alternative	Centralized Access – Preferred Alternative	Focus on Solitude Alternative	Expanded Use Alternative
Terrestrial Ecological Resources (Continued)		minimized to the extent possible. Implementation of a resource management plan, integrated trails system plan, increased education, coordination, and staffing levels would have major, long- term beneficial effects on these resources in the park. The overall direct effect of this alternative on terrestrial ecological resource was therefore estimated to be minor, adverse and long- term.		system plan, increased education, coordination, and staffing levels would have major, long- term beneficial effects on these resources in the park. The overall direct effect of the Expanded Use Alternative on terrestrial ecological resource was therefore estimated to be minor, adverse and long- term.
Prime and Unique Farmlands	The No Action Alternative would have minor, adverse, long- term, direct effects and moderate, adverse, long- term cumulative effects on prime and unique farmlands. The level of activities associated with construction and operation of new park facilities would be limited, but some new projects would be constructed and operated. Natural resource and trail management plans would not be implemented. Site-specific environmental assessments would identify these	The Centralized Access would have minor, adverse, direct and cumulative long- term impacts on prime and unique farmlands, since the amount of construction proposed within the park would be intermediate, site- specific environmental assessments would identify such resources and avoid impacting them, and resource and trail management plans would be implemented. Development in the area surrounding park would have moderate	The Focus on Solitude Alternative would have negligible direct long- term impacts on prime and unique farmlands, since the amount of construction proposed within the park would be limited, and tiered site- specific environmental assessments would identify such resources and avoid impacting them. This alternative would have moderate, adverse, long- term cumulative impacts on prime and unique farmlands, as a result of growth in the area surrounding the park.	The amount of construction proposed within the park would be the highest in comparison with the No Action Alternative, and concentrated in several developed zones. However, potential adverse impacts on prime and unique farmlands would be avoided and minimized by preparation of site-specific environmental assessments that would identify such resources. Resource and trail management plans would also be implemented, resulting in inventorying of these resources. The



**TABLE 5: SUMMARY OF IMPACTS OF THE ALTERNATIVES**

Impact Category	Continue Current Management or No Action Alternative	Centralized Access – Preferred Alternative	Focus on Solitude Alternative	Expanded Use Alternative
Prime and Unique Farmlands (Continued)	resources and would help to avoid them.	adverse, long- term impacts on prime and unique farmlands that is largely outside of the park’s control.		Expanded Use Alternative would therefore have minor, adverse direct and cumulative long- term impacts on prime and unique farmlands. In contrast, development in the area surrounding park would have moderate adverse, long- term impacts on prime and unique farmlands that are largely outside of the park’s control.
Archeological Resources	Because the No Action Alternative involves some construction-related activities and a relatively wide variety of visitor use, without the benefits associated with the establishment of cultural resource zones and/or the implementation of a resource management plan or a collections management plan, the potential for adverse effects is considered to be relatively high under the No Action Alternative. Despite the increased amount of data recovery and preservation efforts associated with the increased construction, these efforts would only partly mitigate impacts. The disturbance from construction and increased vandalism or inadvertent visitor damage over	Archeological resources in most of the Atlanta area have been disturbed or eliminated as a result of urban sprawl. Therefore, protection, and preservation of archaeological sites within the park is important on a regional level, as these resources represent former conditions throughout the area. The identification and systematic inventory of archeological resources in the cultural resources zones during the implementation of the Centralized Access Alternative offer an opportunity to add to the knowledge of the prehistory and history of both the park and the entire vicinity.	Archaeological resources in most of the metropolitan Atlanta area have been previously disturbed or eliminated by as a result of development and urban sprawl. Therefore, improvements to, and preservation of, archaeological sites within the park is important on a regional level, as these resources represent former conditions throughout the area. The identification and systematic inventory of archaeological resources in the cultural resource zones during the implementation of the Focus on Solitude Alternative offers an opportunity to add to the knowledge of the prehistory and history of both the park and the entire vicinity.	Archeological resources in most of the Atlanta area have been disturbed or eliminated during the construction of the city and surrounding suburban and developed areas. Therefore, improvements to, and preservation of, archaeological sites within the park is important on a regional level, as these resources represent former conditions throughout the area. The identification and systematic inventory of archeological resources in the cultural resources zones during the implementation of the Expanded Use Alternative offer an opportunity to add to the knowledge of the prehistory and history of both the park and the entire vicinity. This constitutes a major, long- term beneficial



TABLE 5: SUMMARY OF IMPACTS OF THE ALTERNATIVES

Impact Category	Continue Current Management or No Action Alternative	Centralized Access – Preferred Alternative	Focus on Solitude Alternative	Expanded Use Alternative
<p>Archeological Resources (Continued)</p>	<p>time could result in some irretrievable and irreversible loss of archaeological resources. This alternative could therefore have a major, adverse, long- term direct and cumulative impacts on archeological resources. Implementation of this alternative could lead to impairment of archeological resources in the park.</p> <p>Archeological resources in most of the metropolitan Atlanta area have been disturbed as a result of development and urban sprawl. Therefore, protection and preservation of archaeological sites within the park is important on a regional level, as these resources represent former conditions throughout the area. Continuing protection of resources identified would have a moderate beneficial long- term impact by preserving them for the future.</p>	<p>The Centralized Access Alternative implements management actions that would centralize construction and visitor- impacts within developed zones and up to three hubs located in (or outside) the park, minimize the construction of facilities in other portions of the park, and highlight inventory, preservation and maintenance of archaeological sites within nine cultural resource zones. Despite the greater amount of construction and land disturbing activity involved under the Centralized Access Alternative compared to the No Action Alternative, survey, identification, and avoidance measures would be implemented prior to construction, thereby avoiding most or all of the adverse effects. This would increase our knowledge of the numbers and types of resources present within the park. The overall potential direct and cumulative effect of this alternative on archeological resources was</p>	<p>The Focus on Solitude Alternative implements management programs that would minimize construction and facilitated experiences in the park, and highlights inventory, preservation and maintenance of archaeological sites within ten cultural resource zones. As such, the Focus on Solitude Alternative has a lower potential for construction- related impacts to the various cultural resources present with the park in comparison with the No Action Alternative and a greater potential for inventory, preservation, and protection of that subset of archaeological sites that falls within the acreage designated for the cultural resource zones. Survey, identification, and avoidance measures that would be implemented prior to construction would avoid most or all of the adverse effects. Because the Focus on Solitude Alternative would re- establish natural conditions in much of the park, the potential for degradation and visitor- related impacts would be</p>	<p>impact on archeological resources.</p> <p>The increased amount of construction and development proposed under the Expanded Use Alternative would result in greater construction- related and visitor- related adverse effects to archeological sites within the park than the No Action Alternative. Similarly, the Expanded Use Alternative offers less direct protection, inventory, and interpretation of archaeological sites within the park in comparison with the No Action Alternative. Despite the increased amount of data recovery and preservation efforts associated with the increased construction, these efforts would only partly mitigate impacts. The disturbance from construction and visitor vandalism could result in some irretrievable and irreversible loss of archaeological resources. This could constitute a major, adverse long- term effect. Implementing a resource management plan and a collections management plan would help reduce, avoid or mitigate these potential impacts.</p>



**TABLE 5: SUMMARY OF IMPACTS OF THE ALTERNATIVES**

Impact Category	Continue Current Management or No Action Alternative	Centralized Access – Preferred Alternative	Focus on Solitude Alternative	Expanded Use Alternative
Archeological Resources (Continued)		<p>therefore estimated to be minor, adverse and long- term.</p> <p>In addition, by implementing a resource management plan and increasing monitoring of degradation and vandalism within the park, the Centralized Access Alternative provides greater protection of archeological sites located outside of the cultural resource zones than the No Action Alternative.</p> <p>Prior to disturbing any site for construction, detailed National Environmental Policy Act assessments would be required as part of tiered environmental assessments. The National Environmental Policy Act requires avoidance and minimization of adverse impacts on cultural resources.</p>	<p>lower than under the No Action Alternative. The Focus on Solitude Alternative has a much lower potential to adversely impact archeological resources as compared with the No Action Alternative. A resource management plan and a collections management plan would be implemented, and additional survey work would be completed under the Focus on Solitude Alternative. The overall potential direct and cumulative effect of this alternative on archeological resources was therefore estimated to be minor, adverse and long- term.</p>	<p>The overall direct and cumulative adverse effects of this alternative on archeological resources were therefore estimated to be moderate and long- term.</p> <p>Prior to disturbing any site for construction, detailed National Environmental Policy reviews would be required as part of tiered environmental assessments. The National Environmental Policy Act requires avoidance and minimization of adverse impacts on cultural resources.</p> <p>There would be no impairment of resources or values associated with archeological resources in the park under the Expanded Use Alternative. Environmental Assessments would be prepared for each proposed park facility, and potential adverse impacts from construction of new park facilities would be avoided, or otherwise mitigated for through the Section 106 process. Implementation of a resource management plan would lead to identification and protection of archeological resources in the park during both construction and operation- related park ac-</p>



TABLE 5: SUMMARY OF IMPACTS OF THE ALTERNATIVES

Impact Category	Continue Current Management or No Action Alternative	Centralized Access – Preferred Alternative	Focus on Solitude Alternative	Expanded Use Alternative
Archeological Resources (Continued)				tions. Resources would be protected even though there would be increased potential for effects to occur under this alternative. The three criteria for impairment would therefore not be met, and impairment would not occur.
Historic Buildings, Structures, and Objects	The park contains a variety of historic buildings, structures and objects that are significant to the historical development of the Chattahoochee River corridor and the greater Atlanta area. Some of these resources are among the last remaining examples of their construction types in the region. Under the No Action Alternative, those resources that have been identified and would continue to be protected at current levels. Under the No Action Alternative, few of the historic buildings, structures and objects in the park would be afforded enhanced protection and preservation treatment. Such treatment is required for National Register listed properties, particularly where stewardship of	The park contains a variety of historic buildings, structures and objects that are significant to the historical development of the Chattahoochee River corridor and the greater Atlanta area. Some of these resources are among the last remaining examples of their construction types in the region. This alternative is estimated to have minor, adverse, long-term effects on historic buildings, structures and objects in the park, since some areas could be impacted during construction and operation of park facilities. The Centralized Access Alternative’s protection and rehabilitation of the resources within the cultural resources zones	The park contains a variety of historic buildings, structures and objects that are significant to the historical development of the Chattahoochee River corridor in the greater Atlanta area. Some of these resources are among the last remaining examples of their construction types in the region. This alternative is estimated to have minor, adverse, long-term effects on historic buildings, structures and objects in the park, since some areas could be impacted during construction and operation of park facilities. However, implementation of this alternative would have a simultaneous beneficial effect on preservation of historic buildings, structures and objects in the park. Protection and rehabilita-	The park contains a variety of historic buildings, structures and objects that are significant to the historical development of the Chattahoochee River Valley and the greater Atlanta area. Some of these resources are among the last remaining examples of their construction types in the region. This alternative is estimated to have moderate, adverse, long-term effects on historic buildings, structures and objects in the park, since some areas could be impacted during construction and operation of park facilities. The Expanded Use Alternative’s protection and rehabilitation of these resources would have a major beneficial effect in preserving them for the future. The potential for adverse effects



**TABLE 5: SUMMARY OF IMPACTS OF THE ALTERNATIVES**

Impact Category	Continue Current Management or No Action Alternative	Centralized Access – Preferred Alternative	Focus on Solitude Alternative	Expanded Use Alternative
<p>Historic Buildings, Structures, and Objects (Continued)</p>	<p>the resource can be shared with a public or private entity, but no wholesale program would exist for the inventory, protection, and preservation of unevaluated or potentially eligible resources under the No Action Alternative. Implementation of this alternative could lead to adverse, direct and cumulative impacts, as well as potential impairment of historic buildings, structures and objects in the park.</p>	<p>and implementation of a resource management plan and a collections management plan for the park would have major beneficial effects in preserving these resources for the future compared to the No Action Alternative.</p> <p>The Centralized Access Alternative would also provide increased monitoring to protect and preserve historic buildings, structures and objects within the park compared to the No Action Alternative. Historic buildings, structures and objects in the park would be afforded enhanced protection and preservation through the development and implementation of systematic integrated inventory, research, and preservation programs in nine cultural resources zones. Rehabilitation of historic structures would occur, with some historic structures being returned to their original uses and others being rehabilitated and adaptively reused in accordance</p>	<p>tion of these resources would therefore ultimately have a major beneficial effect in preserving them for the future. This would be accomplished through protection as well as implementation of a resource management plan, collections management plan, and increased monitoring, education and staff levels.</p> <p>Under the Focus of Solitude Alternative, the historic buildings, structures and objects in the park would also be afforded enhanced protection and preservation treatment through the development and implementation of systematic integrated inventory, research, and preservation programs in the ten cultural resource zones. Rehabilitation of historic structures would occur, with some historic structures being returned to their original uses and others being rehabilitated and adaptively reused in accordance with park resource values.</p>	<p>associated with implementation of the Expanded Use Alternative – increased construction- related and visitor- related impacts – are considered to be greater than those associated with the No Action Alternative. Under the Expanded Use Alternative, the historic buildings, structures and objects in the park would be afforded protection and preservation treatment through the development and implementation of systematic integrated inventory, research, and preservation programs in the seven cultural resources zones as well as development and implementation of a resource management plan and a collections management plan. Rehabilitation of historic structures would occur, with some historic structures being returned to their original uses and others being rehabilitated and adaptively reused in accordance with park resource values. This would be an a moderate, long- term beneficial effect.</p> <p>Implementation of the Expanded Use Alternative would not cause</p>



**TABLE 5: SUMMARY OF IMPACTS OF THE ALTERNATIVES**

Impact Category	Continue Current Management or No Action Alternative	Centralized Access – Preferred Alternative	Focus on Solitude Alternative	Expanded Use Alternative
Historic Buildings, Structures, and Objects (Continued)		with park resource values. This would be a major long- term benefit.		impairment of resources or values associated with historic buildings, structures and objects in the park. Environmental Assessments would be prepared for each proposed park facility, and potential adverse impacts from construction of new park facilities would be avoided, or otherwise mitigated for through the Section 106 process. Implementation of a resource management plan would lead to identification and protection of historic buildings, structures and objects in the park during both construction and operation-related park actions. Resources would be protected even though there would increased potential for effects to occur under this alternative. The three criteria for impairment would therefore not be met, and impairment would not occur.
Transportation	An integrated trails system plan would not be completed, and efforts to improve connectivity with the surrounding areas would be minimal under this alternative. Existing transportation problems would continue,	Transportation and traffic problems in the park and surrounding area would continue to increase under any of the alternatives, since traffic and transportation patterns and characteristics are largely	Transportation and traffic problems in the park and surrounding area would continue to increase under any of the alternatives, since traffic and transportation patterns and characteristics are largely controlled by factors	The Expanded Use Alternative would result in the highest level of construction and operation of more facilities, and provide greater access throughout the park corridor in comparison with the No Action Alternative. These



**TABLE 5: SUMMARY OF IMPACTS OF THE ALTERNATIVES**

Impact Category	Continue Current Management or No Action Alternative	Centralized Access – Preferred Alternative	Focus on Solitude Alternative	Expanded Use Alternative
Transportation (Continued)	with no change in management approaches. The overall direct and cumulative transportation impacts under the No Action Alternative would therefore be moderate, adverse, and long-term.	<p>controlled by factors outside the park. Overall, the Centralized Access Alternative would have moderate, adverse, long-term direct and cumulative effects on transportation and traffic in the park and surrounding area, due to traffic congestion. This would be similar to the effect of the No Action Alternative.</p> <p>The Centralized Access Alternative would have minor, adverse, long-term direct and cumulative impacts on paved and unpaved trails in the park, since an intermediate number of new trails would be constructed in comparison with the No Action Alternative. An integrated trails system plan would be completed, and efforts to improve connectivity with the surrounding areas would be greatly improved under this alternative. This would result in moderate, beneficial, long-term direct and cumulative effects.</p> <p>The Centralized Access Alter-</p>	<p>outside the park. The Focus on Solitude Alternative would have overall moderate, adverse, long-term direct and cumulative adverse effects on transportation and traffic in the park and surrounding area, due to traffic congestion. These effects would be similar to those of the No Action Alternative.</p> <p>The Focus on Solitude Alternative would have negligible, long-term direct and cumulative adverse impacts on paved and unpaved trails in the park, since the smallest number of new trails would be constructed in comparison with the No Action Alternative. An integrated trails system plan would be completed, and efforts to improve connectivity with the surrounding areas would be greatly improved under this alternative. This would result in moderate, beneficial, long-term direct and cumulative effects.</p> <p>The Focus on Solitude Alternative would result in the lowest amount of bicycle use in com-</p>	<p>effects would be offset by implementation of resource and trails management plans. The overall direct effect on transportation would be moderate, adverse, and long-term.</p> <p>Transportation and traffic problems in the park and surrounding area would continue to increase under any of the alternatives, since traffic and transportation patterns and characteristics are largely controlled by factors outside the park. Overall, the Expanded Use Alternative would have moderate, adverse, long-term direct and cumulative effects on transportation and traffic in the park and surrounding area, due to traffic congestion. A number of the roadways that could be impacted by increased activity at various areas of the park are either scheduled for improvement in the near future or are planned for improvement by 2025. In certain areas, roadways that are currently congested are not planned for improvement, but an alternate facility has been planned, such as the Morgan Falls Bridge. These</p>



TABLE 5: SUMMARY OF IMPACTS OF THE ALTERNATIVES

Impact Category	Continue Current Management or No Action Alternative	Centralized Access – Preferred Alternative	Focus on Solitude Alternative	Expanded Use Alternative
Transportation (Continued)		<p>native would result in an intermediate amount of bicycle use of all the alternatives, including the No Action Alternative. The Focus on Solitude Alternative would therefore have minor, adverse, long-term direct and cumulative effects on erosion and water quality degradation related to bicycle use. An integrated trails system plan would also be developed and implemented, and erosion associated with off- road bicycle use would decrease over current levels in the park. This would result in moderate, beneficial, long-term direct and cumulative effects on water quality in the park.</p>	<p>parison with the No Action Alternative. The Focus on Solitude Alternative would therefore have negligible, adverse long-term direct and cumulative effects on erosion and water quality degradation related to bicycle use. An integrated trails system plan would also be developed and implemented, and erosion associated with off- road bicycle use would decrease over current levels in the park. This would result in moderate, beneficial, long- term direct and cumulative effects on water quality in the park.</p>	<p>types of projects could help to relieve localized congestion.</p> <p>The Expanded Use Alternative would have moderate, long- term direct and cumulative adverse impacts on paved and unpaved trails in the park, since the greatest number of new trails would be constructed in comparison with the other alternatives. An integrated trails system plan would be completed, and efforts to improve connectivity with the surrounding areas would be greatly improved under this alternative. This would result in moderate, beneficial, long- term direct and cumulative effects.</p> <p>The Expanded Use Alternative would result in the highest relative amount of bicycle use of all the alternatives in comparison with the No Action Alternative. An integrated trails system plan would also be developed and implemented, and erosion associated with off- road bicycle use would decrease over current levels in the park. This would result in moderate, beneficial,</p>



TABLE 5: SUMMARY OF IMPACTS OF THE ALTERNATIVES

Impact Category	Continue Current Management or No Action Alternative	Centralized Access – Preferred Alternative	Focus on Solitude Alternative	Expanded Use Alternative
Transportation (Continued)				<p>long- term direct and cumulative effects on water quality in the park. The overall effects of the Expanded Use Alternative on erosion and water quality degradation related to bicycle use would therefore be moderate, adverse long- term direct and cumulative.</p> <p>There would be no impairment of resources or values associated with regional and local transportation.</p>
Visitor and Community Values	<p>The No Action Alternative would still continue to provide visitors opportunities for passive and active forms of recreation. This would constitute a minor, beneficial, direct and cumulative long- term effect. However, this alternative would have adverse, major, long- term adverse effects on visitor experience, recreational opportunities, the numbers and types of visitor facilities, and the character of the park, due to the direct and cumulative effect of increased growth in the surrounding area, combined with lack of suitable resource man-</p>	<p>The Centralized Access Alternative would have beneficial or adverse effects on visitor’s recreational experience depending on the purpose of their visit. The Centralized Access Alternative would provide a major beneficial effect for visitors who value some degree of developed facilities, while simultaneously being able to also have access to and enjoy natural areas of the park. This alternative would have a minor, adverse, long- term impact on visitors who value solitude and isola-</p>	<p>The Focus on Solitude Alternative would result in construction of fewer facilities than the No Action Alternative. Visitor experiences such as serenity, wildlife observation, solitude, and observing nature’s beauty would be enhanced to the greatest degree under this alternative. The maximum amount of pristine river and urban primitive zones in the park would be available to visitors under this alternative. Visitor encounter rates would be relatively low. This alternative would therefore have major, beneficial, long- term direct and</p>	<p>The Expanded Access Alternative would have beneficial or adverse effects on the visitor’s recreational experience depending on each person’s individual values. The Expanded Access Alternative would provide a major beneficial effect on visitors who value some degree of developed facilities, while simultaneously being able to also have access to and enjoy natural areas of the park. This alternative would have a minor, adverse, long- term, direct effect on visitors who value solitude and isolation since the provision of facilities would draw people to the</p>



**TABLE 5: SUMMARY OF IMPACTS OF THE ALTERNATIVES**

Impact Category	Continue Current Management or No Action Alternative	Centralized Access – Preferred Alternative	Focus on Solitude Alternative	Expanded Use Alternative
Visitor and Community Values (Continued)	agement plans that are designed to handle the increased levels of visitation.	tion since the provision of facilities would draw people to the hubs. Under the Centralized Access Alternative, visitors could experience solitude in the majority of the park, but would also be provided with other types of experiences and facilities centralized in the hubs. An intermediate number and diversity of park facilities would be available to visitors under this alternative in the hubs in comparison with the No Action Alternative. The more efficient and cohesive working environment that this alternative would provide for park staff, and the dispersed park ranger presence would result in better service to park visitors. Compared to the No Action Alternative, there would be additional types of recreational experiences, centralized access to trailheads and the river, while simultaneously providing the opportunity for isolation and solitude in other areas of the park.	cumulative effects on visitor and community values. However, as the area surrounding the park develops, this experience would be increasingly difficult to obtain, and adverse direct and cumulative, long- term effects on visitor and community values could result. Effective management plans and coordination with local governments would be the key to the successful implementation of this alternative. Overall, this alternative would result in major, long- term beneficial direct and cumulative effects on visitors who value solitude and isolation, and a major long- term adverse direct and cumulative effect on visitors who value more active recreational experiences and supportive facilities.	developed zones. Under the Expanded Access Alternative, visitors could experience solitude in the majority of the park, but would also be provided with other types of experiences and facilities centralized in the developed zones. The highest relative number and diversity of park facilities would be available to visitors under the Expanded Access Alternative in the developed zones in comparison with the No Action Alternative. The more efficient and cohesive working environment that this alternative would provide for park staff, and the dispersed park ranger presence would result in better service to park visitors. Compared to the No Action Alternative, there would be additional types of recreational experiences, centralized access to trailheads and the river, while simultaneously providing the opportunity for isolation and solitude in other areas of the park.  Improvement to visitor facilities and facilities used for administration and operations would enhance educational and interpre-

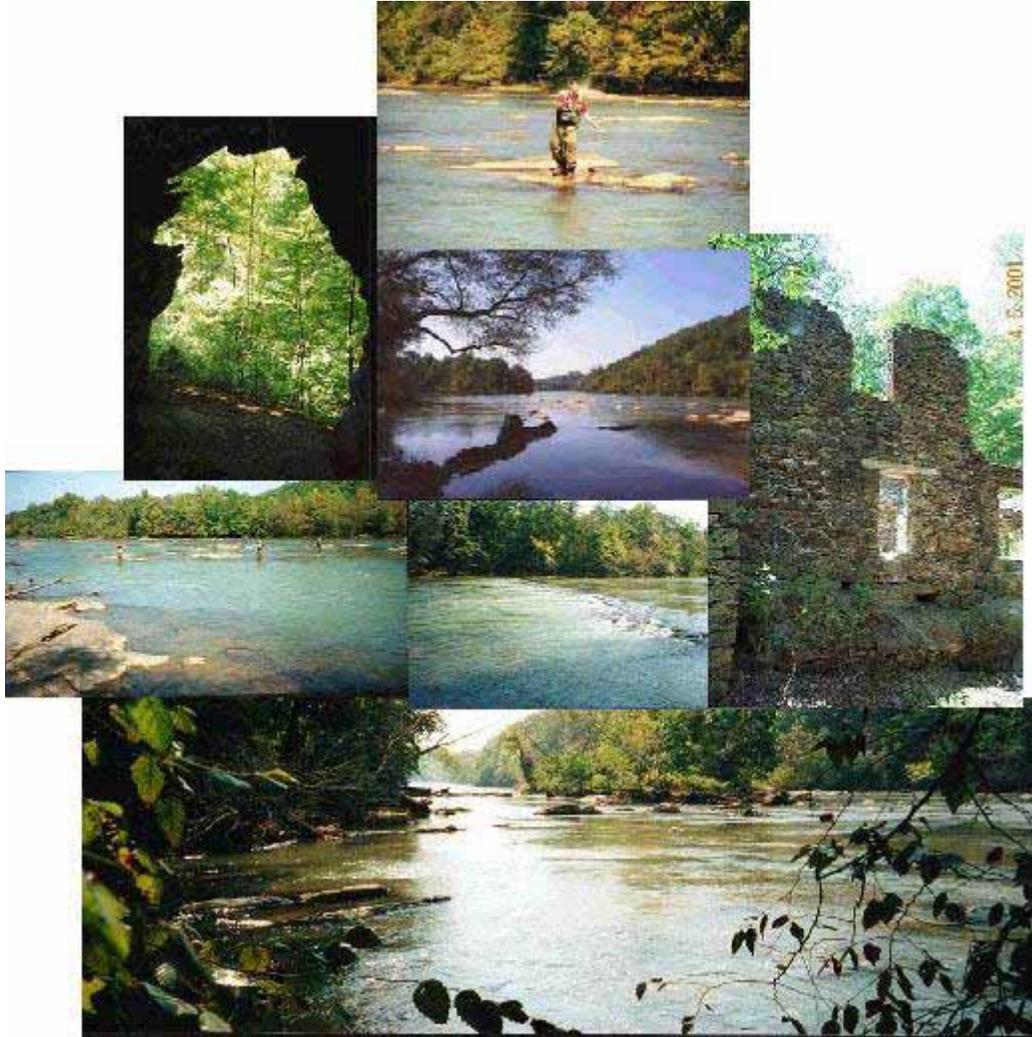


**TABLE 5: SUMMARY OF IMPACTS OF THE ALTERNATIVES**

Impact Category	Continue Current Management or No Action Alternative	Centralized Access – Preferred Alternative	Focus on Solitude Alternative	Expanded Use Alternative
Visitor and Community Values (Continued)		Improvement to visitor facilities and facilities used for administration and operations would enhance educational and interpretive experiences as compared to the No Action Alternative.		<p>tive experiences as compared to the No Action Alternative. There would be no impairment of resources or values associated with traditional park character and visitor experience.</p> <p>The Expanded Use Alternative would not cause impairment of resources or values associated with visitor and community values.</p>



## AFFECTED ENVIRONMENT



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## AFFECTED ENVIRONMENT

### NATURAL RESOURCES

This section describes the characteristics of the existing natural environment that could be affected by the proposed action alternatives and the no action alternative (continue current management). In compliance with the guidelines contained in the National Environmental Policy Act and Section 1502.15 of the regulations for implementing that act developed by the Council on Environmental Quality (1978), the description of the affected environment focuses on only those environmental aspects potentially subject to the effects resulting from the proposed park access and development policies.

As discussed in the "Purpose and Need for the Plan" section, the National Park Service has identified impact topics that may be affected by the proposed actions or the no action alternative (continue current management). This section establishes the basis for the "Environmental Consequences" section, which assesses the effects that the alternatives may have on the impact topics within the affected environment.

#### Air Quality

Air quality is included as an impact topic based on the criteria presented in "Impact Topics – Resources and Values at Stake in the Planning Process" in the "Alternatives" section. The specific concerns related to this impact topic are discussed in the "Environmental Consequences" section.

The park is located within one of the most rapidly developing areas in the United States. As a result, metropolitan Atlanta air emissions generated by the large volumes of cars, trucks, and airplane traffic in Atlanta have affected the air quality of the park in various ways.

The United States Environmental Protection Agency has established primary and secondary national ambient air quality standards for criteria pollutants under the provisions of the Clean Air Act. Primary national ambient air quality standards establish levels necessary, with an adequate margin of safety, to protect the public health. Secondary

national ambient air quality standards specify the maximum allowable levels of air pollution to protect the public from any known or anticipated adverse effects associated with air contaminants.

Federal ambient air quality standards for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, respirable particulate matter smaller than 10 microns, and lead are summarized in Table 6. Vehicle emissions are the primary source for these pollutants. Areas not in compliance with the national ambient air quality standards are termed "non-attainment" areas. Attainment of the national ambient air quality standards is determined through continuous ambient monitoring. Thirteen counties surrounding the park, including Cobb, Gwinnett, Fulton, and Forsyth counties, are collectively designated a "non-attainment" area due to ozone violations.

Ozone is of particular concern in the Atlanta metropolitan area. It is a highly reactive compound formed by a series of complex photochemical reactions when volatile organic compounds and nitrogen oxides are subject to intense sunlight. The national ambient air quality standards for ozone are based on the expected number of days per year with a one-hour concentration of 0.12 parts per million or greater. The 1990 Clean Air Act Amendments specify five classifications of non-attainment for the one-hour ozone standard: marginal, moderate, serious, severe, and extreme. The Atlanta area has not met the national ambient air quality standards for ozone since monitoring began in 1980. In 1992, the 13-county region encompassing the Atlanta metropolitan area was designated as a "serious" non-attainment area under Section 181 of the Clean Air Act.

Current air quality in Atlanta, including the park, is monitored by the Georgia Environmental Protection Division Air Protection Branch through a network of fourteen monitoring sites, including seven that monitor ozone. Measurements made between 1995 and 1999 show that the Atlanta area continues to achieve compliance with the national ambient air quality standards for all six criteria pollutants except for ozone (Table 6).



**Table 6: National Ambient Air Quality Standards  
and Maximum Monitored Ambient Concentrations  
in Atlanta for 1995 through 1999**

Pollutant	Averaging Time	Primary Standard <sup>b</sup>
Ozone	1 hour	0.12 parts per million
Carbon monoxide	1 hour	35 parts per million
	8 hour	9 parts per million
Nitrogen dioxide	Annual	0.053 parts per million
Sulfur dioxide	3 hour	0.5 parts per million (a)
	24 hour	0.14 parts per million
	Annual	0.03 parts per million
Respirable particulate matter smaller than 10 microns	24 hour	150 micrograms per cubic meter
	Annual geometric mean	50 micrograms per cubic meter
Lead	Calendar quarter	1.5 micrograms per cubic meter

Source: U.S. Environmental Protection Agency National Primary and Secondary Ambient Air Quality Standards (40 CFR 50)

Pollutant	Averaging Time	Maximum Monitored Ambient Concentrations <sup>1</sup>	Year of Occurrence	Exceeds Standard
Ozone	1 hour	0.157 parts per million	1999	Yes
		0.158 parts per million	1998	Yes
		0.135 parts per million	1997	Yes
		0.142 parts per million	1996	Yes
		0.166 parts per million	1995	Yes

Source: U.S. Environmental Protection Agency 1999

Under an interagency agreement, the National Park Service- Air Quality Division provides technical assistance on prevention of significant deterioration permit application reviews, air quality monitoring and modeling, and other air quality related responsibilities specified by the Clean Air Act.

The prevention of significant deterioration program established three air quality classes (I, II, III) for areas with air quality better than national ambient air quality standards (attainment areas). The

park is located within an area designated as Class II.

Each class has defined limits on the allowable increase (increments) in particulate matter, nitrogen dioxide, and sulfur dioxide. Class I areas have the highest level of protection from air pollutants, with very little deterioration of air quality allowed in these areas. Moderate deterioration, associated with well managed growth, is allowed in Class II areas, while more deterioration is allowed in Class III areas. There are no Class III areas identified within the United States.



## Water Resources

The Chattahoochee River and its tributaries are included as an impact topic based on the criteria presented in “Impact Topics – Resources and Values at Stake in the Planning Process” in the “Alternatives” section. The specific concerns related to this impact topic are discussed in the “Environmental Consequences” section.

The river is the primary natural feature within the park. Within the park boundaries, the Chattahoochee River flows 48 miles from Buford Dam near Sugar Hill to the confluence with Peachtree Creek in Atlanta. Land uses within the watershed include urban, suburban residential, agricultural, and forested areas.

The National Park Service prepared *Water Resources Management Plan Chattahoochee River National Recreation Area, Georgia* in June of 2000 (NPS 2000e), summarizing the water-related resource issues in the park. This reference has served as the primary source of information for water resources issues discussed in this section, which include surface water hydrology, water supply, water quality, and aquatic resources.

### Surface Water Hydrology and Watershed Characteristics

The surface water hydrology of the Chattahoochee River is largely determined by the geological setting and processes that have formed the watershed. The river within the park is located within the Piedmont Province, Southern Piedmont Section, Upland Georgia Subsection, flowing along the Brevard Fault in a northeast to southwest direction within the Gainesville Ridges District. This district is characterized by “a series of northeast-trending, low, linear, parallel ridges separated by narrow valleys” (Clark and Zisa 1976). The ridge formations and Brevard Fault result from forces associated with continental drift. Faulting produced the “Palisades” cliffs, located in the extreme southern end of the park. The Palisades were the original basis for designating the park as a National Recreation Area.

This geological setting produces a relatively long and narrow watershed, surrounded within the vicinity of the park by rapidly developing urban and

suburban areas. These features channel a large amount of nonpoint runoff into the river in this narrow watershed during storm events, affect park characteristics, especially water quality (refer to the “Water Quality” subsection for additional information).

The portion of the Chattahoochee River watershed encompassed by the park, extending from river mile 348.3 at Buford Dam to river mile 300.5 at Peachtree Creek, drains 416 square miles below Buford Dam. The major tributaries and watersheds associated with the park are listed in alphabetical order in Table 7 and shown on the Water Features map in sequence from north to south ( NPS 2000e):

**Table 7: Named Creeks within Chattahoochee River National Recreation Area (with Watershed Area in Square Miles for Dominant Water Bodies)**

Arrowhead Creek
Bagley Creek
Ball Mill Creek (3.5)
Bennett Creek
Bentley Creek
<b>Big Creek (also known as Vickery Creek) (103)</b>
Bishop Creek
Brushy Creek
Bull Sluice Lake
Camp Creek Cauley Creek
Caney Creek
Cheatam Creek
Cobb Creek
<b>Crooked Creek (9.2)</b>
Daves Creek
Dick Creek (8.8)
Foe Killer Creek
<b>Fox Creek</b>
Gumby Dreek
Harris Creek
<b>Haw Creek (3.8)</b>
Heards Creek
Hog Wallow Creek



<b>Table 7: Named Creeks within Chattahoochee River National Recreation Area (with Watershed Area in Square Miles for Dominant Water Bodies)</b>
Ivy Creek
James Creek (10.6)
Johns Creek (13.1)
Kelly Mill Branch
Level Creek
Little Ivy Creek
Long Indian Creek
<b>Long Island Creek (19.6)</b>
March Creek (5.3)
Mill Creek
Morgan Falls Dam
<b>Mullberry Creek</b>
Nancy Creek
Nannyberry Creek
Owl Creek
Peachtree Creek (131)
Poorhouse Creek
<b>Richland Creek (15.2)</b>
<b>Rottenwood Creek (6.4)</b>
Sawmill Branch
Seven Branch Creek
Sewell Mill Creek
<b>Sibley Creek (aka Terrel Mill Branch)</b>
Seven Branch
<b>Sope Creek (35.4)</b>
<b>Suwanee Creek (51.2)</b>
Terrel Mill Branch (see Sibley Creek)
Vickery Creek (see Big Creek)
Unnamed Creek (3.7)
<b>Willeo Creek (19.8)</b>

Source: NPS 2000e

\* Creeks bordered at least in part by Chattahoochee River National Recreation Area parcels are bolded.

The majority of these tributaries flow through urban or suburban areas subject to excessive amounts of nonpoint runoff. Numerous minor tributaries

and groundwater springs also drain to the Chattahoochee River within the park.

The flow of the river is dominated by controlled releases from Buford Dam, which was constructed in 1957 and is managed by the Mobile District, United States Army Corps of Engineers. Flow is also affected significantly by storm events, which contribute large amounts of water to the river via overland flow and major tributaries. Volumes range from less than 750 cubic feet per second to over 8,400 cubic feet per second during power generation ( NPS 2000e). The Corps of Engineers is required to maintain a minimum flow of 750 cubic feet per second at all times to maintain water quality and protect aquatic life in the river.

Releases provide electrical power during peak demand periods. These surges create rapid and large changes in water levels and velocities downstream of Buford dam. Water levels immediately below Buford Dam, for example, can change up to 5 feet in less than an hour. These surges, which are noticeable within the park, become less noticeable farther downstream ( NPS 2000e). The surges have resulted in significant erosion of the riverbanks for as far as 20 miles downstream, significant widening of the river, and increased numbers of trees falling into the river ( NPS 2000e).

Key facts summarizing the flow regime in the river are as follows ( NPS 2000e):

Drier years are characterized by lower than average streamflows

Wetter years produce high flows that are two to three times higher than high flows in dry years

Higher flow periods follow seasonal patterns, i.e. higher flows occur during storms in July

Lower flows usually occur in the autumn

Mean annual discharge at the Norcross station over the last 85 years has been 2,289 cubic feet per second

Mean discharge at Buford Dam from 1988 to 1997 was 2,139 cubic feet per second, and median discharge was 1,420 cubic feet per second



The Buford Dam outlet has a maximum capacity of 11,600 cubic feet per second

The lowest flow in the river for the historical record was 296 cubic feet per second, recorded in September, 1957

The two largest tributaries within the park are Big Creek (mean daily discharge of 108 cubic feet per second) and Suwanee Creek (mean daily discharge of 67 cubic feet per second). The five highest peak flows for these two creeks range from 2,410 to 3,970 cubic feet per second for Big Creek and from 2,150 to 4,350 for Suwanee Creek

Morgan Falls Dam, located at river mile 312.6, was constructed from 1902 to 1904, and created Bull Sluice Lake, the only lake within the park. This very shallow lake has rapidly filled with sediment, due to the large amount of suspended solids entering the river from nonpoint runoff. The lake is being invaded by cattail marshes that form extensive wetlands. Bull Sluice Lake is one of the more dramatic areas of the park, with cliffs of over 200 feet high rising on the east side of the lake opposite Gold Branch.

## **Water Supply**

The majority (99 percent) of all municipal and industrial water use in the Atlanta area comes from surface water (NPS 2000e). Approximately 70 percent of the water supply is taken from the Chattahoochee River and approximately 10 percent directly from Lake Lanier (NPS 2000e). The remaining water comes from other sources, including groundwater wells. The Atlanta metropolitan area, including Gwinnett, Fulton, DeKalb, and Cobb Counties and the City of Atlanta, are thus heavily dependent on water from the river for their drinking water supply.

In 1988, the release patterns of water from Lake Lanier were changed by the United States Corps of Engineers to "enhance water supply availability" (NPS 2000e). This change included reallocating approximately 20 percent of the release from hydropower production to water supply (NPS 2000e).

Approximately 671 million gallons per day of treated water is added back to the river within the

park by eight wastewater treatment plants within four counties. Approximately 446 million gallons per day are withdrawn from the Chattahoochee River for drinking water and industrial use. The projected municipal and industrial demand for 2050 is 494 million gallons per day (NPS 2000e). Twelve Environmental Protection Division-permitted users (those that withdraw more than 10,000 gallons a day) withdraw additional amounts of water from the river for other uses (NPS 2000e). These users include golf courses, athletic clubs, and small industries (NPS 2000e).

Severe droughts in 1981, 1986, and 1988 brought the water supply issue to the forefront in the Atlanta region. Legal actions between Georgia, Florida, and Alabama produced the ongoing Tri-State Water Allocation program. The program is managed by the Apalachicola- Chattahoochee- Flint River Compact Commission, which was assigned the role of developing a Water Allocation Formula for the Chattahoochee River, including the park. Alabama, Georgia and Florida approved Interstate Compacts in 1997. The objective of the compact program is to provide an equitable basis for sharing of water supplies between the users.

The commission instituted the Alabama- Coosa- Tallapoosa / Apalachicola- Chattahoochee- Flint River comprehensive study in 1991 to address the water supply issue. The objectives of this study were to: (1) make water use demand estimates though 2050; (2) estimate the ability of supplies to meet demands; and (3) develop water supply management alternatives. This process is still underway.

A draft National Environmental Policy Act programmatic environmental impact statement was also prepared and released by the United States Corps of Engineers, Mobile District in conjunction with the comprehensive study (United States Corps of Engineers 1998). This document addressed the issues associated with implementing a range of low, moderate, or high flow conditions that could potentially result under a given water allocation formula. This approach was designed to bracket potential future flow regimes. The document is programmatic in that it does not assess impacts of a particular water supply reservoir or group of reservoirs. Instead, the objectives of the programmatic environmental impact statement



were to: (1) provide an evaluation framework that could be used to tier to future, site- specific environmental impact statements on actual proposed water supply reservoirs, and (2) using the bracketing approach, assess potential effects of a range of flow conditions on water quality, aquatic life, recreation, fishing, and water supplies.

Because the park is located immediately below Lake Lanier, the potential effects of the Tri- State Compact on the amount of water that will be available within the park are potentially significant. To a great extent, future flows in the Chattahoochee River will be dictated by the Tri- State Compact. The United States Corps of Engineers, Mobile District will prepare an environmental impact statement on the decision, after which specific impacts on the park can be identified.

Issues that continue to be negotiated as part of the Tri- State Compact and the Water Allocation Formula are:

- The minimum flow requirements at state lines and the Flint River
- Georgia water demand projections
- Drought contingency plans
- State sovereignty (in- state requirements)
- Different in- lake trigger elevations (rule curves)
- Unilateral modeling
- Discharge requirements placed upon new reservoirs
- Interbasin transfers

Clearly, these future decisions made regarding the water allocation formula will have a major effect on the park.

## Water Quality

Water quality of the Chattahoochee River and tributary streams within the park has been and continues to be affected by various pollution sources. Although the Chattahoochee River within the park does have water quality problems and issues as described in this section, the Georgia River Care 2000 assigned an “outstanding” rating to that segment of the river, based on the assignment of

this mainstem section of the river as a secondary trout stream. A secondary trout stream is one that is capable of supporting trout throughout the year, but which does not support naturally reproducing populations. This rating is currently being reassessed by the Georgia Environmental Protection Division in view of the recent finding of naturally reproducing brown trout in the upper portion of the Chattahoochee River within the park (refer to the “Aquatic Resources of the Chattahoochee River” subsection).

Water quality in the Chattahoochee River and tributary streams within the park is protected under law by Georgia’s water use classifications and standards, applied to Georgia’s interstate waters in 1972 (Appendix B). These regulations include standards for fecal coliform bacteria, dissolved oxygen, pH and temperature of drinking water, recreation, and fishing. Generalized visual water quality criteria also apply to the park. The Georgia Rules and Regulations for Water Quality Control, Chapter 391- 3- 6- .03, Water Quality Standards, established standards for toxic materials, including metals and other inorganic compounds, toxic priority pollutants, pesticides and herbicides.

Section 303(d) of the Clean Water Act requires states to list their waters not supporting their designated uses; that is, not meeting water quality standards for those uses. This list is referred to as the 303(d) list and includes an assessment of the water quality conditions, the extent and causes of documented violations, and the actions being taken to correct the water quality problems. The Georgia Environmental Protection Division has placed a 12- mile segment of the Chattahoochee River between Morgan Falls Dam and Peachtree Creek on the 2004 303(d) list as only partially supporting its designated use as recreation and drinking water, due to elevated levels of fecal coliform bacteria and violations of appropriate fish consumption guidelines. According to the 303(d) list, the Environmental Protection Division is addressing the urban runoff in its stormwater management strategy for metropolitan Atlanta.

The area- wide stormwater permit was last reissued in 1999. The fish consumption guidelines were violated due to polychlorinated biphenyls. However, polychlorinated biphenyls were banned in the



United States in 1976, and levels have since declined.

For each water body that does not meet the water quality criteria required by its respective designated uses, the state must develop a total maximum daily load for the pollutant of concern to ensure that applicable water quality standards can be attained and maintained. Total maximum daily load is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards. This is the sum of point source loads and nonpoint source loads, plus a margin of safety. The objective is to allocate allowable loads among different pollution sources so that appropriate control actions can be taken to achieve water quality standards. Tools used to meet total maximum daily load requirements include best management practices, regulations, land acquisition, infrastructure investment, and pollutant trading. A total maximum daily load was developed for polychlorinated biphenyls in fish tissues for seven segments of the Chattahoochee River, including Morgan Falls to Peachtree Creek, in January 2003 by the Environmental Protection Division.

Section 305(b) of the Clean Water Act requires each state to submit an annual report that identifies waters in the state that do not meet their designated uses. Waters of the Chattahoochee River within the park are designated as suitable for “drinking water, recreation, and fishing”. However, many tributary streams in the park do not meet these designated uses, as shown in Appendix B. This is due to several sources of pollution, including the following (NPS 2000e):

**Wastewater treatment plants:** The quality of wastewater discharged to the river has improved over the last 20 years due to improved treatment plant technologies. These discharges are controlled under the National Pollutant Discharge Elimination System program by the State of Georgia. Six major wastewater treatment plants discharge over 189 million gallons per day. Of this total, 140 million gallons per day are contributed by two plants at the lower end of the park, and 49 million gallons per day are discharged within the rest of the park (NPS 2000e).

**Sewer pipelines:** The National Park Service recently mapped the extensive network of sewer pipelines are located within the park and the watershed surrounding the park (NPS 2001c). Many pipelines go through the park under easement agreements with local governments. Some lines, especially older lines that cross small- or medium- size tributaries, have experienced leaks and breaks due to action by flowing water and abrasion of sediments. In 1999, Georgia Environmental Protection Division records showed that approximately 26 million gallons of raw or partially treated sewage were spilled into the Chattahoochee River and its tributaries within the park. The park maintains a database of spills of sewage and other materials.

**Combined Stormwater Sewer Overflows and Wastewater Sewer Overflows:** Older wastewater collection systems combine stormwater and wastewater sewer discharges, and periodically experience overflows during storms. In modern water collection and disposal systems, stormwater and wastewater flows have been separated. However, many wastewater sewer overflows have occurred within the park in the Atlanta area. These have been observed to blow manhole covers off, resulting in direct releases to the river and its tributaries (NPS 2000e).

**Spills of other materials:** Accidental spills of fuel and numerous other chemicals have occurred on bridges crossing over the Chattahoochee River or other nearby roads within the park. The park tracks the types and quantities of materials released to the river in a spills database. Local or state emergency response teams handle the cleanup of these spills.

**Nonpoint Runoff:** Runoff of stormwater from impervious and exposed surfaces in urban and suburban areas contains suspended solids, trace metals, organic compounds, and various pathogens. Impervious surfaces include roads, parking lots, and rooftops. Cleared construction sites are a primary source of suspended solids. Under the new National Pollutant Discharge Elimination System construction stormwater permit system, the Georgia Environmental Protection



Division regulates discharges of stormwater from construction sites greater than 5 acres. Despite these controls, approximately 80 percent of all water pollution in the area comes from nonpoint sources in developed areas. Increased runoff also causes increased flooding, streambed scouring, sedimentation, bank erosion, and accumulation of litter and other solid waste.

As discussed in the “Social and Economic Environment” subsection, the Atlanta area is one of the most rapidly growing areas in the country. As a result, nonpoint pollution has increased greatly over the last 20 years. If not controlled, problems associated with nonpoint pollution are expected to continue to get worse. The four county governments that surround the park have instituted a series of watershed studies designed to assess water quality problems and develop solutions in the form of best management practices that will allow each county to meet its total maximum daily load restrictions for the major water quality parameters of concern: fecal coliform bacteria, total suspended solids, and nutrients. The majority of these multi-year programs are currently in the initial problem identification phase (watershed assessment).

The following is a summary of specific water quality issues associated with the Chattahoochee River and tributaries within the park:

**Fecal Coliform Bacteria:** These bacteria can deplete water of oxygen, killing fish and other aquatic wildlife. They also can indicate the presence of other harmful microorganisms, including those that can cause typhoid fever, hepatitis, gastroenteritis, dysentery and ear infections. Failure to meet the fecal coliform standard is the most commonly listed cause of non-support of designated uses in the park and the Atlanta region.

Elevated fecal coliform levels have been recorded in the majority of streams within the park and the Chattahoochee River, due primarily to nonpoint runoff, sewer line overflows, spills of raw sewage from sewer line breaks, and sewer line and septic system leaks. The park is surrounded by an extensive network of sewage lines, with several located inside the park. Domestic animals (cows, horses,

dogs) and wildlife (duck, geese) also cause direct bacterial contamination of the river and tributaries. Current fecal coliform levels are generally acceptable for fishing, but are only marginally acceptable or unacceptable for recreation (i.e., swimming) (NPS 2000e).

Water flowing from Buford Dam met the 200 mpn/100 ml standard (30-day geometric mean) consistently in a Georgia Environmental Protection Division 1995 survey (NPS 2000e). However, as the distance downstream increases, the percentage of samples meeting the standard steadily declines. In the lower quarter of the park, the 1995 Environmental Protection Division survey found that the standard was violated 100 percent of the time. The National Park Service, in cooperation with the United States Geological Survey and the Upper Chattahoochee Riverkeeper, has subsequently instituted a fecal coliform monitoring program called the BacteriALERT Program. Information is posted on the Internet at <http://ga2.er.usgs.gov/bacteria>. BacteriALERT results are also posted at all major water access points within the park. Samples are collected daily at three park locations: Medlock Bridge, Paces Ferry Bridge, and Johnson’s Ferry Bridge.

*E. coli* counts above 236 colonies per 100 mL of water are considered high risk. Contact with the river is not recommended due to documented risk of illness. The water quality also fails to meet federal recreation water quality standards.

The United States Geological Survey has completed a two-year ongoing study of the extent and severity of microbial contamination within the park. The study, initiated in 1999, is a watershed-based assessment that will provide a focus for future coordinated monitoring and protection efforts within the park. Analysis of data from 1986 to 1995 found no distinct upward historical trend in levels of fecal coliform bacteria. Fecal coliform values, however, vary widely between years and months. Every tributary in the park has experienced at least some elevated fecal coliform levels. As part of this project, ribosomal fingerprints (ribotypings) are also being used to distinguish human sources of fecal coliform bacteria from other animals. This technique involves matching of genetic fingerprints of *E. coli* in water samples to strains of *E. coli* from fecal material samples in the watershed. Analysis of



chemical sewage tracers is also being conducted to separate point and nonpoint sources of pollution.

**Other Pathogens:** Other pathogens occurring in the park that can cause human illness include various species of bacteria, viruses, and protozoans. Examples include the protozoans *Giardia* and *Cryptosporidium*, which can be very debilitating and even life-threatening for very young or very old people (NPS 2000e). Other examples include intestinal bacteria, eye, ear nose and throat bacteria, and enteric viruses (NPS 2000e).

**Metals in Water and Sediments:** Some tributary streams in the park are characterized by elevated levels of lead, copper, zinc, or cadmium associated with urban and suburban runoff or from wastewater and industrial sources such as batteries, metal products, industrial discharges, and stack emissions. Metals were the second most common pollutants of concern after fecal coliforms in the Environmental Protection Division's 1994- 1995 water quality assessment of the Chattahoochee River tributaries (NPS 2000e). Metals accumulate in aquatic food chains and can harm aquatic animals as well as humans.

Metals also enter the park from the bottom water and sediments of Lake Lanier via releases from Buford Dam. In summer, the lake becomes vertically stratified with a pronounced layer of cold, oxygen-deficient water near the bottom (called a hypolimnion). Under these low-oxygen or zero-oxygen conditions, metals from lake sediments dissolve in the water column and become available for uptake by aquatic organisms. As a result, high levels of iron and manganese are commonly found in the tailwater area below Buford Dam. Levels are usually highest during December to February, just following vertical mixing (NPS 2000e).

The streams in the park, listed in Table 8, were found not to meet their designated use because of elevated levels of metals (NPS 2000e):

Levels of metals in Lake Lanier are also elevated due to various existing and historic industrial sources (NPS 2000e). Zinc, copper, and lead enter the lake from industrial sources along the Chattahoochee River above Lake Lanier. The lake only partially supports its designated use

because of elevated levels of mercury and lead in some areas (NPS 2000e).

**Table 8: Streams in the Park That Do not Meet Their Designated Uses because of High Levels of Metals**

Stream	Classification	Metals Problem
Tributary to Sope Creek	Fishing	Elevated cadmium, copper and lead; Source is believed to be industrial sites
Sope Creek	Fishing	Elevated lead
Rottenwood Creek	Fishing	Elevated lead
Willeo Creek	Fishing	Elevated lead

Source: NPS 2000e

**Water Temperature:** Higher temperatures in the river and tributary streams caused by sediment suspended in the water introduced from nonpoint runoff, loss of shade trees along streambanks, and wastewater discharges cause reductions in dissolved oxygen levels. During March through September, release of cold hypolimnetic water from Lake Lanier for power generation cools the river at the upper end of the park. During December and January, the release of warmer vertically mixed water to the river causes a mid-winter warming effect (NPS 2000e), reversing the pattern expected in a free flowing river.

**Dissolved Oxygen:** The daily average dissolved oxygen standard is 5.0 mg/L, and the minimum standard at any time is 4.0 mg/L. Water released from Buford Dam characteristically has lower levels of dissolved oxygen, especially during summer releases from the deeper levels of the lake. However, re-aeration in shoals and vertical mixing in pools raises dissolved oxygen levels in the majority of the river within the park above the minimum 6.0 mg/L level desirable for trout streams (NPS 2000e).

In the past, point-sources of wastewater from treatment plants introduced large quantities of oxygen-demanding organic material to the river. With improved treatment systems, however, these sources have been greatly reduced. In the 1960s



and 1970s, dissolved oxygen levels generally ranged from 4 to 5 mg/L, and readings of 0 mg/L were not uncommon (NPS 2000e). Levels of dissolved oxygen in the river have increased from the 1970s until present. In the 1990s, dissolved oxygen levels south of Atlanta have usually been 5 to 9 mg/L or higher, with essentially no occurrences of 0 mg/L (NPS 2000e). A recent study by Georgia Environmental Protection Division showed that between 1986 and 1995, dissolved oxygen levels at the three water intakes farther south on the river within the park were all at greater than 80 percent saturation, exhibiting little annual variation (NPS 2000e). Dissolved oxygen levels in the tributaries of the Chattahoochee River between 1993 and 1995 were also acceptable, based on a study by Environmental Protection Division (NPS 2000e).

Low dissolved oxygen remains a problem in the tailwater of Lake Lanier. In response, the United States Corps of Engineers is planning to replace the turbines in Buford Dam to allow direct turbine venting. This will allow aeration of the water released from Lake Lanier prior to discharge to the river. This project, scheduled for completion in 2006, should eliminate problems with the release of water with low dissolved oxygen levels from the hypolimnion of Lake Lanier. This condition has the potential for releasing trace metals such as iron, copper and manganese which become soluble under conditions of low oxygen and low pH that occur when a lake is stratified (Wetzel 1975). These metals are currently released in the hypolimnion at Lake Lanier and released to the tail water, where they have a potential to adversely affect aquatic life. Adding oxygen to the turbine water will cause these metals to precipitate and enter the sediments below the dam, making them much less available to aquatic life.

**Erosion/Sedimentation:** Runoff during storms carries sediment from construction sites and impervious surfaces such as roads, parking lots, driveways and rooftops into the Chattahoochee River and tributaries. This raises the levels of suspended solids in the water, increasing the turbidity levels. Elevated turbidity and sediment levels are common in streams and the Chattahoochee River in the park, especially after storm events. Suspended sediments have an adverse impact on aquatic life directly by clogging fish gills and filling in benthic habitat in pools and riffles. Elevated tur-

bidity also increases stream temperatures and lowers dissolved oxygen levels. Sediment particles carry pesticides, herbicides, metals, and grease and oil into receiving streams and the river.

**Nutrients:** Nutrients such as nitrates, phosphates, and organic loads are flushed into the river from lawns, domestic animal sources, and exposed soil at construction sites (NPS 2000e). This can stimulate blooms of nuisance algae, leading to reduced dissolved oxygen levels. Wastewater treatment plants also introduce nutrients into the river and its tributaries. Spills, overflows, and leaks from sewer lines located in the watershed can introduce nutrients to receiving waters.

Generally, nitrate and nitrite levels in the Chattahoochee River increase as a function of increasing distance downstream due to introduction of treated wastewater and nonpoint runoff (NPS 2000e). Lawn fertilizers are a major source of nitrogen in nonpoint runoff. Nitrate levels in the main river channel are relatively low, typically well below the 10 mg/L level recommended for drinking water (NPS 2000e).

Because plant production in most aquatic systems is limited by availability of phosphorus, this nutrient that can significantly affect the quality of aquatic systems. If too much phosphorus is introduced, algal blooms and reduced dissolved oxygen levels can result. In the Chattahoochee River, total phosphorus loadings have decreased over the past 20 years as treatment plant effectiveness has increased and due to the ban on phosphorus detergents in 1990.

Nutrient levels in the tributaries of the Chattahoochee River account for over 60 percent of the total nutrient loading to the river, according to the United States Geological Survey (NPS 2000e). In urban watersheds such as those in the lower part of the park, over 80 percent of the nutrient runoff occurs during storm events (NPS 2000e). These conclusions are supported by specific conductance data collected in the river and tributaries within the park by the Atlanta Regional Commission (NPS 2000e).

Nutrient studies have also been conducted as part of several county-sponsored watershed assessments in the park area. These have included as-



assessments of Johns Creek, Rottenwood Creek, Sope Creek, Willeo Creek, and Cauley Creek. The results support the overall conclusion that water pollution in the area primarily arises from nonpoint sources.

**Pesticides and Herbicides:** Pesticides and herbicides from lawn treatment and agricultural activities enter area streams and the Chattahoochee River, with potentially detrimental effects on aquatic life. Concentrations of insecticides often exceed the criteria to protect aquatic life (NPS 2000e). Pesticide levels are generally below existing drinking water standards, however.

Herbicides are used within the park watershed to control weeds in lawns, for vegetation control along roadsides, and in commercial areas. Common herbicides used in the area include glyphosate, sulfometuron, benefin, bensulide, acifluorefen, 2,4-D, 2,4-DP, mecoprop, and dicamba (NPS 2000e).

Table 9 provides a recent summary of the number of acres of lawns estimated to be treated with pesticide in counties in or near the park (NPS 2000e):

**Table 9: Number of Acres of Lawns Estimated to Be Treated with Pesticides in the Vicinity of the Park**

County	Acres Treated
Cobb	20,300
Forsyth	2,620
Fulton	30,900
Gwinnett	6,080
Total	~ 60,000 (90 square miles)

Source: NPS 2000e

Approximately 80 percent of these areas are treated by homeowners. The remaining areas are treated by lawn-care companies.

Insecticides are used to control animal pests on golf courses, lawns, and gardens and in buildings. Organophosphate pesticides such as diazinon and chlorpyrifos have largely replaced organochlorine insecticides because the latter have been shown to accumulate in the food chain (NPS 2000e).

Because pesticides are applied at different stages of a plant's life cycle, pesticides appear in nonpoint runoff at different times of the year. Some are highest in the spring, whereas others are highest in December and February, depending on their use patterns (NPS 2000e).

The United States Geological Survey conducted a study of pesticides in several tributary streams in the park (NPS 2000e). The following is a summary of this information:

**Sope Creek:** Herbicides and pesticides were usually below the drinking water standard. Maximum concentrations of most insecticides tested and median concentrations of chlorpyrifos and diazinon exceeded guidelines for protection of aquatic life. Diazinon (used on turfs and ornamental plants) exceeded the aquatic guideline half the time.

**Big Creek:** Trace levels of seven herbicides and three insecticides were recorded within the park in Big Creek in 1994- 1995. None of the three pesticides exceeded the guidelines for drinking water. Levels of pesticides approached or exceeded some existing guidelines for protection of aquatic life, however.

**Suwanee Creek:** Five herbicides and two insecticides were detected in two samples collected in May and July 1995. Diazinon levels were above the guideline required to protect aquatic life. Several turf herbicides were also detected.

Pesticides were detected in over half of the well and spring samples collected within the park in a United States Geological Survey study conducted in 1994- 1995 (NPS 2000e). This study assessed three tributaries in the park and Atlanta area tributaries of the Chattahoochee River outside the park. Dieldrin, a termiticide and agricultural pesticide that is no longer on the market, was the most common pesticide detected in groundwater, occurring in 30 percent of the wells and 47 percent of the springs. Tetrachloroethene, used in dry cleaning operations, was found in one well and one spring. Radon exceeded the U.S. Environmental Protection Agency standard of 300 picocuries/liter in 87 percent of the groundwater samples.



**Accumulation of Chemicals in Fish:** Sampling of fish in the Chattahoochee River was conducted in 1995 by the Georgia Environmental Protection Division for 43 parameters, including pesticides, herbicides, polychlorinated biphenyls, and organic substances. Of the 43 parameters, levels of mercury, polychlorinated biphenyls, and chlordane above those recommended by the U.S. Environmental Protection Agency and State of Georgia for fish consumption have been measured in fish from some locations within the park (NPS 2000e).

The Environmental Protection Division recommended a set of fish consumption guidelines specifically for mercury, polychlorinated biphenyls, and chlordane in the Chattahoochee River from Buford Dam to Morgan Falls Dam, and a separate set of recommendations for the river below Morgan Falls Dam (NPS 2000e). These guidelines are revised annually based on ongoing sampling results. In the park, the U.S. Environmental Protection Agency has made special reference to polychlorinated biphenyls because of the potential for carcinogenic and other types of health effects, recommending a level of not more than 100 parts per billion in fish and stating that the need for a health advisory is “clear, particularly for children and pregnant and nursing mothers” (NPS 2000e). The agency has recommended further research and testing of sport and native fish and sediments, and investigations of landfills as possible sources of polychlorinated biphenyls.

**Sand and Gravel Mining:** Approximately 8 percent of the area within the park is subject to sand and gravel mining. The majority of this activity occurs in the vicinity of McGinnis Ferry Road, Abbotts Bridge, and Island Ford area. Most of the mined material is used for road construction in the Atlanta area. Because dredging is normally associated with adverse impacts on benthic invertebrates, fish, and water quality, the National Park Service conducted field studies to estimate the nature of the potential effects of sand mining on the Chattahoochee River (NPS 2000e). These studies have concluded that:

Abundance and diversity of fish increased at the majority of dredged sites, possibly due to increased habitat diversity and availability created by the dredging;

Higher numbers of trout in some areas (Rogers Bridge) may have been misrepresented because dredging occurred in areas stocked regularly by the state;

Removal of sand is generally beneficial to aquatic life, but removal of gravel and debris is detrimental to aquatic life, because these materials provide habitat for aquatic invertebrates;

Dredging causes temporary localized increases in turbidity; and

Dredging results in deeper, wider channels with different fish assemblages, primarily related to slower current velocities.

The study recommended that dredging be limited to sand and that it not allow removal of trees, gravel, or cobble, which are beneficial to fish and invertebrates. This approach would mitigate the heavy sediment loads and erosion associated with surface water runoff resulting from other activities. The net effect of dredging in this instance, therefore, is to partially restore natural conditions by removing the unnaturally high amounts of sediment from the river bottom.

Sand and gravel mining in the park is regulated by the United States Corps of Engineers under Section 404 of the Clean Water Act; the Metropolitan River Protection Act allows sand and gravel mining as long as the operations do not disturb the riverbank. The National Park Service issues a special use permit for these operations. The permitting process is under review by the National Park Service to determine if alternative approaches may be more suitable. The National Park Service also has the authority to place conditions on 404 permits issued by the Corps of Engineers and can veto these permits if a project appears to be inappropriate. This allows the National Park Service to control aspects of mining operations that might adversely impact water quality and aquatic life in the park (NPS 2000e).

### **Aquatic Resources**

Aquatic resources in the Chattahoochee River include fish, benthic invertebrates, aquatic plants, and planktonic organisms (phytoplankton and zooplankton). Within the park, the characteristics



of aquatic populations are greatly affected by the patterns of releases of cold water from Lake Lanier and by the introduction of suspended sediment from nonpoint runoff during storms. Releasing the water in surges leads to scouring of the bottom, increased and variable current velocities, increased erosion and sedimentation of benthic habitats, vertical riverbank erosion, widening of the river channel, and changing floodplain dimensions.

Cold water and sedimentation, coupled with the surge pattern of releases, have had major effects on the abundance, diversity, and production of aquatic life in the river. Stocking of non-native species has also affected native aquatic life. Despite these influences, a variety of aquatic organisms exist in the river. For example, the Georgia RiverCare 2000 Assessment assigned an “outstanding” rating to the commercial and recreational fish resources of the Chattahoochee River between Lake Lanier and Peachtree Creek (Miller et al. 1998). A literature review conducted by the National Park Service (NPS 2000e) as well as interviews with local specialists show key characteristics of aquatic life in the river:

As a result of stream capture processes over geological time, the Chattahoochee River basin is a faunal break (i.e., sharp change in assemblage structure) for many species.

Sampling in the southern portion of the park conducted by Mauldin and McCollum (NPS 2000e) showed that bluegills, carp, and white suckers were the dominant fish. These species flourish in disturbed habitats characterized by high levels of turbidity, lower dissolved oxygen levels, and eutrophication.

The specific effects of regulated flow on fish abundance, distribution, and diversity has been studied extensively by various investigators (NPS 2000e). These studies have concluded that frequent and high flow variability has led to low habitat diversity and, subsequently, to lower fish population diversity. Shallow, slow shoreline habitats, which have been found to be the prime habitat for most fish species, are greatly reduced under these conditions. These conditions are typical of the Chattahoochee River within the park, due to the pattern of releases from Lake Lanier.

Recently, 39 species of fish have been recorded in the tributaries and main channel of the Chattahoochee River within the park (NPS 2000e). Data collected in the pre-urbanization, “unimpaired” period identified a total of 42 native and eight nonnative species of fish from the tributary waters of the Chattahoochee River in the Atlanta area (NPS 2000e). Hess et al. in 1981 collected 27 fish species in eight tributaries within the park (NPS 2000e), including a rare population of shoal bass. More recent studies by Couch et al. (NPS 2000e) and DeVivo (NPS 2000e) documented 25 fish species in three tributaries of the park (Sope, Rottenwood and Willeo Creek). Sunfish were the most common species, followed by combinations of minnows, suckers, and darters. Combining all three studies, a total of 35 fish species have been recorded in the tributaries of the park. This is less than the ideal number of 50 species that Couch et al. (NPS 2000e) indicated could potentially occur in the area based on Karr’s index of biotic integrity (NPS 2000e). The park has experienced an apparent loss of approximately 15 species in comparison with ideal conditions (NPS 2000e). Lists of fish collected from the park are published in the water resources management plan (NPS 2000e).

The cold water regime produced by releases from Lake Lanier has made it possible to maintain stocked trout fisheries within the park. The Georgia Department of Natural Resources Fish and Game Division operates this program, releasing approximately 100,000 brown trout and 150,000 rainbow trout to the river each year (NPS 2000e). Brook, brown, and rainbow trout have been continually stocked since 1957 (NPS 2000e). From Buford Dam to Roswell Road, the fishery is managed as a year-round put-and-take fishery by stocking 9-inch brown and rainbow trout (NPS 2000e). The area between Morgan Falls and Peachtree Creek is managed as a “put-grow-and-take” fishery by annually stocking 3-inch brown and 6-inch rainbow trout. No viable warm water fishery is maintained in the park because of the low water temperatures (NPS 2000e).



Natural reproduction of brown trout has been observed recently on gravel bars below Buford Dam and in the upper parts of the river (Scalley 2001). This finding may affect the way the river is managed by the National Park Service and Georgia Department of Natural Resources, as the river could be reclassified as a primary trout fishery.

The river below Morgan Falls Dam/Bull Sluice Lake is affected by warm water episodes, in which the temperature is greater than 23 degrees Celsius. These conditions typically occur after storm events. Above these temperatures, detrimental effects typically occur to trout fisheries (NPS 2000e).

Because of ambiguously worded regulations regarding temperature requirements in trout streams, secondary standards for trout waters could result in the elevation of the temperature of the river in the park above the critical 23 degree Celsius level. This ambiguity is related to whether the standard is applied to the whole stream or to each individually permitted discharge.

The river within the park is a valuable and heavily-used natural resource within the Atlanta area. Fishing pressure has increased significantly over the past 20 years.

Trout feeding habits vary with location in the river. Very large trout occur immediately beneath Buford dam, as these fish feed heavily on threadfin shad and yellow perch that are released from the lake between December and April. High mortality of shad and perch in the lake due to cold winter temperatures produces a large food supply for these trout immediately beneath the dam (Scalley 2001). In areas farther downstream, trout feed on benthic macroinvertebrates during the same time of year. From June through August, trout in the river prefer to feed on terrestrial invertebrates. The shift to benthic invertebrates occurs in September.

Trout feeding habits in the park are not like those in a free-running river. In a naturally flowing river, sources of food, especially benthic invertebrates, largely originate from within the river. Lower water temperatures, high levels of turbidity and sediment depos-

its, shifting sand substrates, changing water levels, and changing water velocities make benthic invertebrates relatively unavailable as food for trout in the park for large parts of the year (NPS 2000e).

Physical Habitat Simulation (PHABISM) studies by Nestler et al. (NPS 2000e) concluded that the preferences of trout of all life stages for combinations of depth, velocity, and cover were all very similar within the park. In general, trout habitat below Buford Dam varies between optimum and near-optimum at lower flows (550- 1050 cubic feet per second) to a minimum value at higher discharges (approaching 10,000 cubic feet per second). Fish habitat is optimal much of the day for several hours under typical conditions (NPS 2000e).

The last published survey of benthic invertebrates in the mainstem of the park was conducted in 1971 by the Georgia Water Quality Control Board. This study assessed populations in five mainstem and four tributary (Suwanee, Crooked, Big and Sope Creeks) sites within the park using habitat sampling and basket sampling techniques (NPS 2000e). The study showed that some areas were nearly devoid of any benthic invertebrates. Comparison with areas on the river upstream of Lake Lanier and with data from the tributaries suggested that this was caused by the releases of "nutrient deficient cold water" from Lake Lanier (NPS 2000e). An ongoing study of benthic invertebrate populations and water quality sampling is being conducted (Scalley 2001).

Numerous older studies of benthic invertebrates in the tributaries of the park include studies by Environmental Protection Division (EPD 1966, 1973), the Georgia Water Control Board (NPS 2000e), and the Georgia Game and Fish Division (Hess et al. 1981). Several watershed assessments recently completed within the tributaries of the park include benthic invertebrate surveys, including a study of North Fulton County covering Johns Creek and Cauley Creek (Parsons 2001) and a study of Gwinnett County covering Crooked, Level, Richland and Suwanee Creeks (CH2M Hill 1998). These more recent studies show



that sedimentation and scouring from storm events have reduced the density and diversity of benthic populations in the majority of mainstream Piedmont streams sampled.

Many amphibians (frogs, salamanders) and reptiles (snakes, turtles) occur within the Chattahoochee River and its tributaries. Some species are locally very abundant in springs, seeps, and other terrestrial/water interfaces such as backwater pools, sloughs, and the mouths of tributary streams where they enter the mainstem of the river (NPS 2000e).

Two state-listed species of fish, the highscale shiner and the bluestripe shiner, occur in tributaries of the Chattahoochee River within the park (NPS 2000e). Recent surveys of a limited number of tributaries to the Chattahoochee River did not collect the bluestripe shiner (NPS 2000e). Other rare fish that have been collected from the park in the past include the grayfin redhorse and greater jumprock. No federally-listed species of aquatic organisms occur in the river. Two state-listed species of mussels, the sculptured pigtoe and the shinyrayed pocketbook, occur in the river mainstem (Georgia Natural Heritage Program 2001).

The Asian rice eel, an exotic non-native species, has been reported in the Chattahoochee River, apparently the result of an aquarium release (NPS 2000e). This presence of an eel-like fish was first noticed in 1991 in the ponds of the Chattahoochee River Nature Center.

Subsequent assessments in 1996 have concluded that the eel may have eliminated native sunfish populations in the ponds (NPS 2000e). The potential expansion of the range of this species is currently being assessed in a study by the University of Georgia, funded by the National Park Service. Another nuisance species that exists in the park includes the swamp eel, which is tolerant of low oxygen conditions. The red shiner, an opportunistic species native to areas west of the Mississippi River, also occurs in the park, first recorded in 1978 (NPS 2000e). It has become a dominant or co-dominant fish species in the river, and has replaced many of the native species in tributary streams of the park (NPS 2000e).

Various recent estimates of the biological integrity of tributaries within the park have been made using the Karr index of biological integrity (NPS 2000e). Biological integrity is defined as the “capacity to support and maintain a balanced, integrated, and adaptive biological system having the full range of elements (e.g., populations, species, assemblages) and processes (e.g., biotic interactions, energy dynamics, biogeochemical cycles) expected in a region’s natural habitat” (NPS 2000e). The index employs a set of 12 “metrics” to calculate a number that corresponds to a relative scale of water quality. The metrics represent differing sensitivities across a range of biotic integrity (NPS 2000e). Index scores for several streams within the park area are shown in Table 10.

Table 10: Index of Biological Integrity Scores for Tributary Streams in the Park

Site	Human Population per Square Kilometer	United States Geological Survey Gauge Number	Average Index of Biological Integrity	Note
Big Creek at Hwy 29	96	02335580	26 – Fair	Urbanizing
Suwanee Creek	151	02334865	28 – Fair	Urbanizing
Big Creek at Roswell	218	02335760	20 – Poor	Urbanizing



**Table 10: Index of Biological Integrity Scores for Tributary Streams in the Park (Continued)**

Site	Human Population per Square Kilometer	United States Geological Survey Gauge Number	Average Index of Biological Integrity	Note
Suwanee Creek at Woodward Mill Road	254	02334740	30 – Fair/Good	Urbanizing
Willeo Creek	605	02335790	22- 28 – Fair	Urban
Sope Creek	800	02335870	28- 30 – Fair	Urban
Rottenwood Creek	1,050	02335910	12 - 16 – Very Poor	Urban

40 indicates a perfect index score (cleanest); zero would indicate a totally disrupted ecosystem (NPS 2000c)  
 Source: NPS 2000e

Numerous other studies in which index of biological integrity scores have been measured within the park have been conducted as part of watershed assessments in Cobb, Gwinnett, Fulton and Forsyth Counties (e.g., Parsons 2001; NPS 2000e). In addition, the State of Georgia has developed a set of biological monitoring tools to evaluate and manage surface water quality (NPS 2000e). These tools include monitoring benthic macroinvertebrates and fish using the U.S. Environmental Protection Agency’s Rapid Bio-assessment Protocol (Plafkin et al. 1989) and the Georgia Environmental Protection Division protocol (NPS 2000e).

Modifications of these protocols have been used to evaluate streams in the Atlanta area (Parsons 2001; CH2M Hill (1998). Cross comparison and evaluation of the results indicate that nonpoint runoff, sedimentation, and modification of current regimes and available benthic habitat in areas streams have combined to produce relatively low-diversity and low- quality populations of fish and benthic invertebrates compared to reference sites. Some assessments have also indicated potential impacts of specific discharges such as metals. Also, the differences in scores represent responses to different environmental stressors, as fish respond differently

from benthic invertebrates to the same stressor.

### Wetlands and Floodplains

Wetlands and floodplains are included as an impact topic based on the criteria presented in “Impact Topics – Resources and Values at Stake in the Planning Process” in the “Alternatives” section. The specific concerns related to this impact topic are discussed in the “Environmental Consequences” section.

The Clean Water Act of 1977 and Executive Orders 11990 and 11988 identify wetlands and floodplains as national natural assets. These orders direct federal agencies to avoid the occupation, adverse modification, or degradation of wetlands and floodplains.

Approximately 152 acres comprising 39 different types of wetlands are found throughout the park (United States Fish and Wildlife Service 2001). National Wetland Inventory maps delineating these areas are available at the park headquarters. Table 11 provides a summary of the number of acres and relative percentages of each major wetland type that occur in the park.



**Table 11: Summary of Acreages and Percentages of Each National Wetland Inventory Wetland Type That Occurs in the Park**

National Wetland Inventory Type	Acres of Each National Wetland Inventory Type	Percent of Total Acres
Palustrine Forested	21.5	14.2 percent
Palustrine Scrub/Shrub	10.3	6.8 percent
Palustrine Unconsolidated Bottom or Shore	7.8	5.2 percent
Palustrine Emergent	6.2	4.1 percent
Lacustrine	33.4	22.0 percent
Riverine	72.7	47.9 percent
Total:	151.9	100.0 percent

Source: United States Fish and Wildlife Service 2001

Although not commonly perceived by the public as a “typical wetland,” riverine wetlands are included in the National Wetland Inventory system. As stated by the United States Fish and Wildlife Service, “The Riverine System includes all wetlands and deepwater habitats contained in natural or artificial channels periodically or continuously containing flowing water or which forms a connecting link between the two bodies of standing water. Upland islands or Palustrine wetlands may occur in the channel, but they are not part of the Riverine System” (U.S. Fish and Wildlife Service 2001). Riverine wetlands provide valuable aquatic habitats for fish and invertebrates and are a source of primary production (aquatic vascular plants). They account for 47.9 percent (72.7 acres) of National Wetland Inventory wetlands in the park.

Lacustrine wetlands (non- flowing open water areas partially occupied by wetland vegetation) make up 22 percent (33.4 acres) of the wetlands within the park. Lacustrine wetlands are defined as “wetlands and deepwater habitats with all of the following characteristics: (1) situated in a topographic depression or a dammed river channel; (2) lacking trees, shrubs, persistent emergents, emergent mosses or lichens with greater than 30 percent areal coverage, and (3) total area exceeds 20 acres.” These areas include unconsolidated bottoms and areas populated by beds of rooted aquatic vegetation. Examples include the wetlands fringing the small pond in the Sope Creek area and the beaver pond in Cochran Shoals next to the running trail. These wetlands provide valuable wildlife habitat,

help control flooding, mitigate pollutants from nonpoint surface runoff, and have high rates of primary production.

Palustrine forested wetlands make up approximately 14.2 percent (21.5 acres) of the total acreage of wetlands in the park. These wetlands are dominated by mature hardwood trees that inhabit the floodplains of the Chattahoochee River, tributary streams, and associated sloughs. These areas experience variable degrees of flooding, but are flooded frequently enough to qualify as wetlands. Typical forested wetlands occur in floodplain areas at Bowmans Island, Island Ford, and Palisades. These wetlands provide important habitat for wildlife, protect the water quality of the river by stabilizing the stream and river banks, help control flooding, and produce plant material that helps support the adjacent aquatic ecosystem.

The remaining wetlands in the park include palustrine unconsolidated bottom or shore (5.2 percent; 7.8 acres), palustrine emergent (4.1 percent; 6.2 acres), and palustrine scrub/shrub (6.8 percent; 10.3 acres). Numerous emergent and scrub/shrub wetlands occur throughout the park, generally associated with beaver pond complexes. For example, an extensive wetland complex associated with a large beaver pond at the southern end of the Cochran Shoals area includes palustrine emergent, lacustrine, and scrub/shrub wetland on the floodplain next to the river. A series of elevated boardwalk trails provides visitors an opportunity to observe these wetlands. These habitats provide excellent



habitat for wildlife and are known to be excellent birding areas. In addition, they help control flooding, remove pollutants present in surface water runoff, recharge groundwater, and have high rates of primary production.

Wetlands serve a variety of important habitat, hydrologic, and water quality functions. They act as natural water purifiers, filtering sediment and absorbing pollutants in surface waters. Vegetation provides erosion control and helps prevent the downstream movement of sediment. Wetlands help maintain flow regimes and provide flood control by storing excess water during rain events, reducing downstream flood damage. They also provide unique habitat for many fish, wildlife, and plant species, including many threatened and endangered species. Wetlands in the park also offer recreational opportunities (NPS 1998c).

Wetlands in some areas of the park have been partially drained due to past practices. The hydrology in these areas could be restored by plugging ditches or making other hydrological modifications. This would improve the functions and values of these wetlands significantly. Wetlands in the park are provided the special protection and conservation inherent in the NPS mission. The National Park Service is required to play an active role in wetlands management, restoration, and public awareness (NPS 1998c).

One study concluded that the actual extent of wetlands in the park was probably larger than that depicted in the United States Fish and Wildlife Service National Wetland Inventory maps. In addition, some wetlands were not mapped by the National Wetland Inventory program. The study concluded that a detailed mapping of wetlands in the park should be conducted to provide a more accurate inventory (Garrow & Associates 1990).

Floodplains and associated wetlands play a critical role in maintaining riverine systems by providing flood and erosion control, maintaining water quality, and providing important wildlife habitat. Due to the basic geologic characteristics of the area, the floodplains along the Chattahoochee River and its tributaries are relatively narrow, reducing the margin of flood protection. The frequency and height of floodplain overflows have increased in the park

as a result of urbanization and associated increases in impervious surfaces in the watershed.

Despite these limitations, the Georgia RiverCare 2000 assessment assigned a “significant” rating to the floodplain of the Chattahoochee River within the park (Miller et al. 1998). This rating is largely based on the extent of wetlands within each floodplain and the implied ability of wetlands to control flooding and protect water quality. A floodplain area containing from 0.5 to 2 percent wetlands was assigned a “significant” rating. This rating applies only to the mainstem of the Chattahoochee River and does not take into account floodplain values of the numerous tributaries present within the park, which provide additional values.

The Federal Emergency Management Agency delineated floodplains in the park in 1998; the resulting maps are available at the park headquarters. The water resources management plan (NPS 2000e) provides maps of the individual park units, comparing the 100-year floodplain lines from this delineation to existing park unit boundaries. The Corps of Engineers has also prepared reports that provide maps and information for the 100-year floodplain in the park along the Chattahoochee River and Rottenwood Creek (1973, 1974).

### **Rare, Threatened, or Endangered Species**

Rare, threatened, or endangered species are included as an impact topic based on the criteria presented in “Impact Topics – Resources and Values at Stake in the Planning Process” in the “Alternatives” section. The specific concerns related to this impact topic are discussed in the “Environmental Consequences” section.

The National Park Service is required under the Endangered Species Act to ensure that federally listed species and their habitats are protected on lands within the agency’s jurisdiction. In addition, park policy and management actions include maintaining state- and heritage program- listed species as part of the park’s natural heritage.

The Chattahoochee River Corridor, including the park, is a biologically significant resource that harbors a variety of protected and rare species of plants and animals (Wharton 1978; Miller et al. 1998). In general, the rich variety of plant and ani-



mal species in the park is caused by the overlapping of ranges of Coastal Plain and Appalachian species along a linear gradient within the Piedmont province. This, combined with the high degree of physical habitat diversity, including variable types of soils and rock formations, bluffs, slopes, and floodplains along the river, has led to the high overall species diversity present within the park.

As a result, the Georgia RiverCare 2000 River Assessment assigned the park an “outstanding” botanical rating for the Level Creek area and a “significant” rating for the portion of the park above Level Creek. An outstanding rating indicates an area has “at least one listed species or three special concern plants; at least one high quality natural community (intact and recoverable) with little disturbance, some logging, or some grazing); high diversity; and moderate richness” (Miller et al. 1998). A “significant” rating requires that a “segment contain at least one special- concern plant; at least one moderate- quality significant natural community (considerable disturbance, but intact and recoverable); only moderate diversity; and low to moderate richness” (Miller et al. 1998).

The U.S. Fish and Wildlife Service and the Natural Heritage Program of the Georgia Department of Natural Resources, Wildlife Resources Division were contacted to obtain information concerning the potential or actual occurrence of protected and rare species within the park and the surrounding area. The Georgia Department of Natural Resources identified 11 species of plants and animals known to exist within the park or within ½ mile of the park (see Table 12). Seven of the species are plants that are imperiled in the state because of rarity (S2). The remaining species include one plant and one mollusk that are critically impaired in the state because of extreme rarity (S1), one mollusk imperiled because of rarity (S2), and one mollusk rare or uncommon in the state (S3).

The Georgia Department of Natural Resources, Wildlife Resources Division also provided a much larger list of protected plants and animals that occur or could occur in the four- county region surrounding the park. Appendix F provides a list of these species, based on correspondence with the Georgia Department of Natural Resources, Wildlife Resources Division. Many or most of these species could occur in the park, although detailed,

site- specific surveys would be required to confirm their existence. These surveys would be conducted as part of site- specific environmental assessments conducted by the National Park Service in conjunction with proposed actions such as construction of roads, parking areas, trails, or buildings. These environmental assessments would be tiered to this general management plan and environmental impact statement as projects are developed by the National Park Service.

The U.S. Fish and Wildlife Service also provided lists of species that occur or could occur in the four- county area surrounding the park (Table 13; Appendix F;). As shown in Table 13, nine federally- listed animal species and seven federally- listed plant species were identified as actually or potentially occurring in the four- county area surrounding the park. This list includes federally- listed threatened and endangered species as well as those listed as Species of Management Concern by the U.S. Fish and Wildlife Service.

### Terrestrial Ecological Resources

The park lies within the Piedmont physiographic province. The park harbors a wide variety of terrestrial habitat types, including old fields, ravines, floodplains, hills, and cliffs. The park is aligned along a northeast/southwest gradient where a variety of coastal plain and Appalachian species overlap within the Piedmont province. As a result, the park harbors over 850 species of vascular plants, representing one of the most diverse floras in the country (Heiman 2000). Some stands of vegetation are similar in composition to the original pre-Columbian vegetation (NPS 1989). These include, for example, “near- original” growths of very large oaks (bluff forest habitat) in steep areas within the Palisades area of the park. These areas were too steep and escaped logging in the early 1900s (Wharton 1978).

One of the primary natural features of the park is the interaction of the river with the associated floodplains and terrestrial habitats. These features combine to make a linear corridor of habitats arranged in a mosaic of natural beauty and high ecological value. Because many of the terrestrial habitats are relatively mature, second growth forests, they greatly augment the natural values of the park. The Palisades area includes unusual cliffs that were



**Table 12: Georgia Natural Heritage Program Protected Species Known to Occur within the Park or within ½ Mile of the Park**

Common Name	Scientific Name	Global Rank, State Rank, Federal Status, and State Status <sup>1</sup>	Preferred Habitat
<b>Plants</b>			
Alexander Rock Aster	<i>Aster avitus</i>	G3, S3, ---, ---	Granite outcrops in seepy margins with <i>Solidago gracillima</i> and <i>Spiranthes cernua</i>
American Ginseng	<i>Panax quinquefolius</i>	G3G4, S3, ---, ---	Mesic hardwood forests, cove hardwood forests
Bay Starvine	<i>Schizandra glabra</i>	G3, S2, —, T	Rich woods on stream terraces and lower slopes
Black- spored Quillwort	<i>Isoetes melanospora</i>	G1, L1, LE, E	Vernal pools on granite outcrops
Broadleaf Bunchflower	<i>Melanthium latifolium</i>	G5, S2?, —, —	Mesic deciduous hardwood forests
Crested Wood Fern	<i>Dryopteris cristata</i>	G5, SE1?, ---, ---	Swamps
Dwarf Pipewort	<i>Eriocaulon koernickianum</i>	G2, S1, ---, ---	Granite outcrops
Dwarf Sumac	<i>Rhus michauxii</i>	G2, S1, LE, E	Open forests over ultramafic rock
Flatrock Fimbry	<i>Fimbristylis brevivaginata</i>	G2, S3, ---, ---	Granite outcrops
Goldenseal	<i>Hydrastis canadensis</i>	G4, S2, —, E	Rich woods in circumneutral soil
Georgia Aster	<i>Aster georgianus</i>	G2G3, S2, C, —	Upland oak- hickory- pine forests and openings; sometimes with <i>Echinacea laevigata</i> (smooth purple cone-flower) or over amphibolite
Granite Stonecrop	<i>Sedum pusillum</i>	G3, S3, ---, T	Granite outcrops, often in mats of Hedwigia moss under <i>Juniperus virginiana</i>



Table 12 (cont.): Georgia Natural Heritage Program Protected Species Known to Occur within the Park or within ½ Mile of the Park

Common Name	Scientific Name	Global Rank, State Rank, Federal Status, and State Status <sup>1</sup>	Preferred Habitat
<b>Plants (Cont.)</b>			
Indian Olive	<i>Nestronia umbellula</i>	G <sub>4</sub> , S <sub>2</sub> , —, T	Mixed with dwarf shrubby heaths in oak- hickory- pine woods; often in transition areas between flatwoods and uplands
Harper Heartleaf	<i>Hexastylis shuttleworthii</i> var. <i>harperi</i>	G <sub>4</sub> T <sub>3</sub> , S <sub>2</sub> S <sub>3</sub> , ---, U	Lower terraces in floodplain forests, edges of bogs
Large- flowered Yellow Lady Slipper	<i>Cypripedium parviflorum</i> var. <i>pubescens</i>	G <sub>5</sub> T <sub>5</sub> , S <sub>3</sub> , ---, U	Upland oak- hickory- pine forests, mixed hardwood forests
Log Fern	<i>Dryopteris celsa</i>	G <sub>4</sub> , S <sub>2</sub> , ---, ---	Floodplain forests, lower slopes of rocky woods
Louisiana Blue Star	<i>Amsonia ludoviciana</i>	G <sub>3</sub> , S <sub>2</sub> , ---, ---	Open woods near granite outcrops (limited to Lithonia Gneiss types)
Ohio Buckeye	<i>Aesculus glabra</i>	G <sub>5</sub> , S <sub>2</sub> , ---, ---	Mesic forests in circumneutral soil
Ozark Bunchflower	<i>Melanthium woodii</i>	G <sub>5</sub> , S <sub>2</sub> , —, R	Mesic hardwood forests over basic soils
Missouri Rockcress	<i>Arabis missouriensis</i>	G <sub>5</sub> , S <sub>2</sub> , ---, ---	Granite and amphibolite outcrops
Monkey- faced Orchid	<i>Platanthera integrilabia</i>	G <sub>2</sub> G <sub>3</sub> , S <sub>1</sub> S <sub>2</sub> , C, T	Red maple- gum swamps, peaty seeps, and stream banks with <i>Parnassia asarifolia</i> and <i>Oxypolis rigidior</i>
Mountain Witch- alder	<i>Fothergilla major</i>	G <sub>3</sub> , S <sub>1</sub> , —, —	Rocky (sandstone, granite) woods; bouldery stream margins
Northern Prickly- ash	<i>Zanthoxylum americanum</i>	G <sub>5</sub> , S <sub>1</sub> ?, ---, ---	Rocky, openly wooded slopes, river banks and terraces



Table 12 (cont.): Georgia Natural Heritage Program Protected Species Known to Occur within the Park or within ½ Mile of the Park

Common Name	Scientific Name	Global Rank, State Rank, Federal Status, and State Status <sup>1</sup>	Preferred Habitat
<b>Plants (Cont.)</b>			
Open- ground Whitlow-grass	<i>Draba aprica</i>	G3, S1S2, - - - , E	Granite and amphibolite outcrops, usually in red cedar litter
Piedmont Barren Strawberry	<i>Waldsteinia lobata</i>	G2, S2, —, T	Stream terraces and adjacent gneiss outcrops; rocky, acidic woods along streams with mountain laurel ( <i>Kalmia latifolia</i> ); rarely in drier, upland oak- hickory- pine woods
Pink Ladyslipper	<i>Cypripedium acaule</i>	G5, S4, - - - , U	Upland oak- hickory- pine forests, piney woods
Pool Sprite	<i>Amphianthus pusillus</i>	G2, S2, LT, T	Vernal pools on granite outcrops
Schwerin Indigo- bush	<i>Amorpha schwerinii</i>	G3G4, S2, - - - , - - -	Rocky upland woods
Shining Indigo- bush	<i>Amorpha nitens</i>	G3?, S1?, - - - , - - -	Rocky, wooded slopes, alluvial woods
Silky Bindweed	<i>Calystegia catesbeiana</i> <i>ssp. sericata</i>	G2T3T2Q, S3S2, - - - , - - -	Openings in montane oak- pine forests
Southern Twayblade	<i>Listera australis</i>	G4, S2, - - - , - - -	Poorly drained circumneutral soils
Stone Mountain Mint	<i>Pycnanthemum curvipes</i>	G3, S2, - - - , - - -	Rocky, upland oak- hickory forests
<b>Animals</b>			
Amber Darter	<i>Percina antesella</i>	G1G2, S1, LE, E	Riffles and runs of medium- sized rivers
Bachman’s Sparrow	<i>Aimophila aestivalis</i>	G3, S3, - - , R	Old fields, open pine or oak woods, and brushy areas
Bluestripe Shiner	<i>Cyprinella callitaenia</i>	G2G3, S2, - - , T	Flowing areas in large creeks and medium- sized rivers over rocky substrates
Bronze Darter	<i>Percina palmaris</i>	G4, S2, - - - , - - -	Moderate to swift riffles over rocky substrates in streams and rivers



Table 12 (cont.): Georgia Natural Heritage Program Protected Species Known to Occur within the Park or within ½ Mile of the Park

Common Name	Scientific Name	Global Rank, State Rank, Federal Status, and State Status <sup>1</sup>	Preferred Habitat
Brother Spike (Mussel)	<i>Elliptio fraterna</i>	G1, S1, —, —	Sandy substrates of river channels with swift current
Bullhead Minnow	<i>Pimephale savigilax</i>	G5, S3, - - -, - - -	Sluggish medium to large rivers over silty sand substrates
Cherokee Darter	<i>Etheostoma scotti</i>	G2, S2, LT, T	Small to medium creeks with moderate current and rocky substrates
<b>Animals (Cont.)</b>			
Delicate Spike	<i>Elliptio arcata</i>	G3G4, S3, - - -, - - -	Large rivers and creeks with some current in sand and sand and limestone rock substrates
Four- toed Salamander	<i>Hemidactylium scutatum</i>	G5, S3, - - -, - - -	Swamps, boggy streams and ponds, wet woods
Gulf Moccasinshell	<i>Medionidus penicillatus</i>	G1, S2, LE, E	Sandy/rocky medium- sized rivers and creeks
Highscale Shiner	<i>Notropis hypsilepis</i>	G3, S3, - - , T	Flowing areas of large to small streams over sand or bedrock substrates
Northern Pine Snake	<i>Pituophis melanoleucus melanoleucus</i>	G4T4, S2, - - -, - - -	Dry pine or pine- hardwood forests
Peregrine Falcon	<i>Falco peregrinus</i>	G4, S1, PS:LE, E	Rocky cliffs and ledges, seacoasts
Shiny- rayed Pocketbook (Mussel)	<i>Lampsillis subangulata</i>	G2, S2, LE, E	Sandy/rocky medium- sized rivers & creeks
Silverstripe Shiner	<i>Notropis stilbius</i>	G4, S3, - - -, - - -	Medium- sized streams and rivers in flowing pools over sandy to rocky substrates
Southern Brook Lamprey	<i>Ichthyomyzon gagei</i>	G5, S3, - - -, - - -	Creeks to small rivers with sand or sand and gravel substrates
Sculptured Pigtoe (Mussel)	<i>Quincuncina infucata</i>	G4, S3, - - -, - - -	Main channels of rivers and large streams with moderate current in sand and limestone rock substrates



**Table 12 (cont.): Georgia Natural Heritage Program Protected Species Known to Occur within the Park or within ½ Mile of the Park**

Common Name	Scientific Name	Global Rank, State Rank, Federal Status, and State Status <sup>1</sup>	Preferred Habitat
<b>Animals (Cont.)</b>			
Webster's Salamander	<i>Plethodon websteri</i>	G3, S1, ---, ---	Moist forests near rocky streams
<p>Source: Georgia Natural Heritage Program, Georgia Department of Natural Resources, Wildlife Protection Division 2001</p> <p><sup>1</sup> Listed in order left to right by state global rank, state rank, federal status, and state status. Line ( - - - ) indicates no status has been assigned to that species. The following is an explanation of these rankings:</p> <p>STATE [GLOBAL] RANK</p> <p>S1[G1] Critically imperiled in state [globally] because of extreme rarity (5 or fewer occurrences).</p> <p>S2[G2] Imperiled in state [globally] because of rarity (6 to 20 occurrences).</p> <p>S3[G3] Rare or uncommon in state [rare and local throughout range or in a special habitat or narrowly endemic] (on the order of 21 to 100 occurrences).</p> <p>S4[G4] Apparently secure in state [globally] (of no immediate conservation concern).</p> <p>S5[G5] Demonstrably secure in state [globally].</p> <p>? Denotes questionable rank; best guess given whenever possible (e.g. S3?).</p> <p>FEDERAL STATUS (U.S. Fish and Wildlife Service)</p> <p>LE Listed as endangered. The most critically imperiled species. A species that may become extinct or disappear from a significant part of its range if not immediately protected.</p> <p>STATE STATUS</p> <p>E Listed as endangered. A species that is in danger of extinction throughout all or part of its range</p> <p>T Listed as threatened. A species that is likely to become an endangered species in the foreseeable future throughout all or parts of its range.</p> <p>R Listed as rare. A species that may not be endangered or threatened but that should be protected because of its scarcity.</p>			



**Table 13: United States Fish and Wildlife Service Protected Species Known to Occur in the Four- County Area Surrounding the Park or within the Park**

Common Name	Scientific Name	Federal Status	Habitats
<b>Animals</b>			
Bald Eagle	<i>Haliaeetus leucocephalus</i>	T	Inland waterways and estuarine areas in Georgia
Red Cockaded Woodpecker	<i>Picoides borealis</i>	E	Nest in mature pine with low understory vegetation (<1.5meters); forage in pine and pine hardwood stands $\geq$ 30 years of age, preferable > 10 inch diameter at breast height
Cherokee Darter	<i>Etheostoma scotti</i>	T	Shallow water (0.1- 0.5 meters) in small to medium warm water creeks (1- 15 meters wide) with predominantly rocky bottoms; usually in sections with reduced current, typically runs above and below riffles and at ecotones of riffles and backwaters
Gulf Moccasinshell Mussel	<i>Medionidus penicillatus</i>	E	Medium to large rivers with slight or moderate current over sand and gravel substrates; may be associated with muddy and sand substrates around tree roots
Gray Bat	<i>Myotis grisescens</i>	E	Colonies restricted to caves or cave- like habitats; forage primarily over water along rivers or lake shores
Bachman's Sparrow	<i>Aimophila aestivalis</i>	SOMC	Abandoned fields with scattered shrubs, pines or oaks
Bluestripe Shiner	<i>Cyprinella callitaenia</i>	SOMC	Brownwater streams
Northern Pine Snake	<i>Pituophis m. melanoleucus</i>	SOMC	-
Appalachian Bewick's Wren	<i>Thyromanes bewickii altus</i>	SOMC	Dense undergrowth, overgrown fields, thickets and brush in open or semi- open habitat; feed primarily on insects
<b>Plants</b>			
Michaux's Sumac	<i>Rhus michauxii</i>	E	Sandy or rocky open woods, usually on ridges with a disturbance history (periodic fire, prior agricultural use, maintained right- of- ways); the known population of this species in Cobb County has been extirpated(last seen in county in 1900)
Monkey- face	<i>Platanthera integrilabia</i>	SOMC	Red maple- blackgum swamps; also on sandy damp stream margins; or on seepy, rocky, thinly vegetated slopes



**Table 13 (Cont.): United States Fish and Wildlife Service Protected Species Known to Occur in the Four- County Area Surrounding the Park or within the Park**

Common Name	Scientific Name	Federal Status	Habitats
Little Amphianthus	<i>Amphianthus pusillus</i>	T	Shallow pools on granite outcrops, where water collects after a rain. Pools are less than one foot deep and rock rimmed
Black- Spored Quillwort	<i>Isoetes melanospora</i>	E	Shallow pools on granite outcrops, where water collects after a rain; Pools are less than one foot deep and rock rimmed
Flatrock Onion	<i>Allium speculae</i>	SOMC	Seepy edges of vegetation mats on outcrops of granitic rock
Alexander Rock Aster	<i>Aster avitus</i>	SOMC	
Small- headed Pipewort	<i>Eriocaulon kornickianum</i>	SOMC	Granite outcrops and upland- sandhill- acid seeps
Source: U.S. Fish and Wildlife Service 2001			
FEDERAL STATUS			
E	Listed as endangered. The most critically imperiled species. A species that may become extinct or disappear from a significant part of its range if not immediately protected.		
T	Listed as threatened. Any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.		
SOMC	Federal species of management concern.		



the basis of the original designation of the park as a nationally significant resource. The cliffs of the Palisades and associated bluffs are populated by near- original hardwood forests, a unique natural resource. Other areas of the park also support near- original plant communities that are unique resources as well.

The present landscape and vegetation in the park is a mixture of old fields, natural stands of second growth trees, some near- original stands of forest, and planted trees. The present forest is defined as a “modified second growth deciduous hardwood and hardwood- pine mixtures” (Wharton 1978). Residential development and other sources have introduced several exotic species, including privet, English Ivy, kudzu, Japanese honeysuckle, mimosa, princess tree, and periwinkle. Chestnut blight and pine beetle have affected native trees (NPS 2000e). Despite these issues, the Georgia RiverCare 2000 Assessment assigned a rating of outstanding for forest resources within the park (Miller et al. 1998). A rating of significant was assigned for river segments with 50 to 75 percent forested cover. This was the only standard used to rate forest resources.

The park provides habitat for a wide variety of wildlife, including birds, mammals, reptiles, and amphibians. The oak- hickory climax forest is the most widespread terrestrial habitat type in the park, but it is characterized by a lower overall diversity of species; wildlife diversity is greater in the mesic bluff and bottomland habitats (Wharton 1998). These habitats are present in the park, but are less common.

Common species of mammals in the park include deer, raccoons, opossums, squirrels, eastern cottontail rabbits, short- tailed shrew, pine vole, deer mouse, and chipmunk. Numerous species of reptiles and birds are also present (NPS 1989; Wharton 1998). Common birds in the oak- hickory climax forest include red- eyed vireo, towhee, Carolina wren, brown thrasher, cardinal, blue jay, wood thrush, tufted titmouse, chickadee, red- breasted woodpecker, downy woodpecker, pileated woodpecker, crow, and red- tailed hawk (Wharton 1998). Wharton noted that only a single species of salamander (the slimy salamander) occurs in the oak- hickory climax forest (1998). This habitat also supports toads and box turtles, and rarely, frogs, numerous species of snakes, and one species of

merous species of snakes, and one species of lizard (little brown skink).

The RiverCare 2000 river assessment recently published by the Georgia Department of Natural Resources (Miller et. al. 1998) assigned ratings of significant, outstanding, or superior to portions of rivers in the state that met a set of criteria established by Georgia Department of Natural Resources. The rating criteria included diversity of species and native habitats, habitat value for species of concern as listed in the Georgia Heritage Program database, the percentage of river that was naturally vegetated, and the degree of habitat fragmentation. Because habitats in the park are highly fragmented and dominated by relatively lower diversity oak- hickory climax forests, the Chattahoochee River between Atlanta and Lake Lanier, including the park, did not qualify for a rating.

The park is important to wildlife in part because it connects the Piedmont and Mountain physiographic provinces. As such, the park serves as a migratory route and a means of range extension for many forms of wildlife. For example, some species more common in mountainous area have moved south along the river corridor and into the park (NPS 1989, Wharton 1998). The park provides an area of naturally vegetated habitat, including upland forests, riparian areas, wetlands, and aquatic habitats.

As the population of Atlanta continues to grow, the park will become increasingly important as a refuge for native wildlife in the area and along the river corridor. Since the park has been expanded to 10,000 acres, it will serve an increasingly important role as habitat for wildlife in the future, as these areas will be protected and managed by the National Park Service.

### **Prime and Unique Farmlands**

Prime and unique farmlands are included as an impact topic based on the criteria presented in “Impact Topics – Resources and Values at Stake in the Planning Process” in the “Alternatives” section. The specific concerns related to this impact topic are discussed in the “Environmental Consequences” section.

The U.S. Department of Agriculture's Soil Conservation Service has prepared soil surveys for the counties surrounding the park: Cobb County (1973, with a 1996 update); Forsyth County (1960); Fulton County (1958, with a 1982 supplement); and Gwinnett County (1967). Upland soils in the park belong principally to the Madison- Louisa- Pacolet association and the Wickham- Altavista- Red Bay association. These soils are located on steep slopes and are highly erodable, shallow, and rocky. Bottomland soils in the park belong primarily to the Congaree- Chewacla- Wehadkee association and the Cartecay- Toccoa association, and are located on nearly level areas along the Chattahoochee River and some of its tributaries. These soils are often highly erodable, and uncontrolled exposure of such soils has resulted in accelerated erosion and attendant sediment and siltation in the Chattahoochee River (NPS 1989; NPS 2000e).

In addition to basic soil physical information and engineering aspects, the soil surveys provide necessary information and data for park management on:

**Erodability:** Factors for use in the universal soil loss equation for predicting yields of suspended sediment from land surfaces. For example, the surveys discuss erosion potential associated with construction activities on particular soils.

**Recreation:** Specific soils' potentials for camp, picnic, playground, or trail use (i.e., trafficability, ability to drain).

**Wildlife:** Soils' potential for maintaining wildlife habitat and vegetation of various types.

An August 11, 1980, memorandum from the Council on Environmental Quality directed that federal agencies must assess the effects of their actions on farmland soils classified by the Natural Resource Conservation Service as prime or unique. Prime farmland soil has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oil seed crops and is available for these uses (i.e., it is not urban or developed land nor is it under water). Unique farmland soil is used for the production of high-value food crops, such as fruits, vegetables, and nuts. Prime and unique farmlands have the combination of soil

properties, growing season, and moisture supply needed to produce sustained high yields of crops.

A number of the soil types in the northern section of the park (north of Holcomb Bridge Road) have been classified as prime farmlands. A map of these prime farmlands is on file at the park headquarters. Site-specific assessments of the impacts of proposed NPS projects on prime and unique farmland, using Natural Resource Conservation Service methods, will be required in the future. This involves assigning an impact score to the project to estimate the degree of impact on prime and unique farmlands. These assessments will be conducted as part of environmental assessments tiered to this general management plan and environmental impact statement.

## CULTURAL RESOURCES

Cultural resources are included as an impact topic based on the criteria presented in "Impact Topics – Resources and Values at Stake in the Planning Process" in the "Alternatives" section. The specific concerns related to this impact topic are discussed in the "Environmental Consequences" section. Baseline data for cultural resources issues were obtained from the Georgia State Historic Preservation Officer in Atlanta, the Georgia State Site Files at the University of Georgia, Athens, and the files of Mr. David Ek, Chief of Science and Resource Management at the park. Data collection occurred between October 2000 and March 2001. Approximately 30 percent of the park (revised boundaries) has been subjected to archeological survey as of March 2001. As described in the "Servicewide Mandates and Policies" section, an archeological inventory of the park is required by law. In addition, individual surveys are needed prior to the initiation of ground-disturbing activities. Areas identified as having a high potential for archeological resources must be treated with special sensitivity.

The park appears to have been occupied for at least 10,000 years. The earliest known occupation of the park dates to the Early Archaic Period, between 8000 and 6000 BC. The cultural chronology of the region prior to the arrival of Europeans is divided into several periods: Paleoindian (9500 to 8000 BC), Archaic (8000 to 1000 BC), Woodland (1000 BC to 1000 AD), and Mississippian and Late Pre-



historic (1000 AD to European contact). The Paleoindian, Archaic, Woodland and Mississippian Periods are each further divided into early, middle and late periods. Broadly speaking, the Paleoindian Period refers to the occupation of the first people to arrive in North America during the last Ice Age, and is characterized by distinctive projectile points used in part for hunting the large mammals, or megafauna, that roamed the continent prior to the end of the Pleistocene. The Archaic Period refers to an era of gathering and hunting following the end of the last Ice Age. The presence of ground- stone tools witnesses to increased food processing habits. The Woodland Period saw increased sedentism, especially in riverine environments, and the introduction of ceramic vessels. The Mississippian Period is characterized by complex societies and sites with elaborate earthworks.

O'Grady and Poe (1980) concluded that the park was most extensively occupied during the Woodland Period. This was based on an extensive archaeological survey they conducted identifying 70 sites. Numerous surveys have been conducted on or near the park since that time, identifying sites dating from the Archaic through Late Mississippian Periods (Gresham 1987, Moore 1986, Hamby and Reed 1995, Webb and Gantt 1995, Markham and Holland 1996, Webb and Burns 1997, Webb et al. 1998, Gantt and Tilley 1999, Gantt and DeRosa 2000, and Webb and Quirk 2000). Woodland sites remain the most numerous of those prehistoric sites that can be assigned a temporal affiliation.

Prior to nineteenth century manipulation of the Chattahoochee River for industrial purposes, the river corridor was a fertile region dedicated to agricultural production (Brown 1980). Early European settlers in the region brought with them agricultural tools and a variety of crops that broadened the agricultural base of both European and Native American populations. With increased interaction with whites, native tribes adopted lifestyles similar to those of the white settlers. Farming, along with mixed livestock raising, became the primary activity in the river corridor (Brown 1980).

The Chattahoochee River became a battleground during the Battle of Atlanta in 1864 after Confederate defenses were turned at Kennesaw Mountain and Cheatam's Hill in June. Confederate lines reformed northwest of the river from Smyrna to

Nickajack Creek. The Union attacked this line on July 4. The Confederate Army was forced back towards the Chattahoochee River, and retreated across it to stage the last defense of Atlanta by July 17. Atlanta fell to the Union Army on September 2, 1864. Known Civil War features in the park include picket depressions and trenches. Examples include log and earthwork forts associated with the Johnston's River Line, where confederate troops were forced to retreat from Sherman; and Sherman's River Crossings, which Sherman used to flank Johnston's Line (Brown and Smith 1994).

Agriculture remained a steady occupation of white settlers in the river corridor throughout the nineteenth century, reaching its peak between 1910 and 1920, when 87 percent of the piedmont had been cultivated (Brown 1980). The shift from mixed farming to intensive cotton cultivation in the 1850s and the long- term failure to implement soil conservation practices began to take their toll. Contributing to the rapid decline of fertility in the region was the practice of hydraulic mining of gold in the headwaters of the Chattahoochee, which resulted in extensive deforestation of the upper river corridor (Brown 1980). By 1935, most of the rich topsoil in the Chattahoochee River floodplain was eroded and deposited in stream bottoms.

The decline in soil fertility forced small farmers to change occupations, and many Southern rural families migrated to the North after Reconstruction in search of jobs in the cities. Others adopted an entrepreneurial approach and turned their attention to developing the industrial potential of the Chattahoochee River. Mills and distilleries had been present along the river corridor since the 1830s but, for a number of reasons (including destruction of many mills during the Civil War), industry did not become the major enterprise in the region until agriculture became unviable. In the 1930s, mill villages replaced farmsteads, and rapid growth of commerce and industry along the Chattahoochee River began to alter the river landscape.

By the turn of the twentieth century, however, industrialists were discovering the increased efficiency and output of steam- generated and electrical power for manufacturing. Expansion of the railroads in the latter half of the nineteenth century also had given the region greater access to national markets, reducing the reliance on locally manufac-

tured goods. The importance of the Chattahoochee River for industrial manufacturing was thus diminished, and other uses – drinking water supply and hydroelectric power generation – gained importance (Brown 1980).

Historically accustomed to relying on public or private wells for drinking water, in the face of rapid expansion of urban area and population, the people of Atlanta found themselves without a reliable source of drinking water. Construction of the pumping station at the junction of Peachtree Creek and the Chattahoochee River in 1892, as part of what would later become the Atlanta Water Works, temporarily solved the problem of water by pumping water directly from the river.

Morgan Falls Dam, constructed in 1902, was the largest hydroelectric installation in the Southeast, measuring 900 feet in length by 60 feet in height. In the 1920s, improvements to Morgan Falls Dam resulted in the creation of large reservoirs along the Chattahoochee River corridor and provided a storage area for water pumped from the river during periods of high water.

In 1957, the U.S. Army Corps of Engineers erected the Buford Dam with the goals of providing flood control and stream flow regulation, assisting in navigation, providing a constant source of water, and producing electrical power. Located on the Chattahoochee River about 35 miles northeast of Atlanta, Buford Dam collects runoff water from a wide area of north Georgia into a large reservoir, Lake Sidney Lanier. Lake Lanier extends 44 miles up the Chattahoochee River and covers more than 58,000 acres of former farmland and forests.

On August 15, 1978, the United States Congress passed an act authorizing the establishment of the Chattahoochee River National Recreation Area (16 United States Code 460ii). The boundaries of the park were subsequently modified in Amendments to the Chattahoochee River National Recreation Area Act in September 1984 and August 1998. Most recently, in June 1999, Congress enacted a bill to improve protection and management of the park.

### **Archeological Resources**

Several studies provide significant data concerning the park's archeological resources as well as the

status of archeological research and previous archeological work in the park. These studies include:

*An Archaeological Reconnaissance of the Chattahoochee River Corridor between Buford Dam and Georgia 20 Highway Bridge* (Hamilton 1974).

*Cultural Resource Inventory Chattahoochee River National Recreation Area Final Report* (O'Grady and Poe 1980).

*Cultural Resources Survey of the Proposed Lake Sidney Lanier Reregulation Dam and Lake Area, Forsyth and Gwinnett Counties, Georgia* (Gresham 1987).

*Phase I Cultural Resource Survey of 286 acres west of the Chattahoochee River in Forsyth County, Georgia* (Markham and Holland 1996).

*Cultural Resources Survey, Proposed Trail System, Chattahoochee River National Recreation Area, Forsyth County, Georgia* (Webb and Burns 1997).

*Cultural Resources Survey, Proposed New Trail System, Island Ford Unit, Chattahoochee River National Recreation Area, Fulton County, Georgia.* (Gantt and DeRosa 2000).

Additional surveys completed within the boundaries of the park include: Magennis and Williams (1978), Bowen (1981), Braley (1987), Rogers and Braley (1991), Ledbetter et al. (1991), Braley et al. (1992), Gardner and Reynolds (1993), Webb and Gantt (1995, 1996a, 1996b), Webb and Duncan (1997), Gantt (1997), and Webb et al. (1998). Copies of these reports, as well as relevant maps and archival materials regarding specific resources within the park, are stored at park headquarters in Fulton County, Georgia.

Review of the site files maintained by the University of Georgia, Athens, conducted in the fall of 2000 indicated that 189 archeological sites have been previously recorded within the boundaries of the park. Of these, 32 lie within Cobb County, 46 in Forsyth County, 26 in Fulton County, and 85 in Gwinnett County. Artifact scatters dominate the sites recorded within the park and include ceramic scatters, lithic scatters, historic artifact scatters, and scatters encountered in association with rock shel-



ters, historic structures, open habitations, or villages. Fourteen of the sites include rock shelters, two are quarries, five are fish weirs/rock dams located within the river, one contains a probable mound, and one includes earthworks. Native American habitation sites include open habitations, camps, and villages in addition to the rock shelters. Historic sites with structural components include a bridge, three mills (one with a race), a cotton gin, a dam, a fence, a still, and nine structural foundations.

Locational data provided in earlier survey reports do not always match the locational data archived within the GIS database maintained by the Georgia State Site Files at the University of Georgia, Athens. Rectification of the survey data sets with those maintained by the Georgia State Site Files will be included as a task to be completed as part of the cultural resources management plan for the park.

Three of the sites are currently submerged and 13 have been destroyed; the majority of the remaining sites have been extensively (57), moderately (44), or minimally (36) disturbed by erosion, agriculture, vandalism, or development. The condition of 36 of the sites is not recorded in the site files.

There is a high probability that unknown prehistoric and historic archeological resources occur in the park. However, the archeological sites in the park have not been systematically surveyed or inventoried, and precise information about the location, characteristics, and significance of the majority of known archeological resources in the park is incomplete.

NPS policy at the park is to work with the Georgia State Historic Preservation Officer to nominate all archeological resources within the park that appear to meet the National Register of Historic Places criteria. A review of the National Register and the site files maintained by the University of Georgia, Athens, indicates that two archeological sites recorded within the park have been determined eligible for listing on the National Register of Historic Places, 13 have been recommended eligible for listing, and 67 have been recommended not eligible for listing. One site is a national natural landmark, and two have been subjected to Historic American Engineering Record documentation. The 104 remaining sites within the boundaries of the park

have not been evaluated in terms of their eligibility for listing on the National Register of Historic Places.

### Historic Resources

To date, only one NPS documentary study has been commissioned regarding the historical development of the park: *Historic Resource Study: Chattahoochee River National Recreation Area and the Chattahoochee River Corridor* (Brown 1980).

Other resources that provide information regarding the historical development of Atlanta and north-central Georgia include:

“Outline of Prehistory and History in the Southeastern U.S. and Caribbean Culture Area” (National Park Service [www.cr.nps.gov/seac/outline.htm](http://www.cr.nps.gov/seac/outline.htm)); and “Georgia Before Oglethorpe: A Resource Guide to Georgia's Early Colonial Period 1521- 1733” (Worth, <http://hometown.aol.com/jeworth/gboinde x.htm>).

**Historical National Register Properties.** A review of the historic structures and buildings files maintained by the Georgia State Historic Preservation Officer in Atlanta indicates that 14 historic structures or buildings have been recorded within the boundaries of the park. Seven of the 14 resources are considered eligible for listing on the National Register of Historic Places, two are considered potentially eligible, one is considered not eligible, and four have not been evaluated.

In addition to the 14 resources recorded by the county surveys, the National Park Service has identified 10 additional buildings, complexes, or structures associated with the park and placed them on the “List of Classified Structures” for the park. Settles Bridge (00180) occurs on both the State Historic Preservation Officer and NPS lists (both as a historic structure and an archeological site), while the ruins of Ivy Mill and the Sope Creek/Marietta Paper Mill are recorded as archeological sites by the State Historic Preservation Officer. The Ivy Mill ruins (00169-00171) and the Allenbrook House (00179) have been recommended eligible for listing on the National Register of Historic Places,

and the Sope Creek/Marietta Paper Mill ruins (00165- 00168) were listed on the National Register of Historic Places in 1973. The Yardum House and Smokehouse (91688- 91689), and the Island Ford Lodge Complex (00166- 01168) have been recommended as eligible for listing on the National Register of Historic Places; however, these recommendations have not been confirmed by the State Historic Preservation Officer. There is the potential for undiscovered archaeological features associated with these properties. The Akers Mill ruins (00177), the Scribner Cemetery (00178), and Settles Bridge (00180) have not been evaluated.

The Allenbrook House, located south of the Roswell Historic District (also listed in 1973), is not within the boundaries of the district, but is considered potentially eligible for listing in the National Register of Historic Places. Under the terms of a Memorandum of Understanding, the National Park Service and the Roswell Historical Society share responsibility for preservation and maintenance of this resource.

The Powers Cabin and Hyde Farm complex lie on 2.5 acres within a larger tract that was transferred to the National Park Service by the Trust for Public Land in 1996, and a Historic Structure Report was completed on the complex. A "Deed of Conservation and Façade Easement" dated January 11, 1999, notes that the National Park Service has granted life- long tenancy to Ms. Morning Washburn, after which the land and resources will revert to NPS ownership. Materials supporting a nomination of the complex to the National Register of Historic Places have been submitted to the State Historic Preservation Officer; a formal nomination has not been completed.

## REGIONAL TRANSPORTATION CONDITIONS

The park is located in one of the nation's largest urban areas, providing a natural refuge from urban life near the homes of millions of urbanites. The park is made up of 16 different areas, with access provided by a numerous streets and roadways; col-

lector and local roadway facilities provide direct access to most areas.

The Atlanta region is the major transportation hub of the southeastern United States. Along with the busiest airport in the United States, as the Regional Map shows, Atlanta is served by a number of interstate highways that connect the Atlanta area to other parts of the United States. Interstate 285 encircles Atlanta, providing a bypass route around the congested downtown area. In addition, Georgia 400, which bisects the Chattahoochee watershed and the park, is a strategically located highway between the City of Atlanta and the northern suburbs (see Vicinity Map). An ongoing study of the highway corridor could result in regional impacts to the park units.

The transportation network in the Atlanta Regional Commission's 10- county Atlanta region consists of more than 16,000 miles of streets and highways. The interstate highway system contains approximately 90 miles of express lanes to assist commuters in traveling to downtown Atlanta during the peak traffic periods. However, Atlanta, like other large metropolitan areas, contains many roads that operate at low service levels due to inadequate capacity. It is estimated that 29 percent of the total vehicle miles traveled during a typical weekday in the Atlanta region occurs on highly congested roadway facilities (Atlanta Regional Commission 2000b). Similar information was not available for Forsyth County.

The Metropolitan Atlanta Regional Transportation Authority (MARTA), the mass transit provider for the Atlanta area, serves Fulton and DeKalb Counties in the study area. MARTA has 46 miles of rail facilities and 230 rail cars in its system. In addition, 860 buses provide service on numerous routes totaling nearly 2,700 route- miles. In 2000, 7.2 percent of the work trips in the Atlanta region were made by mass transit (Atlanta Regional Commission 2000b). MARTA does not currently provide specific services or routes associated with the park.

Cobb Community Transit provides bus service within Cobb County, with connections to MARTA rail stations and direct express service to downtown Atlanta (Cobb Community Transit 2000). Gwinnett County Transit began operations in November 2001 with six I- 85 express bus routes from



points in Gwinnett County to downtown Atlanta, including stops at MARTA rail stations. Local service to points within Gwinnett County is planned for the future (Gwinnett County Transit 2001). Forsyth County currently has no scheduled route bus system, but does operate a demand responsive “Dial- A- Ride” transit system.

As described in the “Visitor and Community Values” subsection, the Atlanta region is growing very rapidly, leading to increased travel demand in the area. An estimated 47 percent of the vehicle miles traveled during a typical weekday in the year 2025 will occur on highly congested roadway facilities if no improvements are made to the roadway system. While mass transit use for daily commuting would increase to 9.7 percent in 2025 if the improvements recommended in the Atlanta Regional Transportation Plan are constructed, without such improve-

ments, use would drop to 5.5 percent, nearly 2 percent lower than current levels (Atlanta Regional Commission 2000a).

### TRANSPORTATION CONDITIONS IN RELATION TO THE PARK

The park is comprised of segmented parcels of land located along a 48-mile corridor of the Chattahoochee River. No single roadway provides access to all of the segments. In addition, most areas of the park are located on minor collector or local roadways; therefore, arterial roadways do not provide primary access to the park. Table 14 lists the most common path to each area from the nearest freeway or arterial highway. Those that are congested during the morning and evening peak travel periods are indicated in italics.

**Table 14: Main Street/Highway Access Points for the Park and Associated Areas**

Area	Street / Highway Access*
Paces Mill	<i>I- 285, I- 75, Cobb Parkway</i>
Palisades	<i>I- 285, Northside Drive, Mt. Vernon Highway, Powers Ferry Road, Riverview Road</i>
Cochran Shoals	<i>Johnson Ferry Road, Paper Mill Road, Columns Drive</i>
Powers Island	<i>I- 285, Northside Drive</i>
Johnson Ferry	<i>Johnson Ferry Road</i>
Gold Branch	<i>Lower Roswell Road, Timber Ridge Road</i>
Vickery Creek	<i>Roswell Road, Azalea Drive, Riverside Road</i>
Island Ford	<i>Georgia 400, Northridge Road, Dunwoody Place, Roberts Drive</i>
Holcomb Bridge	<i>Holcomb Bridge Road</i>
Jones Bridge	<i>Holcomb Bridge Road, Jones Bridge Road, Barnwell Road</i>
Medlock Bridge	<i>Peachtree Parkway, Medlock Bridge Road</i>
Abbotts Bridge	<i>Abbotts Bridge Road, Boles Road</i>
Suwanee Creek	<i>Peachtree Industrial Boulevard, Chattahoochee Drive (unpaved)</i>
McGinnis Ferry	<i>McGinnis Ferry Road</i>
Settles Bridge	<i>Suwanee Dam Road, Johnson Road (unpaved)</i>
Bowman’s Island	<i>Cumming Highway/Georgia 20, Suwanee Dam Road</i>

\*Italics indicate congested roadways

Transit service is provided in areas near the park, but service is currently not provided directly to the park. MARTA route 148 provides service between the Sandy Springs rail station and the Powers Ferry Landing area, near the Powers Island portion of the park. MARTA route 140 crosses the Chattahoochee River on Georgia 400 as it travels between the Mansell Road park- and- ride lot and the North Springs rail station. MARTA's North Line provides rail service in the general vicinity of the park, with rail stations at the Medical Center near Georgia 400/I- 285, Dunwoody, Sandy Springs, and North Springs. Bicycles can be transported on the MARTA rail system and are allowed on MARTA buses (MARTA 2001).

Cobb Community Transit connects with the MARTA system in the study area at Dunwoody rail station via route 60, which crosses the river on Johnson Ferry Road. Route 10B provides service along Powers Ferry Road between the MARTA Five Points station and areas close to several of the southernmost areas of the park. Several other routes provide service to points near the park, but none provide direct transit service to the park. These include 15, providing service between Marietta Square and the Powers Ferry Road area, and route 50 between the Marietta Transfer Center and the Powers Ferry Road area (Cobb Community Transit 2000).

A few bicycle/pedestrian paths currently exist near the park. Paths are located along Columns Drive from Sope Creek to Johnson Ferry Road, along Riverside Road near Island Ford, along Georgia 141 to the south of Medlock Bridge Road, along Peachtree Industrial Boulevard between Suwanee Creek and McGinnis Ferry Road, and along Buford Dam Road east of Bowmans Island. None of these bicycle/pedestrian paths provides direct access into the park (Atlanta Regional Commission 2001b; Forsyth County 1996, 2001; City of Roswell n.d.).

Additional bicycle/pedestrian path projects have been proposed by local governments in the Atlanta region. These have been compiled in the Atlanta Regional Commission's *Atlanta Region Bicycle Transportation and Pedestrian Walkways Plan* (1995), currently being updated. The National Park Service is also developing an integrated trail system plan with objectives to establish trail linkages.

## PARK TRANSPORTATION CONDITIONS

The 1998 visitors survey (NPS 1998a) reported that 91 percent of park visitors are from Georgia, and 88 percent of the visitors had previously visited the park. Approximately 56 percent of respondents had visited the park at least 10 times in the past year, and 22 percent had visited the park at least 51 times during that period.

Each area comprising the park provides different visitor experiences. Areas located in the southern portion of the park are near a larger population base than the northern areas. Consequently, levels of visitation to different areas of the park vary considerably. According to traffic counts collected by the National Park Service in 2000 (NPS 2000a), vehicles entering each area with formal parking facilities range from 12,500 annually at Gold Branch to 415,000 at Cochran Shoals North. In areas where traffic was counted, nearly 1.5 million vehicles entered the park during 2000, with many of the vehicles transporting more than one person. In addition, numerous uncounted visitors enter the park each day via pedestrian and bicycle modes. Park officials estimate the 2000 annual visitation at 2,660,000 persons (NPS 2000a).

The number of vehicles entering the park increased rapidly until the mid- 1990s. Because of concerns over water quality, park use over the last decade has gradually shifted from a primarily river- based experience to terrestrial- based. As a result, traffic entering the park has decreased 27 percent from 1995 levels (NPS 1995b). However, as population in the area increases and water quality continues to improve through watershed planning programs, increased attendance is anticipated.

The park frequently experiences parking shortages, particularly at the southern areas that receive the highest visitation. Parking problems have been reported at Palisades, Cochran Shoals, Johnson Ferry, Gold Branch, Vickery Creek, Island Ford, and occasionally at Jones Bridge (NPS 1998c). The most severe parking shortages occur at Cochran Shoals, which contains approximately 150 parking spaces but experienced over 520,000 vehicles in 2000 (NPS 2000a). In 1995, over 1,000,000 vehicles were counted at Cochran Shoals (NPS 1995b), so an apparently considerable latent demand to use this area is hampered, at least in part, by lack of parking



facilities. Park officials report that visitors sometimes wait 30 minutes or more for a parking space, or may choose to park illegally on the park access roads or on nearby public roads (NPS 1998a).

Visitation is greatest during the late spring and summer months, according to the traffic counts collected by the National Park Service. Vehicles accessing the park during this period approximately double the visitation during the winter months. Parking shortages occur more frequently during peak visitation periods than during low visitation periods (NPS 1998a).

Limited parking facilities and the abundance of nearby residential neighborhoods encourage many visitors to walk or bicycle to the park. In areas adjacent to or near residential developments, such as Island Ford, McGinnis Ferry, Johnson Ferry, Vickery Creek, and Palisades, informal access trails between neighborhoods and the park have been formed by frequent pedestrian and bicycle “short-cut” traffic.

The Chattahoochee Outdoor Center, located at Johnsons Ferry, previously provided transportation within the park for their patrons on river paddling trips. However, the Outdoor Center ceased operations in the fall of 2001. No other transit service is currently provided within the park.

Pedestrian/bicycle/vehicle conflicts are another problem reported by park officials. In park areas such as Island Ford and Jones Bridge, joggers and walkers often choose to use the edge of the 21-foot-wide winding access road instead of the trails. As they round a curve, motorists may encounter a bicycle or pedestrians walking two or three abreast on the roadway. Motorists traveling at excessive speed are also a problem in these park areas. A traffic calming study is currently under way to identify measures to slow the motorists and separate pedestrians from the vehicular traffic.

## **VISITOR AND COMMUNITY VALUES**

### **Traditional Park Character and Visitor Experience**

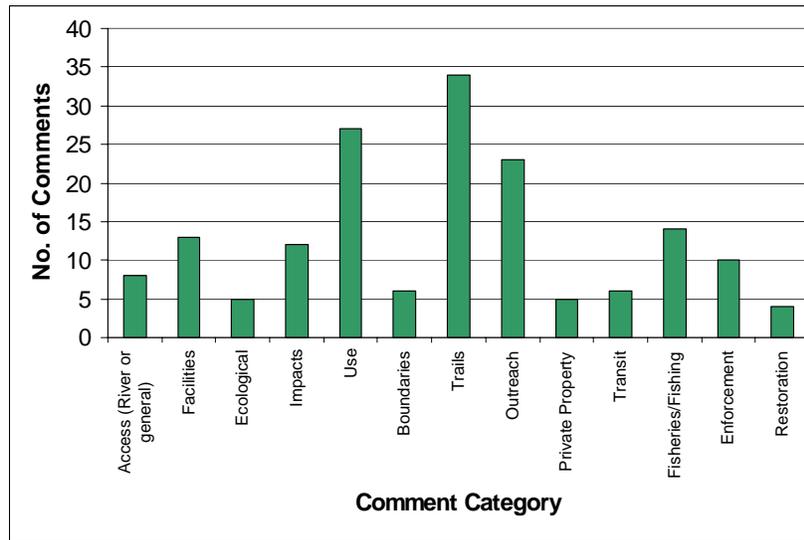
Traditional park character and visitor experience are included as an impact topic based on the criteria presented in “Impact Topics – Resources and Values at Stake in the Planning Process” in the “Alternatives” section.

The enabling legislation of the park provides for the protection and preservation of the natural, scenic, recreational, and historic values of the river. The existing park provides access to natural river corridor settings at 16 different locations for millions of people in the Atlanta area. The newly expanded boundaries of the park offer even more areas for visitor experiences. Visitors come to the park for the scenery and the other sensory experiences that accompany the river and associated forested areas. They enjoy such features as the changing seasonal colors, scents of the forest, sounds of water and wildlife, solitude, and quiet. Some areas of the park offer more active opportunities for recreation, such as hiking, horse back riding, biking, and boating.

Scoping for the general management plan obtained information about visitor issues, experiences, and concerns for the future through a series of public meetings and a public comment period. Public input identified 168 community issues, which were sorted by type into the 13 categories illustrated below.

More responses addressed the value of recreational trails (jogging, biking, hiking, and for access to fishing) than any other issue, followed by experiences and concerns related to land use and the need for more outreach/public education about park facilities.

The following chart and Table 15 summarize the detailed nature of public comments on visitor-related issues associated with management of the park.



Summary of Public Comments Received during Scoping

Table 15: Summary of Issues Raised during Public Scoping

Comment Category	Nature of Comment
Outreach	Increase environmental education and outreach of park to surrounding communities
Private Property	Conflicts between private property owners and park on acquisitions
Transit	Improved traffic and safety, improved parking and roads, better transportation system
Fisheries/Fishing	Improved fisheries management, to include emphasis on resource protection/long term maintenance
Enforcement	More stringent enforcement of water quality laws, safety, legal rules in park
Restoration	Restoration of damaged or disturbed areas of the park to be restored and enforcement of relevant regulations
Access (River or general)	Increased access and types of visitor experiences
Facilities	More or less varied support, recreational and educational facilities
Ecological	Increased protection of natural ecological features of park
Impacts	Water quality, fisheries protection, water quantity, point and nonpoint pollution, noise
Use	Increased multiple use, but with protection of natural resources
Boundaries	Expand park as much as possible, connectivity
Trails	More and different types of trails



This outreach program helped create a dialogue with park visitors on visitor and community values. During the scoping program, the park received a high overall approval from the public. There was also consistency in the nature of public concerns and the desired visitor experiences.

To further assess these values, information obtained from park visitors during the 2000- 2001 public scoping was compared to the park Visitor Survey Card Data Reports of 1998, 1999, and 2000. These reports showed a reduction in overall satisfaction with conditions at the park from 85 percent to 81 percent between 1998 and 2000. Citizens commented on the severe strain on park infrastructure due to growth and development trends in the Atlanta metropolitan region. They also called for more park facilities, raised the need for more NPS staff to address enforcement of park regulations, and expressed concern over conditions of the river caused by forces outside the boundaries of the national park itself, i.e., “the river was brown, it was hard to enjoy our raft trip” (NPS 1998a).

Comments reflect the fact that visitation is primarily local or regional, but also express the universal popularity of the park, the use of the river as a drinking water supply, and the role of the river-based park to serve as a buffer to provide clean water. The park in fact provides the largest single public green space in the metropolitan Atlanta region, and the river supplies 70 percent of the metropolitan Atlanta area’s drinking water.

**Recreational Opportunities.** The park offers visitors a wide variety of ways to experience a range of natural and cultural resources. Scenic views and natural settings range from rugged expanses of forest with little human disturbance to landscapes from the historic and archeological past. The visual respite from rapidly developing urban and suburban surroundings draws almost 3 million visitors each year (NPS 2000e).

The park offers visitors a variety of recreational opportunities, including:

An extensive system of hiking, jogging, and bicycling trails

River access points for activities such as fishing, swimming, motorized boating, canoeing, rafting, tubing, wading, and kayaking

Numerous picnic areas

Open spaces and natural habitat areas for scenery enjoyment and wildlife viewing/bird watching

Nineteenth- century historic sites and Native American archeological sites

Because the concessioner at Johnson Ferry has seen declining revenues for water related rentals since 1996, the facilities there will close. The park is in the process of requesting approval for a study of concessioner options for this site, which would involve a land appraisal of the Johnson Ferry real estate and building. The study would also review the potential cost for different uses at this highly visible location, including replacement concessions, park offices, elimination of facilities, limited facilities, or new information and interpretative facilities. The Johnson Ferry Unit location in Cobb County has emerged as the focus of major federal- and county- funded infrastructure improvements, including bridge and road widening of Johnson Ferry Road/Abernathy Road and expansion of the Cobb County water plant adjacent to the park. As summarized in an environmental assessment prepared by the park, Johnson Ferry Road is one of the busiest arterial highways in the Atlanta region and the location of the only bridge to connect Fulton and Cobb Counties.

Table 16 summarizes the current recreational amenities offered in the park.

One of the primary recreational values expressed by visitors was the desire to achieve a sense of solitude within natural areas of the park. This requires a low- noise environment, an absence of unwanted sound. Sound is easily measured with instruments, but variations in human responses to sound complicate understanding of its impact. People judge the relative magnitude of sound by subjective terms such as “loudness” or “noisiness.”

**Table 16: Principal Recreational Amenities Summarized According to Park Unit**

Park Area	Swim	Canoe	Kayak	Ramp Access	Motor Vessels	Fishing	Other
Bowmans Island		X		X <sup>a/</sup>		X	
Settles Bridge						X	
McGinnis Ferry						X	
Suwanee Creek						X	
Abbotts Bridge		X	X	X	X	X	
Medlock Bridge		X	X	X	X	X	
Jones Bridge	X	X	X	X <sup>b/</sup>	X	X	
Holcomb Bridge		X	X			X	
Island Ford		X	X	X		X	
Vickery Creek		X				X	
Gold Branch						X	Wildlife <sup>c/</sup>
Johnson Ferry		X	X	X		X	
Cochran Shoals	X					X	Birding <sup>c/</sup>
Powers Island		X	X	X		X	
Palisades	X					X	

a/ Corps of Engineers ramp

b/ step- down ramp

c/ may occur at any unit, but common in areas noted.

Source: NPS 2000e

Low- noise environments can be achieved in many parts of the park, but because the park is located in an urban/suburban metropolitan area, the amount of noise varies greatly across different areas of the park and even locally within individual areas. Visitors seeking a recreational experience in the park are exposed to a variety of noise generators, primarily vehicular traffic on bridges, along roads, and in parking lots adjacent to park property. Hikers, boaters, or fisherman, depending on their proximity to these sources, may hear noise from vehicles. The densely forested areas in many parts of the park, however, serve to dampen vehicular noise, providing a sense of solitude largely absent of road noise. Areas such as the Palisades, for example, are especially effective at damping noise, even though they are located close to major arterials such as I- 75 and I- 285.

**Regional County and Municipal Park Planning Linkages.** Surrounding communities in Forsyth, Fulton, Gwinnett, and Cobb Counties have initi-

ated active recreational programs to complement the more natural types of activities of the park. An inventory and assessment of park planning in adjacent counties provides a comprehensive understanding of the potential for connectivity to existing and proposed local parks, for addressing gaps in service delivery, and for identifying potential duplication of recreation services:

**Forsyth County** prepared a unified development code that supports park- like environments. The county is using Georgia Greenspace Program funds to purchase permanent open space.

The **Gwinnett County** park and recreation plan calls for park and green space investments in riverfront land purchases and trails, using county funds and state Greenspace Program funds. The green space plan targets the purchase of 20 percent of the county land designated for permanent open space. A 2001 referendum approved implementation of the



park plan. The county also created the western Gwinnett bikeway plan.

The **City of Duluth** prepared and funded the Chattahoochee River greenway plan to link NPS property and a state park adjacent to Abbotts Bridge Park to the south. The city also obtained federal Transportation Efficiency Act grants for the restoration of Rogers Bridge across the Chattahoochee River as a multi-use trail. According to the green space plan, this trail will tie into the western Gwinnett bikeway and to proposed trails in Fulton County on the opposite side of the river.

**Fulton County** initiated a master plan for county parks in 2001. Local communities and stakeholders adjacent to the NPS units have negotiated individual agreements for equestrian use of sites, trails, fishing, maintenance, and water quality monitoring. The county applied for Transportation Efficiency Act funding for participation in the Rogers Bridge project.

The **City of Atlanta** is updating the master plan for parks and recreation and is participating in the Georgia Greenspace purchase plan.

The **City of Roswell** updated the plan in 2000. A referendum held in 2000 included funding for parkland purchases of over \$22 million. The park and recreation plan calls for connections to the NPS units at Island Ford and Vickery Creek. Roswell's plan includes active sculling uses, expansion of the Chattahoochee Nature Center, trails, and parking facilities.

**Cobb County** plans for the Silver Comet Trail to intersect the park. Initiated by the Path Foundation, contractors have built the Silver Comet Trail along 38 miles from Smyrna to Rockmart over the path of the abandoned Seaboard Railroad line. The multipurpose trail is designed to move bikers and joggers through the western metro region. State, federal, and local funds are being used to fund this \$9.5 million project. Cobb County and local neighborhoods were approved for Transportation Efficiency Act funds to plan river area connectivity to the

national park from Johnson Ferry area subdivisions.

**Visitor Profile.** Most visitors are residents of the Atlanta metropolitan area. However, because it is a national park, people from all over the country who visit the Atlanta area also visit the park. The park's recreational visitors come from a wide variety of ethnic, racial, and economic backgrounds representing many groups from the adjacent neighborhoods and society at large.

Visitors come to the park for a wide variety of reasons, including viewing scenery, walking, hiking, jogging, bicycling, wildlife viewing/bird watching, communing with or studying nature, studying history, picnicking, and water sports ( NPS 2000e). The length of a visitor's stay depends on the purpose of the visit; a jogger may only stay an hour while a picnicker may stay all day. Many visit the park on a regular or frequent basis.

Park staff collects annual visitation statistics for the park. Visitation estimates are developed using traffic counts. Monthly public use is recorded and reported. Table 17 presents the annual visitation at the park from 1991 through 2000 (NPS 2000d).

**Table 17: Annual Visitation 1991 – 2000**

Year	Annual Visitors
1991	1,660,563
1992	2,325,277
1993	2,844,674
1994	3,472,026
1995	3,457,002
1996	3,540,375
1997	2,957,698
1998	2,935,043
1999	2,898,155
2000	2,659,709

Source: NPS 2000d

The National Park Service estimates that recreation visits in 2001 and 2002 will be 2,451,934 and 2,269,846 respectively (NPS 2000d).

**Visitation Trends.** Recreational visits to the park more than doubled from 1991 to 1996, from

1,660,563 to 3,540,375. This increase is attributed to the growth of population in the region and the popularity of the river corridor as a recreation area, particularly for rafting and fishing. The counties that border the river had individual population growth that ranked in the top 20 nationally between 1991 and 1996 (Forsyth and Gwinnett tied for first, Cobb was 16th); north Fulton cities Roswell and Alpharetta ranked first and third, respectively, among cities. The Atlanta region was rated the fourth fastest growing metropolitan area in the United States from 1990 to 2000.

In the last few years, however, documented visitation has incrementally decreased (Table 17) despite this record-breaking population growth. The following factors may have affected visitation trends in the park in recent years:

**Water Quality:** One explanation of the decline in visitation may be public perceptions concerning water quality. During this era of booming growth, the Chattahoochee River corridor became a desirable place to live, leading to sprawl along the river corridor. Poor development practices and weak enforcement of existing local and state regulations that protected the river buffer and tributaries from run off and nonpoint pollution in the adjacent counties produced water quality concerns in the watershed. The Chattahoochee River was listed in the top 10 most endangered American rivers in 1999 (for additional details, see the “Water Quality” subsection). The extensive media coverage of the pollution clearly affected perceptions of the desirability of the river as a recreational resource and may have contributed to the reduced rate of visitation of the park for boating, rafting, and fishing.

**Change in Visitor Experience from Water-based Uses to Land-based Uses:** The metropolitan population rose from approximately 2.5 million in 1990 to over 4.1 million in 2000. However, the number of visitors who rafted the river dropped precipitously beginning in the mid- 1990s, according to NPS rafting vendors (NPS 2000e). This decline in the number of water-oriented users has been attributed to the declining water quality (NPS 2000e). This period, however, has seen a

has seen a significant increase in biking and jogging, as documented in the annual NPS visitor surveys ( NPS 2000e).

#### **Change in Access Patterns to the Park**

**Units:** Regional traffic congestion, new patterns of access to the park, and changing visitor uses in different areas of the park suggest a new visitation trend. The typical visitor experience is currently more oriented toward walking, jogging, biking, car- pooling, and using social trails. This trend suggests the need for a new method for surveying and tracking visitor use, as those that access the park as pedestrians or bicyclists are not always included in the visitor count, artificially lowering total visitors reported.

**Aesthetics/Viewsheds.** The Georgia Metropolitan River Protection Act of 1973 includes language that allows the National Park Service to protect park aesthetics and viewsheds in the vicinity of the park. The Atlanta Regional Commission designed the act to protect river quality and visitor experiences in the national park, and to improve development controls in the Chattahoochee River watershed. The act established a 2000- foot- wide corridor on both banks of the Chattahoochee River for the entire length of the park. In 1998, the Metropolitan River Protection Act Corridor extended 36 additional miles to the downstream limits of Fulton and Douglas Counties. The act required the Atlanta Regional Commission to adopt a plan that would result in protection of the land and water resources of the Chattahoochee River Corridor, and to develop procedures to implement the plan and the act. Local governments in the corridor have the responsibility to implement the plan.

The Metropolitan River Protection Act makes it illegal to engage in any land- disturbing activity not in compliance with or not certified under the Chattahoochee Corridor Plan. This includes restricting any land clearing activity within a 50-foot buffer of the river and prohibiting impervious surfaces within 150 feet of the river. In addition, it requires a 35- foot vegetated buffer along tributaries to the Chattahoochee River, and precludes any land or water uses within the floodplain. When enforced, these provisions help protect the viewshed along the river corridor.



Proposed developments adjacent to the national park increasingly concern area residents, park visitors, and adjacent property owners. Visitors identify aesthetics and viewsheds of the park and the river corridor as important issues. The principle reasons for park visitation are to appreciate the beauty and serenity of the natural environment. As a result, one NPS objective is to allow views of the park and Chattahoochee River corridor from the outside but to ensure that high rises and nearby developments are not obvious from inside the park.

No county or city governmental jurisdiction other than the Metropolitan River Protection Act provides controls or guidelines for protection of the park viewsheds. However, the Cobb Galleria Community Improvement District, which incorporates 25,000 acres of landmass in the vicinity of the Palisades and Cochran Shoals, provides an effective means of improving visitor experience at site-specific developments and for leveraging private sector voluntary support for aesthetics and viewshed protection. In a unique public-private partnership, the district negotiates for joint funding of trails, amenities, and park area improvements in exchange for height and density waivers.

### **Community Characteristics**

Community characteristics are included as an impact topic based on the criteria presented in “Impact Topics – Resources and Values at Stake in the Planning Process” in the “Alternatives” section. Community characteristics include population, land use, and economics.

### **Population**

The Atlanta metropolitan area is one of the most rapidly growing areas in the United States. Population growth and urbanization in the area around the park are increasing rapidly, and the demands on the park can be expected to increase accordingly. According to the United States Census Bureau, the population of the 21-county Atlanta Metropolitan Statistical Area passed 4.1 million in 2000, ranking it fourth in the nation for numeric population change since 1990. Within the Atlanta Regional Commission jurisdiction of ten counties, the 2000 census population was 3,429,379. The four counties that include the park had a total population of

2,110,602 in the 2000 census (U.S. Census Bureau 2000), representing over half the metropolitan statistical area population.

Population growth from 1980 to 2000 for the ten-county Atlanta area was fastest in the vicinity of the park. The north-northeast area of the region includes the upper Chattahoochee River watershed and is the fastest growing area in Metropolitan Atlanta, with 174,623 new residents. The north-northeast area impacts over half the park, especially the Forsyth and North Fulton components. The second fastest growing area of the region is the north-northwest area or I-75 corridor. This population expanded to 149,507 residents, and was previously the fastest growing region of the metropolitan area. The north-northwest population trends affect the park’s western units from I-75 to I-285 westbound.

Gwinnett, Cobb, Fulton, and Forsyth counties were among the fastest growing counties in the Metropolitan Atlanta Statistical Area during the 1990s, accounting for the majority of the Atlanta area’s growth. By 2025, the population is projected to grow another 36 percent to 3,293,000. The population growth from 1990 to 2000 for the region in the vicinity of the park is summarized in Table 18 (U.S. Census Bureau 2000).

Population density varies along the corridor of the park. In general, population is less dense to the north (1990 population density of 96 people per square kilometer in the Big Creek Watershed) and denser in urban areas to the south (1990 population density of 1,050 people per square kilometer in the Rottenwood Creek watershed) (NPS 2000e).

### **Land Use**

Local governments in Georgia, such as counties and incorporated municipalities, have responsibility for land use management and water quality protection. Their roles include master planning, zoning enforcement, storm water ordinance control, and water and wastewater planning. The U.S. Army Corps of Engineers, Mobile District manages the Buford Dam and Lake Lanier, located at the northern end of the park. The Corps of Engineers plays a key role in the management of the park through its control of river flow (NPS 2000e). The National Park Service increasingly participates on

**Table 18: Population Growth in the Metropolitan Atlanta Area from 1990 to 2000**

County	Population		Change in Population	
	1990	2000	Numeric	Percent
Gwinnett	352,910	588,448	235,538	66.7
Fulton	648,951	816,006	167,055	25.7
Cobb	447,745	607,751	160,006	35.7
Forsyth	44,083	98,407	54,324	123.2
Atlanta MSA	4,112,198	2,959,950	1,152,248	38.9

Source: U.S. Census Bureau (2000)

various commissions and boards dealing with land use issues, sprawl, smart growth, park planning, zonings by county and by cities, and regional and state studies of land use trends and their affects on local development and quality of life.

The four heavily populated counties of Cobb, Forsyth, Fulton, and Gwinnett are involved in land use planning activities that also affect the park. All four counties are required by State of Georgia Land Planning enabling legislation to prepare comprehensive plans for management of land use, infrastructure, and the financing of implementation of those same plans. Land use planning for each county along the Chattahoochee River is also specifically protected by Metropolitan River Protection Act requirements (also discussed in the “Aesthetics/Viewsheds” subsection).

Park units about the cities of Atlanta, Duluth, and Roswell, and are relatively close to Alpharetta, Buford, Suwanee, and Cumming. Atlanta’s Standing Peachtree Creek area has a municipal water facility and historic land uses that include mill and Fort Peachtree properties. Older Atlanta neighborhoods and industrial uses are the predominant land uses along the park boundaries. Resolution of the multi- year lawsuit on wastewater and storm water disposal from the City of Atlanta has prompted plans to purchase tributary buffers along the Chattahoochee River and the river itself as a means of improving water quality. The City of Roswell and the City of Alpharetta have combined to create citywide linking green belts along the Big Creek tributaries.

Municipalities that directly connect to the park have often taken leading roles in land use planning. The City of Roswell comprehensive plan provides an award winning park and recreation plan, an Adopt- A- Stream program, and land use buffer systems beyond state minimums. The Gwinnett cities of Buford and Suwanee have approved new funding for open space purchases to support implementation of their comprehensive planning efforts. Duluth was an early leader in the formation of groups that supported the initial development of the park.

The Atlanta Regional Commission, the North Georgia Regional Water Authority, the Georgia Department of Natural Resources, and the new Georgia Regional Transportation Authority play active roles in natural resource management, environmental assessment, watershed protection, and land use planning. New land use enforcement efforts are geared towards large land use developments called Projects of Regional Impact. Guidelines for these projects have recently been approved to provide wiser choices regarding compact growth, transportation alternatives, and green space protection. The state and regional agencies continue to expand enforcement and protection responsibilities in land use development activities. In addition, various community- based organizations and stakeholders have influenced in resource management ( NPS 2000e).

Land use in the northern end of the park and vicinity is primarily characterized by rapid population growth and urban sprawl. Urbanization has converted approximately half of the land in the vi-



cinity of the park from agricultural or forested uses to residential, commercial, industrial, or other more intensive uses. Development has followed the major transportation corridors (I- 75, I- 285, Georgia 400) and includes high- rise buildings, industrial sites, subdivisions, and highway expansions (NPS 2000e). The National Park Service has increasingly focused on these transportation corridors because of runoff and viewshed issues related to intense new developments in these key economic corridors.

The southern end of the park, including the City of Atlanta and parts of Fulton County, is the most densely developed area. and the most heavily used by visitors. The northern portion of the park still contains some open fields and forests, and Forsyth County has large pockets of rural land uses and horse farms. However, development is increasing as urbanization sprawls northward ( NPS 2000e).

The park can serve as a green or open- space buffer for the entire region, bringing form to the land use patterns of the region. The density of land uses tends to increase as the distance from the park increases. In general, the park covers about a ¼- mile wide core area on each side of the river. Residential neighborhoods continue outward to ½ mile, and mixed uses to 1 mile.

This approximate ¼ mile width of the park is a community characteristic that planners refer to as the “walking distance.” This core area is the least developed, with notable exceptions in the southern portion of the metro region, where industrial land uses and mill housing were developed earlier in the 20<sup>th</sup> century around Atlanta proper.

Up to ½ mile beyond the park boundaries, the neighboring area has various densities of residential development. Existing land uses are primarily single family residential except at key hubs near major traffic interchanges or intersections. These major activity centers involve a mix of non-residential and residential land uses, as on the Georgia 400 Corridor at Northridge and at locations along the I- 285 perimeter highway near Cumberland Mall.

The 1- mile distance represents the approximate limits of a nexus of land use planning and conditions that can buffer the park. Stream buffers

throughout the watershed are protected under local and state authority. The core park area land, the residential ring, major activity centers, and industrial, apartment, and office land uses make up the overall layering of land use patterns.

## **Economics**

The park corridor abuts some of the wealthiest areas of metropolitan Atlanta. The average household income in the Roswell Communities, for example, is estimated at over \$100,000 per family. The combined real estate value of parcels in close proximity to the park has been estimated at approximately \$15 billion (Trust for Public Land 2001). Comparisons of waterfront and parkfront properties to non- park parcels show significantly higher values for properties adjacent to rivers and parks. For example, properties and lease rates for New York City real estate facing Central Park, an 1800 acre green space, are as much as 40 percent higher than average rates. The economic value of the national park to the metropolitan Atlanta region has not yet been quantified.

The Atlanta region has a growing office and employment market due to geographic location, private sector planning, and telecommunication innovators such as Lucent Technologies and Bell South. An estimated 28 fiber optic cable systems converge along two major fiber corridors, the most in the United States. In the metropolitan area, business real estate trends are measured by economic growth in sub markets. Downtown Atlanta has grown 24.1 percent in, the Central Perimeter 25.2 percent, north Fulton 18.8 percent, midtown Atlanta 14.4 percent, Buckhead 12.5 percent, and south Atlanta 5.0 percent.

The most appropriate economic submarkets in the park watershed are north Fulton and the Central Perimeter. In the Chattahoochee River watershed, the north Fulton County submarket encompasses most of two important counties that contain park properties: Forsyth County and north Fulton County, including the cities of Roswell and Alpharetta. This area contains 18.8 percent of the rentable office space for the entire Atlanta region, according to CoStar Real Estate Group 2001 projections.

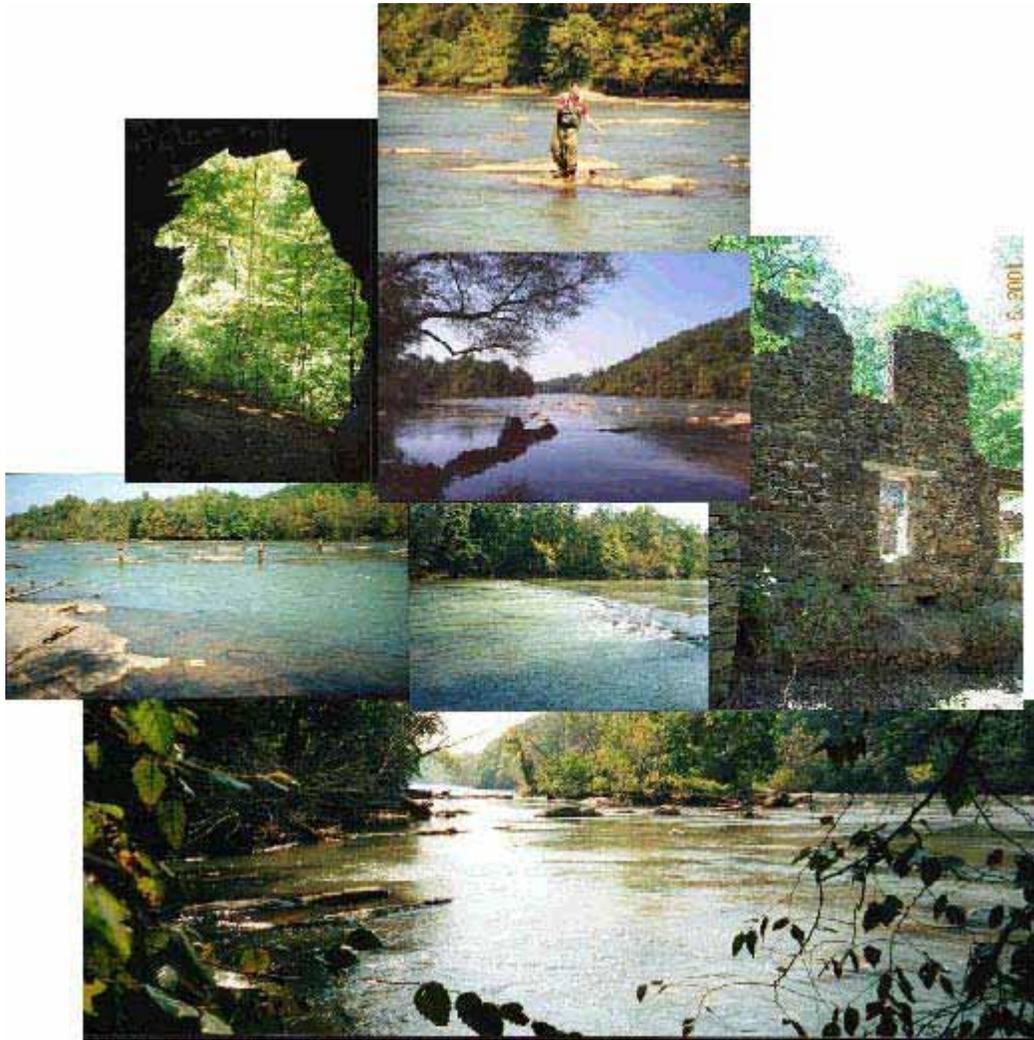
The four- county area contained 1,231,000 employees in 1990, growing to 1,578,000 employees in

2000. Projections for 2025 estimate that 2,206,000 persons will be employed in the area; this represents a growth of 40 percent over the 2000 employment base (Atlanta Regional Commission 2001a). Even with the 2001 downturn in the national economy, the north Atlanta submarket economic environment is expected to be strong, and development along the park corridor is expected to continue. This trend will mean continued pressure on development within the Chattahoochee River watershed and on the fragile environs of the narrow band of park habitats that wind through the north Fulton and I- 75/I- 285 areas of the region.

Park revenues reflect these economic trends. Fees from parking permits and related sources are estimated at \$553,178 for fiscal year 1999, up from \$437,243 in 1998 and \$198,680 in 1997. The climbing revenues indicate a substantially increased demand on the parks, parking lots, trails, restroom facilities, interpretative activities, security, and related services.



## ENVIRONMENTAL CONSEQUENCES



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## ENVIRONMENTAL CONSEQUENCES

### IMPACT ASSESSMENT METHODOLOGY

The interdisciplinary planning team created a process for impact assessment based on the directives of the Director's Order #12 handbook (Section 4.5(g)) (National Park Service 2001a). The methods are generally described in this section.

**Step 1:** For each impact topic, identify applicable regulations that affect that resource, visitor experience, or issue area. The section entitled "Servicewide Mandates and Policies" summarizes the applicable regulations for each impact topic. Impact topics are presented in the section entitled "Affected Environment". The impacts of each alternative on the environment are assessed in accordance with the applicable regulations and policies as defined in the NPS *Planners' Sourcebook: Director's Order 2: Park Planning, Framework for National Park Service Park Planning and Decision Making* (National Park Service 1999) and *Director's Order #12: Conservation Planning, Environmental Impact Analysis, and Decision-making* and the accompanying *Handbook for Environmental Impact Analysis* (National Park Service 2001a). NPS regulations and policies are in turn based on the requirements of the National Park Service Organic Act (16 U.S.C. 123, and 4; Act of Aug. 25 1916 (39 Stat. 535, and amendments thereto), Council on Environmental Quality regulations (43 FR 56003, Nov. 29, 1978; 44 FR 874, Jan. 3, 1979)(CEQ 1978), and the requirements of the National Environmental Policy Act of 1969, as amended (Pub. L. 91- 190, 42 U.S.C. 4321- 4347, January 1, 1970, as amended by Pub. L. 94- 52, July 3, 1975, Pub. L. 94- 83, August 9, 1975, and Pub. L. 97- 258, § 4(b), Sept. 13, 1982).

These laws, regulations and policies require: (1) a generic, program- level assessment of the potential environmental effects of the alternatives; (2) a comparison of the effects of each of the action alternatives with the No Action Alternative as a basis for predicting future conditions; (3) an assessment of the duration, intensity, and context of the potential effects of proposed actions as a means evaluating the potential significance of anticipated environmental impacts; and (4) a demonstration that "impairment" of park

resources would not result from implementation by any of the proposed alternatives. The methods presented in this section meets all of these requirements.

All of the referenced legal and regulatory requirements have been incorporated into the methodology for assessing impacts in this general management plan/environmental impact statement.

**Step 2:** Define issues of concern based on public input. The issues of concern are summarized in the section entitled "Alternatives" and Table C- 1 in Appendix C. To assure that all issues identified during scoping were fully assessed, all impact topics were also cross- linked to the original list of issues identified by the public during scoping of the general management plan/environmental impact statement. Appendix Table C- 1 lists the original issues identified during public meetings and workshops. Appendix Table C- 2 includes these links.

**Step 3:** Identify the geographic area that could be affected. The geographic area is either regional or local. Regional effects are defined as those types of changes that would result within the Atlanta Metropolitan Area. Local effects are defined as those types of effects that occur within the park, or within a short distance from the park's boundaries. Because the Chattahoochee River National Recreation Area is a very narrow park over 48 miles in length, and is located in the center of a rapidly developing urban and suburban area, local effects vary from north to south and are largely dependent on whether the area is urban or suburban. The southern portion of the park in Fulton County and lower Cobb County is located in more densely populated urbanized areas and experiences the greatest amount of visitor use, especially at the Cochran Shoals and Vickery Creek areas. The northern portion of the park, primarily in Gwinnett, Forsyth and northern Cobb counties, is surrounded primarily by suburban communities with some rapidly growing urban areas. This portion of the park experiences much lower levels of visitor use. These geographic factors are assessed in the impact analysis, and are important features of the park. Also, because rapid growth is occurring



throughout the entire 48-mile corridor of the park in various forms, these geographic differences are expected to change in the next planning period, and are expected to be an important factor affecting the park through encroachment, increased trail and park facility use, and increased levels of stormwater runoff reaching the park through large numbers of perennial and intermittent streams that connect the park to adjoining areas. These potentially adverse effects are exacerbated by the fact that the watershed is long and narrow, with little chance for retardation of stream flow by settling. In the long-term, therefore, the location of the park will play a major role in future conditions within the park, especially for terrestrial ecological resources and water resources. These effects are defined qualitatively in the general management plan/environmental impact statement using available information on the geographic features of the park, information on the natural and cultural resources in the park, as well as information on expected future growth and transportation patterns.

**Step 4: Define the resources and visitor experiences** within the area that could be affected. This information is included in the “Affected Environment” section according to impact topics identified during public meetings and workshops.

**Step 5: Compare the resources and visitor experiences** in the park to the area of potential effect. This step was taken to establish a qualitative basis for comparing the effects of the action alternative to those of the No Action Alternative. The following assumptions were used in this analysis:

Resources in the park include, for example, wetlands, terrestrial ecological habitats, endangered species, prime and unique farmlands, floodplains, historical and archeological sites.

The area of potential effect refers to the extent to which an alternative might impact the various resources.

Current visitor experiences in the park include hiking, mountain and street biking, walking for exercise, jogging, fishing, motor boating, canoeing, kayaking, rafting, picnicking, and nature observation.

Each alternative would have a different area of potential effect because each involves different levels of facility use and development and different types of visitor use and experience.

The area of potential effect is related to the combinations of zones assigned to each alternative. Alternatives that involve more active forms of recreation and more potential for construction of park facilities were assumed to have a greater or lesser area of potential effect relative to the No Action Alternative. The percentage of the total acreage of the park occupied by each zone under each alternative was used as an indicator of the level of facility development and the types of visitor experience, types of facilities, and types of appropriate activities that would occur under each alternative (Table 19).

Higher levels of park-related construction and more active forms of visitor use would occur in the Developed Zone, Natural Area Recreation Zone, and Cultural Resource Zone. The percentages of the total acreage of the park occupied by each of these three zones were therefore added to provide a relative basis for comparison. In contrast, lower levels of park-related construction and more passive visitor activities and types of experience would occur in the Urban Primitive Zone and Pristine River Zone, so these percentages were also combined (Table 19).

Under the No Action Alternative, existing management policies would be continued, with some new construction, but it was assumed that existing levels of park planning would be expected to continue into the future. Therefore, resource planning and implementation would continue with gaps and limitations due to existing levels of funding and staffing.

All of this information was used qualitatively to determine the potential area of effect in relation to resources. Detailed descriptions of how this determination was made for each impact topic are provided in the individual sections.



Table 19. Primary Features of Each Alternative and Percentages of total 10,000 Acre Park in Each Zone.

Alternative	Visitor Experience	Types of Facilities	Appropriate Activities	Percentage of Total 10,000 Acre Park Designated for Each Zone and Subtotals for Specific Zones						
				Developed Zone	Natural Area Recreation Zone	Cultural Resource Zone	Sub Total <sup>1</sup>	Urban Primitive Zone	Pristine River Zone	Sub Total <sup>2</sup>
Focus on Solitude	Highest relative degree of solitude; Environmental education programs emphasized.	Unpaved walking trails only; No trails or structures allowed next to river; new facilities constructed outside park boundaries; Extensive habitat restoration; natural habitats maintained to greatest extent possible. Five Developed Zones No Hubs	Non-mechanized boating only - (canoeing, rafting); hiking, fishing (from bank only in Pristine River Zone), passive recreation only	2.73	20.27	8.75	31.75	49.00	19.25	68.25
Centralized Access	Focused on the interpretive activities and other facilities within several "hubs", which would allow services for visitors to be expanded with minimal effects on natural and cultural	System of three relatively developed hubs for administrative, and interpretive facilities. Three hubs consisting of trail head, parking lot, and minimal ancillary facilities.	Passive and active recreation: biking, hiking, fishing, rafting, canoeing, motor boating (in upper part of Bull Sluice	2.69	29.16	7.77	39.62	41.13	19.25	60.38



Table 19. Primary Features of Each Alternative and Percentages of total 10,000 Acre Park in Each Zone.

Alternative	Visitor Experience	Types of Facilities	Appropriate Activities	Percentage of Total 10,000 Acre Park Designated for Each Zone and Subtotals for Specific Zones						
				Developed Zone	Natural Area Recreation Zone	Cultural Resource Zone	Sub Total'	Urban Primitive Zone	Pristine River Zone	Sub Total'
Centralized Access (Cont.)	resources in the park. Visitors, in lower numbers, could enjoy the extensive natural habitats and cultural resources in the undeveloped portions of the park. Visitor activities in natural areas outside the hubs would be focused on achieving solitude in an urban environment. Environmental education programs would be emphasized. Visitor experience in this alternative would be more participatory. A nine- mile pristine river zone would be established.	Specific locations of the hubs have not yet been determined and are discussed generically in this document as a result. Five developed zones Hubs would provide visitor information, rest rooms, parking lot and roads, trail head, and access to the river. Trailheads and parking lots minimized outside of hubs. Would discourage expanded new entrances to the park. Would encourage NPS supervision, education, and monitoring where the use is greatest.	lake only)							



Table 19. Primary Features of Each Alternative and Percentages of total 10,000 Acre Park in Each Zone.

Alternative	Visitor Experience	Types of Facilities	Appropriate Activities	Percentage of Total 10,000 Acre Park Designated for Each Zone and Subtotals for Specific Zones							
				Developed Zone	Natural Area Recreation Zone	Cultural Resource Zone	Sub Total'	Urban Primitive Zone	Pristine River Zone	Sub Total'	
Centralized Access (Cont.)		Public- private partnerships would be created to help manage and protect park resources, while at the same time allowing the public to enjoy the resources available.									
Expanded Use	Access to the park expanded for individuals, families, and day use visitors from business parks and neighborhoods. Would provide trail linkages to city/county-funded and supervised local county and or city parks. Trails from existing and proposed developments would be managed to encourage use by an expanded group of visitors. This would	Facilities for the park distributed throughout the 48 miles based upon availability of resources and local community support. No hubs Eleven Developed Zones A greater and more diverse population of residents would be served. Would have the potential to	Passive and active recreation: biking, hiking, fishing rafting, picnicking, canoeing, motor boating (in upper part of Bull Sluice lake only)	4.68	74.13	6.81	85.62	14.38	0	14.38	



Table 19. Primary Features of Each Alternative and Percentages of total 10,000 Acre Park in Each Zone.

Alternative	Visitor Experience	Types of Facilities	Appropriate Activities	Percentage of Total 10,000 Acre Park Designated for Each Zone and Subtotals for Specific Zones					
				Developed Zone	Natural Area Recreation Zone	Cultural Resource Zone	Sub Total <sup>1</sup>	Urban Primitive Zone	Pristine River Zone
Expanded Use (Cont.)	<p>require a higher level of self- help and individual reliance from a wide range of sources.</p> <p>Implementation of a proactive NPS outreach program would be part of this alternative.</p> <p>Expanded use would de- emphasize solitude and emphasize a more social, community- based group experience.</p> <p>Characterized as a visitor experience of convenience and personal attachment.</p>	<p>strengthen community involvement in environmental protection of the park, and its resources.</p> <p>Through local self- help education and voluntary public/private partnerships, park stewardship could be enhanced.</p> <p>Expanding uses and access would require a redefinition of gathering spaces surrounding the park that would be used for picnics, celebrations, neighborhood meetings, and family walks,</p>							



Table 19. Primary Features of Each Alternative and Percentages of total 10,000 Acre Park in Each Zone.

Alternative	Visitor Experience	Types of Facilities	Appropriate Activities	Percentage of Total 10,000 Acre Park Designated for Each Zone and Subtotals for Specific Zones						
				Developed Zone	Natural Area Recreation Zone	Cultural Resource Zone	Sub Total <sup>1</sup>	Urban Primitive Zone	Pristine River Zone	Sub Total <sup>2</sup>
No Action	Continue the current management pattern into the future.	The park would be maintained and managed similar to existing conditions. Some new facilities but an environmental assessment would be required for each one, not tiered to a general management Plan. No resource or trail management plans or visitor education and outreach programs The current park road system would be retained and existing traffic management would continue.	All current allowable activities: biking, fishing, hiking, rafting, canoeing, motor boating throughout the park, picnicking.	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Subtotal of Developed Zone, Natural Area Recreation Zone and Cultural Resource Zone represents areas zoned for more active visitor use, and potentially higher levels of construction of new facilities in developed zones.

Subtotal of Urban Primitive Zone and Pristine River Zone reflects greater emphasis of these zones on more passive forms of recreation, and very limited construction.



**Step 6: Identify the effects** caused by each alternative in relation to the No Action Alternative. These were estimated qualitatively using the following assumptions:

The No Action Alternative would continue the existing management programs and plans in the park, and add some new facilities in the future. This alternative would have some degree of land disturbance as a result of construction of new facilities, and also as a result of lack of implementation of any new resource and other management plans. Conditions of resources in the park, as well as the quality of the visitor experience, would degrade to some extent as a result. However, environmental assessments would still be required for construction and operation of individual park projects, which would help assure that these effects were minimized or avoided to the extent possible.

The Focus on Solitude Alternative would involve the least amount of land disturbance and would place greater emphasis on passive forms of visitor use as compared with the No Action Alternative. Resource and other management plans would also be implemented under this alternative that would benefit the park's resources and visitor experiences. Environmental assessments would be required for construction and operation of individual park projects, and they would be tiered to the general management plan/environmental impact statement. This would also benefit the park, and would help assure that these effects were minimized or avoided. Implementing plans would focus on avoiding or minimizing adverse effects to the extent possible.

The Centralized Access Alternative would involve an intermediate amount of land disturbance and a more varied mixture of active and passive forms of visitor use as compared with the No Action Alternative. Visitor use would be concentrated in a system of up to three hubs that would allow the mixture of visitor uses to be managed more effectively, and with lower intensity effects on natural and cultural resources as compared with the No Action Alternative. Resource and

other management plans would also be implemented under this alternative that would benefit park resources and visitor experiences. Environmental assessments would be required for construction and operation of individual park projects, and they would be tiered to the general management plan/environmental impact statement. This would benefit the park, and would help assure that these effects were minimized or avoided to the extent possible.

The Expanded Use Alternative would have the highest relative potential for land disturbance caused by the construction of new park facilities. This alternative would have the most intense and varied mixture of active and passive forms of visitor use as compared with the No Action Alternative. Resource and other management plans would also be implemented under this alternative that would benefit the park. Environmental assessments would be required for construction and operation of individual park projects, and they would be tiered to the general management plan/environmental impact statement. This would benefit the park, and would help assure that these effects were minimized or avoided to the extent possible.

The context, duration, type, and intensity of effects on each impact topic were determined qualitatively using the above assumptions. The following description explain these impact concepts:

**Context of the effect:** whether the area affected by the alternative would be local, regional, or national in scale of effect. The context of an effect is defined as the setting in which changes resulting from an action occur. The following definitions of impact context were used in this general management plan/environmental impact statement.

Local or site- specific effects were defined as those that result in a change in the natural or manmade environment within park boundaries, either at a single location or at several locations. Local effects on the area immediately surrounding the park could also occur



as a result of implementation of a proposed general management plan alternative.

Regional effects were defined as those that could affect the Atlanta Metropolitan Region and all of Georgia, but no other states in the region. This approach was taken to ensure that large-scale effects of a general management plan alternative would be considered and recognized should they extend beyond this area.

National effects were defined as ones that could affect the entire country.

**Duration of the effect:** the persistence or duration of an effect is an important consideration in understanding the potential consequences of a proposed action. This analysis considered both short-term or long-term effects. Unless an impact-topic-specific definition of these terms is provided, the following were used:

A short-term impact would last only a few days or weeks.

A long-term impact would last several years or more, or would recur periodically over several years.

**Type of effect:** understanding whether a proposed change could lead to either desirable or undesirable effects is important in choosing among alternatives. This analysis process systematically considered five types of potential effects: adverse, beneficial, direct, indirect, or cumulative. The following definitions are used:

**Adverse or Beneficial Effects:** Adverse effects include changes that result in some degree of degradation of a resource, experience, or value. Beneficial effects are changes that result in an improvement in a resource, experience, or value, either from the perspective of natural and cultural resources, or from a social and economic perspective.

**Direct Effects:** Direct effects are changes in the environment caused by an action that occur at the same time

and place (CEQ 1978). The general categories of direct effects assessed in this general management plan/environmental impact statement include natural and cultural resources, traditional park character and visitor experience, community character, and local and regional transportation. The following is a summary of the methods used to assess direct effects:

Direct effects on natural and cultural resources could occur from land disturbance activities associated with construction projects in the park, and/or from operation of new park facilities. Direct effects were assessed by qualitatively estimating the combined effects of potential land use changes and prescribed uses in each zone and under each alternative, and comparing each alternative to expected future conditions under the No Action Alternative.

Direct effects on traditional park character and visitor experience were assessed by qualitatively comparing the projected visitor's recreational, personal, sport or educational experience under each alternative to the No Action Alternative. Alternatives with fewer park facilities would be expected to offer the visitor more solitude and isolation, whereas alternatives characterized by a greater number of facilities such as trails and interpretive centers, would offer visitors a more structured experience as compared to the No Action Alternative. The alternatives also vary with regard to the amount of active recreational opportunities available to visitors.

Direct effects on community values were defined as the way visitors interpret appropriate uses of the park, and are therefore related to visitor experience. Effects on



community values were assessed by comparing how the public views the appropriate uses of the park under each alternative in relation to the No Action Alternative.

Direct effects on local and regional transportation were evaluated by qualitatively assessing: (1) potential effects of proposed transportation systems within the park on Atlanta regional transportation conditions; (2) potential effects of projected transportation conditions in the surrounding area on the park; and (3) potential effects of proposed future park transportation systems on the park itself, in relation to the No Action Alternative. Proposed transportation systems within the park were predicted based on the information provided in “*Table 1: Summary of Chattahoochee River National Recreation Area Management Prescriptions*”. Future transportation systems in the area were based on projections made by local governments in the four county area, the Georgia Department of Transportation, and the Atlanta Regional Commission. The potential effects of each alternative were qualitatively compared to projected transportation conditions under the No Action Alternative.

**Indirect Effects:** Indirect effects were defined as “those effects that were caused by an action but is later in time, or farther removed in distance, but still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.” (CEQ 1978). For purposes of this general management plan/environmental impact statement, it was assumed that none of the management alternatives would change

growth patterns in the area surrounding the park. As the Atlanta area continues to grow, these patterns will continue in the vicinity of the river, regardless of park actions. Therefore, indirect effects of park management alternatives on the surrounding areas are not addressed further.

**Cumulative Effects:** Cumulative effects were defined as “... the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” (CEQ 1978)(40 CFR 1508.7). Other past, present, and reasonably foreseeable future actions by other entities include actions proposed or taken by local governments, private industry, or other organizations inside or outside the park boundaries. The National Park Service (National Park Service 2001a) defines the cumulative effect of that project as the combined effects of all actions: “The cumulative impacts analysis may therefore be thought of as the following mathematical equation:  $X + Y = Z$ , where ‘X’ is the impact of alternative A on a resource [the incremental effect], ‘Y’ is the impacts of other actions on the same resource, and ‘Z’ is the cumulative impact.” (National Park Service 2001a). The qualitative method for assessing cumulative effects is provided in Step 8.

**Intensity of the effect:** four classifications of impact intensity are used in this analysis: negligible, minor, moderate, or major. Effect intensity refers to the size or strength of an effect. Impact- topic- specific “thresholds” for each of these classifications are provided in each impact topic methodology section. Threshold values were developed based on federal and state standards, consultation with regulators from applicable agencies, and discussions with subject matter experts. The



following general definitions for levels of intensity were used:

Negligible – Effects would be considered not detectable and would have no discernible effect on a resource or impact topic. No mitigation would be required.

Minor – Effects would be expected or likely but would not be expected to have an overall effect on a resource or impact topic. Mitigation could be required and success would be likely.

Moderate – Effects would be clearly detectable and could have an appreciable effect on a resource or impact topic. Mitigation would be required and success would be likely.

Major – Impacts would have a substantial, highly noticeable influence on a resource, mitigation would be required and success might not be assured.

Specific intensity thresholds were developed for each impact topic using the above general threshold definitions. Intensity thresholds were assigned to each impact topic, and provided the basis of comparing the effects of each alternative to the No Action Alternative. Mitigation was included in the detailed threshold definitions for each impact topic because these measures would offset potentially adverse effects of construction and operation of park facilities. The net intensity of the impact is therefore relative to both the potential impacts of a proposed action and the implementation of appropriate mitigation measures. These were assumed to include best management practices for construction projects, as well as development and implementation of environmental assessments, resource management plans, and other management plans. Environmental assessments were considered to be forms of mitigation because they involve a thorough alternative site selection and design analysis process, and an assessment of baseline conditions that allow for avoidance, reduction, or minimization of potential adverse effects of proposed park actions on

natural and cultural resources.

Implementation of resource and other management plans are also considered to be forms of mitigation because they involve plans for management of all aspects of the resources and trails, including erosion control, visitor use/access, and management concerns.

**Step 7: Determine whether impairment would occur to resources and values that are considered necessary and appropriate to fulfill the purposes of the Chattahoochee River National Recreation Area.** In addition to determining the environmental consequences of the preferred and other alternatives, the 2001 National Park Service Management Policies and Director's Order #12 (NPS 2001a) require analysis of potential effects to determine if actions would impair resources in the park.

The fundamental purpose of the National Park Service, established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to conserve park resources and values. National Park Service managers must always seek ways to avoid or minimize to the greatest degree practicable adverse impacts on park resources and values. However, the laws do give National Park Service management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment of the affected resources and values. Although Congress has given National Park Service management discretion to allow certain impacts within parks, that discretion is limited by statutory requirement that the National Park Service must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise. The prohibited impairment is an impact that, in the professional judgment of the responsible National Park Service manager, would harm the integrity of park resources or values, including opportunities that otherwise would be present for the enjoyment of those resources or values. An impact to any park



resource or value may constitute an impairment. However, an impact would more likely constitute an impairment to the extent it affects a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;
- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or
- identified as a goal in the park's Master Plan or General Management Plan or other relevant National Park Service planning documents.

Impairment may result from National Park Service activities in managing the park, visitor activities or from activities undertaken by concessionaire, contractors, and others operating in the park. A determination of impairment is made for each impact topic within each "Conclusion" section of this environmental assessment under "Environmental Consequences."

The potential for impairment was estimated by qualitatively applying the three criteria listed above in situations where the intensity of impact was moderate or higher, as required by National Park Service guidelines and policies (National Park Service 2001a). Professional judgment and available information on the baselines conditions and features of the alternatives were relied upon to determine whether resource impairment would be likely.

**Step 8: Determine cumulative effects** by qualitatively evaluating the effects of the alternatives in conjunction with the past, current, or foreseeable future actions for the Chattahoochee River National Recreation Area and region. Cumulative impacts include the combined effects of actions inside the park, as well as the combined impacts of actions by developments outside the park. The cumulative effect of activities outside the park are beyond the park's control, and the combined effect of any park

actions under any of the action alternatives would be negligible in comparison with the effects of actions taken outside the park. Actions outside the park, in contrast, have the potential for having adverse cumulative impacts on resources inside the park. Cumulative effects were assessed by qualitatively estimating how each alternative would potentially impact the resources within the park, and how the growth and conditions in the area surrounding the park would affect resources and visitor experience inside the park boundaries. This was done by qualitatively estimating the additive effect of expected environmental changes associated with each alternative to existing, ongoing, and reasonably foreseeable actions. Appendix G contains additional information on examples of the types of projects that are either ongoing or proposed to be constructed. Because of the large number of projects that are involved, the assessment of cumulative impacts is by necessity a qualitative exercise based on a reasonable prediction of expected activities in the surrounding area, and the features of each alternative.

**Step 9: Identify mitigation measures** that may be employed to offset potential adverse impacts. Measures are presented for the construction of new park facilities and for the operation of all park activities. Most mitigation measures are either: (1) best management practices that would be applied during construction; or to (2) avoid, reduce or minimize potentially adverse impacts by developing and implementing resource management plans (including a fire management plan, a resource management plan, a collections management plan, a trail management plan, and a commercial services plan), or completing environmental assessments for construction projects. These mitigation measures are built into the thresholds, as described previously, and were used as a means of estimating the net effect of each alternative.

## HOW THE IMPACT ASSESSMENT SECTION IS ORGANIZED

Each impact assessment section provides a detailed assessment of the effects of each alternative for each impact topic, and the basis on which each threshold was selected. For each alternative, a description is provided of the impacts of



construction and operation on natural resources, cultural resources, visitor experience, and park facilities in relation to the No Action Alternative. Impacts associated with park construction were defined according to estimated changes in the environment resulting from biological, physical, and chemical disturbances caused by construction of roads, buildings, trails, parking lots, or other structures, and from an estimate of the potential effects on the type and quality of the visitor experience. Impacts of park operations were defined as effects of visitor use (habitat disturbance and use, increased traffic), effects on the type and quality of visitor experience, and the effects of biological, physical or chemical changes resulting from facility operations (i.e., storm water runoff from impervious surfaces, increased air emissions, and similar factors).

The sections that follow expand on the described approach. Each impact section is organized as follows.

**Regulations and Policy:** The relevant regulations and policies that apply to each

impact topic are summarized in the Servicewide Mandates and Policies Section of this document.

**Methodology:** Qualitative methods were used to assess impacts of each alternative on each impact topic. A description is presented at the beginning of each impact topic analysis.

**Analysis:** This section summarizes the results of the impact analysis process and identifies reasons for the anticipated effects.

**Cumulative Impacts:** This section discloses the anticipated cumulative effects of each alternative on each impact topic.

**Conclusions:** This section describes the final results of the analysis. Conclusions regarding direct and cumulative impacts of each alternative on each impact topic are provided, including an estimate of the potential for an alternative to cause impairment. Conclusions address impact intensity and duration and whether the effects would be adverse or beneficial.

## ENVIRONMENTAL IMPACTS OF THE CONTINUE CURRENT MANAGEMENT OR NO ACTION ALTERNATIVE

### IMPACTS OF NO ACTION ALTERNATIVE ON NATURAL RESOURCES

This section assesses the effects of the No Action Alternative on natural resources of the park. Assessments of the effects of the No Action Alternative on air quality; water resources (surface water hydrology, water quality, aquatic resources, and water supply); wetlands and floodplains; rare, threatened and endangered species; terrestrial ecological resources (forests and wildlife); and prime and unique farmland are included.

### IMPACT OF NO ACTION ALTERNATIVE ON AIR QUALITY

#### Regulations and Policy

The regulations and policies that guide National Park Service actions with respect to air quality are presented in the “Servicewide Mandates and Policies” section of this document.

#### Methodology

The air quality issue identified during scoping was the potential effect of air emissions from increasing amounts of traffic in the surrounding area on natural resources inside the park. To meet the requirements of the National Environmental Policy Act, the potential effects of air emissions from all activities in the park during construction and operation were also assessed. The methodology for assessing the impacts of the alternatives was to qualitatively estimate projected emissions resulting from construction and operation activities in the park on the surrounding area, and compare the estimated emissions to the No Action Alternative. For this analysis, it was assumed that emissions resulting from park activities under the No Action Alternative were extremely small in comparison with emissions originating outside the park in the surrounding Atlanta Metropolitan Area.

Impairment of air quality resources would occur if there was a major adverse impact to air resources



or values whose conservation was (1) necessary to fulfill specific purposes identified in the establishing legislation of the park or parkway, (2) key to the natural or cultural integrity of the park and parkway or opportunities for enjoyment of these units, or (3) identified as a goal in this general management plan or other National Park Service planning documents.

The impact thresholds used for estimating the intensity of different types of impacts on air quality are presented in Table 20.

**Table 20. Impact Thresholds for Air Quality**

Negligible adverse: Effects of air quality from emission sources in the area surrounding the park are not detectable and would have no discernable effect on natural resources or visitor experience in the park.
Minor adverse: Effects of air quality from sources in the area surrounding the park are slightly detectable and are not expected to have an overall effect on natural resources or visitor experience in the park.
Moderate adverse: Effects of air quality from sources in the area surrounding the park are clearly detectable and could have an appreciable effect on air quality, natural resources or visitor experience inside the park.
Major adverse: Effects of air quality from sources in the area surrounding the park are substantial and could have a highly noticeable effect on natural resources or visitor experience inside the park.
Negligible adverse: Effects of air quality from emission sources within the park are not detectable and would have no discernable effect on air quality in the area.
Minor adverse: Effects of air quality from sources within the park are slightly detectable and are not expected to have an overall effect on air quality in the area.
Moderate adverse: Effects of air quality from sources within the park are clearly detectable and could have an appreciable effect on air quality in the area.
Major adverse: Effects of air quality from sources within the park are substantial and could have a highly noticeable effect on air quality in the area.

## Analysis

Under the No Action Alternative, the limited number of new park facilities would produce a negligible increase in fugitive dust from construction sites and from vehicle emissions during operation. Air emissions resulting from these actions would result in negligible, short-term adverse direct impacts on air quality due to the small amounts of emissions produced.

## Cumulative Impacts

The No Action Alternative would result in negligible, adverse long-term cumulative effects on air quality because of the small volumes of air emissions that would occur from the few facilities that would be constructed and operated. Park operations would result in negligible effects on plants and animals in the park.

The population in the Atlanta area is projected to continue to expand, and as this occurs, traffic volumes and associated air emissions are likely to increase in and around the park. The volume of air emissions and effects of these increases would greatly exceed any increased emissions associated with the No Action Alternative, or any of the three action alternatives. The Atlanta area is currently not meeting air quality standards for ozone, and this situation may not change for the foreseeable future. Emissions in the more urbanized southern areas of the park would be expected have a greater potential on park resources. However, as northern areas surrounding the park grow, these areas would also experience increased vehicle emissions. As population and traffic congestion around the park grows in the future, degraded air quality could affect park resources in as yet unidentified ways. The No Action Alternative was therefore estimated to result in moderate, long-term adverse effects on air quality and natural resources.



Implementation of this alternative would not result in any irretrievable or irreversible commitment of air quality resources with this alternative.

## Conclusions

The No Action Alternative would result in negligible, adverse long- term direct and cumulative effects on air quality because of the small volumes of air emissions that would occur from the few facilities that would be constructed and operated.

As the population and traffic congestion around the park increases in the future, degraded air quality could affect park resources in as yet unidentified ways. This would probably constitute a moderate adverse, long- term cumulative effect on air quality that would occur under all of the alternatives.

There would be no impairment of air quality as a result of park actions under this alternative.

## IMPACTS OF NO ACTION ALTERNATIVE ON WATER RESOURCES

### Regulations and Policy

The regulations and policies that guide National Park Service actions with respect to water resources are presented in the “Servicewide Mandates and Policies” section of this document.

### Methodology

Water resource issues identified during scoping included: (1) the potential effects of construction and operation of NPS projects on surface water hydrology, water quality and aquatic ecology of streams inside the park, including the Chattahoochee River; and (2) potential effects of development in the area surrounding the park on surface water hydrology, water quality and aquatic life inside the park, including the Chattahoochee River.

To address these issues, an assessment of the effects of projected park actions and development in the area surrounding the park on water resources was made using qualitative estimates of

the expected levels of construction inside the park, and expected levels of growth outside the park. Qualitative estimates of these effects were made, and the effects were compared to the No Action Alternative. The major assumptions used in the analysis of construction- related effects were that: (1) potential effects on water resources from construction sites are primarily related to increased runoff of storm water from disturbed land at construction sites; and (2) as the amount of land disturbing activity increases under a given alternative, the potential for increased runoff and associated pollutants from construction sites increases. The major assumption for assessing operation- related effects on water resources was that the volume of storm water runoff and associated pollutants from impervious surfaces from park facilities during operation would increase as the number of new park facilities being operated increases.

In addition to these assumptions, it was also assumed that a resource management plan and an integrated trail system plan would not be prepared and implemented under the No Action Alternative. This implies that plant and animal resources associated with terrestrial and aquatic habitats would not be inventoried beyond what is currently known, and that habitat restoration activities would be minimal. The trail system would not be managed as effectively as it would be under an implemented plan.

Despite these differences, best management practices for construction would still be implemented on any construction project proposed by the park under the No Action Alternative. In addition, potentially adverse effects of construction on water resources would be minimized by implementation of site- specific environmental assessments tiered to the general management plan/environmental impact statement. Effects of individual projects on water resources would be effectively assessed, and mitigation measures employed.

Impairment of water resources would occur if there was a significant adverse impact to these resources or values whose conservation was (1) necessary to fulfill specific purposes identified in the establishing legislation of the park or parkway, (2) key to the natural or cultural integrity of the



park and parkway or opportunities for enjoyment of these units, or (3) identified as a goal in this general management plan or other NPS planning documents.

The impact thresholds used for estimating the intensity of different types of effects on water resources are presented in Table 21.

**Table 21. Impact Thresholds for Surface Water Quality**

Negligible adverse: Effects of runoff on surface water quality of the streams inside the park related to construction, operation, or visitor use are not detectable.
Minor adverse: Effects on surface water quality of the streams inside the park related to construction, operation, or visitor use are slightly detectable with no overall change. Structural and non- structural mitigation of potentially adverse effects is implemented via best management practices and resource and other management plans, and results in noticeable beneficial effects on water quality.
Moderate adverse: Effects of runoff on streams inside the park related to construction, operation, or visitor use are clearly detectable and are expected to have an appreciable effect on surface water quality. Structural and non- structural mitigation of potentially adverse effects is implemented via best management practices and resource and other management plans, and results in noticeable beneficial effects on water quality.
Major adverse: Effects of runoff on streams inside the park related to construction, operation, or visitor use are substantial and highly noticeable, and are expected to have a permanent effect on surface water quality. Mitigation of potentially adverse effects is implemented, but with minimal beneficial results.
Negligible adverse: effects of nonpoint surface runoff from development in the surrounding area on water quality of streams in the park are not detectable.
Minor adverse: effects of nonpoint surface runoff from the development in the surrounding area on water quality of streams in the park are slightly detectable with no overall change

**Table 21. Impact Thresholds for Surface Water Quality**

Moderate adverse: effects of nonpoint surface runoff from the development in the surrounding area on water quality of streams in the park are clearly detectable and are expected to have an appreciable effect on surface water quality.
Major adverse: effects of nonpoint surface runoff from the development in the surrounding area on water quality of streams in the park are substantial and highly noticeable, and are expected to have a permanent effect on surface water quality.
Negligible beneficial: Implementation of management plans and best management practices improves water quality in a very small area. Overall effect is detectable, but very small.
Minor beneficial: Implementation of management plans and best management practices improves water quality in a small area inside the park. Overall effect is clearly detectable.
Moderate beneficial: Implementation of management plans and best management practices improves water quality in several small areas inside the park. Overall effect is clearly detectable.
Major beneficial: Implementation of management plans and best management practices improves water quality in several small areas and/or several large areas inside the park. Overall effect is clearly detectable.

**Analysis**

Implementation of the No Action Alternative would result in varying degrees of land clearing for minimal construction activities including; limited roads, parking lots, trails and buildings. These activities would produce variable amounts of surface water runoff from disturbed land on construction sites. Under the No Action Alternative, some construction- associated runoff would be produced since a certain number of new facilities would be constructed and operated. If left uncontrolled, this runoff could cause an increase in current velocities, flow, and sedimentation in receiving streams within the park. These effects in turn would cause elimination of suitable habitat for benthic invertebrate and fish. However, under the No Action Alternative best management practices would be employed in all construction areas to



control the amount and quality of runoff. These would include erosion control measures such as type C silt fencing on slopes greater than 3%, mulching, sedimentation ponds, and use of cocoa fiber and seeding of native grasses. Few new facilities would be constructed under the No Action Alternative. The overall direct effect of construction activities under the No Action Alternative on hydrology, water quality, and aquatic ecology was therefore estimated to be negligible, adverse, and long-term.

During operation of the park under the No Action Alternative, the park would be managed according to current policies, but new resource and other management plans would not be implemented. Trails and other park facilities would not be effectively maintained as possible under the No Action Alternative, and there would be a higher potential for elevated levels of surface runoff that could reach streams within the park. Under the No Action Alternative, visitors would also continue to use the park, but visitors would be allowed access throughout the park at a wide variety of existing locations, potentially leading to an increase in trail overuse and soil erosion. Trail overuse is already a problem in some areas of the park and this would cause increased current velocities and flow in the receiving streams, as well as increased erosion of the stream bed and redeposition of sediments in stream channels. All of these changes would contribute to further degradation of habitats for fish and benthic invertebrates. However, best management practices would also be built into the design of all park facilities, which would minimize the potential for adverse effects on water resources. This alternative was therefore estimated to result in overall moderate adverse, long-term direct effects on hydrology, water quality, and aquatic ecology.

### **Cumulative Impacts on Water Resources**

The limited amount of construction and maintenance activities inside the park on water resources would result in negligible, long-term adverse effects under the No Action Alternative. This would constitute a negligible, adverse, long-term cumulative effect on surface water hydrology, water quality and aquatic resources.

During operation, visitor use would have a moderate adverse cumulative effect on water

resources as a result of trail overuse and because an integrated trails system plan or other management plans would not be developed and implemented. These plans include measures to minimize soil erosion along trails and other areas of the park. The net result would be increased soil erosion and habitat degradation over the long term.

The cumulative adverse effects of runoff related to stormwater runoff from development outside the park on water resources inside the park would continue to increase under the No Action Alternative. As the area surrounding the park becomes more developed, this problem would be expected to increase. Stormwater in the more urbanized southern areas of the park would be expected to have a greater potential effect on park resources. However, as northern areas surrounding the park grow, these areas will also experience increased stormwater runoff. This would constitute a major, adverse, long-term cumulative effect caused by factors largely outside the park's control. This would occur under all of the alternatives.

The growth in the area surrounding the park has already had a major adverse effect on fishing in the Chattahoochee River. This was identified as a major issue. However, this issue cannot be solved by the park officials effectively because it is largely outside of the parks' control. Fish diversity and populations in the river vary depending on the location along the corridor. The northern section below Lake Lanier is characterized by a relatively healthy fish community and is much less affected by nonpoint stormwater runoff as compared with the lower portion of the park. However, during intense storms, even the northernmost sections of the river, except the area immediately below Buford Dam, are affected by runoff and sedimentation loading from the surrounding area. As the northern border areas of the park corridor continue to grow, these effects on fish populations are expected to increase. Under the No Action Alternative, there would be less chance for improving this situation because there would be less coordination and planning between the National Park Service and local governments to address stormwater runoff concerns. The No Action Alternative would therefore have little effect in controlling these types of cumulative effects on fish in the river.



There would be no irreversible or irretrievable commitment of the water resources of the Chattahoochee River and its tributaries under this alternative related to National Park Service actions.

### Conclusions

Construction and maintenance of park facilities under this alternative would have negligible, adverse, direct short- and long- term effects on surface water hydrology, water quality and aquatic resources inside the park. During operation, the effects of increasing visitor use would have moderate, adverse, long- term direct and cumulative effects on water resources related to increased erosion on trails and other areas. Water resources in the park, including the Chattahoochee River, would continue to be primarily influenced by urban development in the surrounding urban watershed, however. Lack of implementation of resource and other management plans would have moderate, adverse, long- term direct effects on water resources in the park, since these plans would emphasize measures to control erosion and minimize disturbance of soil.

Stormwater runoff from development activities outside the park could result in major, long- term adverse cumulative effects on water resources in the park. This would be the same under all of the alternatives.

There would be no major, adverse impacts to water resources or values whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Chattahoochee River National Recreation Area; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents. Therefore, there would be no impairment of water resources or values in the park.

## IMPACTS OF THE NO ACTION ALTERNATIVE ON WETLANDS AND FLOODPLAINS

### Regulations and Policy

The regulations and policies that guide National Park Service actions with respect to wetlands and floodplains are presented in the “Servicewide Mandates and Policies” section of this document.

### Methodology

The issue identified during public meetings and workshops was the potential effects of park construction projects and overall plan implementation on wetland and floodplains. Potential adverse effects of the alternatives on floodplains and wetlands were assessed based on a qualitative analysis of the potential for locating projects in wetlands or floodplains, the relative extent of the effects, the effectiveness of mitigation measures employed, and the potential for addition of new wetland or floodplain areas. The impact thresholds developed for the assessment of effects on wetlands and floodplains are presented in Table 22.

**Table 22. Impact Thresholds for Wetlands and Floodplains**

Negligible adverse: Impacts on floodplains and wetlands due to filling activities are perceptible and can be measured, and are highly localized and confined to a single limited area. Mitigation would result in offsetting acreage, functions and values of affected wetlands.
Minor adverse: Effects on floodplains and wetlands due to filling activities are measurable and perceptible, and occur at more than one location. Overall effect is still within a very small area. Mitigation would result in offsetting acreage, functions and values of affected wetlands.
Moderate adverse: Effects on floodplains and wetlands due to filling activities at several small sites or a larger area at a single location. Mitigation would result in offsetting acreage, functions and values of affected wetlands.



**Table 22. Impact Thresholds for Wetlands and Floodplains**

Major adverse: Effects on wetlands due to filling activities at numerous locations of larger size, or effects on a single large wetland. Mitigation would result in offsetting acreage, functions and values of affected wetlands.
Negligible beneficial: Implementation of management plans and best management practices, and addition of new park areas protects measurable and perceptible areas of floodplains and wetlands at only one location. Overall effect is still within a very small area.
Minor beneficial: Implementation of management plans and best management practices, and addition of new park areas protects measurable and perceptible areas of floodplains and wetlands at more than one location. Overall effect is still within a very small area.
Moderate beneficial: Implementation of management plans and best management practices, and addition of new park areas protects several small wetlands or a larger wetland at a single location.
Major beneficial: Implementation of management plans and best management practices, and addition of new park areas protects floodplains and wetlands at numerous locations of larger size, or a single large wetland.

The major assumptions used in this analysis were: (1) limited but variable construction would be allowable in the park under any of the alternatives; (2) visitor use and potential effects on wetlands and trails would vary between alternatives based on the amount of facilities made available; and (3) that the highly urbanized areas surrounding the park would have a far greater potential effect on wetlands and floodplains in the park than any activities proposed under any of the action alternatives.

In addition to these major assumptions, it was also assumed that resource and other management plans would not be prepared and implemented under the No Action Alternative. This implies that wetland and floodplain resources would not be inventoried or managed beyond what is currently being done, and that habitat restoration activities would be minimal. Trails would also not be maintained to the extent possible, and the trail

system would not be managed as effectively as it would be under a management plan.

Impairment of wetland and floodplain resources would occur if there was a significant adverse impact to these resources or values whose conservation was (1) necessary to fulfill specific purposes identified in the establishing legislation of the park or parkway, (2) key to the natural or cultural integrity of the park and parkway or opportunities for enjoyment of these units, or (3) identified as a goal in this general management plan or other NPS planning documents.

### Analysis

Limited construction (such as boardwalks, or foot bridges, boat ramps, parking lots, limited roads, or small buildings) and maintenance activities would occur under the No Action Alternative. Construction activities under the No Action Alternative were estimated to have minor, adverse, long- term, direct effects on wetlands and floodplains in the park, since some construction would occur. Existing trails and facilities currently located in floodplains and wetlands would not be altered. New trail construction would still be addressed and assessed in the form of individual environmental assessments, and avoidance, minimization and compensation would be demonstrated prior to construction activity.

During operation of the park under the No Action Alternative, existing levels of protection of wetlands and floodplains would continue, but no resource management plan or integrated trail system plan would be implemented. Where erosion occurs along informal trails or overused areas, these conditions would therefore likely continue to occur, and could affect wetlands and/or floodplains in the park. This alternative was therefore expected to have minor, adverse, long-term, direct effects on wetlands or floodplains related to operation of the park. Also, no new park areas would be added that could be used to protect several small wetlands and floodplains or a larger wetland/floodplain at a single location. Overall, operation under this alternative was therefore estimated to have negligible, long- term adverse direct effects on wetlands or floodplains.



## Cumulative Impacts on Wetlands and Floodplains

Minor, adverse, long-term, cumulative effects on wetlands and floodplains inside the park would result from construction and operation of park facilities throughout the park under the No Action Alternative since this alternative would involve only limited construction and maintenance. Floodplains and wetlands throughout the park would continue to be protected from direct disturbance from park construction projects through required environmental assessments required by the National Environmental Policy Act and NPS regulations. Application of best management practices would help reduce risk to floodplain and wetland resources from stormwater runoff, erosion, filling activities, or sedimentation from sources within the park.

Wetlands and floodplains located within the park would continue to be affected by sediments and water transported via runoff during high storm water discharges originating from developed areas outside the park. Stormwater originating in the more urbanized southern areas of the park would be expected to have a greater potential on park resources. However, as northern areas surrounding the park grow, these areas will also experience increased volumes of stormwater runoff. This would constitute a major, adverse, long-term cumulative effect. The effects of stormwater runoff cannot be directly controlled by park officials and resolution of these concerns would ultimately depend on the effectiveness of watershed management planning efforts by the surrounding communities and implementation of institutional controls such as wet ponds, artificial wetlands, and non-structural best management practices by local agencies. This effect would be the same for all of the alternatives.

There would be no irreversible or irretrievable commitment of wetlands and floodplain resources under this alternative related to NPS actions.

## Conclusions

Construction and operation of park facilities under the No Action Alternative would result in **minor, adverse, long-term direct and cumulative effects on wetlands and floodplains**, since the

amount of facility construction and operation would be limited. Since no new park areas would be added under this alternative, it would have a **negligible, beneficial, direct effect**. However, the park would continue to experience **major, adverse, long-term direct and cumulative** effects on wetlands and floodplains resulting from erosion and sedimentation associated with stormwater runoff from construction activities and developed areas outside the park. These effects would continue to occur because the park is a narrow, corridor, and is located in the center of a rapidly developing urban area. The effects of stormwater runoff cannot be directly controlled by park officials and resolution of these concerns would ultimately depend on the effectiveness of watershed management planning efforts by the surrounding communities and implementation of institutional controls such as wet ponds, artificial wetlands, and non-structural best management practices by local agencies.

There would be no impairment of resources or values associated with wetlands and floodplains as a result of park actions.

## IMPACTS OF THE NO ACTION ALTERNATIVE ON RARE, THREATENED AND ENDANGERED SPECIES

### Regulations and Policy

The regulations and policies that guide National Park Service actions with respect to rare, threatened and endangered species are presented in the “Servicewide Mandates and Policies” section of this document.

### Methodology

The issue identified during scoping for this impact topic was the potential effect of construction and operation of new facilities on state- and federally-listed species in the park. The direct effects of these resources were assessed in a qualitative manner by comparing the anticipated level of land disturbing activities due to park projects and activities during construction and operation of the action alternatives to the No Action Alternative, and to the expected types and intensities of visitor use. Potential beneficial impacts were estimated by



assessing the relative potential for addition of new areas to the park that may provide increased habitat for these species, and by whether resource management plans would be implemented or not. Cumulative effects were addressed by qualitatively assessing the combined relative effect of construction of facilities inside the park on protected species, and by relating the potential effects of development in the surrounding area on these resources. Coordination was also conducted with the Georgia Department of Natural Resources and the US Fish and Wildlife Service to establish what was known regarding the occurrence of protected species in the park (see “Affected Environment” section for lists of these species).

The impact thresholds for rare, threatened and endangered species employed are presented in Table 23.

**Table 23. Impact Thresholds for Rare, Threatened and Endangered Species**

Negligible adverse: Implementation of management programs would have negligible adverse effect on state- or federally- listed species of plants and animals or designated critical habitat.
Minor adverse: Adverse impacts on state- or federally- listed species of plants and animals or designated critical habitat would probably not occur or be meaningfully measured or detected. The resource may be affected, but is unlikely to be affected. Mitigation in the form of resource management plans, other management plans, or environmental assessments would result in avoidance of sites harboring protected species, or would result in minimization or avoidance of effects of operation of new park facilities.
Moderate adverse: Implementation of management programs would have adverse impacts on state- or federally- listed species of plants and animals or designated critical habitat and would result in a local population decline due to reduced survivorship and/or a shift in distribution of the species. The resource may be affected, and is likely to be adversely affected. Mitigation in the form of resource management plans and other management plans would not be completed and would not result in minimization or avoidance of effects of construction and operation of new park facilities. Environmental assessments on individual projects would be completed, however, which would minimize or avoid construction – related effects on

**Table 23. Impact Thresholds for Rare, Threatened and Endangered Species**

protected species. Moderate adverse effects on protected species would occur primarily from operation- related actions in the park.
Major adverse: Implementation of management programs would have adverse effects that could jeopardize the continued existence of a state- or federally- listed species of plant or animal or adversely modify a designated critical habitat so that direct causality or mortality would occur. The continued existence of a protected species would likely be jeopardized or a critical habitat would be adversely modified. Mitigation in the form of resource management plans and other management plans would not be completed and would not result in minimization or avoidance of effects of construction and operation of new park facilities. Environmental assessments on individual projects would be completed, however, which would minimize or avoid construction – related effects on protected species. Moderate adverse effects on protected species would occur primarily from operation- related actions in the park.
Minor beneficial: Addition of new park areas protects measurable and perceptible areas of protected species habitat at more than one location. Overall effect is still within a very small area.
Moderate beneficial: Addition of new park areas protects several small areas of protected species habitat or a larger section of habitat at a single location.
Major beneficial: Addition of new park areas may provide protected species habitat at numerous locations of larger size, or a single large area, or large areas may be restored.

The assumptions for this analysis were that the potential for adverse effects is related to the amount of land that could be potentially disturbed under each alternative during construction and operation, and to the level and types of visitor use. It was assumed that the amount of allowable construction inside the park would be relatively small for all of the alternatives, but would vary between alternatives. It was also assumed that a resource management plan and other plans would not be prepared and implemented under the No Action Alternative. This implies that rare, threatened and endangered species would not be



inventoried beyond what is currently known. Trails would also not be maintained to the extent possible, and the trail system would not be managed in the same way as it would be under an implemented plan. Finally, it was assumed that National Environmental Policy Act environmental assessments would be prepared for site-specific projects, and that this would result in effective avoidance and minimization of potential adverse effects on protected species. However, during operation, there would still be a potential for adverse effects to occur because resource and other management plans would not be developed and implemented.

Impairment of rare, threatened and endangered species would occur if there was a significant adverse effect to these resources or values whose conservation was (1) necessary to fulfill specific purposes identified in the establishing legislation of the park or parkway, (2) key to the natural or cultural integrity of the park and parkway or opportunities for enjoyment of these units, or (3) identified as a goal in this general management plan or other NPS planning documents.

## **Analysis**

A limited amount of construction would occur under the No Action Alternative, and as a result, there would be a potential to disturb protected species habitat in the park. Construction could also result in fragmentation of protected species habitat, but because the number of projects would be few this direct adverse effect is estimated to be minor. However, under the No Action Alternative, any construction project would require a National Environmental Policy Act environmental assessment that would include rare, threatened, and endangered species surveys, consideration of alternative sites and designs, and assessments of direct and cumulative effects. Therefore, through this process, effects would be avoided or minimized to the greatest extent possible. The overall direct effects of this alternative on protected species were nevertheless estimated to be moderate, adverse and long-term since construction of new facilities would occur in the absence of any new resource or other management plans. Habitat degradation over time due to potential visitor over use and trail damage could

have a moderate, long-term adverse impact on protected species.

The location of numerous protected species of plants and animals in the park is only partially known and documented by the Georgia Department of Natural Resources/Wildlife Resources Division surveys, or other park surveys. Comprehensive park-wide surveys have not yet been conducted. Until these surveys are completed, the park would rely on site-specific surveys for individual construction project sites to assess the potential for effects on protected species. These surveys would not be conducted under the No Action Alternative on a parkwide basis, but would be required for site-specific environmental assessments.

During operation of the park, rare, threatened and endangered species would continue to be protected. However, since no new areas would be added to the park under the No Action Alternative, additional areas that might harbor protected species of plant and animals would not be added. In addition, a resource management plan and other management plans would not be prepared or implemented under this alternative, which could result in some degree of long-term habitat degradation and/or increased invasion of exotic plants in the park. This would constitute a moderate, long-term adverse effect.

There would be no irretrievable or irreversible commitment of resources as a result of implementation of this alternative.

## **Cumulative Impacts on Rare, Threatened and Endangered Species**

The cumulative effects of park construction and operation activities under the No Action Alternative on rare, threatened and endangered species within the park were estimated to be moderate, adverse, and long-term, since resource and other management plans would not be implemented. However, environmental assessments would be completed for each proposed project, which would allow for careful site selection and avoidance of impacts on protected species. Because resource and other management plans would not be implemented, there would be a greater potential for exotic species



to invade in increasing numbers, and for protected species habitats to be further degraded by increased visitor use and less effective management. The park's rare, threatened and endangered species would continue to benefit from the current level of protection the park affords, nevertheless. Effects of habitat disturbance on protected species from informal trails and visitor use would be expected to be greater in the more urbanized southern portion of the park as compared with the less developed northern section of the park. However, as the northern section develops, these effects would be expected to be similar to the southern areas.

There would be no irreversible commitment of rare, threatened and endangered species or related habitat resources with this alternative.

### Conclusions

Implementation of the No Action Alternative would result in moderate, long-term adverse direct and cumulative effects on rare, threatened and endangered species, since some new facilities would be constructed and operated, resource and other management plans would most likely not be developed or implemented, and habitat degradation through overuse and invasion of exotic species is more likely to occur. Efforts to document and protect rare, threatened and endangered species populations currently present in the park would continue to be completed under site-specific environmental assessments, however, which would help avoid or minimize potentially adverse effects on these species on a project by project basis.

There would be no major, adverse impacts to protected species resources or values whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Chattahoochee River National Recreation Area; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents. Therefore, there would be no impairment of the park's resources or values associated with protected species.

## IMPACTS OF THE NO ACTION ALTERNATIVE ON TERRESTRIAL ECOLOGICAL RESOURCES

### Regulations and Policy

The regulations and policies that guide NPS actions with respect to terrestrial ecological resources are presented in the "Servicewide Mandates and Policies" section of this document.

### Methodology

The issues regarding terrestrial ecological resources identified during public meetings and workshops included habitat fragmentation, and direct effects of land disturbance on forests and wildlife as a result of construction and operation of park facilities. Fragmentation of terrestrial habitats is an issue because the park is a long and narrow, a 48-mile urban/suburban corridor. Habitat fragmentation is the breaking up of a continuous habitat, an ecosystem, or a land use type into smaller, isolated fragments. This can occur when a road, utility easement, or some sort of land use change disrupts the continuity of the ecosystem. Habitat fragmentation has been determined to be one of the leading causes in the loss of biodiversity in an ecosystem, second only to the outright loss of the habitat. The smaller the remaining patches of habitat, or the smaller the populations of wildlife, the greater the chance of local extinction and loss of biodiversity (Primack 1993).

Three types of fragmentation effects have been distinguished: patch size effects, edge effects, and isolation effects (Johnson 2001). Patch size effects are those that result from the reduction of habitat size to a point that species can no longer maintain a viable population. This often occurs with wide ranging species such as the Florida panther, but it can occur on a smaller scale with species with specific habitat requirements for breeding and reproduction. The great crested flycatcher, a common inhabitant of temperate forests, requires a territory with a radius of at least 60 meters in diameter to breed (Robbins, et al 1989).

The edges of these patches are especially susceptible to invasions of nuisance species. The destruction of the adjacent habitat enables opportunistic species to become established. These



opportunistic species may include weedy, invasive plants or predators such as raccoons, feral dogs and cats, or brown-headed cowbirds.

Isolation from similar habitats inhibits the dispersal opportunities of species and their eventual decline as a population. The loss of inter-population connectivity among isolated remnants reduces population viability.

The terrestrial habitats around the park are already highly fragmented, with limited greenspace and associated terrestrial ecological resources. The park could therefore become increasingly important as a refuge for some resident plants and animals as well as migratory species of animals.

The effects of the alternatives with respect to fragmentation were assessed by qualitatively assessing the potential of each alternative to create increased fragmentation of terrestrial habitats in the park, in relation to the expected levels of fragmentation under the No Action Alternative. This is addressed under Cumulative Impacts sections.

The assessment of the direct effects of the alternatives on terrestrial ecological resources as a result of land disturbance during construction of park facilities was completed by relating the expected degree of construction activity and activities to the types of expected changes in habitat extent and quality in the park and whether mitigation would be required and/or effective. Potential beneficial effects were estimated by assessing the potential for addition of new areas to the park that would provide a means of conserving additional areas of forest and wildlife habitat. Potential effects of operation of park facilities were addressed by qualitatively assessing potential effects of visitor use and other forms of use on terrestrial plant and animal communities.

The threshold criteria for terrestrial ecological resources, deciduous forest, and other native wildlife are presented in Tables 24 & 25.

**Table 24. Impact Thresholds for Terrestrial Ecological Resources, Deciduous Forests**

Negligible adverse: No native forests would be affected, or some individual trees or other native vegetation would be affected, but there would no effect on species composition. Effects would on a small scale.
Minor adverse: Would affect some individual native trees or other vegetation but overall, would affect only a minor part of the total population. Mitigation to offset impacts would be required and would be effective.
Moderate adverse: Would affect some individual native trees and other vegetation and would also affect a sizeable segment of the specie's population and over a relatively large area. Mitigation to offset adverse effects could be extensive but would probably be successful.
Major adverse: Effects would be considerable on deciduous forest and would affect a relatively large area. Mitigation measures to offset adverse impacts would be required and would be extensive. Success of mitigation would not be guaranteed and would only be deemed successful after a long period of monitoring.
Minor beneficial: Addition of new park areas protects measurable and perceptible areas of deciduous forest at more than one location. Overall effect is still within a very small area. Some small areas can be restored.
Moderate beneficial: Addition of new park areas protects several small areas of deciduous forest or a larger section of terrestrial habitat at a single location. Numerous areas may be restored.
Major beneficial: Addition of new park areas protects deciduous forest habitat at numerous locations of larger size, or a single large area, or large areas may be restored.

**Table 25. Impact Thresholds for Terrestrial Ecological Resources, Other Native Wildlife**

Negligible adverse: No native wildlife would be affected, or some individual species would be affected, but there would no effect on species composition. Effects would be on a small scale.
Minor adverse: Would affect some individual wildlife but overall would affect only a minor part of the total population. Mitigation to offset impacts would be required and would be effective.



**Table 25. Impact Thresholds for Terrestrial Ecological Resources, Other Native Wildlife**

Moderate adverse: Would affect some individual wildlife and would also affect a sizeable segment of the specie's population and over a relatively large area. Mitigation to offset adverse effects could be extensive but would probably be successful.
Major adverse: Effects would be considerable on native wildlife and would affect a relatively large area. Mitigation measures to offset adverse impacts would be required and would be extensive. Success of mitigation would not be guaranteed and would only be deemed successful after a long period of monitoring.
Minor beneficial: Addition of new park areas would have a beneficial effect on some individual wildlife but overall would only provide improved conditions for a minor part of the total population.
Moderate beneficial: Addition of new park areas would have a beneficial effect on some individual wildlife species and would also benefit a sizeable segment of the specie's population and over a relatively large area.
Major beneficial: Addition of new park areas would have a considerable positive effect on native wildlife over a relatively large area.

The primary assumption for this assessment was that potential effects on terrestrial resources within the park are related to the amount of land disturbance caused by proposed projects during construction and operation. It was also assumed that the amount of allowable construction inside the park would be relatively small for all of the alternatives, including the No Action Alternative.

In addition to these major assumptions, it was also assumed that a resource management plan other management plans would not be prepared and implemented under the No Action Alternative. This implies that terrestrial ecological resources would not be inventoried or managed beyond what is currently being done, except as part of environmental assessments on specific projects, and that habitat restoration activities would be minimal. Trails would also not be maintained to the extent possible under the action alternatives, which would involve implementation of resource management plans.

Impairment of terrestrial ecological resources would occur if there was a significant adverse impact to these resources or values whose conservation was (1) necessary to fulfill specific purposes identified in the establishing legislation of the park or parkway, (2) key to the natural or cultural integrity of the park and parkway or opportunities for enjoyment of these units, or (3) identified as a goal in this general management plan or other NPS planning documents.

### Analysis

Limited construction and maintenance activities occurring under the No Action Alternative would result in minor, adverse long-term effects on upland terrestrial forests, riparian areas and associated wildlife, since some construction would occur in limited areas. Construction activities under the No Action Alternative would result in some disturbance of terrestrial ecological habitats, but this would be minimized since an environmental assessment would still have to be completed, and sensitive upland forested areas would have to be avoided to the extent possible. The overall direct effect of construction on terrestrial habitats and wildlife under the No Action Alternative was therefore estimated to be minor, adverse and long-term. During park operation under the No Action Alternative, the continuation of current management practices such as minimizing clearing of trees and controlling the presence and distribution of invasive species would maintain the forest in a condition much like that which currently exists. Trails would continue to be maintained, and erosion would continue to be controlled in problem areas in the same way that they are managed presently. Under the No Action Alternative, however, these problems could worsen somewhat over time, however, since no trail or resource management plans would be developed or implemented. Also, no new areas would be added to the park, and there would be a lost opportunity to provide additional terrestrial habitat in the future. The overall direct effect of this alternative during operation was therefore estimated to be a moderate, adverse, and long-term.



## Cumulative Impacts on Terrestrial Ecological Resources

The cumulative effects of the construction and maintenance activities under the No Action Alternative on terrestrial ecological resources would be minor, adverse and long-term since this alternative would involve only limited construction and maintenance in the park, but natural resource and other management plans would not be implemented, and habitat degradation of forested areas could result. The northern portion of the park is currently less developed and less fragmented than the southern portion of the park. However, because the area is rapidly developing, the potential for increased fragmentation of the northern section of the park is possible under the No Action Alternative because of increased numbers of informal trails and increased levels of visitor use. Some parcels, however, are already too small to provide an effective refuge for some species because larger parcels are required to sustain a population. Under No Action, the potential for further fragmentation nevertheless exists. This specific effect was estimated to be minor, adverse and long-term. The terrestrial communities would continue to benefit from the existing levels of protection provided in the park, however.

During operation, cumulative effects from actions inside the park were estimated to have a moderate, adverse, long-term effect on terrestrial resources. Natural resource and other management plans would not be developed and implemented, and habitat degradation of forested areas throughout the park could result. Fragmentation of terrestrial habitat could increase through trail overuse. Simultaneously, areas outside the park would continue to be developed which may make the park corridor more attractive to wildlife. Park management practices associated with the No Action Alternative would have little to no effect on regional, development-related decreases in terrestrial ecological resources, however. Also, the park would not be expanded, which would not provide additional opportunities to preserve new areas of terrestrial habitat.

There would be no irretrievable or irreversible commitment of resources as a result of implementation of this alternative. Changes to

terrestrial ecological resources could be reversed with sufficient time using such measures as site protection, discontinuation of maintenance activities, or restoration and revegetation, but these would be minimal under the No Action Alternative.

## Conclusions

Overall, this alternative would have minor long-term direct and cumulative effects on terrestrial ecological resources as a result of the limited amount of facility construction that would occur. During operation, this alternative would result in moderate, long-term, adverse effects on terrestrial ecological resources because of less effective management of park uses, the lack of resource and other management plans, and because the park would not be expanded. At selected sites along heavily used or improperly designed or maintained trails where accelerated erosion is occurring, problems would continue and probably worsen.

There would be no major, adverse impacts to terrestrial ecological resources or values whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Chattahoochee River National Recreation Area; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents. Therefore, there would be no impairment of terrestrial ecological resources or values in the park.

## Impact of the No Action Alternative on Prime and Unique Farmland

### Regulations and Policy

The regulations and policies that guide NPS actions with respect to prime and unique farmlands are summarized in the "Servicewide Mandates and Policies" section of this document.

### Methodology

This impact topic was not identified by the public as an issue, but is included in order to meet the requirements of the National Environmental Policy Act and NPS regulations. Effects on prime and unique farmlands were addressed by identifying



where these resources are generally located in the park, and then relating anticipated effects of construction and operation of park facilities.

Thresholds for this impact topic are presented in Table 26.

**Table 26. Impact Thresholds for Prime and Unique Farmlands**

Negligible adverse: Effects of construction on prime and unique farmlands are not detectable.
Minor adverse: Effects of construction on prime and unique farmlands are slightly detectable with no overall change.
Moderate adverse: Effects of construction on are expected to have an appreciable effect on prime and unique farmlands.
Major adverse: Effects of runoff on the prime and unique farmlands are substantial and highly noticeable, and are expected to have a permanent effect. Structural mitigation measures would result in noticeable reduction of soil erosion. Structural mitigation measures are implemented but have minimal beneficial effects.
Negligible adverse: Impacts on prime and unique farmlands due to development in the area surrounding the park are perceptible and can be measured; and are highly localized and confined to a single limited area.
Minor adverse: Impacts on prime and unique farmlands due to development in the area surrounding the park are measurable and perceptible, and occur at more than one location. Overall effect is still within a very small area.
Moderate adverse: Impacts on prime and unique farmlands due to development in the area surrounding the park affects several small sites or a larger area at a single location.
Major adverse: Impacts on prime and unique farmlands due to development in the area surrounding the park affects numerous locations of larger size, or effects on a single large floodplain area.

The major assumption for this assessment was that potential effects on prime and unique farmland within the park are related to the amount of land disturbance caused by construction and operation of park facilities. It was assumed that the amount of allowable construction inside the park would be relatively small for each of the alternatives, and that

the amount of construction occurring under the No Action Alternative would be relatively limited. It was assumed that during operation, the amount of disturbance of prime and unique farmlands would be negligible.

It was also assumed that resource and other management plans would not be prepared and implemented under the No Action Alternative. This implies that prime and unique farmlands would not be inventoried or managed beyond what is currently being done, and that management activities would be minimal. Trails would also not be maintained to the extent possible, and the trail system would not be managed in the same way as it would be under an implemented plan.

Impairment of prime and unique farmland would occur if there was a significant adverse impact to this resources or values whose conservation was (1) necessary to fulfill specific purposes identified in the establishing legislation of the park or parkway, (2) key to the natural or cultural integrity of the park and parkway or opportunities for enjoyment of these units, or (3) identified as a goal in this general management plan or other National Park Service planning documents.

### Analysis

Construction and operation of NPS facilities could impact prime and unique farmlands, all of which are located north of McGinnis Ferry Road. The No Action Alternative would have a low relative potential to impact these farmlands, however, since this alternative would involve limited construction, maintenance and operation activities. There would be some potential for soil disturbance, however. The overall direct effect of the limited construction activities completed under No Action Alternative on prime and unique farmland were estimated to be minor, adverse and long- term because of the low potential for this to occur and the fact that resource and other management plans would not be implemented. Soil erosion would also be minimized in the vicinity of these farmlands types since best management practices would be instituted. Should a project be proposed that would affect a prime and unique farmland in the future, a site specific environmental assessment would be completed, and the effects would be further addressed.



## **Cumulative Impacts on Prime and Unique Farmlands**

The cumulative adverse effects of the construction, maintenance and operation activities within the park on prime and unique farmlands under the No Action Alternative would be moderate, adverse, and long- term since this alternative would involve small amounts of construction and operation of new facilities in the park. Since a new resource and other management plans would not be implemented, these soils would also not be as protected as they would be if plans were in place. Should a project be proposed that would affect a prime and unique farmland in the future, a site specific environmental assessment would be completed, and impacts would be further addressed.

The effects of development in the area surrounding the park on prime and unique farmland were estimated to be moderate, adverse and long- term. This would be caused by effects of runoff from impervious surfaces in the area surrounding the park, and would be difficult to control under any alternative.

There would be no irreversible or irretrievable commitment of prime and unique farmland resources with this alternative.

## **Conclusions**

The No Action Alternative would have minor, adverse, long- term, direct effects and moderate, adverse, long- term cumulative effects on prime and unique farmlands. The level of activities associated with construction and operation of new park facilities would be limited, but some new projects would be constructed and operated. Natural resource and other management plans would not be implemented. Site- specific environmental assessments would identify these resources and would help to avoid them.

There would be no impairment of prime and unique farmlands as a result of park actions under this alternative.

## **IMPACTS OF THE NO ACTION ALTERNATIVE ON CULTURAL RESOURCES**

This section describes the methods used, analysis of effects conducted and conclusions drawn for archeological resources and historic buildings, structures and objectives.

## **IMPACTS OF THE NO ACTION ALTERNATIVE ON ARCHEOLOGICAL RESOURCES**

### **Regulations and Policy**

The regulations and policies that guide NPS actions with respect to archeological resources are presented in the “Servicewide Mandates and Policies” section of this document.

### **Methodology**

This section provides an evaluation of potential effects on archaeological resources within the area described in the “Geographic Area Covered by the General Management Plan” section. The archaeological resource evaluation consists of comparing conditions that would occur under each of the alternatives. The main issue identified during public meetings and workshops for this impact topic was how the implementation of the plan would affect archeological resources in the park. This would include construction and operation activities of new park facilities.

The Advisory Council on Historic Preservation’s “Regulations for the Protection of Historic Properties” (36 CFR 800) provide guidance for determining whether an historic property (includes archaeological sites, historic buildings, structures and objects and properties of traditional, religious, and cultural significance) is eligible for inclusion on the National Register of Historic Places and provides a procedure for nominating such properties to the register. The regulations also explain what constitutes an impact or effect on an archeological or historic property listed on or eligible for listing on the National Register of Historic Places. These definitions were used in this general management plan/environmental impact statement.



Thresholds used for assessing the intensity of potential impacts on archeological resources are presented in Table 27.

**Table 27. Impact Thresholds for Archeological Resources**

Negligible adverse: Impact is at the lowest levels of detection - barely measurable with no perceptible consequences, either adverse or beneficial, to archeological resources. For purposes of Section 106, the determination of effect would be <i>no adverse effect</i> .
Minor adverse: disturbance of a site(s) results in little, if any, loss of the site(s) significance or integrity and the site's National Register eligibility is unaffected. For purposes of Section 106, the determination of effect would be <i>adverse effect</i> .
Moderate adverse: disturbance of the site(s) does not diminish the significance or integrity of the site(s) to the extent that its National Register eligibility is jeopardized. For purposes of Section 106, the determination of effect would be <i>adverse effect</i> .
Major adverse impact: disturbance of the site(s) diminishes the significance and integrity of the site(s) to the extent that it is no longer eligible to be listed in the National Register. For purposes of Section 106, the determination of effect would be <i>adverse effect</i> .
Minor beneficial: maintenance and preservation of a site(s). For purposes of Section 106, the determination of effect would be <i>no adverse effect</i> .
Moderate beneficial: stabilization of the site(s). For purposes of Section 106, the determination of effect would be <i>no adverse effect</i> .
Major beneficial: active intervention to preserve the sites. For purposes of Section 106, the determination of effect would be <i>no adverse effect</i> .

The major assumptions used in this analysis were that the potential for adverse effects on archeological resources is related primarily to the degree of physical disturbance of areas in the park where construction and operation of park facilities would occur. Alternatives involving higher levels of physical disturbance in relation to the No Action Alternative have a higher potential to adversely affect archeological resources. Specifically, the potential for an alternative to diminish the significance or integrity of the site(s) to the extent that its National Register eligibility is affected was

used as the primary criteria for estimating effects. Beneficial effects were assessed based on the potential to maintain, preserve or stabilize sites. In addition, it was also assumed that development and implementation of a resource management plan and a collections management plan would help avoid, minimize or reduce the potential adverse effects of NPS actions.

Impairment of archeological resources would occur if there was a significant adverse impact to archeological resources or values whose conservation was (1) necessary to fulfill specific purposes identified in the establishing legislation of the park or parkway, (2) key to the natural or cultural integrity of the park and parkway or opportunities for enjoyment of these units, or (3) identified as a goal in this general management plan or other NPS planning documents.

### Analysis

As discussed in the “Affected Environment” section, there is a high probability that there are unknown prehistoric and historic archeological resources within the boundaries of the park. Current management practices would continue due to staffing and funding constraints, and the archeological knowledge base would not be expanded through additional studies, surveys or research. Any ground- disturbing activities associated with the No Action Alternative would have the potential to adversely affect such sites.

Until a National Register of Historic Places evaluation for any site was completed, it would be assumed that the site is eligible for listing on the register. Therefore, until proven otherwise, disturbance to any archaeological site that was discovered during the survey, design, or construction of any facilities under the No Action Alternative would be considered an adverse effect.

As described in the section entitled “Servicewide Mandates and Policies,” the National Park Service is required to protect archaeological resources within the park. Therefore, prior to undertaking any construction activity under the No Action Alternative, the National Park Service would conduct an environmental assessment, and:



Conduct cultural resources surveys of areas to be disturbed, including trail alignments

Identify all archaeological resources that are discovered during the surveys

Systematically evaluate each site to determine and document its significance to support its nomination for National Register of Historic Places eligibility

Determine eligibility in concert with the Georgia State Historic Preservation Officer and Advisory Council on Historic Preservation

Relocate any facilities that would disturb National Register of Historic Places- eligible sites

The collection of data to support the eligibility evaluation, and the determination of eligibility can be time consuming. Therefore, as a timesaving approach, the National Park Service would assume that any archaeological site that is discovered is eligible for listing, and would relocate the project to be constructed to avoid that site. This approach would substantially reduce the potential for construction- related adverse effects to archaeological resources.

Under any alternative, the integrity of some sites would be degraded by natural processes such as wind and water erosion, or by vandalism or inadvertent damage by visitors. These processes could result in non- construction related direct adverse effects on archeological resources. Because the No Action Alternative would not involve establishment of specific cultural resource zones within the park, and would not result in implementation of a cultural resources management plan or a collections management plan, the level of protection for archeological resources in the park under the No Action Alternative is considered to be less than that proposed by any of the other action alternatives. If resources were not surveyed, protected and preserved, the effect of the No Action Alternative on archeological resources would be estimated to be a major, direct, adverse, and long- term.

## Cumulative Impacts

The cumulative effect of construction and maintenance activities under the No Action Alternative could result in major, direct, adverse, long- term impacts on cultural resources. However, a site- specific environmental assessment would be required for each project, and such impacts could be mitigated effectively. Where sites were disturbed, such as the discovery of a site during construction, data recovery and preservation efforts would partly mitigate impacts. However, the disturbance could result in some irretrievable and irreversible loss of archaeological resources.

This alternative has a potential for causing major, adverse cumulative impacts on archeological resources, especially since a cultural resources management plan or a collections management plan would likely not be prepared and implemented under this alternative. The potential for cumulative impacts to occur is greater under this alternative than any of the three action alternatives.

## Conclusions

Because the No Action Alternative involves some construction- related activities and a relatively wide variety of visitor use, without the benefits associated with the establishment of cultural resource zones and/or the implementation of a resource management plan or a collections management plan, the potential for adverse effects is considered to be relatively high under the No Action Alternative. Despite the amount of data recovery and preservation efforts associated with construction, these efforts would only partly mitigate impacts. The disturbance from construction and increased vandalism or inadvertent visitor damage over time could result in some irretrievable and irreversible loss of archaeological resources. This alternative could therefore have major, adverse, long- term direct and cumulative impacts on archeological resources. Implementation of this alternative could lead to impairment of archeological resources in the park.

Archeological resources in most of the metropolitan Atlanta area have been disturbed as a result of development and urban sprawl. Therefore, protection and preservation of



archaeological sites within the park is important on a regional level, as these resources represent former conditions throughout the area. Continuing protection of resources identified would have a moderate beneficial long- term impact by preserving them for the future.

## IMPACTS OF NO ACTION ALTERNATIVE ON HISTORIC BUILDINGS, STRUCTURES AND OBJECTS

### Regulations and Policy

The regulations and policies that guide NPS actions with respect to historic buildings, structures and objects are presented in the “Servicewide Mandates and Policies” section of this document.

### Methodology

The analysis of impacts to historical buildings, structures, and objects used the same effects criteria and definitions as the archeological resources analysis. Please refer to the previous section for a description of the methods that were applied. The thresholds for this impact topic are presented in Table 28.

**Table 28. Impact Thresholds for Cultural Resources, Historic Buildings, Structures and Objects**

Negligible adverse: Impact(s) is at the lowest levels of detection - barely perceptible and not measurable. For purposes of Section 106, the determination of effect would be <i>no adverse effect</i> .
Minor adverse: impact would not affect the character defining features of a National Register of Historic Places eligible or listed structure, building, or object. For purposes of Section 106, the determination of effect would be <i>no adverse effect</i> .
Moderate adverse - impact would alter a character defining feature(s) of the structure, building, or object but would not diminish the integrity of the resource to the extent that its National Register eligibility is jeopardized. For purposes of Section 106, the determination of effect would be <i>no adverse effect</i> .

**Table 28. Impact Thresholds for Cultural Resources, Historic Buildings, Structures and Objects**

Major adverse - impact would alter a character defining feature(s) of the structure, building, or object, diminishing the integrity of the resource to the extent that it is no longer eligible to be listed in the National Register. For purposes of Section 106, the determination of effect would be <i>adverse effect</i> .
Minor beneficial: stabilization/ preservation of character defining features in accordance with the <i>Secretary of the Interior’s Standards for the Treatment of Historic Properties</i> , to maintain existing integrity of a structure, building, or object. For purposes of Section 106, the determination of effect would be <i>no adverse effect</i> .
Moderate beneficial– rehabilitation of a structure or building in accordance with the <i>Secretary of the Interior’s Standards for the Treatment of Historic Properties</i> , to make possible a compatible use of the property while preserving its character defining features. For purposes of Section 106, the determination of effect would be <i>no adverse effect</i> .
Major beneficial– restoration in accordance with the <i>Secretary of the Interior’s Standards for the Treatment of Historic Properties</i> , to accurately depict the form, features, and character of a structure or building as it appeared during its period of significance. For purposes of Section 106, the determination of effect would be <i>no adverse effect</i> .

### Analysis

The No Action Alternative does not include establishment of any cultural resource zones, nor does it address additional parcels and resources under the expanded boundaries. Due to existing staffing and funding constraints, the No Action Alternative is considered to offer a minimal level protection to historic buildings, structures, and objects. No major new initiatives would be expected to occur.

Historic buildings, structures and objects in the park are subject to degradation by natural processes such as wind and water erosion, vandalism, or inadvertent damage by visitors. The No Action Alternative offers no increased level of protection from degradation and vandalism for



historic buildings, structures and objects. The resources would continue to be maintained as at present levels. If these resources are not surveyed, or receive increased levels of protection and preservation, this alternative could have a direct, adverse long- term impact on historic buildings, structures and objects.

### Cumulative Impacts

The limited construction, maintenance and operation activities in the park related to historic buildings, structures and objects under the No Action Alternative could result in adverse, long-term, cumulative effects. Since a cultural resources management plan or a collections management plan would not be implemented under this alternative, nor is it likely that extensive surveying would be conducted, the potential for adverse effects would likely occur due to degradation from natural causes, vandalism and inadvertent visitor damage. This alternative would therefore have an adverse, long- term cumulative impact on historic buildings, structures and objects. Where resources were disturbed, such as discovery of a site during construction, data recovery and preservation efforts would partly mitigate impacts. However, the disturbance could result in some irretrievable and irreversible loss of historic buildings, structures, and objects.

### Conclusions

The park contains a variety of historic buildings, structures and objects that are significant to the historical development of the Chattahoochee River corridor and the greater Atlanta area. Some of these resources are among the last remaining examples of their construction types in the region. Under the No Action Alternative, those resources that have been identified would continue to be protected at current levels. Under the No Action Alternative, few of the historic buildings, structures and objects in the park would be afforded enhanced protection and preservation treatment. Such treatment is required for National Register listed properties, particularly where stewardship of the resource can be shared with a public or private entity, but no wholesale program would exist for the inventory, protection, and preservation of unevaluated or potentially eligible resources under the No Action Alternative. Implementation of this

alternative could lead to adverse, direct and cumulative impacts, as well as potential impairment of historic buildings, structures and objects in the park.

### IMPACT OF NO ACTION ALTERNATIVE ON LOCAL AND REGIONAL TRANSPORTATION

#### Regulations and Policy

The regulations and policies that guide NPS actions with respect to transportation resources are presented in the “Servicewide Mandates and Policies” section of this document.

#### Methodology

Transportation issues identified during public meetings and workshops included concern over the effects of transportation and traffic in the park on surrounding local and regional transportation patterns, how plan implementation would affect the use of both paved and unpaved trails, connections between adjacent communities and the park, and management of nonmotorized transportation in the park. In addition, concern was expressed regarding the effects of off- road bicycle use on water quality and erosion.

All of these issues have been incorporated into a qualitative assessment of the potential effects of the alternatives on regional and local transportation resources. Thresholds for these generalized types of effects are presented in Table 29.

**Table 29. Impact Thresholds for Local and Regional Transportation**

Negligible adverse: a change in local and regional transportation features that would not be detectable and would have no discernable effect on the park resources and values, visitor use of paved and unpaved trails, connections between adjacent communities and the park, management of motorized transportation in the park, off- road bicycle use in the park, and erosion and runoff associated with off- road bicycle use.
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**Table 29. Impact Thresholds for Local and Regional Transportation**

Minor adverse: a change in local and regional transportation features that would be slightly detectable but would not be expected to have an overall effect on the park resources and values, visitor use of paved and unpaved trails, connections between adjacent communities and the park, management of motorized transportation in the park, off- road bicycle use in the park, and erosion and runoff associated with off- road bicycle use.
Moderate adverse: a change in local and regional transportation features that would be clearly detectable and could have an appreciable effect on the park resources and values, visitor use of paved and unpaved trails, connections between adjacent communities and the park, management of motorized transportation in the park, off- road bicycle use in the park, and erosion and runoff associated with off- road bicycle use.
Major adverse: a substantial and noticeable effect on of local and regional transportation features that could permanently alter park resources and values, visitor use of paved and unpaved trails, connections between adjacent communities and the park, management of motorized transportation in the park, off- road bicycle use in the park, and erosion and runoff associated with off- road bicycle use.
Minor beneficial: a change that would be slightly detectable and would not be expected to have an overall minor beneficial effect on visitor use of paved and unpaved trails, connections between adjacent communities and the park, management of motorized transportation in the park, off- road bicycle use in the park, and erosion and runoff associated with off- road bicycle use.
Moderate beneficial: a change that would be clearly detectable and could have an appreciable beneficial effect on visitor use of paved and unpaved trails, connections between adjacent communities and the park, management of motorized transportation in the park, off- road bicycle use in the park, and erosion and runoff associated with off- road bicycle use.

**Table 29. Impact Thresholds for Local and Regional Transportation**

Major beneficial: a change that would result in a substantial and noticeable beneficial effect on visitor use of paved and unpaved trails, connections between adjacent communities and the park, management of motorized transportation in the park, off- road bicycle use in the park, and erosion and runoff associated with off- road bicycle use.
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The methods used to assess local and regional transportation impacts are described below:

The definition of impacts on transportation resources was estimated by comparing relative increases in traffic volumes under each alternative to known problem areas in the vicinity of the park, and areas with short and long- term improvements being planned by the Georgia Department of Transportation. This information included the following:

- Roadways currently impacted by the park
- Currently congested roadways
- Roadways with planned short- range improvements
- Roadways with planned long- range improvements

Information on the above factors was obtained from the *Atlanta Region Transportation Planning Fact Book 2000* (Atlanta Regional Commission 2000a), *the Atlanta Region 2025 Regional Transportation Plan* (Atlanta Regional Commission 2000b), *the Atlanta Regional Congestion Management System* (Atlanta Regional Commission 2000c), and *the Atlanta Region Transportation Improvement Program: 2002 – 2004* (Atlanta Regional Commission 2000d). Table 30 summarizes information collected and relates the projected degree of impact at areas that were identified as being congested and/or where short- and long- term improvements are planned. The degree of impact was then assigned based on the estimated degree of congestion that would result from construction of new NPS facilities in the vicinity of the identified areas. Using this approach, a designation of negligible, minor, moderate or major intensity of impact was assigned to each alternative.



An assessment of the relative cumulative impact of the alternatives on proposed future transportation projects in the vicinity of the park was also conducted. A list of future transportation projects in the area is provided in Appendix G. These include roads, bikeways, pedestrian facilities, and transit projects.

Because of the generic nature of this general management plan/environmental impact statement, highly detailed projections of specific traffic patterns and changes in volumes of traffic at specific locations were not possible. The designation of negligible, minor, moderate, or major adverse impacts are therefore relative terms based on known and expected transportation problem areas and areas where improvements are planned. A designation of a “major” degree of impact does not necessarily mean that the trips attracted to that particular park area would heavily impact the roadway network in the area. Instead, the “major” impact designation is intended to indicate that that particular alternative would have a greater effect on the number of trips generated and effects on area roadways as compared with other alternatives and other areas of the park.

A primary assumption used in this analysis is that the amount of traffic generated by the alternatives would be dependent on the number of developed areas. Alternatives involving more developed areas would be expected to have a greater potential to cause increased levels of adverse local and regional transportation effects. It is also assumed that the overall amount of adverse transportation- related effects generated by the park, although heavy in certain areas such as the Cochran Shoals unit near Johnson’s Ferry road, would be relatively minor in comparison with the traffic generated and characteristic of the surrounding Atlanta Metropolitan area.

An additional assumption was that alternatives with a greater amount of development and vehicular accessibility would be assumed to attract more visitors to the park in the future, and would have greater relative transportation- related effects. These areas would primarily include the developed zones and the hubs (hubs are only proposed under the Centralized Access Alternative). As traffic volumes increase, transportation- related impacts would include increased levels of traffic congestion

on park roads and parking lots, increased noise levels in the park, and increased amounts of vehicle emissions.

All roads and other transportation- related facilities proposed under the No Action Alternative are within NPS ownership and jurisdiction. Chapter 9 of the National Park Service’s *Management Policies 2001* (National Park Service 2001a) provides guidance for management of park access and circulation systems. While there are no legal restrictions to the traffic management actions associated with any of the alternatives, their implementation in the park would require coordination with local, regional, and federal transportation and planning agencies.

### Analysis

Under the No Action Alternative, existing levels of access and other transportation features at the 16 existing park units would be maintained. Under the No Action alternative, very few changes in park transportation features would occur. The majority of accessible parkland would therefore continue to be located in the southern portion of the park, in close proximity to the higher population densities of the park corridor. This would facilitate bicycle and pedestrian access to the park, and would reduce travel distances for vehicle trips for those living in close proximity to the park. However, the No Action Alternative would also result in similar incidences of congested roadway facilities in close proximity to park units in the southern portion of the study area with a likelihood that congested conditions would likely worsen in the future.

Table 30 lists the streets and highways and the expected level of impact produced by the No Action Alternative. With the exception of the Bowman’s Island area (major long- term effect predicted), the projected long- term transportation impacts are either minor adverse or moderate adverse, and long- term, under the No Action Alternative. A number of the roadways that could be impacted by increased activity at various areas of the park are either scheduled for improvement in the near future or are planned for improvement by 2025. In certain areas, roadways that are currently congested are not planned for improvement. However, alternate facilities are planned in other specific areas, for example, the



Table 30: Transportation Related Impacts (Based on Data Available as of Fall 2001')

Area	Relative Degree of Adverse Impact by Alternative (Long- Term)					Current Conditions and Projected Improvements'			
	Relative Degree of Impact of Focus on Solitude Alternative	Relative Degree of Impact of Centralized Access Alternative	Relative Degree of Impact of Expanded Use Alternative	Relative Degree of Impact of No Action Alternative	Rd.ways Currently Impacted by Park	Currently Congested Rd.ways	Rd.ways with Planned Short Range Improvements Planned	Rd.ways with Planned Long Range Improvements	
Fort Peachtree	Minor	Minor	Moderate	Minor	Highway 41	Highway 41			
Paces Mill	Moderate	Moderate	Moderate	Minor	I- 285, I- 75, Cobb Parkway	I- 285, I- 75, Cobb Parkway	Cobb Parkway	I- 285, I- 75	
Palisades	Minor	Minor	Major	Minor	I- 285, Northside Dr., Mt Vernon Highway, Powers Ferry Rd., Riverview Rd.	I- 285, Mt. Vernon Highway, Powers Ferry Rd.		I- 285	
Powers Island	Moderate	Moderate	Moderate	Moderate	I- 285, Interstate North Parkway, Northside Dr.	I- 285		I- 285	
Cochran Shoals	Moderate	Moderate	Moderate	Moderate	Johnson Ferry Rd., Paper Mill Rd., Columns Dr.	Johnson Ferry Rd.		Morgan Falls Bridge (alternate facility)	
Sope Creek	Moderate	Moderate	Moderate	Moderate	Paper Mill Rd.	Paper Mill Rd.			
Johnson Ferry	Minor	Minor	Major	Minor	Johnson Ferry Rd., Riverside Dr., Columns Dr.	Johnson Ferry Rd.		Morgan Falls Bridge (alternate facility)	



Table 30 (Continued): Transportation Related Impacts (Based on Data Available as of Fall 2001')

Area	Relative Degree of Adverse Impact by Alternative (Long- Term)					Current Conditions and Projected Improvements'			
	Relative Degree of Impact of Focus on Solitude Alternative	Relative Degree of Impact of Centralized Access Alternative	Relative Degree of Impact of Expanded Use Alternative	Relative Degree of Impact of No Action Alternative	Roadways Currently Impacted by Park	Currently Congested Roadways	Roadways with Planned Short Range Improvements Planned	Roadways with Planned Long Range Improvements	
Gold Branch	Minor	Minor	Moderate	Minor	Lower Roswell Road, Timber Ridge Road, Willeo Road	Lower Roswell Road			
Vickery Creek	Minor	Minor	Moderate	Minor	Roswell Road, Azalea Drive, Riverside Drive	Roswell Road			
Island Ford	Minor	Minor	Moderate	Minor	GA 400, Northridge Road, Dunwoody Place, Roberts Drive	GA 400, Northridge Road		GA 400	
Holcomb Bridge	Minor	Minor	Moderate	Minor	Holcomb Bridge Road	Holcomb Bridge Road			
Jones Bridge	Moderate	Moderate	Moderate	Moderate	Holcomb Bridge Road, Jones Bridge Road, Barnwell Road	Holcomb Bridge Road, Jones Bridge Road, Barnwell Road			
Jones Bridge	Moderate	Moderate	Moderate	Moderate	Holcomb Bridge Road, Jones Bridge Road, Barnwell Rd.	Holcomb Bridge Road, Jones Bridge Road, Barnwell Rd.			



Table 30 (Continued): Transportation Related Impacts (Based on Data Available as of Fall 2001')

Area	Relative Degree of Adverse Impact by Alternative (Long- Term)						Current Conditions and Projected Improvements'			
	Relative Degree of Impact of Focus on Solitude Alternative	Relative Degree of Impact of Centralized Access Alternative	Relative Degree of Impact of Expanded Use Alternative	Relative Degree of Impact of No Action Alternative	Roadways Currently Impacted by Park	Currently Congested Roadways	Roadways with Planned Short Range Improvements Planned	Roadways with Planned Long Range Improvements		
Medlock Bridge	Moderate	Moderate	Moderate	Moderate	Peachtree Parkway, Medlock Bridge Road	Peachtree Parkway, Medlock Bridge Road				
Abbotts Bridge	Minor	Moderate	Major	Minor	Abbotts Bridge Road, Boles Road	Abbotts Bridge Road		GA 120/Abbotts Bridge Road		
Suwanee Creek	Minor	Moderate	Major	Minor	Peachtree Industrial Boulevard, Chattahoochee Drive					
McGinnis Ferry	Minor	Moderate	Major	Minor	McGinnis Ferry Road	McGinnis Ferry Road		McGinnis Ferry Road		
Settles Bridge	Minor	Moderate	Major	Minor	Suwanee Dam Road, Johnson Rd.					
Bowman's Island	Moderate	Moderate	Moderate	Major	Cumming Highway/GA 20, Buford Dam Road, Suwannee Dam Rd.	Cumming Highway/GA 20	GA 20, Buford Dam Road	Cumming Highway		



Table 30 (Continued): Transportation Related Impacts (Based on Data Available as of Fall 2001<sup>1</sup>)

Area	Relative Degree of Adverse Impact by Alternative (Long-Term)					Current Conditions and Projected Improvements <sup>1</sup>		
	Relative Degree of Impact of Focus on Solitude Alternative	Relative Degree of Impact of Centralized Access Alternative	Relative Degree of Impact of Expanded Use Alternative	Relative Degree of Impact of No Action Alternative	Roadways Currently Impacted by Park	Currently Congested Roadways	Roadways with Planned Short Range Improvements Planned	Roadways with Planned Long Range Improvements

<sup>1</sup> Based on information contained in ARC Transportation Improvement Plan (TIP) (ARC 2001a) and ARC 25 Year Regional Transportation Plan (RTP). (ARC 2000b)



Morgan Falls Bridge, that could help to relieve congestion in that area. In general, the effect of the No Action Alternative would produce moderate, adverse effects on transportation in the majority of cases.

No new trails would be constructed under the No Action Alternative. An integrated trails system plan would not be developed and implemented. Use of internal, or social trails in the park would continue to increase. Inappropriate use of off- road bicycles in certain areas would increase over time due to limitations of park staff to enforce proper use of existing trails. The effect would be increased erosion, rutting, and resource damage. These adverse effects associated with off- road bicycle use would increase over current levels in the park, since an integrated trails system plan would not be implemented. This would constitute a moderate, adverse, long- term effect. Overall, this would constitute a moderate, long- term adverse effect on park resources.

Efforts to increase connectivity with trails systems being developed in the area surrounding the park by local governments would be limited since an integrated trails system plan would not be implemented. This would constitute a moderate, long- term adverse effect on the ability to develop improved connectivity with the surrounding communities.

Efforts to improve and manage non- motorized vehicles such as bicycles in the park would be minimal since an integrated trails system plan would not be implemented. The No Action Alternative would have a moderate, adverse, long- term direct effect on non- motorized travel in the park as a result. The No Action Alternative is estimated to have a negligible adverse long- term influence on an individual's decision to walk or ride a bicycle to get to the park.

### **Cumulative Impacts**

The cumulative effects of the No Action Alternative on transportation and traffic in the park and on the surrounding region would be moderate, adverse and long- term, based on the data presented in Table 30. Areas currently experiencing

congestion would be expected to continue to do so in the future if planned improvements do not take place.

The cumulative effect of the No Action Alternative on the use of paved and unpaved trails would be moderate, adverse, and long- term. Current paved and unpaved trails throughout the park would continue to be managed in the same way, additional trails would not likely be planned, and an integrated trails system plan would not be implemented. These effects would be parkwide.

The cumulative effect of the No Action Alternative on connectivity would be moderate, adverse, and long- term. The lack of improved connectivity would extend throughout the park, since expanded programs to partner with the surrounding local governments would be implemented, and an integrated trails system plan would not be developed and implemented.

The cumulative effect of the No Action Alternative on management of non- motorized transportation in the park would extend throughout the park and would be moderate, adverse, and long- term. Problems with off- road bicycling areas would continue to worsen, since management plans would not be instituted.

The cumulative effect of off- road bicycle use on water quality and soil erosion would be moderate, adverse and long- term, since these effects would be expected to worsen throughout the park as the surrounding area grows, and pressure to use the park for off- road bicycling increase. These effects would extend throughout the park and would be moderate, adverse, and long- term.

There would be no irreversible commitment of resources associated with transportation with this alternative. Limited amounts of nonrenewable resources would be used for maintenance of roadways and paved trails, including energy and materials. The energy and materials resources would be irretrievable once they were committed.

### **Conclusions**

An integrated trails or other management plans would not be completed and implemented, and



efforts to improve connectivity with the surrounding areas would be minimal under this alternative. Existing transportation problems would continue, with no change in management approaches. The overall direct and cumulative transportation impacts under the No Action Alternative would therefore be moderate, adverse, and long-term.

## IMPACTS OF NO ACTION ALTERNATIVE ON VISITOR AND COMMUNITY VALUES

### Regulations And Policy

The regulations and policies that guide NPS actions with respect to visitor and community values are presented in the “Servicewide Mandates and Policies” section of this document.

### Methodology

This section provides an assessment of the potential effects of each alternative on visitor and community values as described in the “Traditional Park Character and Visitor Experiences” portion of the “Affected Environment” section. Public comments submitted during scoping were used as an indication of the range of public concerns regarding visitor and community values. These issues included the following:

#### Recreational Opportunities

The public appeared to be mostly satisfied with the range of recreational opportunities offered by the park, although the majority of comments dealt with trails and the need for an improved trail system that would provide increased connectivity.

Individual and physically challenging recreation such as bicycling, boating, fishing, jogging, and hiking.

The traditional, familiar character of the park’s recreational features and the public’s desire to see this character maintained.

#### Visitor Experience

Scenery, opportunities to learn about the natural world, natural quiet, and the ability to hear natural sounds were noted as desirable features of the park.

The historic resources present within the park and their appreciation by visitors.

The lasting value of the park as a gathering place for family and friends.

The importance of shared experiences such as walking, picnicking, bicycling, horseback riding, and participating in other activities that have come to be associated with the park.

### Numbers and Types of Visitor Facilities

Provide suitably marked and increased numbers of restroom facilities at appropriate locations within a close walking distance to the river.

Keep the exercise stations at Cochran Shoals.

Create a visitor’s center or central location for visitors to gather (visitor center – headquarters – with individual offices outside the park).

Improve bicycling support facilities such as racks to lock bikes where park units are accessible by bicycle.

Provide picnic tables and trash cans at each unit.

### Traditional Character

The importance of protecting the park’s natural qualities, not only for the ecological resources, but also for its restorative value to people within an urban setting. Preserving and protecting the natural and traditional character of the park from disturbance. Park actions will not conflict with land use plans, policies, or controls.

The impacts of each alternative on these four issue areas then were estimated by qualitatively comparing the anticipated visitor experience for various prescribed uses under each alternative.



The assumptions used in this analysis were that: (1) under the No Action alternative, the existing management program for visitor experience would be extended into the future, and that few or no new programs for visitors would be planned and implemented; (2) the amount and type of facilities for visitors would remain unchanged under the No Action Alternative; (3) no new areas would be added to the park under the No Action Alternative, but under any of the action alternatives, new areas could be added (up to a maximum of 10,000 acres); (4) the Centralized Access alternative would provide more types and numbers of visitor facilities and programs than the Focus on Solitude Alternative in five developed zones and up to three hubs; (5) the Expanded Use Alternative would provide the highest number and greatest variety of visitor facilities and programs in eleven developed areas; (6) resource and other management plans would not be developed and implemented under the No Action Alternative, but would be developed and implemented under any of the three action alternatives.

Tables 31 through 34 present the thresholds used to define the effects of the alternatives on visitor and community values. The thresholds were designed to assess the effects on the four issue areas (and subcategories) listed above:

**Table 31. Impact Thresholds for Visitor and Community Values - Recreational Opportunity**

Negligible adverse: a change would not be detectable to the visitor and would have no discernable effect on the ability to provide shared experiences such as walking, picnicking, bicycling, horseback riding, and participating in other activities that have come to be associated with the park.
Minor adverse: a change would be slightly detectable but would not be expected to have an overall effect on the ability to provide shared experiences such as walking, picnicking, bicycling, horseback riding, and participating in other activities that have come to be associated with the park.

**Table 31. Impact Thresholds for Visitor and Community Values - Recreational Opportunity**

Moderate adverse: a change would be clearly detectable by the visitor and could have an appreciable adverse effect on the lasting value of the park as a gathering place for family and friends for shared experiences such as walking, picnicking, bicycling, horseback riding, and participating in other activities that have come to be associated with the park.
Major adverse: a substantial and noticeable adverse effect on the ability to provide shared experiences such as walking, picnicking, bicycling, horseback riding, and participating in other activities that have come to be associated with the park.
Minor beneficial: a change would be slightly detectable and would be expected to have an overall noticeable benefit on the ability to provide shared experiences such as walking, picnicking, bicycling, horseback riding, and participating in other activities that have come to be associated with the park.
Moderate beneficial: a change would be clearly detectable by the visitor and could have an appreciable beneficial effect on the ability to provide shared experiences such as walking, picnicking, bicycling, horseback riding, and participating in other activities that have come to be associated with the park.
Major beneficial: a change would have a substantial and noticeable positive effect on the ability to provide shared experiences such as walking, picnicking, bicycling, horseback riding, and participating in other activities that have come to be associated with the park.

**Table 32. Impact Thresholds for Visitor and Community Values - Visitor Experience**

Negligible adverse: a change would not be detectable to the visitor and would have no discernable effect on the ability of the park to provide a restorative value to people as a place of natural beauty and escape from the nearby urban setting, on the park's scenery, opportunities to learn about the natural world, natural quiet, the ability to hear natural sounds, and on the lasting value of the park as a gathering place for family and friends.
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**Table 32. Impact Thresholds for Visitor and Community Values - Visitor Experience**

Minor adverse: a change would be slightly detectable but would not be expected to have an overall effect on the ability of the park to provide a restorative value to people as a place of natural beauty and escape from the nearby urban setting, on the park's scenery, opportunities to learn about the natural world, natural quiet, the ability to hear natural sounds, and on the lasting value of the park as a gathering place for family and friends.
Moderate adverse: a change would be clearly detectable by the visitor and could have an appreciable adverse effect on the ability of the park to provide a restorative value to people as a place of natural beauty and escape from the nearby urban setting, on the park's scenery, opportunities to learn about the natural world, natural quiet, the ability to hear natural sounds, and on the lasting value of the park as a gathering place for family and friends.
Major adverse: a substantial and noticeable adverse effect on the a restorative value to people as a place of natural beauty and escape from the nearby urban setting, on the park's scenery, opportunities to learn about the natural world, natural quiet, the ability to hear natural sounds, and on the lasting value of the park as a gathering place for family and friends.
Minor beneficial: a change would be slightly detectable and would be expected to have an overall noticeable benefit by improving the restorative value to people as a place of natural beauty and escape from the nearby urban setting, on the park's scenery, opportunities to learn about the natural world, natural quiet, the ability to hear natural sounds, and on the lasting value of the park as a gathering place for family and friends.
Moderate beneficial: a change would be clearly detectable by the visitor and could have an appreciable beneficial effect on the restorative value to people as a place of natural beauty and escape from the nearby urban setting, on the park's scenery, opportunities to learn about the natural world, natural quiet, the ability to hear natural sounds, and on the lasting value of the park as a gathering place for family and friends.

**Table 32. Impact Thresholds for Visitor and Community Values - Visitor Experience**

Major beneficial: a change would have a substantial and noticeable positive effect on the restorative value to people as a place of natural beauty and escape from the nearby urban setting, on the park's scenery, opportunities to learn about the natural world, natural quiet, the ability to hear natural sounds, and on the lasting value of the park as a gathering place for family and friends.
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**Table 33. Impact Thresholds for Visitor and Community Values - Numbers and Types of Visitor Facilities**

Negligible adverse: a change would not be detectable to the visitor and would have no discernable effect on the ability of management to repair and maintain facilities and on the appreciation of resources present within the park
Minor adverse: a change would be slightly detectable but would not be expected to have an overall effect on the ability of management to repair and maintain facilities, and the appreciation of resources present within the park.
Moderate adverse: a change would be clearly detectable by the visitor and could have an appreciable adverse effect on the ability of management to repair and maintain facilities and the appreciation of resources present within the park.
Major adverse: a substantial and noticeable adverse effect on the ability of management to repair and maintain facilities and on the appreciation of resources present within the park.
Minor beneficial: a change would be slightly detectable and would be expected to have an overall noticeable benefit on the ability of management to repair and maintain facilities and on the appreciation of resources present within the park.
Moderate beneficial: a change would be clearly detectable by the visitor and could have an appreciable beneficial effect on the ability of management to repair and maintain facilities and on the appreciation of resources present within the park.



**Table 33. Impact Thresholds for Visitor and Community Values - Numbers and Types of Visitor Facilities**

Major beneficial: a change would have a substantial and noticeable positive effect on the ability of management to repair and maintain facilities and on the appreciation of resources present within the park.

**Table 34. Impact Thresholds for Visitor and Community Values - Traditional Character**

Negligible adverse: a change would not be detectable to the visitor and would have no discernable effect on the park's natural qualities and ecological resources, on the traditional, familiar character of the park's recreational features, on the park's overall community character, on the park's ability to serve as a major asset to the quality of life, on proximity and access to the park, and on the experience provided people in adjoining neighborhoods.

Minor adverse: a change would be slightly detectable but would not be expected to have an overall effect on the park's natural qualities and ecological resources, on the traditional, familiar character of the park's recreational features, on the park's overall community character, on the park's ability to serve as a major asset to the quality of life, on proximity and access to the park, and on the experience provided people in adjoining neighborhoods.

Moderate adverse: a change would be clearly detectable by the visitor and could have an appreciable adverse effect on the park's natural qualities and ecological resources, on the traditional, familiar character of the park's recreational features, on the park's overall community character, on the park's ability to serve as a major asset to the quality of life, on proximity and access to the park, and on the experience provided people in adjoining neighborhoods.

Major adverse: a substantial and noticeable adverse effect on the park's natural qualities and ecological resources, on the traditional, familiar character of the park's recreational features, on the park's overall community character, on the park's ability to serve as a major asset to the quality of life, on proximity and access to the park, and on the experience provided people in adjoining neighborhoods.

**Table 34. Impact Thresholds for Visitor and Community Values - Traditional Character**

Minor beneficial: a change would be slightly detectable and would be expected to have an overall noticeable benefit on the park's natural qualities and ecological resources, on the traditional, familiar character of the park's recreational features, on the park's overall community character, on the park's ability to serve as a major asset to the quality of life, on proximity and access to the park, and on the experience provided people in adjoining neighborhoods.

Moderate beneficial: a change would be clearly detectable by the visitor and could have an appreciable beneficial effect on the park's natural qualities and ecological resources, on the traditional, familiar character of the park's recreational features, on the park's overall community character, on the park's ability to serve as a major asset to the quality of life, on proximity and access to the park, and on the experience provided people in adjoining neighborhoods.

Major beneficial: a change would have a substantial and noticeable positive effect on the on the park's natural qualities and ecological resources, on the traditional, familiar character of the park's recreational features, on the park's overall community character, on the park's ability to serve as a major asset to the quality of life, on proximity and access to the park, and on the experience provided people in adjoining neighborhoods.

**Analysis**

*Recreational Opportunity* — Under the No Action Alternative, recreational opportunities that currently exist in the park would continue to be available similar to existing conditions. These recreational opportunities would continue into the future unless resource management concerns arise. These opportunities include the existing systems of trails (hiking, walking, bicycling, horse), various boat ramps throughout the park for access to the river for fishing and boating, and maintenance of the administration building, restroom facilities, parking lots, and roads. The availability and diversity of recreational opportunities would continue as currently managed. Some trails are currently relatively degraded and many social trails are causing soil erosion. Areas such as Cochran Shoals are over- crowded and would continue to experience this problem.



Due to increased population growth and development in the surrounding region, areas currently used for certain types of recreational activities could become even more crowded and affect the quality of the visitor experience. For example, boating, hiking or fishing in high- use areas could become a more social rather than a solitary experience. Crowded conditions could worsen as competition grows for facilities. Few if any new or expanded recreational opportunities would be available under the No Action Alternative.

Depending on location in the park, and visitor preferences, this alternative would have minor to major, adverse long- term effects on recreational opportunities and visitor experiences. The overall effects of this alternative on recreational opportunities, and associated environmental impacts, however, were estimated to be major, adverse and long- term. A limited number of new trails would be constructed, but an integrated trails system plan would not be developed and implemented, and the number of non- authorized, informal trails would grow; and soil erosion would probably continue or worsen. Future limits on visitor numbers may be required due to an expected increase in park visitors and the continued need to protect and preserve the park's cultural and natural resources. Areas currently used for certain types of recreational activities could become increasingly crowded and would have a major, adverse, long- term effect on the quality of the visitor experience. Boating, hiking or fishing in high- use areas could become a more social rather than a solitary experience. Crowded conditions would worsen as competition grows for limited recreational opportunities. No new restrooms would be constructed. The overall direct effect of the No Action Alternative was therefore estimated to be major, adverse and long- term. The continued availability of existing recreational opportunities throughout the park, however, would result in a simultaneous minor, beneficial, long- term direct effect.

*Visitor Experience* — Under the No Action Alternative, visitor and community values would continue to be shaped by present management policies and programs. The National Park Service would continue to operate the 16 current units of

the park, with no plans to add new parcels. Under the No Action Alternative, the park would continue to provide opportunities for solitude in more remote areas, as well as more active forms of recreation in areas such as Sope Creek and Cochran Shoals. The present opportunities to participate in park programs (interpretation) and education programs would continue, resulting in a minor, beneficial, long- term, direct effect. This includes education programs with area schools and a program for training teachers in the field of environmental education. Only limited additional park staff resources would be available to expand educational or research programs in the park or local communities, however. Few if any new visitor outreach programs would be developed and the visitor experience would not be expanded over the current teacher education program and research program. Since an integrated trails system plan would not be developed and implemented, problems with erosion along trails in certain areas of the park would be expected to continue or worsen. Coordination with local trail planning organizations and connectivity of new trails system would be similar to existing levels, and no integrated trails planning effort would be conducted or implemented. The quality of the visitor's experience would be diminished. Trail construction methods, monitoring, and restoration efforts would be similar to current practices.

This alternative would have an overall moderate, adverse long- term effect on visitor experiences since no new programs, facilities or related increase in park staff levels would be expected to occur. An integrated trails system plan would not be developed or implemented, leading to degradation and continued overuse of the trails.

*Numbers and Types of Visitor Facilities* — The No Action Alternative would result in limited construction of new facilities and continued maintenance of existing visitor facilities in the park. This alternative would be limited to maintaining existing facilities such as boat ramps, restrooms, administration buildings, roads, parking lots, and trails and constructing boat ramps.

The overall effect on visitor experience and values would be a continuation of present conditions and access to available facilities, as park resources



allow. This would constitute a major, adverse long-term effect since no new facilities would be available to accommodate the expected increased numbers of visitors in the future. The continued availability of existing visitor facilities throughout the park, however, would result in a simultaneous minor, beneficial, long-term, direct effect.

*Traditional Character* — As the population in the region grows, increased visitation would be expected under the No Action Alternative. Park rangers would have increased difficulty protecting the natural and cultural features of the park that are valued by visitors, due to limitations in the numbers of park staff, including maintenance, monitoring, and other resource management activities. Although visitors would continue to have access to the wide variety of established opportunities described in the “Affected Environment” section, park staff and park management resources would face increasing pressure to address infrastructure problems, a need for additional administration and operations support, and increasing resource threats such as natural degradation and visitor impacts to historic resources, erosion, sedimentation, and water quality concerns. This was estimated to result in major, direct, adverse, long-term effect on the ability to protect park resources, and the overall character of the park as a resource would be diminished because of a lack of suitable interpretive, education, and management programs. The continued availability of existing park resources to visitors, however, would result in a simultaneous minor, beneficial, direct, long-term effect.

During public meetings and workshops, the public expressed concern over protection of natural and cultural resources. Under the No Action Alternative, resource and other management plans would not be developed or implemented. Without additional park staff to address these increasing concerns in resource protection, major, direct, adverse, long-term effects on traditional park character and visitor experience would occur, as it would be increasingly difficult to maintain the traditional character of the park over time.

Under the No Action Alternative, none of the proposed park actions would conflict with land use plans, policies, or controls. No new park areas

would be added under this alternative, so there would be no such conflicts due to addition of new park areas. In addition, none of the actions that take place inside the park during construction or operation would conflict with land use plans, policies, or controls in the surrounding areas.

### Cumulative Impacts

Under the No Action Alternative, the variety and quality of visitor experiences opportunities would become increasingly reduced by the cumulative demands from visitors in the rapidly growing urban and suburban area surrounding the park. The No Action Alternative would therefore have major, adverse, cumulative, long-term effects on recreational opportunities in the park. The continued availability of existing recreational opportunities throughout the park, however, would continue to provide a minor, beneficial, long-term, direct effect.

Under the No Action Alternative, the quality of the experience for the average visitor would decrease over time as a result of the cumulative effects of increasing numbers of visitors from the surrounding area, and the gradual reduction in the quality of the park’s natural and cultural resources. This would constitute a major, adverse, long-term cumulative effect on the quality of the visitor experience. The No Action Alternative would also, however, have a minor, beneficial, cumulative, long-term effect on visitor experience, since the current education and research programs would continue at present levels throughout the park, but would not be expanded to meet the growing demand for more services to reach a much broader and diverse audience.

The No Action Alternative would have a major, adverse, long-term cumulative effect on the numbers and types of available visitor facilities, as a result of the combined effect of increased numbers of visitors from the surrounding area and the lack of many new facilities and visitor-related programs. The No Action Alternative would also have a simultaneous minor, beneficial, cumulative, long-term effect on the numbers and types of visitor facilities, since the existing facilities would remain available throughout the park.



Under the No Action Alternative, the combined effects of growth in the area around the park would have a major, adverse, cumulative effect on the overall historical character of the park as an area that could be used for both passive and active recreational uses. The park would nevertheless continue to provide some degree of value to visitors, which would be a minor, beneficial, cumulative, long- term effect.

There would be no irretrievable or irreplaceable commitment of resources associated with this alternative.

### Conclusions

The No Action Alternative would still continue to provide visitors opportunities for passive and active forms of recreation. This would constitute a minor, beneficial, direct and cumulative long- term effect. However, this alternative would have adverse, major, long- term adverse effects on visitor experience, recreational opportunities, the numbers and types of visitor facilities, and the character of the park, due to the direct and cumulative effect of increased growth in the surrounding area, combined with lack of suitable resource and other management plan development and implementation.

### SUSTAINABILITY AND LONG- TERM MANAGEMENT

The National Environmental Policy Act (sec. 101 (b)), and the National Park Service Organic Act require an assessment of the potential of each alternative to produce long- term impacts and the potential of foreclosing future options that are available to the National Park Service with regard to managing each park. An alternative is required to allow for sustainable development, which is defined as an action that meets the needs of the present without compromising the ability of future generations to meet their needs (*World Commission on Environment and Development* in National Park Service 2001(a)). This section addresses the following three components of the sustainability assessment for the No Action Alternative.

### The Relationship Between Local Short- Term Uses of The Environment and The Maintenance And Enhancement of Long- Term Productivity - National Environmental Policy Act sec. 102 (c) (iv))

Under the No Action Alternative, existing problems related to growth in the surrounding urban and suburban area and watershed are likely to continue with the growth in population, putting additional pressures on the natural and cultural resources in the park. As demand for visitor use and recreation in the park grows, the long- term protection and enjoyment of park resources could be jeopardized. The continuation of existing visitor uses could jeopardize the long- term productivity of the environment. Sedimentation and erosion (primarily from development activity outside the park), if left unchecked, could have continued adverse effects on aquatic, and terrestrial natural resources.

### Any Irreversible or Irretrievable Commitments of Resources That Would be Involved if the Alternative Were Implemented - National Environmental Policy Act (Sec. 102(c) (v))

The National Environmental Policy Act and the National Park Service define irreversible impacts as those effects that cannot be changed over the long term or are permanent (National Park Service 2001a). An effect to a resource is irreversible if the resource cannot be reclaimed, restored, or otherwise returned to its condition before the disturbance. An irretrievable commitment of resources refers to the effects to resources that, once gone, cannot be replaced. There would be a potential for irreversible or irretrievable commitments of cultural resources under the No Action Alternative. These losses could occur because of the lack of data and resources to implement a comprehensive program for cultural resource identification, preservation and protection. In addition, limited amounts of nonrenewable resources would be used for construction projects and park operations, including energy and materials. These resources would be irretrievable once they were committed.



### **Any Adverse Impacts That Could Not Be Avoided If the Action Were Implemented**

The National Environmental Policy (sec. 101(c) (ii)) defines adverse impacts as those that cannot be fully mitigated or avoided. Under the No Action Alternative, where construction activities disturb cultural resource sites, data recovery and conservation efforts would partly mitigate impacts. However, the disturbance could result in some irretrievable and irreversible loss of archeological resources. In addition, there would be unavoidable moderate to major adverse impacts on natural and cultural resources under the No Action Alternative as a result of the increasing development outside

the park. Increased sedimentation and erosion from activities outside the park would continue to degrade water quality and riparian corridors in the park. Mitigation measures would be taken, where park staffing and funding resources allowed, minimizing or reducing these impacts. Increased visitation rates would also have the potential to reduce future availability and access to some types of visitor uses and opportunities in certain areas during peak visitation periods because no additional facilities would be provided under the No Action Alternative. This could result in minor to moderate adverse impacts on the quality of the visitor experience. The overall effect was estimated to be moderate, adverse and long- term.

## **ENVIRONMENTAL IMPACTS OF THE FOCUS ON SOLITUDE ALTERNATIVE**

### **IMPACTS OF THE FOCUS ON SOLITUDE ALTERNATIVE ON NATURAL RESOURCES**

Natural resources impact topics include air quality, water resources, wetlands and floodplains, rare, threatened and endangered species, terrestrial ecological resources and prime and unique farmlands. Analytical methods are provided under the No Action Alternative. Impact analyses and cumulative impact assessments and conclusions are described for each impact topic.

### **IMPACTS OF THE FOCUS ON SOLITUDE ALTERNATIVE ON AIR QUALITY**

#### **Regulations and Policy**

The regulations and policies that guide NPS actions with respect to air quality are presented in the “Servicewide Mandates and Policies” section of this document.

#### **Analysis**

Under the Focus on Solitude Alternative, construction activities would produce a negligible increase of vehicle emissions and increased fugitive dust from developed sites. The Focus on Solitude Alternative would involve lower levels of construction activities than the No Action Alternative, and would produce the lowest volumes

of construction- related air emissions of any of the alternatives. These emissions would produce negligible, adverse, short- term, direct impacts on air quality as a result.

Under the Focus on Solitude Alternative, fewer new park facilities (roads, parking lots, restrooms) would be operated in relation to the No Action Alternative. Emissions generated by park visitor vehicles would be lower than those produced under the No Action Alternative. This alternative would therefore be characterized by the lowest potential for increasing air emissions in the vicinity of the park related to increased vehicular traffic in the park during operations. Operation of the park would therefore also have negligible, adverse, long- term effects on air quality under the Focus on Solitude Alternative.

Air emissions arising outside the park would greatly exceed the volume of emissions inside the park under the Focus on Solitude Alternative. This would constitute a moderate, long- term adverse effect on air quality. The effects of these emissions on the plant and animal communities within the park are unknown, and are out of the control of the park, regardless of the alternative that is implemented.



## Cumulative Impacts

Under the Focus on Solitude Alternative, fugitive dust associated with limited construction and maintenance, and vehicle emissions associated with park operations throughout the park would be produced. However, the cumulative effects of these emissions would be considered negligible in relation to the volume of emissions in the region and would constitute a negligible, adverse long-term effect.

The cumulative effects of air quality in the park caused by growth in the surrounding region, in contrast, would be moderate, long-term and adverse. The population in the Atlanta area is projected to continue to grow, and as this occurs, traffic volumes and associated air emissions are likely to increase in the area in and around the park. The volume of air emissions and impacts of these increases would greatly exceed any increased air emissions associated with construction and operation of park facilities. The Atlanta area is currently not meeting the air quality standards for ozone and this situation may not change for the foreseeable future. As the population and traffic congestion grows in the future, degraded air quality could affect natural resources in the park in as yet unidentified ways. This would constitute a moderate, adverse long-term cumulative effect on air quality in the park.

There would be no irretrievable or irreversible commitment of air quality resources with this alternative.

## Conclusions

Emissions generated from limited construction, maintenance and operation activities under the Focus on Solitude Alternative would cause negligible, adverse long-term effects on air quality. Growth in the area surrounding the park would cause moderate, adverse cumulative effects on air quality that would not be under the control of the park management.

There would be no impairment of air quality as a result of park actions under this alternative.

## IMPACTS OF THE FOCUS ON SOLITUDE ALTERNATIVE ON WATER RESOURCES

### Regulations and Policy

The regulations and policies that guide NPS actions with respect to water resources are presented in the “Servicewide Mandates and Policies” section of this document.

### Analysis

Implementation of the Focus on Solitude Alternative would result in less land disturbing activity for construction of roads, parking lots, trails and buildings in comparisons with the No Action Alternative. This alternative was estimated to have negligible, short-term and long-term adverse construction-related effects on hydrology, water quality, and aquatic resources. Best management practices would also be used in all construction areas to control and minimize the amount and quality of runoff during construction. These measures would include type C silt fencing in slopes greater than 3%, mulching, sedimentation ponds, and use of cocoa fiber and seeding of native grasses.

During operation, visitors would continue to use the park, but would be allowed access at relatively few locations under the Focus on Solitude Alternative, resulting in a lower potential for trail overuse and increased soil erosion in comparison with the No Action Alternative. Potential adverse effects of trail use and soil erosion would be mitigated by developing and implementing a natural resource and other management plans. New areas could be added to the park, providing additional levels of protection for water resources in the watershed. These combined actions and factors would result in a major, beneficial long-term effect on hydrology, water quality, and aquatic resources. Overall, the Focus on Solitude Alternative was therefore estimated to have a negligible, adverse long-term effect on water resources in the park.

### Cumulative Impacts on Water Resources

Construction and operation of the park under the Focus on Solitude Alternative would have



negligible, long- term, adverse cumulative effects on water resources, since fewer number of new park facilities would be constructed and operated in relation to the No Action Alternative, and the emphasis of this alternative would be primarily on passive recreation. Because resource and other management plans would be developed and implemented, soil erosion from trails and other forms of visitor use would be further minimized over the long term. This would constitute a major, beneficial, long- term effect.

The cumulative effects of stormwater runoff from development outside the park on water resources inside the park would continue to increase under the Focus on Solitude Alternative. As the area surrounding the park becomes more and more developed, this problem would increase. This would constitute a major, adverse, cumulative, long- term effect that is outside the direct control of the park. This type of effect would occur under all of the alternatives, because the park is located in a rapidly developing urban area. Implementation of resource and other management plans, however, would work to help offset these effects.

The growth in the area surrounding the park has already had a major adverse effect on fishing in the Chattahoochee River, which is included within the park. This was identified as an issue during scoping of the general management plan/environmental impact statement. However, this issue cannot be addressed by the park effectively because it is largely outside of the parks' control. Fish populations and diversity in the river vary depending on the location along the corridor. The northern section below Lake Lanier is characterized by a relatively healthy fish community and is much less affected by nonpoint stormwater runoff as compared with the lower portion of park. However, during intense storms, even the northernmost sections of the river, except the area immediately below Buford Dam, are affected by runoff and sedimentation from the surrounding area. As the northern areas of the park corridor continue to grow, these effects on fish populations are expected to increase. Under the Focus on Solitude Alternative, there would be some chance for improving this situation because there would be more coordination and planning between the National Park Service and local

governments to control stormwater runoff. This would be implemented as part of resource and other management plans developed by the park. However, if watershed management plans are also implemented by local governments, controls would ultimately be put in place, and the fisheries of the river would hopefully improve over the long term. Currently this is not the case, however, and the river continues to be affected by stormwater runoff.

There would be no irreversible or irretrievable commitment of the water resources of the Chattahoochee River and its tributaries under this alternative related to NPS actions.

## **Conclusions**

The Focus on Solitude Alternative would have negligible, adverse, direct short- term and long- term effects on surface water hydrology, water quality, and aquatic resources resulting from construction and maintenance activities associated with park facilities. Negligible increases in surface runoff would also result from impervious surfaces during operation under this alternative. Implementation of resource and other management plans under this alternative would result in a major, beneficial direct and cumulative effect on water resources. The overall direct effect of this alternative on water resources in the park would therefore be negligible, adverse, and long- term.

Water resources would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park under all of the alternatives, including the Focus on Solitude Alternative. This would constitute a major, adverse long- term cumulative effect on water resources. These effects would be outside of the park's ability to control, however, and are not related to park actions.

There would be no impairment of water resources as a result of park actions under this alternative.



## **IMPACTS OF THE FOCUS ON SOLITUDE ALTERNATIVE ON WETLANDS AND FLOODPLAINS**

### **Regulations and Policy**

The regulations and policies that guide NPS actions with respect to wetlands and floodplains are presented in the “Servicewide Mandates and Policies” section of this document.

### **Analysis**

Limited construction (such as boardwalks, or foot bridges, boat ramps, parking lots, limited roads, or small buildings) and maintenance activities would occur under the Focus on Solitude Alternative. The extent of these activities would be less than those associated with the No Action Alternative. Direct effects of construction on wetlands and floodplains in the park under the Focus on Solitude Alternative were therefore estimated to be negligible, adverse, and long- term. Existing trails and facilities currently located in floodplains and wetlands would not be altered, other to improve them, or in some cases, eliminate them to improve conditions which would be beneficial, and long- term. New trail construction would be addressed and assessed in the form of individual tiered environmental assessments, and avoidance, minimization and compensation would be demonstrated prior to construction activity. New trail construction would be very minimal, however, and would be less than those associated with the No Action Alternative.

Fewer park facilities would be constructed and operated under the Focus on Solitude Alternative as compared with the No Action Alternative. This alternative was therefore estimated to have negligible, long- term adverse effects on wetlands or floodplains related to operation of park facilities. Existing levels of protection of wetlands and floodplains would also be improved through development and implementation of resource and other management plans. Where erosion occurs along informal, or social trails or overused areas, these conditions would be improved over time due to implementation of resource and other management plans. Some new park areas could be also added that could include several small wetlands and floodplains or a larger

wetland/floodplain areas at a single location. All of these factors would result in moderate long- term beneficial effects on wetlands or floodplains as they are protected.

### **Cumulative Impacts on Wetlands and Floodplains**

Negligible, long- term, adverse cumulative effects on wetlands and floodplains inside the park would result from construction and operation of park facilities under the Focus on Solitude Alternative, since this alternative would involve only limited construction and maintenance. Floodplains and wetlands throughout the park would continue to be protected from direct disturbance from construction projects through required environmental assessments tiered to the general management plan/environmental impact statement. Application of best management practices would help reduce risk to floodplain and wetland resources from polluted stormwater runoff, erosion, filling activities, or sedimentation from sources within the park. In addition, restoration of wetland and floodplain resources would be more likely to occur under this alternative than the No Action Alternative, providing major, long- term, beneficial effects

During operation, this alternative would result in moderate, beneficial long- term effects on wetlands and floodplains as a result of development implementation of resource and other management plans. These would lead to improved management of visitor access to wetlands and floodplains and control of erosion along trails and other areas.

Wetlands and floodplains located within the park would continue to be affected by sediments and water transported via runoff during high storm water discharges originating from developed areas outside the park. This would constitute a long- term, major adverse cumulative effect. This effect would be the same for all of the alternatives.

There would be no irreversible or irretrievable commitment of wetland and floodplain resources with this alternative.



## Conclusions

Implementation of the Focus on Solitude Alternative would result in negligible, adverse long- term effects on wetlands and floodplains, since the amount of facility construction and operation would be very limited, as compared to the No Action Alternative. Restoration of wetland and floodplain resources would be more likely to occur under this alternative compared to the No Action Alternative, providing major, long- term beneficial effects. Cumulative impacts from storm water runoff originating in developed areas outside the park would be expected to cause major, long- term adverse impacts on wetlands and floodplains, however, due to erosion and sedimentation during major storm events.

There would be no impairment of wetlands and floodplains as a result of park actions under this alternative.

## IMPACTS OF THE FOCUS ON SOLITUDE ALTERNATIVE ON RARE, THREATENED AND ENDANGERED SPECIES

### Regulations and Policy

The regulations and policies that guide NPS actions with respect to water resources are presented in the “Servicewide Mandates and Policies” section of this document.

### Analysis

Since less land would be disturbed under the Focus on Solitude Alternative, the potential effect of construction activities of this alternative on rare, threatened and endangered species would be expected to be somewhat less than the No Action Alternative. Some fragmentation of terrestrial habitat would occur, but because the number of projects would be less than that which would occur under the No Action Alternative, this direct effect would be minor. Under the Focus on Solitude Alternative, any construction project would require a National Environmental Policy Act environmental assessment that would include rare, threatened, and endangered species surveys, consideration of alternatives, and assessments of

impacts. Therefore, impacts would be avoided or minimized to the greatest extent possible. The effects of this alternative on protected species were therefore estimated to be negligible, adverse, and long- term. In addition, under the Focus on Solitude Alternative, natural resource and other management plans would be developed and implemented, which would be beneficial to protected species. It would also be possible to acquire additional park areas. Both of these factors would result in a moderate, long- term beneficial effect on protected species.

The location of numerous protected species of plants and animals in the park is known and documented by the Georgia Department of Natural Resources/Wildlife Resources Division surveys, as well as other surveys. Definitive and detailed park- wide surveys have yet to be conducted by the park, however. Under this alternative, such surveys would be completed as part of implementation of a park- wide resource management plan.

During operation of the park, rare, threatened and endangered species would receive an increase level of protection under the Focus on Solitude Alternative in comparison with the No Action Alternative. New areas could be added to the park under the Focus on Solitude Alternative, and natural resource and other management plans would be prepared, which could result in long- term habitat improvements and expansions. These factors would result in moderate, long- term beneficial effects on protected species and their habitat. Since the number of new facilities operated under this alternative would be minimal, operations of the park would have negligible, adverse, long- term direct effects on protected species.

There would be no irretrievable or irreversible commitment of resources as a result of implementation of this alternative.

### Cumulative Impacts on Rare, Threatened and Endangered Species

The cumulative effects of park construction and operation activities under the Focus on Solitude Alternative on rare, threatened and endangered



species within the park would be negligible, adverse, and long- term, since construction would be more limited in comparison with the No Action Alternative, and tiered environmental assessments would be conducted for each proposed project. There is also a potential for long- term improvement of habitat for protected species under the Focus on Solitude Alternative due to increased levels of restoration efforts as compared to No Action, and since natural and other management plans would be developed and implemented. This would help minimize the potential for exotic species to invade, and for habitats to be further improved and protected from increased visitor use. The park's rare, threatened and endangered species would continue to benefit from the protection the park affords. This would constitute a moderate, beneficial, long- term effect.

There would be no irreversible or irretrievable commitment of rare, threatened and endangered species or related habitat resources with this alternative.

## **Conclusions**

Implementation of the Focus on Solitude Alternative would result in negligible, long- term, adverse direct and cumulative effects on rare, threatened and endangered species, since the number of new facilities to be constructed and operated would be very limited in comparison with the No Action Alternative, and resource and other management plans would be developed and implemented. Efforts to document and protect rare, threatened and endangered species populations currently present in the park would continue to be maintained and potentially expanded. New areas could also be added to the park and these could contain protected species and habitat that would be protected. This would constitute a moderate overall long- term beneficial effect.

There would be no impairment of rare, threatened and endangered species habitats or values as a result of park actions under this alternative.

## **IMPACTS OF THE FOCUS ON SOLITUDE ALTERNATIVE ON TERRESTRIAL ECOLOGICAL RESOURCES**

### **Regulations and Policy**

The regulations and policies that guide NPS actions with respect to terrestrial ecological resources are presented in the "Servicewide Mandates and Policies" section of this document.

### **Analysis**

The Focus on Solitude Alternative would have a lower relative potential to adversely affect terrestrial ecological resources within the park in comparison with the No Action Alternative since the Focus on Solitude Alternative would involve fewer construction related activities. Some fragmentation of terrestrial habitat would occur, but because the number of new facilities would be few and in limited areas, this direct effect would be negligible under the Focus on Solitude Alternative. Prior to implementation of proposed actions, such as trail construction, the National Park Service would conduct a detailed site- specific survey of the terrestrial vegetation at the project site as part of a tiered environmental assessment. The type, extent, and ecological values of terrestrial habitats at each proposed site would be evaluated and the impacts of the proposed project would be assessed. This information would be used to make a decision regarding the feasibility of the proposed site for construction. Implementation of best management practices along with institution of standardized trail construction methods (following the requirements of an integrated trails system plan) would mitigate potentially adverse impacts. Construction activities associated with park facilities would have a negligible, adverse, long- term, direct effect on terrestrial resources in the park as a result.

During operation, the Focus on Solitude Alternative would have a lower potential for impacting terrestrial habitats in comparison with the No Action Alternative since this alternative would involve a lower number of new facilities and would emphasize more passive forms of recreation and visitor use. This alternative would therefore have negligible, adverse and long- term direct



effects on terrestrial ecological resources. This alternative would provide for restoration of terrestrial resources, thereby improving existing conditions, which would result in a moderate, beneficial, long- term effects. An increase in research and education efforts compared to the No Action Alternative would also provide additional protection of resources by communicating protective measures that could be used by visitors to avoid or minimize impacts to terrestrial ecological resources. This would be a moderate, beneficial long- term effect. Implementation of resources and other management plans including an integrated trails system plan under the Focus on Solitude Alternative would have a moderate, beneficial, long- term, direct effect on terrestrial ecological resources in the park. For example, the plan would include measures to restore degraded habitats and means to control invasive species such as privet and English Ivy.

### **Cumulative Impacts on Terrestrial Ecological Resources**

The Focus on Solitude Alternative would have negligible short- or long- term, adverse cumulative impacts on terrestrial ecological resources because of the limited land disturbance that would be involved under this alternative. Increased levels of effort concerning other management, restoration, education, research and other agency coordination would result in moderate, long- term, beneficial effects on terrestrial ecological resources in the park.

Ongoing urbanization in the Atlanta region would continue to eliminate forest and wildlife species in areas surrounding the park. Park management practices associated with the Focus on Solitude would have little effect on these events. Improved education, research and coordination elements of this alternative could provide moderate, beneficial cumulative effects, as increased awareness of these resources could generate interest in their protection outside the park as well.

There would be no irretrievable or irreversible commitment of terrestrial ecological resources under this alternative.

### **Conclusions**

The Focus on Solitude Alternative would have negligible, adverse, direct and cumulative impacts on terrestrial ecological resources because of the limited land disturbance and more passive forms of visitor use that would occur under this alternative as compared to the No Action Alternative. Tiered environmental assessments would also be required prior to selecting a site for a project, and impacts could be avoided or minimized. Development and implementation of a resource and other management plans, and increased research, education, coordination, and staffing levels would have moderate, long- term beneficial effects on these resources in the park.

There would be no impairment of terrestrial ecological resources as a result of park actions under this alternative.

### **IMPACTS OF THE FOCUS ON SOLITUDE ALTERNATIVE ON PRIME AND UNIQUE FARMLANDS**

#### **Regulations and Policy**

The regulations and policies that guide National Park Service actions with respect to prime and unique farmlands are presented in the “Servicewide Mandates and Policies” section of this document.

#### **Analysis**

Since no new facilities would be proposed in newly acquired areas, prime and unique farmlands would not be effected b y construction related activities. Proposed NPS projects in the park could impact known prime and unique farmlands, all of which are located north of McGinnis Ferry Road. The Focus on Solitude Alternative would have a lower potential to impact these types of soils in comparison with the No Action Alternative since this alternative would a smaller amount of construction, maintenance and operation activities. The amount of soil disturbance would be slightly less than the No Action Alternative. The overall effect of the limited construction activities completed under Focus on Solitude Alternative on



prime and unique farmland would be negligible, adverse and long- term. Soil erosion would also be minimized in the vicinity of these soils types since best management practices would be instituted. The potential effects of park operation on prime and unique farmlands under the Focus on Solitude Alternative would also be negligible, adverse and long- term, since visitor activities would be primarily passive, and limited to a very small area. Should a project be proposed that would affect a prime and unique farmland in the future, a site specific environmental assessment would be completed, and potential impacts would be further addressed.

### **Cumulative Impacts on Prime and Unique Farmlands**

The cumulative adverse effects of the construction, maintenance and operation activities within the park on prime and unique farmlands under the Focus on Solitude Alternative would be negligible, and long- term since this alternative would involve very limited construction and maintenance in the park. Should a project be proposed that would affect a prime and unique farmland in the future, a site specific environmental assessment would be completed, and the impacts would be addressed. Resource, trail, and other management plans would also be developed and implemented, which would allow for avoidance of potentially adverse impacts on prime and unique farmlands.

In contrast, the cumulative effects of development in the area surrounding the park on prime and unique farmlands would be moderate, adverse and long- term, since there would be a potential for increased soil erosion that could have adverse effects on park resources. These effects cannot be controlled by the park, but would be controlled largely by the watershed management programs that should be implemented by the surrounding counties in the future.

There would be no irretrievable or irreversible commitment of prime and unique farmlands under this alternative.

### **Conclusions**

The No Action Alternative would have negligible adverse direct long- term impacts on prime and unique farmlands, since the amount of construction proposed within the park would be limited, and tiered site- specific environmental assessments would identify such resources and avoid impacting them. This alternative would have moderate, adverse, long- term cumulative impacts on prime and unique farmlands, as a result of growth in the area surrounding the park.

There would be no impairment of prime and unique farmlands as a result of park actions under this alternative.

### **IMPACTS OF THE FOCUS ON SOLITUDE ALTERNATIVE ON CULTURAL RESOURCES**

This section describes the methods used, analysis of effects conducted and conclusions drawn for archeological resources and historic buildings, structures and objectives.

### **IMPACTS OF THE FOCUS ON SOLITUDE ALTERNATIVE ON ARCHEOLOGICAL RESOURCES**

#### **Regulations and Policy**

The regulations and policies that guide nps actions with respect to archeological resources are presented in the “Servicewide Mandates and Policies” section of this document.

#### **Analysis**

As discussed in the “Affected Environment” section, there is a high probability that there are unknown prehistoric and historic archeological resources within the boundaries of the park. Any ground- disturbing activities associated with the Focus on Solitude Alternative would therefore have the potential to adversely affect such sites.

Until a National Register of Historic Places evaluation for any site was completed, it would be assumed that the site is eligible for listing on the register. Therefore, until proven otherwise,



disturbance to any archaeological site that was discovered during the survey, design, or construction of any facilities under Focus on Solitude Alternative would be considered a major, direct, adverse, long-term effect. Because the Focus on Solitude Alternative includes less construction-related activities than the No Action Alternative and the establishment of a greater number of cultural resource zones, however, it has a lower potential for construction-related adverse effects to archaeological resources. For purposes of this general management plan/environmental impact statement, therefore, the overall direct effect of the Focus on Solitude Alternative on archaeological resources was estimated to be minor, adverse and long-term.

As described in the section entitled “Servicewide Mandates and Policies,” the National Park Service is required to protect archaeological resources within the park. Therefore, prior to undertaking any construction activities under the Focus on Solitude Alternative, the National Park Service would conduct a tiered National Environmental Policy Act environmental assessment and,

Conduct cultural resources surveys of areas to be disturbed, including trail alignments

Identify all archaeological resources that are discovered during the surveys

Systematically inventory each site to determine and document its significance to support its evaluation for National Register of Historic Places eligibility

Determine eligibility in concert with the Georgia State Historic Preservation Officer and Advisory Council on Historic Preservation

Relocate any facilities that would disturb National Register of Historic Places-eligible sites

The collection of data to support the eligibility evaluation, and the determination of eligibility can be time consuming. Therefore, as a timesaving approach, the National Park Service would assume that any archaeological site that is discovered is eligible for listing, and would relocate the project to be constructed to avoid that site. This approach

would substantially reduce the potential for construction-related adverse effects to archaeological resources.

Under any alternative, the integrity of some sites would be degraded by natural processes such as wind and water erosion, or by vandalism or inadvertent damage by visitors. By establishing a greater number of cultural resource zones compared to the No Action Alternative, and by increasing monitoring, numbers of rangers, and education programs, the Focus on Solitude Alternative provides greater protection and monitoring of the archaeological resources within the park in comparison with the No Action Alternative. In addition, because the goal of the Focus on Solitude Alternative is to return areas back to a more natural state and minimize facilitated recreational opportunities, archaeological sites located outside of the cultural resource zones would potentially be more protected from degradation and potential erosion, or vandalism under the Focus on Solitude Alternative as compared with the No Action Alternative. The Focus on Solitude Alternative is estimated to provide moderate, long-term beneficial effects on archaeological resources.

### Cumulative Impacts

During construction, the Focus on Solitude Alternative has a potential to impact archaeological resources at virtually any site that is cleared. The cumulative adverse effects of all construction activities under this alternative within the park would be less than under the No Action Alternative. For purposes of this general management plan/environmental impact statement, the overall cumulative impact of construction activities under the Focus on Solitude Alternative on archaeological resources was therefore estimated to be minor, adverse and long-term.

Prior to undertaking any construction activity, the National Environmental Policy Act requires completion of an archaeological survey and an estimate of potential adverse impacts. Adherence to these procedures could assure that the construction activities would not cause adverse cumulative impacts on archaeological resources in



the park. In addition, a resource management plan and a collections management plan would be prepared and implemented under this alternative that would be designed to preserve and protect these resources. This would constitute a major, long- term beneficial cumulative effect on archeological resources.

During operation, archeological resources could be impacted by human disturbance. Taken together over the length of the park, these cumulative effects could be adverse if not managed adequately. In comparison to the No Action Alternative, the Focus of Solitude Alternative has a lower potential for this to occur, however, since the level of visitor use and construction activities within the park would be least under the Focus on Solitude Alternative. A cultural resources management plan and a collections management plan designed to preserve and protect archeological resources would also be implemented under this alternative. For purposes of this general management plan/environmental impact statement, the overall cumulative impact of operation under the Focus on Solitude Alternative on archeological resources was therefore estimated to be minor, adverse and long-term.

Where sites were disturbed, such as the discovery of a site during construction, data recovery and preservation efforts would partly mitigate impacts. However, the disturbance could result in some irretrievable and irreversible loss of archaeological resources.

## **Conclusions**

Archaeological resources in most of the metropolitan Atlanta area have been previously disturbed or eliminated by as a result of historical land clearing practices, development and urban sprawl. Therefore, improvements to, and preservation of, archaeological sites within the park is important on a regional level, as these resources represent former conditions throughout the area. The identification and systematic inventory of archaeological resources in the cultural resource zones during the implementation of the Focus on Solitude Alternative offers an opportunity to add to the knowledge of the prehistory and history of both the park and the entire vicinity.

The Focus on Solitude Alternative implements management programs that would minimize construction and facilitated experiences in the park, and highlights inventory, preservation and maintenance of archaeological sites within ten cultural resource zones. As such, the Focus on Solitude Alternative has a lower potential for construction- related impacts to the various cultural resources present with the park in comparison with the No Action Alternative and a greater potential for inventory, preservation, and protection of that subset of archaeological sites that falls within the acreage designated for the cultural resource zones. Survey, identification, and avoidance measures that would be implemented prior to construction would avoid most or all of the adverse effects. Because the Focus on Solitude Alternative would re- establish natural conditions in much of the park, the potential for degradation and visitor- related impacts would be lower than under the No Action Alternative. The Focus on Solitude Alternative has a much lower potential to adversely impact archeological resources as compared with the No Action Alternative. A cultural resources management plan and a collections management plan would be developed and implemented, and additional survey work would be completed under the Focus on Solitude Alternative. The overall potential direct and cumulative effect of this alternative on archeological resources was therefore estimated to be minor, adverse and long- term.

## **IMPACTS OF THE FOCUS ON SOLITUDE ALTERNATIVE ON HISTORIC BUILDINGS, STRUCTURES AND OBJECTS**

### **Regulations and Policy**

The regulations and policies that guide NPS actions with respect to historic buildings, structures and objects are presented in the “Servicewide Mandates and Policies” section of this document.

### **Analysis**

Ten cultural resource zones would be established under the Focus on Solitude Alternative, as compared to none under the No Action Alternative. The ten cultural resource zones



encompass the majority of the National Register of Historic Places- listed or National Register of Historic Places- eligible historic buildings, structures and objects identified to date in the park. As a result, implementation of the Focus on Solitude Alternative would result in greater protection of these types of cultural resources in the park than would be expected under the No Action Alternative during both construction and operation. In comparison with the No Action Alternative, the Focus on Solitude Alternative has a greater potential to protect and preserve historic buildings, structures and objects since these resources would be managed according to a cultural resources management plan and increased monitoring, education and numbers of park rangers would be proposed. This alternative is therefore estimated to have a major, beneficial long- term effect on historic resources.

Similarly, because cultural resources and in cultural resource zones are documented and interpreted, the implementation of the Focus on Solitude Alternative has a greater potential for preservation and interpretation of historic buildings, structures and objects in comparison with the No Action Alternative. This would constitute a major beneficial long- term effect.

The Focus on Solitude Alternative has a potential to affect archeological resources, however, and minor impacts are possible. The overall potential direct and cumulative effect of this alternative on historic buildings, structures and objects was therefore estimated to be minor, adverse and long-term.

### **Cumulative Impacts**

In comparison with the No Action Alternative, the Focus on Solitude Alternative would have a lower potential to result in adverse cumulative effects on historic buildings, structures and objects because the extent of construction activities would be the more limited. Land clearing activities would be limited, and all construction would have to adhere to the requirements of the resource management plan. Cumulative adverse impacts would be reduced or avoided as a result of increased monitoring, education and an increase in park staff compared to the No Action Alternative. This

alternative was therefore estimated to have minor, adverse, long- term cumulative effects on historic buildings, structures and objects.

Where resources were disturbed, such as discovering a site during construction, data recovery and preservation efforts would mitigate impacts. However, the disturbance would result in some irreversible and irretrievable loss of cultural resources, which is common to all alternatives.

### **Conclusions**

The park contains a variety of historic buildings, structures and objects that are significant to the historical development of the Chattahoochee River corridor in the greater Atlanta area. Some of these resources are among the last remaining examples of their construction types in the region. The Focus on Solitude Alternative is estimated to have minor, adverse, long- term effects on historic buildings, structures and objects in the park, since some areas could be impacted during construction and operation of park facilities. However, implementation of this alternative would have a simultaneous beneficial effect on preservation of historic buildings, structures and objects in the park. Protection and rehabilitation of these resources would therefore ultimately have a major beneficial effect in preserving them for the future. This would be accomplished through protection efforts in cultural resource zones, development and implementation of a resource management plan, collections management plan, and increased monitoring, education and staff levels.

Under the Focus of Solitude Alternative, the historic buildings, structures and objects in the park would also be afforded enhanced protection and preservation treatment through the development and implementation of systematic integrated inventory, research, and preservation programs in the ten cultural resource zones. Rehabilitation of historic structures would occur, with some historic structures being returned to their original uses and others being rehabilitated and adaptively reused in accordance with park resource values.



## **IMPACTS OF THE FOCUS ON SOLITUDE ALTERNATIVE ON TRANSPORTATION**

### **Regulations and Policy**

The regulations and policies that guide NPS actions with respect to transportation resources are presented in the “Servicewide Mandates and Policies” section of this document.

### **Analysis**

Under the Focus on Solitude Alternative, approximately 32 percent of the park would be designated as developed, natural area recreation, and cultural resource zones, and approximately 68% of the park would be designated as either pristine river zones or natural area recreation zones. However, motorized vehicle patterns in the park would continue to exhibit patterns and problems similar to those described for the No Action Alternative, since there is little the park can do to influence traffic patterns in the surrounding Atlanta Metropolitan area. Effects on automobile traffic on some street segments would range from minor to moderate under the Focus on Solitude Alternative (Table 30). Motorized vehicle congestion would continue to occur in the southern portion of the park, and in the future, in the northern areas of the park as these portions of the region continue to develop. The majority of accessible areas would also continue to be located in the southern portion of the park, in close proximity to the higher population densities of the park corridor. This would facilitate bicycle and pedestrian access to the park, and would reduce travel distances for vehicle trips. Minor to moderate incidences of congested roadway facilities in close proximity to the southern portion of the park would add to traffic congestion in these areas under the Focus on Solitude Alternative (Table 30). The overall direct effect of the Focus on Solitude Alternative on transportation features in the park was therefore defined as moderate, adverse and long- term.

A number of the roadways that could be affected by increased activity at various areas of the park are either scheduled for improvement in the near future or are planned for improvement by 2025. In certain areas, roadways that are currently

congested are not planned for improvement. However, alternate facilities are planned in other specific areas, for example, the Morgan Falls Bridge, that could help to relieve congestion in that area. In general, the effect of the Focus on Solitude Alternative would produce moderate, adverse impacts on transportation in the majority of cases.

The Focus on Solitude Alternative would have a negligible, adverse, long- term effect on paved and unpaved trails in the park, since fewer new trails would be constructed. In addition, an integrated trails system plan would be developed and implemented, which would result in a major, beneficial, long- term direct effect on the trail system and associated visitor experience. Trails in areas that are currently being overused could be phased out and managed effectively under the plan. Use of informal trails in the park would decrease over time as the integrated trail system plan is implemented. The overall visitor experience would be greatly improved, since trails would be properly designed and maintained under the plan.

An integrated trails system plan would be developed and implemented under the Focus on Solitude Alternative, and efforts to increase connectivity with trails systems being developed in the area surrounding the park by local governments would be greatly increased. This would constitute a major, beneficial, long- term direct effect on the ability to develop improved connectivity with the surrounding communities.

The primary form of non- motorized transportation in the park is the bicycle. The Focus on Solitude Alternative would have a moderate, adverse long- term influence on an individual’s decision to walk or ride a bicycle to get to the park, since uses of bicycles would be the most limited under this alternative. The fewest number of bicycle trails would be available under this alternative since the Focus on Solitude Alternative emphasizes passive forms of recreation. An integrated trails system plan would also be developed and implemented under the Focus on Solitude Alternative, but the use of bicycles in the park would be minimal under the Focus on Solitude Alternative.



The Focus on Solitude Alternative would result in a lower amount of bicycle use than bicycle use associated with the No Action Alternative. The Focus on Solitude Alternative would therefore have a negligible, adverse, long- term effect on erosion and water quality degradation related to bicycle use. An integrated trails system plan would also be developed and implemented, and erosion associated with off- road bicycle use would decrease over current levels in the park. This would constitute a moderate, beneficial, long- term effect.

### **Cumulative Impacts**

Regional growth in the counties in the metropolitan Atlanta area is the primary reason for the projected increases in traffic volumes around the park. No matter which management actions are taken in the park, traffic in the region is expected to continue to increase in the future. The cumulative effects of the Focus on Solitude Alternative on transportation in the park and on the surrounding region would be moderate, adverse and long- term, based on the data presented in Table 30. Areas currently experiencing congestion would be expected to continue to do so in the future if planned improvements do not take place.

Under the Focus on Solitude Alternative, the cumulative amount of use of paved and unpaved trails would be lower than any of the other alternatives. The cumulative effect of the Focus on Solitude Alternative on the use of paved and unpaved trails was therefore estimated to be negligible, adverse, and long- term. Paved and unpaved trails throughout the park would be managed under an integrated trails system plan. This would constitute a moderate, beneficial, cumulative long- term effect, since these effects would extend throughout the park.

An integrated trails system plan would be developed and implemented under the Focus on Solitude Alternative, and efforts to increase connectivity with trails systems developed in the area surrounding the park by local governments would be increased throughout the park as a result. This would constitute a major, beneficial, long- term, cumulative effect.

The Focus on Solitude Alternative would have a moderate, adverse cumulative long- term influence on an individual's decision to walk or ride a bicycle to get to the park, since uses of bicycles (at least off- road bicycles) would be the most limited under this alternative.

The cumulative effect of off- road bicycle use on water quality and soil erosion would be negligible, adverse and long- term, since the total amount of bicycle use would be lower than any of the other action alternatives, including the No Action Alternative. Any potential cumulative effects of bicycle use on water quality would be expected to be reduced over time, since off- road bicycle use in the park would be highly restricted, and an integrated other management plan would be implemented.

There would be no irreversible commitment of resources associated with transportation with this alternative. Limited amounts of nonrenewable resources would be used for maintenance of roadways and paved trails, including energy and materials. These resources would be irretrievable once they were committed. There would be no irreversible commitment of resources.

### **Conclusions**

Transportation and traffic problems in the park and surrounding area would continue to increase under any of the alternatives, since traffic and transportation patterns and characteristics are largely controlled by factors outside the park's influence. The Focus on Solitude Alternative would have overall moderate, adverse, long- term direct and cumulative adverse effects on transportation and traffic in the park and surrounding area, due to traffic congestion. These effects would be similar to those of the No Action Alternative.

The Focus on Solitude Alternative would have negligible, long- term direct and cumulative adverse impacts on paved and unpaved trails in the park, since fewer new trails would be constructed in comparison with the No Action Alternative. An integrated trails system plan would be completed, and efforts to improve existing trails would be greatly improved under this alternative. This would



result in moderate, beneficial, long- term direct and cumulative effects.

The Focus on Solitude Alternative would result in less bicycle use in comparison with the No Action Alternative. The Focus on Solitude Alternative would therefore have negligible, adverse long- term direct and cumulative effects on erosion and water quality degradation related to bicycle use. An integrated trails system plan would also be developed and implemented, and erosion associated with off- road bicycle use would decrease over current levels in the park. This would result in moderate, beneficial, long- term direct and cumulative effects on water quality and terrestrial resources in the park.

## IMPACTS OF THE FOCUS ON SOLITUDE ALTERNATIVE ON VISITOR AND COMMUNITY VALUES

### Regulations and Policy

The regulations and policies that guide NPS actions with respect to visitor and community values are presented in the “Servicewide Mandates and Policies” section of this document.

### Analysis

*Visitor Experience* — Approximately 49% of the park would be identified as an urban primitive zone under the Focus on Solitude Alternative. An additional 19% of the park would be designated as pristine river zone in which mechanized forms of recreation would not be deemed appropriate, and only unpaved trails located away from the river would be allowed. Under this alternative, approximately 68% of the park would be designated either as a pristine river zone or an urban primitive zone with very limited facilities and no new facilities to be located in newly acquired parcels. These areas would provide a relatively high level of opportunity for visitors to experience isolation, a feeling of closeness to nature, and solitude and tranquility. The variety of visitor experiences would be lowest under this alternative, with most opportunities focusing on passive activities. Approximately 32% of the park acreage would be designated as developed, natural area

recreation, or cultural resource zones, with the least amount of land (20%) would be designated as natural area recreation zone as compared to other alternatives. This alternative would provide visitors with a moderate degree of challenge and risk with respect to outdoor activities, and would require moderate to high knowledge of outdoor recreation skills. Compared to the No Action Alternative, there would be increased education opportunities and ranger contact. Increased research opportunities would also be provided as well as opportunities for the park to coordinate with local agencies for monitoring and protection of park resources. This alternative would allow visitors to experience fewer encounters with other people while in the park compared to the No Action Alternative. The Focus on Solitude Alternative would have a major beneficial, long- term, direct effect on visitors who value solitude and isolation, but it would also have a major adverse long- term direct effect on visitors who value more active types of recreation and park use.

*Recreational Opportunity* - In comparison with the No Action Alternative and the other action alternatives, the Focus on Solitude Alternative would provide visitors with a higher relative opportunity to achieve solitude and isolation and the lowest potential to experience more active forms of recreation. Approximately 68% of the park would be zoned to emphasize the experience of isolation and solitude under this alternative. As a result, this alternative would provide a greater relative opportunity for nature photography, wildlife observation, and similar types of visitor experiences. The Focus on Solitude Alternative would also provide the pristine river zone, which would provide opportunities for enjoying non-motorized, relatively quiet stretches of the river. In the pristine river zone, trails would not be developed along the riverbank, but would be placed farther inland and away from the river. This zone is designed to provide for river- based forms of recreation. This type of zone does not currently exist and would not be provided under the No Action Alternative. Those that prefer to use motorized watercraft on the river in areas designated pristine river zones would be directed to other zones along the river. This would constitute moderate, adverse, long- term, direct effect on those visitors, yet would constitute a



long- term, beneficial, effect to visitors desiring a relatively quiet river experience. Development and implementation of resource management plans as well as other management plans would benefit visitors in terms of defined preservation and protection measures that would enhance the visitor's recreational experience over the long-term. This alternative would have a major beneficial long- term effect on visitors who value solitude and isolation as forms of recreation, but it would have a long- term, major adverse effect on visitors who value more active forms of recreation and park use.

*Numbers and Types of Visitor Facilities* — The Focus on Solitude Alternative would result in the construction and operation of fewer new visitor facilities in the park compared to the No Action Alternative. Visitors would rely on more passive forms of recreation such as experiencing serenity and peace of mind, wildlife viewing, and walking and observing nature. Visitors would be provided primarily with unpaved trails. Visitors seeking river experiences would have access for rafts, canoes, and boats at locations distributed strategically along the 48- mile park corridor. No roads, parking lots, administrative facilities or other buildings or bridges would be allowed in the urban primitive or pristine river zones under this alternative. No new facilities would be constructed in the newly acquired parcels. Some areas could become crowded, which could affect the quality of the visitor experience. For example, boating, hiking or fishing in high- use areas could become a more social rather than a solitary experience. Crowded conditions could worsen as competition grows for facilities. Increased levels in park staffing, providing additional rangers to give out information, provide educational programs, and monitor the park's resources could offset the potential for this to happen.

*Traditional Character* — The traditional character of the park would be maintained under the Focus on Solitude Alternative as compared to the No Action Alternative, through changes in management policy, to include development and implementation of resource and other management plans. The Focus on Solitude Alternative provides opportunities for increased contact with the visitors, and education programs designed to

improve the visitor's understanding and appreciation of the natural and cultural resources in the park. This alternative would therefore allow for improved management and protection of park resources. Visitors would continue to have access to a variety of established recreational activities described in the "Affected Environment" section. Increased staff levels would also provide an opportunity to increase the level of agency coordination to help protect park resources from adverse effects to the watershed. Since it is assumed that park managers would have additional resources to effectively identify and manage degradation of natural and cultural resources, the Focus on Solitude Alternative would have a major, beneficial long- term direct effect on traditional character and experiences in the park.

Under the Focus on Solitude Alternative, none of the proposed park actions would cause conflicts with land use plans, policies, or controls. New park land acquisitions could occur under this alternative, but these additions would be agreed to by the willing land owners (sellers) and the National Park Service. In addition, none of the actions that take place inside the park during construction or operation would conflict with land use plans, policies, or controls in the surrounding areas.

### Cumulative Impacts

Growth in the surrounding area is expected to result in an increased demand for a variety of visitor experiences as compared with current visitor uses. Although the park would still be used as a means of seeking solitude and isolation for enjoyment of scenery and other passive forms of visitor experience, there would be pressure to change this as the area surrounding the park grows. This would result in a major, adverse, long- term, cumulative effect on visitors seeking a more passive experience. This alternative would therefore have a limited ability to accommodate visitors seeking more active experiences. These adverse cumulative effects would be offset, however, by major, beneficial, long- term cumulative effects of implementing expanded education and outreach programs and resource and other management plans in the park. This would help maintain the



uses prescribed under the Focus on Solitude Alternative.

Growth in the surrounding area would cause increased pressure on the park to provide more active forms of recreation, but this would be limited under the Focus on Solitude Alternative. This alternative would not be able to accommodate the anticipated cumulative increase in the number of visitors seeking more active more varied forms of recreation. The cumulative effects of growth in the area would therefore result in a major, adverse, cumulative effect on the ability of visitors to enjoy active forms of recreation in the park. Implementation of resource and other management plans would offset these types of cumulative effects, however. This would constitute a major, beneficial effect on recreational opportunities.

Growth in the surrounding area would have a major, adverse, cumulative effect on the ability of park management to repair and maintain facilities. Pressure to build more new facilities of different types would also increase as growth in the area around the park increases. This would constitute a major, adverse, long- term cumulative effect on park facilities, since few new facilities would be constructed under the Focus on Solitude Alternative.

Growth in the surrounding area would have a major, adverse, long- term, cumulative effect on the traditional character of the park, as pressure for more active and varied forms of recreation increase, and levels of encroachment around the boundaries of the park increase. Implementation of increased numbers and varieties of education and outreach programs and resource and other management plans, however, would offset some of these potential cumulative effects of growth on traditional character. These programs and plans would result in major, beneficial, long- term cumulative effects on the traditional character of the park.

## Conclusions

The Focus on Solitude Alternative would result in construction of fewer facilities than the No Action Alternative. Visitor experiences such as serenity,

wildlife observation, solitude, and observing nature's beauty would be enhanced to the greatest degree under this alternative. The maximum amount of pristine river and urban primitive zones in the park would be available to visitors under this alternative. Visitor encounter rates would be relatively low. This alternative would therefore have major, beneficial, long- term direct and cumulative effects on visitor and community values. However, as the area surrounding the park develops, this experience would be increasingly difficult to obtain, and adverse direct and cumulative, long- term effects on visitor and community values could result. Effective management plans and coordination with local governments would be the key to the successful implementation of this alternative. Overall, this alternative would result in major, long- term beneficial direct and cumulative effects on visitors who value solitude and isolation, and a major long- term adverse direct and cumulative effect on visitors who value more varied, active recreational experiences and supportive facilities.

## SUSTAINABILITY AND LONG- TERM MANAGEMENT

The National Environmental Policy Act (sec. 101 (b)) and the National Park Service Organic Act require an assessment of the potential of each alternative to produce long- term impacts and of foreclosing future options that are available to the National Park Service with regard to managing each park. An alternative is required to allow for sustainable development, which is defined as an action that meets the needs of the present without compromising the ability of future generations to meet their needs (*World Commission on Environment and Development* in National Park Service 2001a). This section addresses the following three components of the sustainability assessment.

### **The Relationship Between Local Short- Term Uses Of The Environment And The Maintenance And Enhancement Of Long- Term Productivity - National Environmental Policy Act Sec. 102 (c) (iv)**

Existing problems related to growth in the surrounding urban and suburban area and



watershed are likely to continue with the growth in population, putting additional pressures on the natural and cultural resources in the park. As demand for recreation in the park grows, the long-term protection and enjoyment of park resources could be jeopardized. Despite implementation of a management strategy to provide more comprehensive protection of cultural and natural resources, there would likely continue to be instances where resources are disturbed by visitors exploring these sites. These impacts would be avoidable only if human use were not allowed in the park. Mitigation measures would be taken where possible to reduce these impacts. Improving the management of natural and cultural resources, along with enhancing research and education activities within the park, would contribute to the long-term protection and preservation of resources. Increased coordination with local agencies and other agency cooperative initiatives for resource and use management would further enhance resource protection and preservation.

**Any Irreversible Or Irretrievable Commitments Of Resources That Would Be Involved If The Alternative Were Implemented - National Environmental Policy Act (sec. 102(c) (v))**

The National Environmental Policy Act and the National Park Service define irreversible impacts as those effects that cannot be changed over the long term or are permanent (National Park Service 2001a). An effect to a resource is irreversible if the resource cannot be reclaimed, restored, or otherwise returned to its condition before the disturbance. An irretrievable commitment of resources refers to the effects to resources that, once gone, cannot be replaced. There would be a potential for irreversible or irretrievable commitments of cultural resources under the Focus on Solitude Alternative. The implementation

of a management strategy to provide comprehensive protection of cultural resources along with other natural resource protection measures would further reduce but not entirely eliminate the risk that visitors might disturb resources. In addition, limited amounts of nonrenewable resources would be used for construction projects and park operations, including energy and materials. These resources would be irretrievable once they were committed.

**Any Adverse Impacts That Could Not Be Avoided If The Action Were Implemented – National Environmental Policy Act (sec. 101(c) (ii))**

The National Environmental Policy Act and the National Park Service define adverse impacts as those that cannot be fully mitigated or avoided. Where construction activities disturbed cultural resource sites, data recovery and conservation efforts would partly mitigate impacts. However, the disturbance could result in some irretrievable and irreversible loss of archeological resources. There would be unavoidable adverse impacts on natural and cultural resources under the Focus on Solitude Alternative as a result of the increasing development outside the park. With limited resources, these would tax the park staff's ability to effectively carry out resource protection measures. Mitigation measures would be taken, where resources allow, to reduce these impacts. An increase in visitation would have the potential to reduce access to some activities and areas during peak visitation periods because few additional facilities would be provided under the Focus on Solitude Alternative. This could result in minor to moderate adverse impacts on visitor experience and community values. In addition to the above unavoidable impacts, staff increases would require additional operational funding.



## ENVIRONMENTAL IMPACTS OF THE CENTRALIZED ACCESS ALTERNATIVE

### IMPACTS OF THE CENTRALIZED ACCESS ALTERNATIVE ON NATURAL RESOURCES

Natural resources impact topics include air quality, water resources, wetlands and floodplains, rare, threatened and endangered species, terrestrial ecological resources and prime and unique farmlands. Analytical methods are provided under the No Action Alternative. Impact analyses and cumulative impact assessments and conclusions are described for each impact topic.

### IMPACTS OF THE CENTRALIZED ACCESS ALTERNATIVE ON AIR QUALITY

#### Regulations and Policy

The regulations and policies that guide NPS actions with respect to air quality are presented in the “Servicewide Mandates and Policies” section of this document.

#### Analysis

Under the Centralized Access Alternative, an intermediate number of new park facilities (roads, parking lots, restrooms) would be constructed in developed zones and at up to three hubs. The Centralized Access Alternative would involve a level of construction activity that would be greater than the No Action Alternative, and would produce intermediate volumes of construction-related air emissions. Construction activities would result in negligible increases in vehicle emissions and increased fugitive dust from developed sites, however, because of the limited levels of construction, these changes would constitute negligible, adverse, short-term impacts on air quality and natural resources.

Under the Centralized Access Alternative, an intermediate number of new park facilities would be constructed and operated in developed zones and at hubs. Emissions generated by park visitor vehicles would be higher than those produced under the No Action Alternative. This alternative would therefore be characterized by an intermediate potential for increasing air emissions

in the vicinity of the park related to increased vehicular traffic in the park during the operations phase. The operation phase would nevertheless have negligible long-term impacts on air quality because of the limited numbers of new facilities being operated under this alternative.

#### Cumulative Impacts

The combined effect of construction and operation of new park facilities under this alternative would have a negligible, adverse, long-term effect on air quality because the total volume of these emissions would be extremely small in comparison with the amount of air emissions produced in the surrounding area.

As traffic volumes increase in the metropolitan Atlanta area, air quality-related impacts on park resources and visitor experience could occur for this alternative. The Atlanta region is currently not meeting the air quality standards for ozone, which already affects the park. As regional traffic congestion continues to grow in the future, degraded air quality could impact park resources in as yet unidentified ways. Visitors to the park would experience similar effects inside or outside the park due to regional conditions. These would constitute a moderate, adverse, long-term cumulative effect on air quality.

There would not be any irretrievable or irreversible commitment of air quality resources with this alternative.

#### Conclusions

The volume of air emissions of construction and operation produced under this alternative would be higher than those produced under the No Action Alternative. Because few new facilities would be constructed and operated, however, the overall effects on air quality would still be negligible, adverse and long-term.

Implementation of the Centralized Access Alternative would not negligible adverse long-term cumulative impacts on air quality and natural



resources, because the total volume of air emissions under this alternative would be very small in comparison with the volume of air emissions originating outside the park.

There would be no impairment of air quality as a result of park actions under this alternative.

## **IMPACTS OF THE CENTRALIZED ACCESS ALTERNATIVE ON WATER RESOURCES**

### **Regulations and Policy**

The regulations and policies that guide NPS actions with respect to natural resources are presented in the “Servicewide Mandates and Policies” section of this document.

### **Analysis**

Implementation of the Centralized Access Alternative would result in an intermediate amount of land disturbing activity for construction of roads, parking lots, trails and buildings in the park in comparison with the No Action Alternative. These intermediate levels of construction under the Centralized Access Alternative were estimated to have minor, adverse, short- term and long- term direct impacts on hydrology, water quality, and aquatic resources. Best management practices would be employed in all construction areas to control and minimize the amount and quality of runoff. These measures would include erosion control measures such as type C silt fencing in slopes greater than 3%, mulching, sedimentation ponds, and use of cocoa fiber and seeding of native grasses.

During operation under the Centralized Access Alternative, visitors would have access throughout the park at several hubs, as well as the other areas of the park. Under the Centralized Access Alternative, potential adverse impacts related to trail use and recreation would be mitigated by developing and implementing a resource and other management plans. New areas could also be added to the park under this alternative, providing additional levels of protection for water resources in the watershed. These combined actions and factors would result in a major, beneficial long-

term effect on hydrology, water quality, and aquatic resources. Overall, the Centralized Access Alternative was therefore estimated to have a minor, adverse, long- term direct effect on water resources in the park.

### **Cumulative Impacts on Water Resources**

There would be an intermediate level of construction under this alternative in comparison with the No Action Alternative that could result in a greater cumulative effect on hydrology, water quality, and aquatic resources. However, because an resource and other management plans would be developed and implemented, soil erosion from trails and other forms of visitor use would be minimized over the long term. This would result in a major, beneficial long- term cumulative effect on hydrology, water quality, and aquatic resources. The cumulative adverse effects of the limited amount of construction and maintenance activities inside the park on water resources were therefore estimated to be minor and long- term under the Centralized Access Alternative, since these activities would be limited and managed.

In contrast, the cumulative effects of stormwater runoff from development outside the park on water resources inside the park would continue to increase under the Centralized Access Alternative, as it would under the No Action Alternative. As the area surrounding the park becomes more and more developed, this problem would be expected to increase. This would constitute a major, adverse, cumulative long- term effect on hydrology, water quality, and aquatic resources. This type of effect would occur under all of the alternatives because the park is located in a rapidly developing urban area. These effects would be offset to some degree by the development and implementation of resource and other management plans, and by completion of environmental assessments that are tied to the general management plan/environmental impact statement.

The growth in the area surrounding the park has already had a major adverse effect on fishing in the Chattahoochee River, which is included within the park. This was identified as an issue during public meeting and workshops of the general management plan/environmental impact statement. However,



this issue cannot be addressed by the park effectively because it is largely outside of the parks' control. Fish species diversity and populations in the river vary in quality depending on the location along the corridor. The northern section below Lake Lanier is characterized by a relatively healthy fish community and is much less affected by nonpoint stormwater runoff as compared with the lower portion of park. However, during intense storms, even the northernmost sections of the river, except the area immediately below Buford Dam, are affected by runoff and sedimentation from the surrounding area. As the northern areas of the park corridor continue to grow, these effects on fish populations are expected to increase. Under the Centralized Access Alternative, there would be some chance for improving this situation because there would be more coordination and planning between the National Park Service and local governments to control stormwater runoff. This would be implemented as part of resource and other management plans developed by the park. However, as watershed plans are developed and implemented by local governments, controls should ultimately be put in place, and the fisheries of the river would hopefully improve over the long term. Currently this is not the case, however, and the river continues to be affected by stormwater runoff. The Centralized Access Alternative would provide an opportunity to help control these types of cumulative effects on fish in the river.

There would be no irreversible or irretrievable commitment of the water resources of the Chattahoochee River and its tributaries under this alternative related to NPS actions.

## **Conclusions**

The Centralized Access Alternative would have minor, adverse, short- term direct impacts on surface water hydrology, water quality, and aquatic resources resulting from construction and maintenance activities. These would be of greater intensity than the impacts on water resources resulting under the No Action Alternative. These effects would be offset to some degree by the development and implementation of resource and other management plans, and by completion of environmental assessments that are tiered to the

general management plan/environmental impact statement.

Minor, adverse, long- term direct effects on water resources would result from surface runoff during operation. These would also be of greater intensity than the effects of the No Action Alternative. The potential effects of construction and operation of park facilities would be mitigated by implementation of resource and other management plans inside the park, and by completion of environmental assessments that are tiered to the general management plan/environmental impact statement. This would constitute a major, long- term, direct beneficial cumulative effect on surface water hydrology, water quality, and aquatic resources.

Water resources would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park under all of the alternatives. These potential effects would be mitigated to some extent by implementation of resource management plans in the park, as well as increased levels of coordination efforts with the surrounding communities, resulting in a major beneficial, long- term cumulative effect on surface water hydrology, water quality, and aquatic resources.

There would be no impairment of water resources as a result of park actions under this alternative.

## **IMPACTS OF THE CENTRALIZED ACCESS ALTERNATIVE ON WETLANDS AND FLOODPLAINS**

### **Regulations and Policy**

The regulations and policies that guide NPS actions with respect to wetlands and floodplains are presented in the "Servicewide Mandates and Policies" section of this document.

### **Analysis**

An intermediate level of construction (such as boardwalks, or foot bridges, boat ramps, parking lots, limited roads, or small buildings) and maintenance activities would occur under the



Centralized Access Alternative in comparison with the No Action Alternative. New trail construction would be addressed and assessed in the form of individual tiered environmental assessments, and avoidance, minimization and compensation would have to be demonstrated prior to construction activity. The amount of new trail construction would be greater than the No Action Alternative. Resource and other management plans would be implemented under the Centralized Access Alternative, however, resulting in moderate, beneficial long- term direct effects on wetlands and floodplains. Overall, construction activities under the Centralized Access Alternative were estimated to have minor, adverse, long- term, direct impacts on wetlands and floodplains in the park.

During operation of the park under the Centralized Access Alternative, existing levels of protection of wetlands and floodplains would be improved through implementation of resource and other management plans. More facilities would be operated under this alternative than the No Action Alternative, however, and an intermediate level of effects could result on wetlands and floodplains. This alternative was therefore estimated to have minor, adverse, long- term effects on wetlands or floodplains related to operation of the park. Where erosion occurs along informal trails or overused areas, these conditions would be reduced over time due to implementation of resource and other management plans. This would constitute a moderate, long- term beneficial effect on wetlands and floodplains. Some new park areas could be added that could be used to protect several small wetlands and floodplains or a larger wetland/floodplain at a single location. This would also result in a moderate long- term beneficial effect on wetlands or floodplains.

### **Cumulative Impacts on Wetlands and Floodplains**

Minor, adverse, long- term, cumulative effects on wetlands and floodplains inside the park would result from construction and operation of park facilities under the Centralized Access Alternative, since this alternative would involve an intermediate level of construction and maintenance in comparison with the No Action Alternative. Floodplains and wetlands throughout the park

would continue to be protected from direct disturbance from park construction projects through required environmental assessments tiered to the general management plan/environmental impact statement. Application of best management practices would help reduce risk to floodplain and wetland resources from polluted runoff, erosion, filling activities, or sedimentation from sources within the park.

During operation, this alternative would result in minor, adverse, long- term cumulative impacts caused by runoff from paved areas and overall encroachment by visitors in wetlands and floodplains. However, these potentially adverse effects would be offset by development and implementation of resource and other management plans. These would lead to improved management of visitor access to wetlands and floodplains and control of erosion along trails and other areas, and would result in a moderate, beneficial, long- term effect on wetlands and floodplains.

Wetlands and floodplains located within the park would continue to be affected by sediments and water transported via runoff during high storm water discharges originating from developed areas outside the park. This would constitute a long- term major adverse effect. This effect would be the same for all of the alternatives.

These would be no irreversible or irretrievable commitment of wetland or floodplain resources under this alternative related to NPS actions.

### **Conclusions**

Implementation of the Centralized Access Alternative would result in minor, adverse long- term direct effects on wetlands and floodplains, since the amount of facility construction and operation would be intermediate. Implementation of resource, trail and other management plans would result in a moderate, beneficial, long- term effect on wetlands and floodplains in the park. Cumulative impacts from stormwater runoff originating in developed areas outside the park would cause major, adverse, long- term effects on wetlands and floodplains, however, due to erosion and sedimentation during major storm events.



There would be no impairment of wetlands and floodplains as a result of park actions under this alternative.

## **IMPACTS OF THE CENTRALIZED ACCESS ALTERNATIVE ON RARE, THREATENED AND ENDANGERED SPECIES**

### **Regulations and Policy**

The regulations and policies that guide NPS actions with respect to rare, threatened and endangered species are presented in the “Servicewide Mandates and Policies” section of this document.

### **Analysis**

The Centralized Access Alternative would involve construction, and higher rates of visitor use in comparison with the No Action Alternative. The potential effect of construction activities of this alternative on protected species would be greater than that associated with the No Action Alternative. Some fragmentation of terrestrial habitat would occur, but because the number of projects would be few and localized in three hubs and five developed zones, this direct effect would be minor. Under the Centralized Access Alternative, any construction project, however, would require a National Environmental Policy Act environmental assessment that would include rare, threatened, and endangered species surveys, consideration of alternatives, and assessments of impacts. Therefore, impacts would be avoided or minimized to the greatest extent possible. In addition, under the Centralized Access Alternative, resource, trail and other management plans would be developed and implemented. It would also be possible to acquire additional park areas. All of these factors would result in a moderate, long- term beneficial direct effect on protected species. The effects of construction of park facilities under this alternative on protected species were therefore estimated to be minor, adverse, and long- term.

The location of numerous protected species of plants and animals in the park is known and documented by the Georgia Department of Natural Resources/Wildlife Resources Division surveys, as well as other surveys. Definitive and

detailed park- wide surveys have yet to be conducted by the park, however. Until these surveys are completed, the park would rely on site- specific surveys for individual construction project sites to assess the potential for impacts on protected species.

During operation of the park, rare, threatened and endangered species would continue to be protected under the Centralized Access Alternative. New areas could be added to the park under the Centralized Access Alternative, and resource and other management plans would be prepared and implemented, which could result in long- term habitat improvements and expansions. These factors would result in a moderate, long- term, beneficial direct effect. Since the number of new facilities operated under this alternative would be intermediate, operations of the park was estimated to have minor, adverse, long- term, direct impacts on protected species.

### **Cumulative Impacts on Rare, Threatened and Endangered Species**

Cumulative effects of construction under the Centralized Access Alternative would be greater than those associated with the No Action Alternative because a greater amount of construction would be involved, mainly in five developed zones and up to three hubs. However, environmental assessments would be conducted for each proposed project, which would minimize the potential for cumulative impacts of projects in the park. There is also a potential for long- term improvement of habitat for protected species under the Centralized Access Alternative since resource and other management plans would be developed and implemented. This would help minimize the potential for exotic species to invade, and for habitats to be further improved and protected from increased visitor use. The park’s rare, threatened and endangered species would continue to benefit from the protection the park affords. Area could also be added to the park under this alternative. All of these factors would constitute a moderate, beneficial, long- term cumulative effect. The overall cumulative effect of the Centralized Access Alternative is therefore estimated to be minor, adverse, and long- term.



There would be no irreversible or irretrievable commitment of rare, threatened and endangered species or related habitat resources with this alternative.

## Conclusions

Implementation of the Centralized Access Alternative would result in overall minor, adverse, long- term direct and cumulative effects on rare, threatened and endangered species, since the number of new facilities to be constructed and operated would be limited, and resource and other management plans would be prepared and implemented. New areas could also be added to the park and these could contain protected species that would also be protected. Efforts to document and protect rare, threatened and endangered species populations currently present in the park would continue to be maintained and potentially expanded. These factors would constitute moderate long- term beneficial direct and cumulative impacts.

There would be no impairment rare, threatened or endangered species habitats and values as a result of park actions under this alternative.

## IMPACTS OF THE CENTRALIZED ACCESS ALTERNATIVE ON TERRESTRIAL ECOLOGICAL RESOURCES

### Regulations and Policy

The regulations and policies that guide NPS actions with respect to terrestrial ecological resources are presented in the “Servicewide Mandates and Policies” section of this document.

### Analysis

The Centralized Access Alternative would involve more facility construction and operation activities as compared to the No Action Alternative, due to the greater amount of land disturbing activity in five developed zones and up to three hubs. Some fragmentation of terrestrial habitat would occur, but because the number of projects would be few and localized in three hubs and five developed zones, this direct effect would be minor, adverse,

and long- term. Prior to implementation of construction activities, the National Park Service would conduct a detailed site- specific survey of the terrestrial vegetation at the project sites, as part of tiered environmental assessments. The type, extent, maturity and ecological values of terrestrial habitats at each proposed site would be evaluated and the impacts of the proposed project would be assessed. This information would be used to make a decision regarding the feasibility of the proposed site for construction. This information would be used to avoid forested areas or other valuable habitats, as required by the National Environmental Policy Act. Minor, adverse, long- term, impacts on terrestrial resources could result from implementation of this alternative, since some trees and areas might be cleared for construction of park facilities, but the extent of habitat that would be disturbed would be limited. The option of locating facilities outside of the park would also be considered in these situations. Wildlife in the park that require deciduous forest habitats and riparian corridors in relatively contiguous tracts would continue to benefit from the protection of most of the park’s land area.

By centrally locating facilities and educational resources/park information in five developed zones and up to three hubs, it would be possible to inform a greater number of visitors than the No Action Alternative. Increased park staff proposed under this alternative would facilitate this increased level of communication about the park’s resources and the need to protect them. This would result in a moderate, beneficial, long- term effect.

In addition, preparation and implementation of resource and other management plans under the Centralized Access Alternative would have a moderate, beneficial, long- term direct effect on terrestrial habitats in the park. The plans would include measures and priorities for restoration of degraded habitats, means to control invasive species such as privet and English Ivy, and guidance and standards for trail construction and maintenance.

There would be no irretrievable or irreversible commitment of resources as a result of implementation of this alternative.



## **Cumulative Impacts on Terrestrial Ecological Resources**

The activities associated with the Centralized Access Alternative would have minor, adverse short- or long- term, cumulative effects on terrestrial ecological resources because of the potential for increased level of facility construction and operation in developed zones and up to three hubs. These effects would be centralized as compared to the No Action Alternative. With increased levels of visitor activity expected in developed zones and up to three hubs, an increased potential for visitor- related effects on habitats in the park would also exist. This could be offset by increased levels of effort concerning other management, restoration, education, and other agency coordination. The results of such efforts would be difficult to measure, but would be expected to result in moderate, long- term beneficial effects on terrestrial ecological resources in the park.

Ongoing urbanization in the surrounding region would continue to eliminate forest and wildlife species. Park management practices associated with the Centralized Access Alternative would have little effect on regional, development- related effects on the species in the surrounding area. Improved education and coordination elements of this alternative could provide beneficial effects, as increased awareness of these resources could generate interest in their protection outside the park as well.

There would be no irreversible or irretrievable commitment of terrestrial ecological resources under this alternative.

## **Conclusions**

This alternative would result in an intermediate amount of land disturbance as compared with the No Action Alternative. The construction phase of the Centralized Access Alternative would therefore have minor, adverse, short- and long- term direct and cumulative effects on terrestrial ecological resources because of the greater degree of facility construction and operation in developed zones and hubs. These impacts would be avoided and

minimized because tiered environmental assessments would be required for each project.

During operation, more visitors would be attracted to the park via developed zones and up to three hubs, resulting in an increased potential for visitor- related damage to habitats. Tiered environmental assessments would also be required prior to selecting a site for a project, however, and impacts would be avoided and/or minimized to the extent possible. Development and implementation of resource and other management plans, increased education, coordination, and staffing levels would have major, long- term beneficial effects on these resources in the park. The overall direct effect of this alternative on terrestrial ecological resources was therefore estimated to be minor, adverse and long- term.

There would be no impairment of terrestrial ecological resources as a result of park actions under this alternative.

## **IMPACTS OF THE CENTRALIZED ACCESS ALTERNATIVE ON PRIME AND UNIQUE FARMLANDS**

### **Regulations and Policy**

The regulations and policies that guide NPS actions with respect to prime and unique farmlands are presented in the “Servicewide Mandates and Policies” section of this document.

### **Analysis**

Proposed NPS projects in the park could impact prime and unique farmlands, all of which are located north of McGinnis Ferry Road. The Centralized Access Alternative would have an intermediate overall relative potential to impact these types of soils, since this alternative would involve a somewhat higher amount of construction, maintenance and operation activities than the No Action Alternative. The overall effect of construction activities completed under Centralized Access Alternative on prime and unique farmland would be minor, adverse and long- term. Soil erosion would also be minimized in the vicinity of these soils types since best



management practices would be instituted. Should a project be proposed that would affect a prime and unique farmland in the future, a site specific environmental assessment would be completed, and the impacts would be addressed. Resource and other management plans would also be prepared and implemented, which would allow for avoidance of potentially adverse impacts on prime and unique farmlands.

The potential effects of park operation on prime and unique farmlands under the Focus on Solitude Alternative would be minor, adverse and long-term, since visitor activities would include more active forms of recreation over a wider area of the park than the No Action Alternative.

### **Cumulative Impacts on Prime and Unique Farmlands**

The cumulative adverse effects of the construction, maintenance and operation activities within the park on prime and unique farmlands under the Centralized Access Alternative would be minor, adverse, and long-term since this alternative would involve intermediate levels of construction and maintenance in the park, and somewhat more varied, active forms of recreation over a wider area of the park. Should a project be proposed that would affect a prime and unique farmland in the future, a site specific environmental assessment would be completed, and the impacts would be further addressed. Resource and other management plans would also be developed and implemented, which would allow for avoidance of potentially adverse impacts on prime and unique farmlands. In contrast, the cumulative effects of development in the area surrounding the park on prime and unique farmlands would be moderate, adverse and long-term. These effects are related to the impacts of increased surface water runoff on soils in the park from the rapidly developing surrounding area.

There would be no irreversible or irretrievable commitment of prime and unique farmland resources with this alternative.

### **Conclusions**

The Centralized Access would have minor, adverse, direct and cumulative long-term impacts on prime and unique farmlands, since the amount of construction proposed within the park would be intermediate. Site-specific environmental assessments would identify such resources and avoid impacting them, and resource and other management plans would be prepared and implemented. Development in the area surrounding the park would have moderate adverse, long-term impacts on prime and unique farmlands that is largely outside of the park's control.

There would be no impairment of prime and unique farmlands as a result of park actions under this alternative.

### **IMPACTS OF THE CENTRALIZED ACCESS ALTERNATIVE ON CULTURAL RESOURCES**

This section describes the methods used, analysis of effects conducted and conclusions drawn for archeological resources and historic buildings, structures and objects.

### **IMPACTS ON THE ARCHEOLOGICAL RESOURCES**

#### **Regulations and Policy**

The regulations and policies that guide NPS actions with respect to archeological resources are presented in the "Servicewide Mandates and Policies" section of this document.

#### **Analysis**

As discussed in the "Affected Environment" section, there is a high probability that there are unknown prehistoric and historic archeological resources within the boundaries of the park. Any ground-disturbing activities associated with the Centralized Access Alternative would therefore have the potential to affect such sites.

Until a National Register of Historic Places evaluation for any site was completed, it would be



assumed that the site is eligible for listing on the register. Therefore, until proven otherwise, disturbance to any archaeological site that was discovered during the survey, design, or construction of any facilities under Centralized Access Alternative would be considered an adverse effect. The Centralized Access Alternative includes more construction than the No Action alternative; accordingly, the Centralized Access Alternative has a greater potential for construction- related adverse effects to archeological resources than the No Action Alternative. For purposes of this general management plan/environmental impact statement, the overall direct effect of the Centralized Access Alternative on archeological resources was estimated to be minor, adverse and long- term.

As described in the section entitled “Servicewide Mandates and Policies,” the National Park Service is required to protect archaeological resources within the park. Therefore, prior to undertaking any construction activities under the Centralized Access Alternative, the National Park Service would conduct a tiered environmental assessment, and:

Conduct cultural resources surveys of areas to be disturbed, including trail alignments

Identify all archaeological resources that are discovered during the surveys

Systematically inventory each site to determine and document its significance to support its evaluation for National Register of Historic Places eligibility

Determine eligibility in concert with the Georgia State Historic Preservation Officer and Advisory Council on Historic Preservation

Relocate any facilities that would disturb National Register of Historic Places- eligible sites

The collection of data to support the eligibility evaluation, and the determination of eligibility can be time consuming. Therefore, as a timesaving approach, the National Park Service would assume that any archaeological site that is discovered is eligible for listing, and would relocate the facility to

be constructed to avoid that site. This approach would substantially reduce the potential for construction- related adverse effects to archaeological resources.

Under any alternative, the integrity of some sites would be degraded by natural processes such as wind and water erosion, or by vandalism or inadvertent damage by visitors. By establishing nine cultural resource zones, the Centralized Access Alternative provides greater protection, monitoring, and interpretation of archeological sites than the No Action Alternative. By establishing cultural resource zones, and by increasing monitoring, numbers of rangers, and education programs, as well as implementing a resource management plan and a collections management plan, the Centralized Access Alternative provides greater protection and monitoring of a subset of the archaeological resources within the park compared to the No Action Alternative. This alternative would therefore avoid adverse impacts on archeological resources.

### **Cumulative Impacts**

During construction, the Centralized Access Alternative has a potential to impact archeological resources at virtually any site that is cleared. The cumulative effects of all construction activities under this alternative within the park could therefore be greater than the No Action Alternative. For purposes of this general management plan/environmental impact statement, the overall cumulative impact of construction activities under the Centralized Access Alternative on archeological resources was therefore estimated to be minor, adverse and long-term.

Prior to undertaking any construction activity, however, the National Environmental Policy Act, the National Historic Preservation Act, and NPS management policies and guidelines all require completion of an archeological survey and an estimate of potential adverse impacts. Adherence to these procedures would assure that the construction activities would not have any adverse cumulative impacts on archeological resources in the park.



During operation, archeological resources could be impacted by human disturbance. Taken collectively over the length of the park, these cumulative impacts could be adverse and long- term. The Centralized Access Alternative has an intermediate potential for this to occur. In addition, a resources management plan and a collections management plan would be prepared and implemented under this alternative that would be designed to preserve and protect these resources. This would constitute a beneficial long- term effect.

Where sites were disturbed, such as the unexpected discovery of a site during construction or unanticipated effects to previously identified sites, data recovery and preservation efforts would partly mitigate impacts. However, the disturbance could result in some irretrievable and irreversible loss of archaeological resources.

## **Conclusions**

Archeological resources in most of the Atlanta area have been disturbed or eliminated as a result of urban sprawl. Therefore, protection, and preservation of archaeological sites within the park is important on a regional level, as these resources represent former conditions throughout the area. The identification and systematic inventory of archeological resources in the cultural resources zones during the implementation of the Centralized Access Alternative offer an opportunity to add to the knowledge of the prehistory and history of both the park and the entire vicinity.

The Centralized Access Alternative implements management actions that would centralize construction and visitor- impacts within developed zones and up to three hubs located in (or outside) the park, minimize the construction of facilities in other portions of the park, and highlight inventory, preservation and maintenance of archaeological sites within nine cultural resource zones. Despite the greater amount of construction and land disturbing activity involved under the Centralized Access Alternative compared to the No Action Alternative, survey, identification, and avoidance measures would be implemented prior to construction thereby avoiding most or all of the adverse effects. This would increase our knowledge

of the numbers and types of resources present within the park. The overall potential direct and cumulative effect of this alternative on archeological resources was therefore estimated to be minor, adverse and long- term.

In addition, by implementing a resource management plan and increasing monitoring of degradation and vandalism within the park, the Centralized Access Alternative provides greater protection of archeological sites located outside of the cultural resource zones than the No Action Alternative.

Prior to disturbing any site for construction, detailed National Environmental Policy Act assessments would be required as part of tiered environmental assessments. The National Environmental Policy Act, the Advisory Council on Historic Preservations regulations implementing Section 106 of the National Historic Preservation Act (36 CFR 800), and NPS management policies and guidelines require avoidance and minimization of adverse impacts on cultural resources where feasible.

There would be no impairment of archeological resources as a result of park actions under this alternative.

## **IMPACTS OF THE CENTRALIZED ACCESS ALTERNATIVE ON HISTORIC BUILDINGS, STRUCTURES AND OBJECTS**

### **Regulations and Policy**

The regulations and policies that guide NPS actions with respect to historic buildings, structures and objects are presented in the “Servicewide Mandates and Policies” section of this document.

### **Analysis**

Nine cultural resources zones would be established under the Centralized Access Alternative, as compared to none under the No Action Alternative. The nine cultural resource zones encompass the majority of the National Register of Historic Places- listed or National Register of Historic Places- eligible historic buildings,



structures, or objects in the park; the exception being those resources located within the Fort Peachtree Unit. As a result, implementation of the Centralized Access Alternative would result in greater protection of these types of cultural resources in the park than that offered under the No Action Alternative.

Because cultural resources in cultural resource zones would be documented and interpreted, the implementation of the Centralized Access Alternative has a greater potential for preservation and interpretation of historic buildings, structures and objects than the No Action Alternative. This would constitute a major, long-term beneficial impact.

The Centralized Access Alternative offers slightly greater protection from degradation, vandalism or inadvertent damage by visitors to resources located outside of the cultural resources zones or in developed zones and up to three hubs due to proposed increased monitoring and ranger staffing levels as compared to the No Action Alternative.

The Centralized Access Alternative has a potential to affect archeological resources, and minor impacts are possible. The overall potential direct and cumulative effect of this alternative on historic buildings, structures and objects was therefore estimated to be minor, adverse and long-term.

### **Cumulative Impacts**

During construction, the Centralized Access Alternative, (like any alternative), has a potential to impact buildings, structures and objects at virtually any site that is cleared. The potential for adverse impacts would be greater under the Centralized Access Alternative than the No Action Alternative. Prior to undertaking any construction activity, however, the National Environmental Policy Act requires completion of a survey and an estimate of potential adverse impacts. Adherence to these procedures would assure that the construction activities would not have any adverse cumulative impacts on buildings, structures and objects in the park. In addition, a resource management plan, a collections management plan and other management plans would be prepared under this alternative that would be designed to preserve and

protect these resources. This would result in a major, long-term, beneficial effect on cultural resources in the park.

During operation, buildings, structures and objects could be impacted by human disturbance. Combined over the length of the park, these cumulative impacts could be adverse and long-term. In comparison to the No Action Alternative, the Centralized Access Alternative has an intermediate potential for this to occur. Increased monitoring and increased numbers of park rangers would reduce the potential for adverse effects, however. A cultural resources management plan and a collections management plan designed to preserve and protect buildings, structures and objects would also be prepared and implemented under this alternative.

### **Conclusions**

The park contains a variety of historic buildings, structures and objects that are significant to the historical development of the Chattahoochee River corridor and the greater Atlanta area. Some of these resources are among the last remaining examples of their construction types in the region. This alternative is estimated to have minor, adverse, long-term effects on historic buildings, structures and objects in the park, since some areas could be impacted during construction and operation of park facilities. The Centralized Access Alternative's protection and rehabilitation of the resources within the cultural resources zones and implementation of a cultural resources management plan and a collections management plan for the park would have major beneficial effects in preserving these resources for the future compared to the No Action Alternative.

The Centralized Access Alternative would also provide increased monitoring to protect and preserve historic buildings, structures and objects within the park compared to the No Action Alternative. Historic buildings, structures and objects in the park would be afforded enhanced protection and preservation through the development and implementation of systematic integrated inventory, research, and preservation planning in nine cultural resources zones. Rehabilitation of historic structures would occur,



with some historic structures being returned to their original uses and others being rehabilitated and adaptively reused in accordance with park resource values. This would be a major long- term benefit.

There would be no impairment of historic buildings and objects as a result of park actions under this alternative.

## **IMPACTS OF THE CENTRALIZED ACCESS ALTERNATIVE ON TRANSPORTATION**

### **Regulations and Policy**

The regulations and policies that guide NPS actions with respect to transportation resources are presented in the “Servicewide Mandates and Policies” section of this document.

### **Analysis**

Under the Centralized Access Alternative, approximately 40 percent of the park would be designated as developed, natural area recreation, and cultural resource zones. Under this alternative, up to three hubs would be located in the southern, central and northern ends of the park. The hubs would be located in close proximity to the higher population areas. In the northern part of the park, the hubs would be located in more suburbanized areas. In addition to the hubs, this alternative would result in a greater incidence of congested roadway facilities in the southern portion and midsections of the park and the traffic generated by this would add to the traffic congestion in the area (Table 30). Overall, however, these are still defined as moderate, adverse, direct, long- term impacts.

Under the Centralized Access Alternative, 39.5% of the park would be zoned for a more facilitated experience. This would result in increased numbers of trips made by visitors to hubs in the park, and a relatively higher degree of transportation impacts as compared with those produced by the No Action Alternative. Streets and highways that could be impacted by the trips produced by the Centralized Access Alternative are summarized in Table 15.

This alternative could have a greater effect on surface roads where hubs would be located, since more facilities would be centralized in these hubs compared to more dispersed facilities under the No Action Alternative. However, this would only occur where developed zones would increase the number of parking areas or change the type of visitor experience as compared to the No Action Alternative. Some areas designated as developed zones already act as hubs, so the effect would be similar to the No Action Alternative. The detailed, site- specific impacts of projects proposed would be addressed in future environmental assessments, tiered to this general management plan/environmental impact statement. Possible site- specific traffic solutions such as traffic calming measures or altered traffic flow patterns in and out of the hubs would be identified. This could result in improved conditions, which could be considered beneficial long- term effects on transportation resources in the park.

The Centralized Access Alternative would have more paved and unpaved trail construction in comparison to the No Action Alternative. More trails would be constructed than under the No Action Alternative, but they would be managed more effectively under an integrated trails system plan. Overall, the Centralized Access Alternative would have minor, adverse, long- term effect on paved and unpaved trails, since an intermediate amount of construction would occur. An integrated trails system plan would also be implemented, which would result in a major, beneficial, long- term effect on resources and associated visitor experience. Trails in areas that are currently being overused could be phased out and managed effectively under this alternative. Use of informal trails in the park would decrease over time as the integrated trail system plan is implemented. The overall visitor experience would be greatly improved, since trails would be properly designed and maintained.

An integrated trails system plan would be developed and implemented under the Centralized Access Alternative, and efforts to increase connectivity with trails systems being developed in the area surrounding the park by local governments would be greatly increased. This would constitute a major, beneficial, long- term



effect on the ability to develop improved connectivity with the surrounding communities.

The primary form of non-motorized transportation in the park is the bicycle. The Centralized Access Alternative would have a moderate, beneficial long-term effect on an individual's decision to walk or ride a bicycle to get to the park, since uses of bicycles would be considered appropriate in more areas under this alternative than under the No Action Alternative. An increased number of bicycle trails would be available under this alternative since the Centralized Access Alternative emphasizes both passive and active forms of recreation. An integrated trails system plan would also be developed and implemented under the Centralized Access Alternative, with an emphasis on more varied types of recreation.

The Centralized Access Alternative would consider a higher level of bicycle use appropriate, and would pose a higher potential for creating problems with erosion in comparison with the No Action Alternative. However, these potential effects would be addressed and managed more effectively in an integrated trails system plan. This would constitute a moderate, beneficial, long-term effect. Overall, the Centralized Access Alternative would therefore have a minor, adverse, long-term effect on erosion and water quality degradation associated with bicycle use.

### **Cumulative Impacts**

Regional growth in the counties in the metropolitan Atlanta area is the primary reason for the projected increases in traffic volumes around the park. No matter which management actions are taken in the park, traffic in the region is expected to continue to increase in the future. The cumulative effects of the Centralized Access Alternative on transportation in the park and on the surrounding region would be moderate, adverse and long-term, based on the data presented in Table 30. Areas currently experiencing congestion would be expected to continue to do so in the future if planned improvements do not take place.

Under the Centralized Access Alternative, the cumulative amount of use of paved and unpaved

trails would be greater than the No Action Alternative. Paved and unpaved trails throughout the park would be managed under an integrated trails system plan. This would constitute a moderate, beneficial, cumulative long-term effect, since these effects would extend throughout the park. The overall cumulative effects of the Centralized Access Alternative on the use of paved and unpaved trails throughout the park were therefore estimated to be minor, adverse, and long-term.

An integrated trails system plan would be developed and implemented under the Centralized Access Alternative, and efforts to increase connectivity with trails systems being developed in the area surrounding the park by local governments would be increased throughout the park as a result. This would constitute a major, long-term beneficial cumulative effect.

The Centralized Access Alternative would have a moderate, beneficial cumulative long-term influence on an individual's decision to walk or ride a bicycle to get to the park, since uses of bicycles would be appropriate in more areas of the park under this alternative.

The cumulative effect of off-road bicycle use on water quality and soil erosion would be minor, adverse and long-term, since the total amount of bicycle use would increase in comparison with the No Action Alternative. Potential cumulative effects of bicycle use on water quality caused by erosion would be mitigated, since an integrated other management plan would be prepared and implemented.

There would be no irreversible commitment of resources associated with transportation with this alternative. Limited amounts of nonrenewable resources would be used for maintenance of roadways and paved trails, including energy and materials. These resources would be irretrievable once they were committed.

### **Conclusions**

Transportation and traffic problems in the park and surrounding area would continue to increase under any of the alternatives, since traffic and



transportation patterns and characteristics are largely controlled by factors outside the park. Overall, the Centralized Access Alternative would have moderate, adverse, long- term direct and cumulative effects on transportation and traffic in the park and surrounding area, due to traffic congestion. This would be similar to the effect of the No Action Alternative.

The Centralized Access Alternative would have minor, adverse, long- term direct and cumulative impacts on paved and unpaved trails in the park, since more trails would be constructed in comparison with the No Action Alternative. An integrated trails system plan would be completed, and efforts to improve connectivity with the surrounding areas would be greatly improved under this alternative. This would result in moderate, beneficial, long- term direct and cumulative effects.

The Centralized Access Alternative would result in an increase in the amount of bicycle use than the No Action Alternative. The Centralized Access Alternative would therefore have minor, adverse, long- term direct and cumulative effects on erosion and water quality degradation related to bicycle use. An integrated trails system plan would also be developed and implemented, and erosion associated with off- road bicycle use would decrease over current levels in the park. This would result in moderate, beneficial, long- term direct and cumulative effects on water quality in the park.

## IMPACTS OF THE CENTRALIZED ACCESS ALTERNATIVE ON VISITOR AND COMMUNITY VALUES

### Regulations and Policy

The regulations and policies that guide NPS actions with respect to visitor and community values are presented in the “Servicewide Mandates and Policies” section of this document.

### Analysis

*Visitor Experience* — Under the Centralized Access Alternative, visitors could experience solitude in the majority of the park, but would also be

provided with other types of experiences and facilities centralized in the developed zones and hubs. The No Action Alternative would provide no hubs or new development zones and would rely on existing facilities and programs for visitors.

The area of the park designated as urban primitive zone would be 41.1% under the Centralized Access Alternative. An additional 19.3% of the park would be dedicated to pristine river zones in which mechanized forms of recreation would not be deemed appropriate, and only unpaved trails away from the river would be constructed. These areas would provide a relatively high level of opportunity for visitors to experience isolation, a feeling of closeness to nature, solitude and tranquility, all within a rapidly growing urban region. Varied types of experiences would be possible under this alternative, due to the availability of more active forms of traditional recreation accessed via the hubs. This alternative would have minor, adverse, long- term effects on visitors who value solitude and isolation since the provision of facilities would draw people to the hubs. However, once a visitor moved away from the hub, the probability of experiencing solitude and isolation would be more likely to increase. In addition, the hubs would have a minor, beneficial, long- term effect on visitors who value more active forms of experience and park use. These visitors could utilize the hubs for access to more active types of experiences. Areas between the hubs would still be left in an essentially natural state for other visitors who prefer solitude and isolation.

This alternative would also provide visitors with a moderate degree of challenge and risk with respect to outdoor activities, and would require moderate to high knowledge of outdoor recreation skills, in comparison with the No Action Alternative. More facilitated experiences would be available in the hubs, including an increased likelihood of meeting a park ranger. Visitors would be more likely to obtain information from rangers under the Centralized Access Alternative than under the No Action Alternative because facilities and information would be available from park staff at the hubs. Under this alternative, visitors would experience relatively low numbers of encounters with other people in the majority of the park, while simultaneously being provided with facilities at the



hubs. Visitors would experience higher encounter rates in the hubs. A greater number and diversity of park facilities would be available to visitors under this alternative in the hubs in comparison with the No Action Alternative. The more efficient and cohesive working environment that this alternative would provide a benefit for park staff, and the dispersed park ranger presence would result in better service to park visitors.

*Recreational Opportunity* — The Centralized Access Alternative would provide visitors with opportunities for solitude over the majority of the park (60%), and more active and varied forms of recreation in the developed zones and natural area recreation zones (2.7 and 2.9%, respectively). This alternative would provide an intermediate level of solitude and isolation over a relatively large geographic area within the park, and a lower level of solitude in hubs in comparison with the No Action Alternative. The Centralized Access Alternative would also provide river-based recreational opportunities associated with the pristine river zone, where increased opportunities for enjoying non-motorized, relatively quiet stretches of the river would occur. This type of zone does not currently exist and would not be planned in the future under the No Action Alternative. Those that prefer to use motorized watercraft on the river in areas designated pristine river zones would be directed to other zones along the river. This would be considered a moderate adverse, long-term direct effect on those visitors, but a long-term beneficial effect to visitors desiring a relatively quiet river experience. Development and implementation of resource and other management plans would benefit visitors in terms of defined preservation and protection measures that would enhance the visitor's recreational and general experiences over the long-term. Compared to the No Action Alternative, integrated trails throughout the park would provide a more pleasant recreational experience for most trail users.

Compared to the No Action Alternative, there would be additional types of recreational experiences, centralized access to trailheads and the river, while simultaneously providing the opportunity for isolation and solitude in the park. The Centralized Access Alternative could be

considered by visitors to have beneficial or adverse effects on their recreational experience depending on the purpose of their visit.

*Numbers and Types of Visitor Facilities* — The Centralized Access Alternative would result in the construction and operation of more new facilities than the No Action Alternative. The hubs would provide visitors with convenient access to the park in the form of roads, parking lots, paved and unpaved trails, trailheads, restrooms, and interpretive facilities/kiosks. In areas of the park between the hubs, visitors would be provided with a system of integrated trails, identified in an integrated trail system plan. Visitors seeking river experiences would have access to launch rafts, canoes, and boats at locations distributed strategically along the 48-mile park corridor. No roads, parking lots, administrative facilities or other buildings or bridges would be allowed in the pristine river zone under this alternative. Provision of these types of facilities would, however, be appropriate in the three hubs. The Centralized Access Alternative would provide a major, beneficial effect for visitors who value some degree of developed facilities, while simultaneously being able to also have access to and enjoy natural areas of the park. Improvement to visitor facilities and facilities used for administration and operations would enhance educational and interpretive experiences.

*Traditional Character* — The traditional character of the park would be maintained under the Centralized Access Alternative and there would be moderate to major improvements including preparation and implementation of a resource and other management plans. Additional changes would include increased communication and contact with visitors, increased education programs, and public/private partnerships designed to improve the visitor's understanding and appreciation of the natural and cultural resources in the park, and to allow for improved management and protection of park resources. Visitors would continue to have access to the wide variety of established recreational activities described in the "Affected Environment" section. Under the Centralized Access Alternative, park rangers could increase the number of visitors they could communicate with due to the central



location and availability of facilities in the hubs. The hubs would provide visitors with a known location for obtaining information about recreational opportunities, educational opportunities, resources and their protection, and general park information. Compared to the No Action Alternative, more park rangers would be in the park to talk to visitors. The traditional character of the park would be more effectively communicated to visitors under this alternative as a result. With more park managers there would be an increase in the efficiency and ability to effectively identify, preserve and protect natural and cultural resources. The Centralized Access Alternative would have a major, beneficial long- term effect on maintaining the traditional character and experiences in the park. This would all be augmented by the creation and operation of the hubs.

Under the expanded park boundaries, the park would not only continue to provide significant contributions in terms of regional green space and recreational opportunities, but would increase those opportunities as financial resources allow. There would not be any irretrievable or irreversible commitment of park character and visitor experience resources with this alternative. Any management actions that altered traditional park character and visitor experience could be reversed.

Under the Centralized Access Alternative, none of the proposed park actions would conflict with land use plans, policies, or controls. New park areas could be added under this alternative, but these additions would be agreed to by a willing seller and the National Park Service. In addition, none of the actions that take place inside the park during construction or operation would conflict with land use plans, policies, or controls in the surrounding areas. Development activities would be limited to three hubs and five developed zones along the entire 48- mile corridor. Within these areas, only a small fraction of the area would be developed for park facilities.

### **Cumulative Impacts**

Growth in the area and pressure to use the park for more active and varied forms of visitor use would increase under all of the alternatives, putting

pressure on the park to provide a wider range of visitor experiences. Under the Centralized Access Alternative, however, the park would provide several hubs that would concentrate visitor activity at up to three selected locations. The operation of several new facilities in hubs would remove those areas for use by visitors who prefer isolation and solitude, but would promote a greater variety of visitor experience, for example, access to a boat ramp, trail, or interpretive facility. These features would constitute a major, beneficial, long- term cumulative effect. The hubs could also include educational facilities (building/kiosks) and centralized access to park rangers and information about park resources that would benefit the visitor. This alternative has been estimated to result in moderate, beneficial, long- term cumulative effects on visitor experience as a result.

Growth in the surrounding area would cause increased pressure on the park to provide more active forms of recreation. In comparison to the No Action Alternative, the cumulative effect of the Centralized Action Alternative would result in a lower intensity of effect as compared with No Action Alternative because it could accommodate a wider variety of recreational opportunities. This alternative has therefore been estimated to result in moderate, beneficial, long- term cumulative effects on recreational opportunity. Implementation of resource and other management plans would offset potential adverse cumulative effects on recreational opportunity, however. This would constitute a major, beneficial effect on recreational opportunities.

Growth in the surrounding area would have a moderate, adverse, cumulative effect on the ability of park management to repair and maintain facilities. Pressure to build more new facilities of different types would also increase in a cumulative manner as growth in the area around the park increases. However, the park could accommodate this situation to some extent because some new facilities would be constructed in the hubs. This would constitute a moderate, adverse, long- term cumulative effect on the numbers and types of park facilities.

Growth in the surrounding area would have a moderate, adverse, long- term, cumulative effect on



the traditional character of the park, as pressure for more active forms of recreation increase, and levels of encroachment around the boundaries of the park increase. The relative intensity of the cumulative effect of growth on traditional character of the park would be less than that associated with the No Action Alternative, however, since this alternative can accommodate a wider variety of visitor experiences and recreational activities. Since these would be centered in the hub areas, the traditional character of the park would be more effectively maintained. In the developed zones and hubs, impacts on the traditional character of the park would be minimized through proper site design and location. Some hubs may even be located in urbanized areas outside the park. Implementation of increased numbers and varieties of education and outreach programs and resource and trails management plans would offset potential cumulative effects of growth on traditional character of the park. These programs and plans would result in major, beneficial, long- term cumulative effects on the traditional character of the park.

Under the expanded park boundaries, the park would not only continue to provide significant contributions in terms of regional green space and recreational opportunities, but increase those opportunities as financial resources allow.

## **Conclusions**

The Centralized Access Alternative would have beneficial or adverse effects on visitor's recreational experience depending on the purpose of their visit. The Centralized Access Alternative would provide a major beneficial effect for visitors who value some degree of developed facilities, while simultaneously being able to also have access to and enjoy natural areas of the park. This alternative would have a minor, adverse, long- term impact on visitors who value solitude and isolation since the provision of facilities would draw people to the hubs. Under the Centralized Access Alternative, visitors could experience solitude in the majority of the park, but would also be provided with other types of experiences and facilities centralized in the hubs. An intermediate number and diversity of park facilities would be available to visitors under this alternative in the

hubs in comparison with the No Action Alternative. The more efficient and cohesive working environment that this alternative would provide for park staff, and the dispersed park ranger presence would result in better service to park visitors. Compared to the No Action Alternative, there would be additional types of recreational experiences, centralized access to trailheads and the river, while simultaneously providing the opportunity for isolation and solitude in other areas of the park.

Improvement to visitor facilities and facilities used for administration and operations would enhance educational and interpretive experiences as compared to the No Action Alternative.

## **SUSTAINABILITY AND LONG- TERM MANAGEMENT**

The National Environmental Policy Act (sec. 101 (b)) and the National Park Service Organic Act require an assessment of the potential of each alternative to produce long- term impacts and the potential of foreclosing future options that are available to the National Park Service with regard to managing each park. The preferred alternative is required to allow for sustainable development, which is defined as an action that meets the needs of the present without compromising the ability of future generations to meet their needs (World Commission on Environment and Development in National Park Service 2001a). This section addresses the following three components of the sustainability assessment.

### **The Relationship Between Local Short- Term Uses of The Environment and The Maintenance and Enhancement of Long - Term Productivity - National Environmental Policy Act (sec. 102 (c) (iv))**

Existing problems related to growth in the surrounding urban and suburban area and watershed are likely to continue with the growth in population, putting additional pressures on the natural and cultural resources in the park. As demand for recreation in the park grows, the long- term protection and enjoyment of park resources could be jeopardized. Despite development and



implementation of management strategies to provide more comprehensive protection of cultural and natural resources, there would likely continue to be instances where resources are disturbed by visitors exploring these sites. These impacts would be avoidable only if human use were not allowed in the park. Mitigation measures would be taken where possible to reduce these impacts. Improving the management of natural and cultural resources, along with enhancing research and education activities within the park, would contribute to the long-term protection and preservation of resources. Increased coordination with local agencies and other agency cooperative initiatives for resource and use management would further enhance resource protection and preservation. The development of new facilities would support the National Park Service mission while avoiding adverse cumulative impacts to ecosystems or resources. Short-term degradation of local water quality during construction projects would largely be prevented by best management practices. Short-term localized soil erosion (largely prevented by best management practices) and degradation of plant communities along trail construction corridors would be offset by long-term reductions in soil erosion resulting from the repair or realignment of poorly designed or damaged trails.

**Any Irreversible or Irrecoverable Commitments of Resources That Would Be Involved If the Alternative Were Implemented - National Environmental Policy Act (sec. 102(c) (v))**

The National Environmental Policy Act and the National Park Service define irreversible impacts as those effects that cannot be changed over the long term or are permanent (National Park Service 2001a). An effect to a resource is irreversible if the resource cannot be reclaimed, restored, or otherwise returned to its condition before the disturbance. An irretrievable commitment of resources refers to the effects to resources that, once gone, cannot be replaced. There would be a potential for irreversible or irretrievable commitments of cultural resources under the

Centralized Access Alternative. The implementation of a management strategy to provide comprehensive protection of cultural resources along with other natural resource protection measures would further reduce but not entirely eliminate the risk that visitors might disturb resources. In addition, limited amounts of nonrenewable resources would be used for construction projects and park operations, including energy and materials. These resources would be irretrievable once they were committed. Financially, the Centralized Access Alternative would require funding to accomplish its goals. In the long-term, some costs may be reduced as a result of more efficient use of centralized services lowering space and maintenance costs.

**Any Adverse Impacts That Could Not Be Avoided If The Action Were Implemented - National Environmental Policy Act (sec. 101(c) (ii))**

The National Environmental Policy Act and the National Park Service define adverse impacts as those that cannot be fully mitigated or avoided. For this plan, where construction activities disturbed cultural resource sites, data recovery and conservation efforts would partly mitigate impacts. However, the disturbance could result in some irretrievable and irreversible loss of archeological resources. There would be unavoidable adverse impacts on natural and cultural resources under the Centralized Access Alternative as a result of the increasing development outside the park that, with limited resources, tax the park staff's ability to effectively carry out resource protection measures. Mitigation measures would be taken, where resources allow, minimizing these impacts. In addition to the above unavoidable impacts, staff increases would require additional operational funding. Centralization of staff resources would be an effective means of making visitor contact and increasing the staff's ability to carry out resource protection measures.

**ENVIRONMENTAL IMPACTS OF THE EXPANDED USE ALTERNATIVE**



## **IMPACTS OF THE EXPANDED USE ALTERNATIVE ON NATURAL RESOURCES**

Natural resources impact topics include air quality, water resources, wetlands and floodplains, rare, threatened and endangered species, terrestrial ecological resources and prime and unique farmlands. Analytical methods are provided under the No Action Alternative. Impact analyses and cumulative impact assessments and conclusions are described for each impact topic.

## **IMPACTS OF THE EXPANDED USE ALTERNATIVE ON AIR QUALITY**

### **Regulations and Policy**

The regulations and policies that guide NPS actions with respect to air quality are presented in the “Servicewide Mandates and Policies” section of this document.

### **Analysis**

Under the Expanded Use Alternative, the largest number of new park facilities (roads, parking lots, restrooms) would be constructed in developed zones. The Expanded Use Alternative would involve a level of construction activity that would be greater than the No Action Alternative and would produce the largest relative volumes of construction-related air emissions. Use of mitigation measures such as fugitive dust control during construction and use of properly maintained equipment would reduce adverse air quality impacts. Construction activities would result in minor increases in vehicle emissions and increased fugitive dust from developed sites, however, because of the overall relatively limited levels of construction, these emissions would constitute minor, adverse, short-term effects on air quality and natural resources.

Under the Expanded Use Alternative, the largest relative number of new park facilities would be constructed and operated in developed zones. Emissions generated by park visitor vehicles would be higher than those produced under the No Action Alternative. This alternative would also have a greater relative potential for increasing air emissions in the vicinity of the park during the

operations phase. The operation phase would nevertheless have minor, adverse, long-term effects on air quality because of the relatively limited numbers of new facilities being operated under this alternative.

### **Cumulative Impacts**

The combined effect of construction and operation of new park facilities under this alternative would have a negligible, adverse, long-term effect on air quality, because the total volume of these emissions would be extremely small in comparison with the amount of air emissions produced in the surrounding area.

As traffic volumes increase in the metropolitan Atlanta area, air quality-related impacts on park resources and visitor experience could occur under any of the alternatives. The Atlanta region is currently not meeting the air quality standards for ozone, which already affects the park. As regional traffic congestion continues to grow in the future, degraded air quality could affect park resources in as yet unidentified ways. Visitors to the park would experience similar effects inside or outside the park due to regional conditions. These would constitute a moderate, adverse, long-term cumulative effect.

There would not be any irretrievable or irreversible commitment of air quality resources with this alternative.

There would be no major, adverse impacts to air quality resources or values whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Chattahoochee River National Recreation Area; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents. Therefore, there would be no impairment of the park's air quality resources or values.

### **Conclusions**

The relative amount of air emissions of construction and operation produced under the Expanded Use Alternative would be higher than those produced under the No Action Alternative.



Because the relatively few new facilities would be constructed and operated, however, the overall effects on air quality would nevertheless be minor, adverse and long- term.

There would be no impairment of air quality as a result of park actions under this alternative.

## **IMPACTS OF THE EXPANDED USE ALTERNATIVE ON WATER RESOURCES**

### **Regulations and Policy**

The regulations and policies that guide NPS actions with respect to natural resources are presented in the “Servicewide Mandates and Policies” section of this document.

### **Analysis**

Implementation of the Expanded Use Alternative would result in a greater relative amount of land disturbing activity for construction of roads, parking lots, trails and buildings in the park in comparison to the No Action Alternative. Under the Expanded Use Alternative, the relative amount of associated surface runoff and addition of impervious space would therefore be higher than that associated with the No Action Alternative. These levels of construction were estimated to have moderate, short- term and long- term adverse impacts on surface water hydrology, water quality, and aquatic resources in relation to the No Action Alternative. However, best management practices would be employed in all construction areas to control and minimize the amount and quality of runoff. These measures would include erosion control measures such as type C silt fencing in slopes greater than 3%, mulching, sedimentation ponds, and use of cocoa fiber and seeding of native grasses.

During operation under the Expanded Use Alternative, visitors would continue to use the park but would be allowed access in several developed zones. This would focus the majority of visitor activity in the developed zones, while still allowing for visitors to experience solitude and more passive experiences in the remaining areas of the park. Under the Expanded Use Alternative, potential

adverse impacts on surface water hydrology, water quality, and aquatic resources related to trail use and recreation would be mitigated by implementing resource and other management plans. This would result in a major, beneficial long- term effect on surface water hydrology, water quality, and aquatic resources. New areas could also be added to the park under this alternative, providing additional levels of protection for water resources in the watershed. These combined actions and factors would result in a major, beneficial long- term effect on hydrology, water quality, and aquatic resources. Overall, because of the greater number of developed areas, the Expanded Use Alternative was estimated to have a moderate, adverse, long- term effect on water resources in the park.

### **Cumulative Impacts on Water Resources**

The Expanded Use Alternative would involve the highest level of allowable construction of new facilities in the park, primarily in developed zones. However, because resource and other management plans would be developed and implemented, soil erosion from trails and other forms of visitor use would be minimized over the long term. This would result in a major, beneficial long- term cumulative effect on surface water hydrology, water quality, and aquatic resources. Visitor use would also be concentrated in the developed zones. The overall cumulative effects of construction and operation under this alternative were therefore estimated to be moderate, adverse, and long- term.

The cumulative effects of stormwater runoff from development outside the park on water resources inside the park would continue to increase under the Expanded Use Alternative, as it would under all of the alternatives. As the area surrounding the park becomes more and more developed, this problem would be expected to increase. This would constitute a major, adverse, cumulative long- term effect on surface water hydrology, water quality, and aquatic resources. This type of effect would occur under all of the alternatives because the park is located in a rapidly developing urban area. Because resource and other management plans would be developed and implemented, however, soil erosion from trails and other forms of



visitor use would be minimized over the long term. This would result in a major, beneficial long- term cumulative effect on water resources.

The growth in the area surrounding the park has already had a major adverse effect on fishing in the Chattahoochee River. This was identified as an issue during public meetings and workshops. However, this issue cannot be addressed by the park effectively because it is largely outside of the parks' control. Fish diversity and populations in the river vary in quality depending on the location along the corridor. The northern section below Lake Lanier is characterized by a relatively healthy fish community and is much less affected by nonpoint stormwater runoff as compared with the lower portion of park. However, during intense storms, even the northernmost sections of the river, except the area immediately below Buford Dam, are affected by runoff and sedimentation from the surrounding area. As the northern areas of the park corridor continue to grow, these effects on fish populations are expected to increase. Under the Expanded Use Alternative, there would be some chance for improving this situation because there would be more coordination and planning between the park service and local governments to control stormwater runoff. Partnering would be key to successful avoidance and minimization of cumulative effects from activities outside the park. As watershed management plans are implemented by local governments, controls should ultimately be put in place, and the fisheries of the river would hopefully improve over the long term. Currently this is not the case, however, and the river continues to be affected by stormwater runoff. The Expanded Use Alternative would provide an opportunity to help control these types of cumulative effects on fish through expanded partnering efforts.

There would be no irreversible or irretrievable commitment of the water resources of the Chattahoochee River and its tributaries under this alternative related to National Park Service actions.

## **Conclusions**

The Expanded Use Alternative would have moderate, adverse, direct short- term and long- term impacts on surface water hydrology, water

quality, and aquatic resources resulting from construction and maintenance activities. These would be of greater intensity than the effects on water resources resulting under the No Action Alternative.

Moderate, adverse, long- term direct effects on surface water hydrology, water quality, and aquatic resources resulting from surface runoff would also result during operation. Effects of operation on surface water hydrology, water quality, and aquatic resources would be greater than those produced by the No Action Alternative. The potential effects of construction and operation of park facilities would be mitigated by implementation of resource and other management plans inside the park as well as use of best management practices. This would constitute a major, long- term, direct beneficial cumulative effect.

Water resources would continue to be more heavily influenced by urban development in the surrounding area than by activities in the park under all of the alternatives. These potential effects would be mitigated to some extent by implementation of resource and other management plans in the park, as well as expanded coordination efforts with the surrounding communities, resulting in a major beneficial, long- term cumulative effects on water resources.

There would be no major, adverse impacts to water resources or values whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Chattahoochee River National Recreation Area; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents. Therefore, there would be no impairment of the park's water resources or values.



## **IMPACTS OF THE EXPANDED USE ALTERNATIVE ON WETLANDS AND FLOODPLAINS**

### **Regulations and Policy**

The regulations and policies that guide NPS actions with respect to wetlands and floodplains are presented in the “Servicewide Mandates and Policies” section of this document.

### **Analysis**

There would be a greater relative level of construction (such as boardwalks, or foot bridges, boat ramps, parking lots, limited roads, or small buildings) and maintenance activities that would occur under the Expanded Use Alternative than the No Action Alternative. New trails and other construction would be addressed and assessed in the form of individual tiered environmental assessments, and avoidance, minimization and compensation would have to be demonstrated prior to construction activity. However, these activities would still be limited, and the majority of construction would occur in the developed zones. The majority of the wetlands and floodplains in the park would therefore not be affected. Overall, construction activities under the Expanded Use Alternative were estimated to have minor, adverse, long- term direct effects on wetlands and floodplains in the park.

During operation of the park under the Expanded Use Alternative, existing levels of protection of wetlands and floodplains would be improved through development and implementation of resource and other management plans. More facilities would be operated under this alternative than under the No Action Alternative, however, and the potential for adverse effects on wetlands and floodplains would increase, resulting in minor, adverse, long- term effects. Where erosion occurs along informal trails or overused areas, these conditions would be reduced over time due to preparation and implementation of resource and other management plans. This would constitute have a moderate, beneficial, long- term effect on wetlands and floodplains under this alternative. Some new park areas could be added that could be used to protect several small wetlands and

floodplains or a larger wetland/floodplain at a single location. This would also result in a moderate long- term beneficial effect on wetlands or floodplains. This alternative was therefore estimated to have, overall, minor, long- term adverse direct effects on wetlands or floodplains related to operation of the park.

### **Cumulative Impacts on Wetlands and Floodplains**

Minor, adverse, long- term, cumulative effects on wetlands and floodplains inside the park would result from construction and operation of park facilities under the Expanded Use Alternative. Although this alternative would involve more new construction and increased maintenance activities in comparison with the No Action Alternative, floodplains and wetlands throughout the park would continue to be protected from direct disturbance from park construction projects through required environmental assessments tiered to the general management plan/environmental impact statement. Application of best management practices would help reduce risk to floodplain and wetland resources from polluted runoff, erosion, filling activities, or sedimentation from sources within the park.

During operation, this alternative would result in minor, adverse cumulative long- term impacts caused by runoff from paved areas and overall encroachment by visitors in wetlands and floodplains. However, these potentially adverse effects would be offset by implementation of resource and other management plans. These would lead to improved management of visitor access to wetlands and floodplains and control of erosion along trails and other areas, and would result in a moderate, beneficial, long- term effect on wetlands and floodplains.

Wetlands and floodplains located within the park would continue to be affected by sediments and water transported via runoff during increased storm water discharges originating from developed areas outside the park. This would constitute a long- term major adverse effect that is outside of the control of the park. This effect would be the same for all of the alternatives.



There would be no irreversible or irretrievable commitment of the wetland and floodplain resources under this alternative.

## **Conclusions**

Implementation of the Expanded Use Alternative would result in minor, adverse long- term direct effects on wetlands and floodplains. The amount of facility construction and operation would be greater than the No Action Alternative, but development and implementation of resource and other management plans would result in a moderate, beneficial, long- term effect on wetlands and floodplains in the park. Cumulative impacts from stormwater runoff originating in developed areas outside the park would cause major, long- term adverse impacts on wetlands and floodplains, however, due to erosion and sedimentation during major storm events.

There would be no impairment of wetlands and floodplains as a result of park actions under this alternative.

## **IMPACTS OF THE EXPANDED USE ALTERNATIVE ON RARE, THREATENED AND ENDANGERED SPECIES**

### **Regulations and Policy**

The regulations and policies that guide NPS actions with respect to rare, threatened and endangered species are presented in the “Servicewide Mandates and Policies” section of this document.

### **Analysis**

The Expanded Use Alternative would result in higher levels of construction and more visitor use in developed zones in comparison with the No Action Alternative. The amount of construction and visitor use would be concentrated in eleven developed zones. The potential effect of construction activities of this alternative on protected species would be greater than all other alternatives. Some fragmentation of terrestrial habitat would occur, but because the number of projects would be few and localized, this direct effect would be minor. Under the Expanded Use

Alternative, any construction project would require an environmental assessment that would include rare, threatened, and endangered species surveys, consideration of alternatives, and assessments of impacts. Therefore, impacts would be avoided or minimized to the greatest extent possible. The direct effects of construction of park facilities under this alternative on protected species was therefore estimated to be minor, adverse, and long- term. In addition, under the Expanded Use Alternative, resource, and other management plans would be developed and implemented, which would be beneficial to protected species. It would also be possible to acquire additional park areas. Both of these factors would result in a moderate, beneficial, long- term direct effect on protected species.

The location of numerous protected species of plants and animals in the park is known and documented by the Georgia Department of Natural Resources/Wildlife Resources Division surveys, as well as other park surveys. Definitive and detailed park- wide surveys have yet to be conducted by the park, however. Until these surveys are completed, the park would rely on site- specific surveys for individual construction project sites to assess the potential for impacts on protected species.

During operation of the park, rare, threatened and endangered species would continue to be protected under the Expanded Use Alternative. New areas could be added to the park under the Expanded Use Alternative, and resource and other management plans would be prepared and implemented, which could result in long- term habitat improvements and expansion of existing efforts. These factors would result in a moderate, beneficial, long- term effect. Operation of the park under the Expanded Use Alternative was therefore estimated to have minor, adverse, long- term direct impacts on protected species.

There would be no irretrievable or irreversible commitment of resources as a result of implementation of this alternative.



### **Cumulative Impacts on Rare, Threatened and Endangered Species**

The potential for cumulative effects of construction under the Expanded Use Alternative would be greater than the No Action Alternative. However, environmental assessments would be conducted for each proposed project, which would minimize the potential for cumulative impacts of projects in the park under the Expanded Use Alternative. There is a potential for long-term improvement of habitat for protected species under the Expanded Use Alternative since resource and other management plans would be developed and implemented. This would minimize the potential for exotic species to invade, and for habitats to be further improved and protected from increased visitor use. The park's rare, threatened and endangered species would continue to benefit from the protection the park affords. Area could also be added to the park. All of these factors would constitute a moderate, beneficial, long-term cumulative effect on protected species. The overall cumulative effect of the Expanded Use Alternative is therefore estimated to be minor, adverse, and long-term.

There would be no irreversible or irretrievable commitment of resources associated with the protected species or habitats under this alternative.

### **Conclusions**

Implementation of the Expanded Use Alternative would result in overall minor, adverse, long-term direct and cumulative effects on rare, threatened and endangered species, since environmental assessments would be required for park projects, and resource and other management plans would be developed and implemented. New areas could also be added to the park and these could contain protected species. Efforts to document and protect rare, threatened and endangered species populations currently present in the park would continue to be maintained and potentially expanded. These factors would constitute moderate long-term beneficial direct and cumulative impacts. The overall direct and cumulative impacts on protected species were therefore estimated to be minor, adverse and long-term.

There would be no impairment of rare, threatened or endangered species habitats or values as a result of park actions under this alternative.

### **IMPACTS OF THE EXPANDED USE ALTERNATIVE ON TERRESTRIAL ECOLOGICAL RESOURCES**

#### **Regulations and Policy**

The regulations and policies that guide NPS actions with respect to terrestrial ecological resources are presented in the "Servicewide Mandates and Policies" section of this document.

#### **Analysis**

The Expanded Use Alternative would involve a greater relative level of facility construction and operation activities in comparison with the No Action Alternative due to the greater amount of land disturbing activity, primarily in the developed zones. Some fragmentation of terrestrial habitat would occur, but because the number of projects would be few and localized in eleven developed zones, this direct potential fragmentation effect would be minor. The vast majority of the park would be left in a relatively natural state. Prior to implementation of construction activities, the National Park Service would conduct a detailed site-specific survey of the terrestrial vegetation at the project sites, as part of tiered environmental assessments. The type, extent, maturity and ecological values of terrestrial habitats at each proposed site would be evaluated and the impacts of proposed projects would be assessed. To make a decision regarding the feasibility of the proposed site for construction and to avoid forested areas or other valuable habitats, as required by the National Environmental Policy Act. Minor, adverse, long-term, direct impacts on terrestrial resources could result from implementation of this alternative, since some trees and areas might be cleared for construction of park facilities, but the extent of habitat that would be disturbed would be limited. The option of locating facilities outside of the park would also be considered in these situations. Wildlife in the park that require deciduous forest habitats and riparian corridors in relatively



contiguous tracts would continue to benefit from the protection of most of the park's land area.

By locating facilities and educational resources/park information in the developed zones, it would be possible to inform a greater number of visitors than the other alternatives. Increased park staff proposed under this alternative would facilitate this increased level of communication about the park's resources and the need to protect them. This would result in a moderate, beneficial, long- term effect.

In addition, development and implementation of a resources and other management plans under the Expanded Use Alternative would have a moderate, beneficial long- term effect on terrestrial habitats in the park. Management plans would include measures to restore degraded habitats and means to control invasive species such as privet and English Ivy.

### **Cumulative Impacts on Terrestrial Ecological Resources**

The activities associated with the Expanded Use Alternative would have minor, adverse, short- or long- term, cumulative impacts on terrestrial ecological resources because of the potential for increased level of facility construction and operation in developed zones. These effects would be spread over a wider area as compared to the No Action Alternative, but would be more effectively managed under resource and other management plans. With increased levels of visitor activity expected in the developed zones, an increased potential for visitor- related effects on habitats in the park would also exist. This could be offset by increased levels of effort concerning other management, restoration, education, and other agency coordination. These results of such efforts would be difficult to measure, but would be expected to result in moderate, long- term beneficial effects on terrestrial ecological resources in the park. In comparison with the No Action Alternative, the potential for cumulative effects on terrestrial ecological resources would therefore be less.

Ongoing urbanization in the surrounding region would continue to eliminate forest and wildlife

species. Park management practices associated with the Expanded Use Alternative would have little effect on regional, development- related effects on the species in the surrounding area. Improved education and coordination elements of this alternative could provide beneficial effects, as increased awareness of these resources could generate interest in their protection outside the park as well.

There would be no irreversible or irretrievable commitment of terrestrial ecological resources under this alternative.

### **Conclusions**

This alternative would result in a greater relative amount of land disturbance as compared with the No Action Alternative, but these impacts would be avoided and minimized because tiered environmental assessments would be required for each project. The construction phase of the Expanded Use Alternative would therefore have minor, adverse, short- and long- term direct and cumulative impacts on terrestrial ecological resources related to facility construction in the developed zones.

During operation, more visitors would be attracted to the park via the developed zones in comparison with the No Action Alternative, resulting in an increased potential for visitor- related damage to habitats. Tiered environmental assessments would also be required prior to selecting a site for a project, however, and impacts would be avoided and/or minimized to the extent possible. Development and implementation of resource and other management plans, increased education, coordination, and staffing levels would have major, long- term beneficial effects on these resources in the park. The overall direct effect of the Expanded Use Alternative on terrestrial ecological resource was therefore estimated to be minor, adverse and long- term.

There would be no impairment of terrestrial ecological resources as a result of park actions under this alternative.



## **IMPACTS OF THE EXPANDED USE ALTERNATIVE ON PRIME AND UNIQUE FARMLANDS**

### **Regulations and Policy**

The regulations and policies that guide NPS actions with respect to prime and unique farmlands are presented in the “Servicewide Mandates and Policies” section of this document.

### **Analysis**

Proposed National Park Service projects in the park could impact prime and unique farmlands, all of which are located north of McGinnis Ferry Road. The Expanded Use Alternative would have the highest overall relative potential to impact these resources, since this alternative would involve a greater amount of construction, maintenance and operation activities in comparison with the No Action Alternative. The overall direct effect of construction activities completed under the Expanded Use Alternative on prime and unique farmland, however, would be minor, adverse and long- term, since soil erosion would also be minimized in the vicinity of these soils types using best management practices, site specific environmental assessments would be completed, and resource and other management plans would be developed and implemented.

The potential direct effects of park operation on prime and unique farmlands under the Expanded Use Alternative would be minor, adverse and long-term, since visitor activities would include more active forms of recreation over a wider area of the park. Development and implementation of resource, trails and other plans, however, would focus these activities in developed zones, thereby avoiding possible effects on prime and unique farmlands.

### **Cumulative Impacts on Prime and Unique Farmlands**

This alternative would involve a greater relative level of construction and maintenance in the park, and somewhat more active forms of recreation over a wider area of the park. Should a project be proposed that would affect prime and unique

farmlands in the future, a site specific environmental assessment would be completed, and the impacts would be further addressed. Resource and other management plans would also be developed and implemented, which would allow for avoidance of potentially adverse impacts on prime and unique farmlands. The cumulative adverse effects of the construction, maintenance and operation activities within the park on prime and unique farmlands under the Expanded Use Alternative would therefore be minor, adverse, and long- term.

In contrast, the cumulative effects of development in the area surrounding the park on prime and unique farmlands would be moderate, adverse and long- term under this alternative. These effects are related to the impacts of increased surface water runoff from the rapidly developing surrounding area. These effects are largely outside of the park’s direct control.

There would be no irreversible or irretrievable commitment of prime and unique farmland resources under the Expanded Use Alternative.

### **Conclusions**

The amount of construction proposed within the park would be the greater in comparison with the No Action Alternative, and concentrated in several developed zones. However, potential adverse impacts on prime and unique farmlands would be avoided and minimized by preparation of site-specific environmental assessments that would identify such resources. Resource and other management plans would also be implemented, resulting in inventorying of these resources. The Expanded Use Alternative would therefore have minor, adverse direct and cumulative long- term impacts on prime and unique farmlands. In contrast, development in the area surrounding park would have moderate adverse, long- term impacts on prime and unique farmlands. These effects that are largely outside of the park’s direct control.

There would be no impairment of prime and unique farmlands as a result of park actions under this alternative.



## **IMPACTS OF THE EXPANDED USE ALTERNATIVE ON CULTURAL RESOURCES**

This section describes the methods used, analysis of effects conducted and conclusions drawn for archeological resources and historic buildings, structures and objectives.

## **IMPACTS OF THE EXPANDED USE ALTERNATIVE ON ARCHEOLOGICAL RESOURCES**

### **Regulations and Policy**

The regulations and policies that guide NPS actions with respect to archeological resources are presented in the “Servicewide Mandates and Policies” section of this document.

### **Analysis**

As discussed in the “Affected Environment” section, there is a high probability that there are unknown prehistoric and historic archeological resources within the boundaries of the park. Any ground- disturbing activities associated with the Expanded Use Alternative would therefore have the potential to affect such sites.

Until a National Register of Historic Places evaluation for any site was completed, it would be assumed that the site is eligible for listing on the register. Therefore, until proven otherwise, disturbance to any archeological site that was discovered during the survey, design, or construction of any facilities under the Expanded Use Alternative would be considered an adverse effect. The Expanded Use Alternative includes a greater amount of construction relative to the No Action Alternative; accordingly, the Expanded Use Alternative has the higher relative potential for construction- related adverse effects to archeological resources. For purposes of this general management plan/environmental impact statement, the overall direct impact of the Expanded Use Alternative on archeological resources was estimated to be moderate, adverse and long- term.

As described in the section entitled “Servicewide Mandates and Policies,” the National Park Service is required to protect archaeological resources within the park. Therefore, prior to undertaking any construction activities under the Expanded Use Alternative, the National Park Service would conduct a tiered environmental assessment, and:

- Conduct cultural resources surveys of areas to be disturbed, including trail alignments

- Identify all archaeological resources that are discovered during the surveys

- Systematically inventory each site to determine and document its significance to support its evaluation for National Register of Historic Sites eligibility

- Determine eligibility in concert with the Georgia State Historic Preservation Officer and Advisory Council on Historic Preservation

- Relocate any facilities that would disturb National Register of Historic Sites - eligible sites

The collection of data to support the eligibility evaluation, and the determination of eligibility can be time consuming. Therefore, as a timesaving approach, the National Park Service would assume that any archaeological site that is discovered is eligible for listing, and would relocate the facility to be constructed to avoid that site. This approach would substantially reduce the potential for construction- related adverse effects to archaeological resources.

Under any alternative, the integrity of some sites would be degraded by natural processes such as wind and water erosion, or by vandalism or inadvertent damage by visitors. By establishing seven cultural resource zones, the Expanded Use Alternative provides more protection, monitoring, and interpretation of archeological sites than the No Action Alternative. By establishing cultural resource zones, and by increasing monitoring, numbers of rangers, and education programs, as well as implementing a cultural resources management plan and a collections management plan, the Expanded Use Alternative provides greater protection and monitoring of a subset of



the archaeological resources within the park compared to the No Action Alternative. This alternative would therefore help avoid and minimize adverse impacts on archeological resources.

Public/private partnership created under the Expanded Use Alternative may provide greater stewardship of resources within the park; however, the level of protection from natural degradation and vandalism provided by such stewardship is difficult to assess. The increased development associated with the Expanded Use Alternative by comparison to the No Action Alternative, would increase the potential for visitor- related impacts and vandalism compared to the No Action Alternative because additional acreage would be developed and accessible.

### **Cumulative Impacts**

During construction, the Expanded Use Alternative has a potential to impact archeological resources at virtually any site that is cleared. The cumulative effects of all construction activities under this alternative within the park could therefore be greater than the No Action Alternative. For purposes of this general management plan/environmental impact statement, therefore, the overall cumulative impact of the Expanded Use Alternative on archeological resources was therefore estimated to be moderate, adverse and long- term.

Prior to undertaking any construction activity, however, the National Environmental Policy Act requires completion of an archeological survey and an estimate of potential adverse impacts. Adherence to these procedures would assure that the construction activities would not have adverse cumulative impacts on archeological resources in the park.

During operation, archeological resources could be impacted by human disturbance. Taken collectively over the length of the park, these cumulative impacts could be adverse and long- term. The Expanded Use Alternative has a greater potential for this to occur in comparison with the No Action Alternative since the level of visitor use and construction activities within the park would be

greater. However, a cultural resources management plan and a collections management plan would be prepared under this alternative that would be designed to preserve and protect these resources, unlike the No Action Alternative. This would constitute a beneficial long- term impact.

Where sites were disturbed, such as the discovery of a site during construction, data recovery and preservation efforts would partly mitigate impacts. However, the disturbance could result in some irretrievable and irreversible loss of archaeological resources.

### **Conclusions**

Archeological resources in most of the Atlanta area have been disturbed or eliminated during the construction of the city and surrounding suburban and developed areas. Therefore, improvements to, and preservation of, archaeological sites within the park is important on a regional level, as these resources represent former conditions throughout the area. The identification and systematic inventory of archeological resources in the cultural resources zones during the implementation of the Expanded Use Alternative offer an opportunity to add to the knowledge of the prehistory and history of both the park and the entire vicinity. This constitutes a major, long- term beneficial impact on archeological resources.

The increased amount of construction and development proposed under the Expanded Use Alternative would result in greater construction- related and visitor- related adverse effects to archeological sites within the park than the No Action Alternative. Similarly, the Expanded Use Alternative offers less direct protection, inventory, and interpretation of archeological sites within the park in comparison with the No Action Alternative. Despite the increased amount of data recovery and preservation efforts associated with the increased construction, these efforts would only partly mitigate impacts. The disturbance from construction, inadvertent visitor damage, and vandalism could result in some irretrievable and irreversible loss of archaeological resources. This could constitute a major, adverse long- term effect. Development and implementation of a cultural resources management plan and a collections



management plan would help reduce, avoid or mitigate these potential impacts. The overall direct and cumulative adverse effects of this alternative on archeological resources were therefore estimated to be moderate and long- term.

Prior to disturbing any site for construction, detailed National Environmental Policy reviews would be required as part of tiered environmental assessments. The National Environmental Policy Act requires avoidance and minimization of adverse impacts on cultural resources.

There would be no major, adverse impacts to archeological resources or values whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Chattahoochee River National Recreation Area; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents. Therefore, there would be no impairment of the park's archeological resources or values.

## **IMPACTS OF THE EXPANDED USE ALTERNATIVE ON HISTORIC BUILDINGS, STRUCTURES AND OBJECTS**

### **Regulations and Policy**

The regulations and policies that guide NPS actions with respect to historic buildings, structures and objects are presented in the "Servicewide Mandates and Policies" section of this document.

### **Analysis**

The Expanded Use Alternative establishes seven cultural resources zones, in contrast with the No Action Alternative, which not provide any. The seven cultural resource zones established as part of the Expanded Use Alternative encompass a portion of the National Register of Historic Places- listed or National Register of Historic Places- eligible historic buildings, structures or objects in the park; the exceptions being resources located in the Fort Peachtree and Island Ford Units. As a result, implementation of the Expanded Use Alternative

would result in more resource protection than the No Action Alternative.

Similarly, because cultural resources in cultural resource zones are documented and interpreted, the implementation of the Expanded Use Alternative has a comparatively greater potential for preservation and interpretation of historic buildings, structures and objects than the No Action Alternative.

The Expanded Use Alternative offers slightly greater protection from degradation, vandalism or inadvertent damage by visitors to resources located outside of the cultural resources zones or due to increased monitoring and ranger staffing levels as compared to the No Action Alternative. It is assumed that an increase in park staff would be common to all action alternatives.

Overall, in comparison to the No Action Alternative, the Expanded Use Alternative has a greater relative potential to affect historic buildings, structures or objects, and moderate impacts are possible. The overall potential direct and cumulative effect of this alternative on historic buildings, structures and objects was therefore estimated to be moderate, adverse and long- term.

### **Cumulative Impacts**

In comparison with the No Action Alternative, the Expanded Use Alternative would have a greater potential to produce adverse cumulative effects on historic buildings, structures and objects because the extent of construction activities would be the more extensive. Land clearing activities would occur in eleven developed zones, but all construction would have to adhere to the requirements of the cultural resource and other management plans. Cumulative adverse impacts would be reduced or avoided as a result of increased monitoring, education and an increase in park staff as compared to the No Action Alternative. This alternative was therefore estimated to have moderate, adverse, long- term cumulative effects on Historic Buildings, structures and objects.

In comparison with the No Action Alternative, during construction, the Expanded Use Alternative



has the greatest potential to impact historic buildings, structures and objects at virtually any site that is cleared. The cumulative effects of all construction activities under this alternative within the park could therefore be adverse and long-term. Prior to undertaking any construction activity, however, the National Environmental Policy Act requires completion of a survey and an estimate of potential adverse impacts. Adherence to these procedures would assure that the construction activities would avoid or minimize any adverse cumulative impacts on historic buildings, structures and objects in the park. In addition, a cultural resources management plan and a collections management plan would be prepared and implemented under this alternative that would be designed to preserve and protect these resources. The overall cumulative effect of this alternative on historic buildings, structures, and objects was estimated to be moderate, adverse, long-term.

During operation, historic buildings, structures and objects could be impacted by human disturbance. Taken together over the length of the park, these cumulative impacts could be adverse and long-term. The Expanded Use Alternative has a higher relative potential for this to occur, however, since the level of visitor use and construction activities within the park would be greater than the No Action Alternative. A cultural resources management plan and a collections management plan designed to preserve and protect historic buildings, structures and objects would also be developed and implemented under this alternative. Protection and rehabilitation of these resources by this alternative as compared to the No Action Alternative would have a major, beneficial effect in preserving them for the future.

Disturbance of historic buildings, structures and objects during construction and operations could result in some irretrievable and irreversible loss of cultural resources.

## **Conclusions**

The park contains a variety of historic buildings, structures and objects that are significant to the historical development of the Chattahoochee River Valley and the greater Atlanta area. Some of these

resources are among the last remaining examples of their construction types in the region. This alternative is estimated to have moderate, adverse, long-term effects on historic buildings, structures and objects in the park, since some areas could be impacted during construction and operation of park facilities. The Expanded Use Alternative's protection and rehabilitation of these resources would have a major beneficial effect in preserving them for the future. The potential for adverse effects associated with implementation of the Expanded Use Alternative – increased construction-related and visitor-related impacts – are considered to be greater than those associated with the No Action Alternative. Under the Expanded Use Alternative, the historic buildings, structures and objects in the park would be afforded protection and preservation treatment through the development and implementation of systematic integrated inventory, research, and preservation plans in the seven cultural resources zones as well as development and implementation of a cultural resources management plan and a collections management plan. Rehabilitation of historic structures would occur, with some historic structures being returned to their original uses and others being rehabilitated and adaptively reused in accordance with park resource values. This would be long-term beneficial effect.

There would be no major, adverse impacts to resources and values associated with historic buildings, structures and objects whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Chattahoochee River National Recreation Area; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents. Therefore, there would be no impairment of the resources or values associated with the park's historic buildings, structures and objects.



## **IMPACTS OF THE EXPANDED USE ALTERNATIVE ON TRANSPORTATION**

### **Regulations and Policy**

The regulations and policies that guide NPS actions with respect to transportation resources are presented in the “Servicewide Mandates and Policies” section of this document.

### **Analysis**

Under the Expanded Use Alternative, about 85 percent of the park would be relatively accessible to visitors through the developed zone (4.7%), natural area recreation zone (74%) and cultural resource zone (6.8%). However, only a very small percentage of each of these zones would actually be used for construction of transportation related facilities such as roads and parking lots. The urban primitive zone would comprise about 14% of the park acreage, and there would be no designated pristine river zone. Under this alternative, access would be dispersed throughout the 48-mile corridor at strategic locations. This would facilitate bicycle and pedestrian access to the park, and could reduce travel distances for vehicle trips. However, the Expanded Use Alternative would result in a greater incidence of congested roadways along the park corridor and the traffic generated by this would add to the traffic congestion in the area (Table 30). As compared to the No Action Alternative, more facilities would be constructed and operated under the Expanded Use Alternative. This would result in increased numbers of trips made by visitors to the park, and a relatively higher degree of transportation impacts as compared with those produced by the No Action Alternative (Table 30). The majority of the long-term impacts on transportation are projected to be moderate (Table 30). However, detailed site-specific transportation analyses would be conducted as part of tiered environmental assessments for future proposed projects and measures to minimize or reduce impacts would be developed. As part of these environmental assessments, possible site-specific traffic solutions such as traffic calming measures or altered flow patterns at park access points would be identified. This would result in improved localized conditions, which would be considered moderate, beneficial, long-term effects

on transportation systems associated with the park. The overall adverse impacts of the Expanded Use Alternative are defined as being moderate and long-term as a result of these factors.

The Expanded Use Alternative would have a greater relative amount of paved and unpaved trail construction in the park in comparison to the No Action Alternative. Visitors would use the developed zones most frequently, and the rest of the park would still be available for hiking on trails or other uses. An integrated trails system plan would also be developed and implemented, which would result in a major, beneficial, long-term effect on the trail system and associated visitor experience. Use of informal trails in the park would decrease over time as the integrated trail system plan is implemented. The overall visitor experience would be greatly improved, since trails would be effectively designed and maintained. As a result of all of these factors, the Expanded Use Alternative would have a major, long-term beneficial effect on paved and unpaved trails in the park.

An integrated trails system plan would be developed and implemented under the Expanded Use Alternative, and efforts to increase connectivity with trails systems being developed in the areas surrounding the park by other organizations and local governments would be greatly increased. This would constitute a major, beneficial, long-term effect on the ability to develop improved connectivity with the surrounding communities.

The primary form of nonmotorized transportation in the park is the bicycle. The Expanded Use Alternative would have a moderate, beneficial long-term effect on an individual's decision to walk or ride a bicycle to get to the park, since uses of bicycles would be considered appropriate in more areas under this alternative than under the No Action Alternative. More bicycle trails would be available under this alternative since the Expanded Use Alternative emphasizes both passive and active forms of recreation.

The Expanded Use Alternative would result in more opportunities for bicycle use, and would therefore pose a higher potential for creating problems with erosion. However, these potential



effects would be addressed and in an integrated trails system plan that would be prepared and implemented. This would constitute a moderate, beneficial, long- term effect. Overall, the Expanded Use Alternative was therefore estimated to have a moderate, adverse, long- term effect on erosion and water quality degradation associated with bicycle use. These potential effects would be offset, however, by development and implementation of resource, trail and other management plans that would manage bicycle use effectively in the park.

### **Cumulative Impacts**

Regional growth in the counties in the metropolitan Atlanta area is the primary reason for the projected increases in traffic volumes around the park. No matter which management actions are taken in the park, traffic in the region is expected to continue to increase in the future. The cumulative effects of the Expanded Use Alternative on transportation in the park and on the surrounding region would be moderate, adverse and long- term, based on the data presented in Table 30. Areas currently experiencing congestion would be expected to continue to do so in the future if planned improvements do not take place.

Under the Expanded Use Alternative, the cumulative amount of use of paved and unpaved trails would be greater in comparison with the No Action Alternative. Paved and unpaved trails throughout the park would be carefully managed under an integrated trails system plan, however, which would offset these potential adverse effects. This would constitute a moderate, beneficial, cumulative long- term effect, since these effects would extend throughout the park. The overall cumulative effects of the Expanded Use Alternative on the use of paved and unpaved trails throughout the park were therefore estimated to be moderate, adverse, and long- term.

An integrated trails system plan would be developed and implemented under the Expanded Use Alternative, and efforts to increase connectivity with trails systems being developed in the area surrounding the park by local governments would be increased throughout the park as a result. This would constitute a major, beneficial, long- term cumulative effect.

The Expanded Use Alternative would have a moderate, beneficial cumulative long- term influence an individual's decision to walk or ride a bicycle to get to the park, since uses of bicycles would be appropriate in more areas of the park under this alternative. Potential impacts of bicycle trail use would be considered in a trail system management plan that would be developed and implemented.

The cumulative effect of off- road bicycle use on water quality and soil erosion would be moderate, adverse and long- term, since the total amount of bicycle use would be greater than the No Action Alternative. Potential cumulative effects of bicycle use on water quality caused by erosion would be mitigated by implementation of best management practices and efficient design and maintenance standards that would be included in an integrated other management plan.

There would be no irreversible commitment of resources associated with transportation with this alternative. Limited amounts of nonrenewable resources would be used for maintenance of roadways and paved trails, including energy and materials. These resources would be irretrievable once they were committed.

### **Conclusions**

The Expanded Use Alternative would result in a greater level of construction and operation of more facilities, and provide greater access throughout the park corridor in comparison with the No Action Alternative. These effects would be offset by development and implementation of resource and other management plans. The overall direct effect on transportation would be moderate, adverse, and long- term.

Transportation and traffic problems in the park and surrounding area would continue to increase under any of the alternatives, since traffic and transportation patterns and characteristics are largely controlled by factors outside the park. Overall, the Expanded Use Alternative would have moderate, adverse, long- term direct and cumulative effects on transportation and traffic in the park and surrounding area, due to traffic congestion. A number of the roadways that could



be impacted by increased activity at various areas of the park are either scheduled for improvement in the near future or are planned for improvement by 2025. In certain areas, roadways that are currently congested are not planned for improvement, but an alternate facility has been planned, such as the Morgan Falls Bridge. These types of projects could help to relieve localized congestion.

The Expanded Use Alternative would have moderate, long- term direct and cumulative adverse impacts on paved and unpaved trails in the park, since more new trails would be constructed in comparison with the No Action Alternative. An integrated trails system plan would be completed, and efforts to improve connectivity with the surrounding areas would be improved under this alternative. This would result in moderate, beneficial, long- term direct and cumulative effects.

The Expanded Use Alternative would result in more opportunities for bicycle use in comparison with the No Action Alternative. An integrated trails system plan would also be developed and implemented, and erosion associated with off- road bicycle use would decrease over current levels in the park. This would result in moderate, beneficial, long- term direct and cumulative effects on water quality in the park. The overall effects of the Expanded Use Alternative on erosion and water quality degradation related to bicycle use would therefore be moderate, adverse long- term direct and cumulative.

## IMPACTS OF EXPANDED USE ALTERNATIVE ON VISITOR AND COMMUNITY VALUES

### Regulations and Policy

The regulations and policies that guide NPS actions with respect to visitor and community values are presented in the “Servicewide Mandates and Policies” section of this document.

### Analysis

*Visitor Experience* — Under the Expanded Use Alternative, visitors would be provided with the greatest opportunity for facilitated experience in

numerous locations of the park in comparison with the No Action Alternative. Approximately 85% of the park would be designated as natural area recreation zone, cultural resource zone, and developed zone under this alternative. No pristine river zones would be established under this alternative, and 14.38% of the park would be designated as urban primitive zone.

In the developed zones (4.68% of the park acreage under this alternative), visitors would experience relatively low levels of solitude and isolation. This alternative would also provide visitors with the lowest relative degree of challenge and risk with respect to outdoor activities, and would require a relatively low to moderate knowledge of outdoor recreation skills. In comparison with the No Action Alternative, a greater relative amount of facilitated forms of visitor experience such as nature and environmental education would be available in the developed zones located along the length of the park under this alternative as compared to the No Action Alternative. Increased visitor and administration/operations facilities would enhance educational and interpretive experiences and options compared to the No Action Alternative. Visitors would experience more encounters with other people under this alternative.

This alternative would have a moderate, adverse, long- term effect on visitors who value solitude and isolation, and it would have a major, beneficial effect on visitors who value more facilitated experiences and park use compared to the No Action Alternative.

*Recreational Opportunity* — In comparison with the No Action Alternative, the Expanded Use Alternative would provide visitors with the lowest relative potential for experiencing solitude and isolation, and an expanded opportunity for more active forms of recreation experiences such as bicycling, horseback riding, and walking and hiking. Compared to the No Action Alternative, this alternative would provide more trails in the park that are connected with trails outside the park. Approximately 74% of the park would be zoned to emphasize more active forms of recreation, with more acreage designated as natural area recreation zone. The total amount of developed zone would be limited to 4.68% of the



total park acreage, where buildings, roads, parking lots, trails, and other facilities, would be considered appropriate. Only a small portion of the developed zone, however, would actually be disturbed.

Under this alternative, opportunities for enjoying relatively quiet stretches of the river would still be available, but to a lesser extent that would be available under the other two action alternatives or the No Action Alternative because there would be no designated pristine river zone. Large portions of the park corridor would still be available for photography, watching wildlife, and other passive visitor experiences. This alternative would have more facilities and associated recreational opportunities as compared with the No Action and the other two action alternatives.

This alternative would have a moderate, adverse, long- term effect on visitors who value solitude and isolation, and it would have a moderate, beneficial, long- term effect on visitors who value more active forms of recreation, increased park access points and a more social experience.

*Numbers and Types of Visitor Facilities* — The Expanded Use Alternative would result in the construction and operation of more new visitor facilities in the park in comparison with the No Action Alternative. Developed zones would provide visitors with convenient access to the park in the form of roads, parking lots, unpaved trails, trail heads, restrooms, interpretive facilities, and kiosks. In areas between developed zones, visitors could still experience serenity and peace of mind, wildlife viewing, walking and observing nature. However, under the Expanded Use Alternative, fewer of these areas would be available in comparison with the No Action Alternative.

Visitors seeking river experiences would have boat launch access for their rafts, canoes, and boats distributed strategically along the park corridor. A pristine river zone would not be included under this alternative. The overall effect on visitor experience and values would be an increased availability of facilitated experience in developed zones, while still providing opportunities for isolation and solitude in other areas of the park.

Analysis of population projections in the study area indicates that residential growth is expected to

continue near the Chattahoochee River National Recreation Area. For this reason, visitor use is projected to increase under the Expanded Use Alternative. A number of new facilities, parking areas, and roads would be associated with the developed zones along the length of the park corridor. Increased levels of park staff would provide increased opportunities for ranger contact with visitors and availability to conduct environmental and educational programs and interpretive activities. The rangers would be more effectively dispersed, however, in comparison with the No Action Alternative.

This alternative would have a major, beneficial, long- term effect on visitors who value a more facilitated experience and a greater variety of and access to recreational opportunities. It would have a major, adverse, long- term, effect on visitors who value isolation and solitude and a less facilitated experience.

*Traditional Character*— The traditional character of the park would be maintained under the Expanded Use Alternative through changes in management policy, to include development and implementation of resource and other management plans. These changes would include increased communication with visitors, and education programs, and public/private partnerships designed to improve the visitor’s understanding and appreciation of the natural and cultural resources in the park, and to allow for improved management and protection of park resources in comparison with the No Action Alternative. Visitors would have access to a variety of established recreational activities described in the “Affected Environment” section.

Under the Expanded Use Alternative, the potential to develop a more diverse and intense system of visitor information programs, education programs, and public/private partnerships would be greater than the No Action Alternative. Since the park would more effectively identify and manage the protection and preservation of natural and cultural resources, the Expanded Use Alternative would have a major, beneficial, long- term effect on traditional character and experiences in the park. However, this alternative also has a simultaneous potential for having a minor to moderate adverse



effect on traditional park character, since this alternative would involve a greater relative degree of constructed facilities and the highest rates of dispersed visitation. Under these circumstances, the traditional character of the park, including a higher degree of isolation and solitude, experiencing the natural river environment, and similar values, would not be as achievable as compared to the No Action Alternative.

Under the Expanded Use Alternative, none of the proposed park actions would cause conflicts with land use plans, policies, or controls. New park areas could be added under this alternative, but these additions would be agreed to by willing sellers and the National Park Service. In addition, none of the actions that take place inside the park during construction or operation would conflict with land use plans, policies, or controls on the surrounding areas. Development would be limited to eleven developed zones along the entire 48-mile park. Within these zones, only a fraction of the area would be developed for park facilities.

### **Cumulative Impacts**

Growth in the area and pressure to use the park for more active and varied forms of visitor use would increase under all of the alternatives, putting pressure on the park to provide a wider range of visitor experiences. Under the Expanded Use Alternative, the park would provide developed zones that would concentrate visitor activity at a few selected locations. The operation of several new facilities in developed zones would remove those areas for use by visitors who prefer isolation and solitude, but would promote a wider variety of visitor experience, for example, access to a boat ramp or an interpretive facility. This would constitute a major, beneficial, long-term cumulative effect on visitor experience. The developed zones could also include educational facilities (building/kiosks) and centralized access to park rangers and information about park resources that would benefit the community. The intensity of the cumulative effect on visitor experience would therefore be less under this alternative as compared with the No Action Alternative, because there would be developed zones and a wider variety of visitor experiences would be provided. This alternative would therefore result in minor,

adverse, long-term cumulative effects on visitor experience.

Potential adverse cumulative effects on visitor experience associated with the Expanded Use Alternative would be offset by major, beneficial, long-term cumulative effects associated with the development and implementation of expanded education and outreach programs in the park, and resource and other management plans.

Growth in the surrounding area would cause increased pressure on the park to provide more active forms of recreation. In comparison to the No Action Alternative, the cumulative effect of the Expanded Use Alternative would be of lower intensity because it could accommodate the widest variety of recreational opportunities. Consequently, these effects were estimated to constitute minor, adverse, long-term effects on recreational experience. Development and implementation of resource and other management plans would tend to offset potential adverse cumulative effects on recreational opportunities.

Growth in the surrounding area would have a moderate, adverse, long-term cumulative effect on the ability of park management to operate, repair and maintain facilities. Pressure to build more new facilities of different types would also increase cumulatively as growth in the area around the park increases. However, the park could accommodate this situation to some extent because some new facilities would be allowed to be constructed in the developed zones. Because this alternative features developed zones and a greater variety of visitor experience and recreation, this would constitute a minor, adverse, long-term cumulative effect on the numbers and types of park facilities constructed and operated in the park.

Growth in the surrounding area would have a moderate, adverse, long-term, cumulative effect on the traditional character of the park, as pressure for more active forms of recreation increase, and levels of encroachment around the boundaries of the park increase. The relative intensity of the cumulative effect of growth on traditional character of the park would be less than that associated with the No Action Alternative, however, since this alternative can accommodate a



wider variety of visitor experiences and recreational activities. Since these would be centered in the developed zones, the traditional character of the park would be maintained in the majority of the park. In the developed zones, impacts on the traditional character of the park would be minimized through proper site design and location of the developed zones. Some facilities may even be located in urbanized areas outside the park. The overall cumulative effect of this alternative on traditional park character was therefore estimated to be minor, adverse and long-term. Implementation of increased numbers and varieties of education and outreach programs and resource and other management plans would offset potential cumulative effects of growth on traditional character of the park. These programs and plans would result in major, beneficial, long-term cumulative effects on the traditional character of the park.

Under the expanded park boundaries, the park would not only continue to provide significant contributions in terms of regional green space and recreational opportunities, but increase those opportunities as financial resources allow.

## Conclusions

The Expanded Use Alternative would have beneficial or adverse effects on the visitor's recreational experience depending on each person's individual values. The Expanded Use Alternative would provide a major beneficial effect on visitors who value some degree of developed facilities, while simultaneously being able to also have access to and enjoy natural areas of the park. This alternative would have a minor, adverse, long-term, direct effect on visitors who value solitude and isolation since the provision of facilities would draw people to the developed zones. Under the Expanded Use Alternative, visitors could experience solitude in the majority of the park, but would also be provided with other types of experiences and facilities primarily located in the developed zones. A greater relative number and diverse of park facilities would be available to visitors under the Expanded Use Alternative in the developed zones in comparison with the No Action Alternative. The more efficient and cohesive working environment that this alternative would

provide for park staff, and dispersed park ranger presence would result in better service to park visitors throughout the park. Compared to the No Action Alternative, there would be additional types of recreational experiences, easier access to trailheads and the river, while simultaneously providing the opportunity for isolation and solitude in other areas of the park.

Improvement to visitor facilities and facilities used for administration and operations would enhance educational and interpretive experiences as compared to the No Action Alternative.

## SUSTAINABILITY AND LONG- TERM MANAGEMENT

The National Environmental Policy Act (sec. 101 (b)), and the National Park Service Organic Act require an assessment of the potential of each alternative to produce long- term impacts and the potential of foreclosing future options that are available to the National Park Service with regard to managing each park. An alternative is required to allow for sustainable development, which is defined as an action that meets the needs of the present without compromising the ability of future generations to meet their needs (*World Commission on Environment and Development* in National Park Service 2001a). This section addresses the following three components of the sustainability assessment.

### **The Relationship Between Local Short-Term Uses of The Environment and The Maintenance and Enhancement of Long- Term Productivity - National Environmental Policy Act (sec. 102 (c) (iv))**

Existing problems related to growth in the surrounding urban and suburban area and watershed are likely to continue with the growth in population, putting additional pressures on the natural and cultural resources in the park. As demand for recreation in the park grows, the long-term protection and enjoyment of park resources could be jeopardized. Despite implementation of a management strategy to provide more comprehensive protection of cultural and natural resources, there would likely continue to be



instances where resources are disturbed by visitors exploring these sites. These impacts would be avoidable only if human use were not allowed in the park. Mitigation measures would be taken where possible to reduce these impacts. Improving the management of natural and cultural resources, along with enhancing research and education activities within the park, and establishing public/private partnerships would contribute to the long-term protection and preservation of resources. Increased coordination with local agencies and other agency cooperative initiatives for resource and use management would further enhance resource protection and preservation. The development of new facilities would support the National Park Service mission while avoiding adverse cumulative impacts to ecosystems or resources. Short-term degradation of local water quality during construction projects would largely be prevented by best management practices. Short-term localized soil erosion (largely prevented by best management practices) and degradation of plant communities along trail construction corridors would be offset by long-term reductions in soil erosion resulting from the repair or realignment of poorly designed or damaged trails.

**Any Irreversible or Irrecoverable Commitments of Resources That Would Be Involved If The Alternative Were Implemented - National Environmental Policy Act (sec. 102(c)(v))**

The National Environmental Policy Act and the National Park Service define irreversible impacts as those effects that cannot be changed over the long term or are permanent (National Park Service 2001a). An effect to a resource is irreversible if the resource cannot be reclaimed, restored, or otherwise returned to its condition before the disturbance. An irrecoverable commitment of resources refers to the effects to resources that, once gone, cannot be replaced. There would be a potential for irreversible or irrecoverable commitments of cultural resources under the Expanded Use Alternative. The implementation of a management strategy to provide comprehensive protection of cultural resources along with other natural resource protection measures would further reduce but not entirely eliminate the risk that visitors might disturb these resources. In addition, limited amounts of nonrenewable

resources would be used for construction of projects and park operations, including energy and materials. These resources would be irretrievable once they were committed. Financially, the Expanded Use Alternative would require funding to accomplish its goals.

**Any Adverse Impacts That Could Not Be Avoided If the Action Were Implemented - National Environmental Policy Act (sec. 101(c) (ii))**

The National Environmental Policy Act and National Park Service policy define adverse impacts as those that cannot be fully mitigated or avoided. Where construction activities disturbed cultural resource sites, data recovery and conservation efforts would partly mitigate impacts. However, the disturbance could result in some irretrievable and irreversible loss of archeological resources. There would be unavoidable adverse impacts on natural and cultural resources under the Expanded Use Alternative as a result of the increasing development outside the park that, with limited resources, tax the park staff's ability to effectively carry out resource protection measures. Mitigation measures would be taken, where resources allow, to reduce these impacts. In addition to the above unavoidable impacts, staff increases and increased facility support would require additional operational funding.



## RECOMMENDATIONS FOR FUTURE PLANNING EFFORTS

Several issues are of concern to park managers and visitors at the Chattahoochee River National Recreation Area that are not fully addressed in this General Management Plan due to lack of detailed existing information. The General Management Plan provides some direction and lays the groundwork for addressing these issues; however, future implementation plans will provide specific directions and actions that address these issues. These more detailed implementation plans will describe how the National Park Service will achieve the desired conditions outlined in the General Management Plan. Opportunities for public input would be provided during the development of these implementation plans.

### **Cultural Resources**

Unmanaged visitor use at archeological or historic sites may impact the integrity and scientific and cultural value of these sites. The nature and extent of these impacts is difficult to assess because baseline data on site conditions in the park are often unavailable or incomplete. In recent years, park staff have begun to locate park resources for evaluation purposes. Long-term protective strategies are needed for significant sites to avoid impact by visitors and/or park management activities. Park managers must maintain historic buildings on an ongoing basis (i.e., periodic maintenance and rehabilitation) to ensure that conditions are suitable for National Register eligibility. A resource management plan would address these issues.

The park's museum collections are maintained at the Southeast Archeological Center. In addition, some collections are held at the park. A Collections Management Plan would address collections for the park in a comprehensive manner.

### **Natural Resources**

Impacts on water quality and terrestrial resources have occurred in parts of the park due to recreational use, pipeline crossings, and development outside the park. Changes in water quality and water flows may have major effects on

park resources and visitors, as documented in the existing water resources management plan. The park is currently implementing recommendations from this plan. Sensitive habitats and species have not been thoroughly identified throughout the park. Long-term protective strategies are needed for these species and habitats to avoid impact by visitors and/or park management activities. Protection, study, and management of the park's natural resources and processes are essential for achieving the park's purposes and mission. A park wide resource management plan will address these issues and other scientific and legal requirements to promote understanding and management of park resources. This management plan would provide details on the strategies and actions necessary to address the park's most important resource management problems and research needs.

### **Fisheries Management**

The Chattahoochee River is a popular fishing destination and is perhaps the most southern trout fishery within the nation. The State of Georgia has an active stocking program within the river. The primary stocked species are rainbow and brown trout, both not native to the Chattahoochee River. Water released from Buford Dam is colder than what would occur naturally. This is due to releases of cold water from bottom layers of Lake Lanier. This cold-water release downstream of Buford Dam creates the ability to sustain an exotic trout fishery. It is believed that many of the native fish species within the main stem of the river have been greatly impacted or extirpated due to the unnaturally cold temperatures resulting from the operation of Buford Dam.

National Park Service Management Policies provide some guidance in fisheries management, and these policies, in concert with cooperative efforts with the State of Georgia should be outlined and defined in a fisheries management plan that would tier to the General Management Plan. The fisheries management plan would address the affects of maintaining the exotic fish/fisheries in relation to native populations and resources. Additional data would be collected concerning



existing native species. Goals would be established in cooperation with the State of Georgia detailing specific projects and activities to be conducted to protect aquatic resources and prevent resource degradation. Where feasible, specific measures would be identified to restore aquatic habitat and water quality to support the reintroduction of native aquatic species.

### **Integrated Trail System Plan**

The National Park Service is currently developing recommendations for a trail system that will tier to the GMP/EIS. The plan will consider design criteria, regulatory requirements, schedule and costs. The plan will consider design criteria and integrate local environmental requirements such as MRPA, appropriate buffers, and floodplain, wetland, and sensitive resource avoidance. Existing trails in the park will be mapped and a database will be created. Park managers have been meeting with local, state and federal agencies and based upon other existing and planned trails in the vicinity of the park, recommendations for linkages along the park corridor will be made. Opportunities for public input will be provided.

### **Commercial Services Plan**

Commercial visitor services planning will identify the appropriate role of commercial operations in the park. This level of planning will assist the park to achieve the desired visitor experiences identified in the General Management Plan, and integrate the results into other plans and planning processes. The concession management plan or commercial services plan will support the park's purpose and significance, resource values, and visitor experience objectives and be consistent with the enabling legislation. The commercial services plan and other implementation plans will also identify whether proposed concession facilities and services are necessary and appropriate, and will consider alternatives.

### **Partnering**

The Chattahoochee River National Recreation Area is uniquely tied to the surrounding communities, and as such is part of a greater social, political, ecological, and historical fabric of the

area. The National Park Service must consider how its actions in the park affect the surrounding environment and society. Partnering opportunities should be identified within all future planning and implementation projects. The park will be managed in a manner that proactively resolves external issues and concerns to ensure that park values are not compromised. In order to accomplish this, resources and strategies are needed to establish and foster partnerships with public and private organizations to achieve the purposes and mission of the park.

Partnerships will be sought for resource protection, research, education, and visitor enjoyment purposes. Partnerships are necessary with local, state, and federal agencies and organizations in programs that have importance within and beyond park boundaries. Park managers will be able to use these partnerships to better adapt to changing ecological and social conditions within and external to the park and coordinate regional planning and land management as it affects the park. Some partnerships could be facilitated with local governments in the form of specialized overlay zoning, thereby buffering property adjacent to the park. Attending, or bordering area governments could consider changes to their comprehensive plans to address land use, zoning, permitting and regulatory issues within the view shed of the park. The combined effect of a unified strategy would be an effective public private partnership for increasing values and for preserving the park resources. Creating new economic, environmental and educational partnerships are integral to the success of the park.

### **Boundary Expansion Feasibility Study**

Public Law 95- 625, the National Parks and Recreation Act of 1978, Section 604(b)(4), requires the National Park Service to consider potential modifications to the external boundaries of units of the National Park System as part of the General Management Plan process. The basic servicewide policy document for the National Park Service, NPS Management Policies 2001, incorporates this legal mandate into the planning process, by identifying and evaluating boundary adjustments that may be necessary or desirable in order to carry



out the purposes of the park unit. Boundary adjustments may be recommended to:

Protect significant resources and values, or to enhance opportunities for public enjoyment related to park purposes;

Address operational and management issues, such as the need for access or the need for boundaries to correspond to logical boundary delineations such as topographic or other natural features or roads; or

Otherwise protect park resources that are critical to fulfilling park purposes.

The Chattahoochee River National Recreation Area can meet this requirement of the General Management Plan process by joining a partnership of private, State, and local government entities committed to protection of green space in the Chattahoochee River corridor downstream (south) of the current National Recreation Area boundary. The Chattahoochee Hill Country Alliance is a nonprofit 501(c)(3) association of private landowners who are partnering with the Georgia legislature and a coalition of seven Georgia counties, the Georgia Department of Natural Resources, the Trust for Public Land, the Georgia Conservancy, the University of Georgia, the Georgia Institute of Technology, the Atlanta Regional Commission and others, has led efforts to protect the river corridor in the region south of Atlanta. In addition to this effort, a tri-county study has just been completed that identified protection of the river from the existing Park boundary southward on the river corridor to the Chattahoochee Hill Country boundary. This study and others by the Chattahoochee Hill Country identify the existing opportunities for expansion of the Park. The Chattahoochee Hill Country has approached the National Park Service for assistance to protect the natural areas of the river corridor southwest of the Chattahoochee River National Recreation Area.

A boundary study is needed to evaluate the resources and costs associated with the potential expansion of the Chattahoochee River National Recreation Area boundary south into the Chattahoochee Hill Country. The study area should include the Chattahoochee Hill Country which is approximately 70 miles downstream from

the existing southern boundary of the Park and north of West Point Lake. The Chattahoochee Hill Country has 25 miles of river corridor within its boundary and 40,000 acres of land that will develop according to sustainable design guidelines; saving at least 60% of the land as undeveloped green space. Authority and funding should be sought for this study.

### **Tracking Cumulative Effects**

Central to the natural and cultural resources management is long-term monitoring of the change in condition of natural and cultural resources and related human influences. A planned monitoring program would document improvement or degradation of resources and visitor experiences. The tracking, or monitoring of these changes promotes increased understanding of park resources, natural processes, and human interactions with the environment.



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## CONSULTATION AND COORDINATION

### HISTORY OF PUBLIC INVOLVEMENT

The purpose of the general management plan and environmental impact statement is to present a plan for managing the Chattahoochee River National Recreation Area for the next fifteen years. General management plans represent the broadest level of planning conducted by the National Park Service, and are intended to provide guidance for making informed decisions about the future of the park and specify resource conditions and visitor experiences to be achieved. The GMP/EIS process involves many steps including: identification and confirmation of the park purpose, significance and mission goals; acknowledgement of special mandates, laws, and policies; involvement of the public and identification of issues; development of alternatives; and impact analysis.

The intent of the GMP/EIS scoping process is to provide for early identification of concerns, issues, expectations, and values of existing and potential visitors, neighbors, cooperating associations, partners, scientists, scholars, and other government agencies. Public input gathered during the scoping process is used to assess and compare the effects of each available management alternative.

A scoping letter was mailed to local, state and federal agency representatives, tribal representatives and the public that contained information on the function of a general management plan, statements of the park purpose and significance, information on the planning team and the process for planning, and methods available to the public for communicating with the team and participating in the planning effort. The public was invited to voice issues and suggest ideas for the future of the park at six public scoping meetings held in October 2000 and over a 60 day comment period. Over 200 written comments were received. A majority of the comments expressed concerns about access, facility needs throughout the park, habitat preservation, environmental impacts, different types of use, trails, education, boundaries, fisheries and fishing, and enforcement. In addition, over 20 meetings were also held with more than 50 area Planning and Greenspace

Directors and local, State, and Federal agency representatives.

Information from the scoping meetings was used to develop a range of desired future conditions, or prescriptions for the park. Based on the results of the planning process, three management alternatives were developed: Focus on Solitude, Centralized Access, and Expanded Use. In addition, the No Action alternative was also included for analysis. These alternatives were the result of mapping management prescriptions, or kinds and levels of management and use. Each of the alternatives for the park consists of multiple zones with different management prescriptions.

Newsletters and other planning information are available on the project website (<https://www.npsplanning.org>) to provide the public with information about the planning process and status of the plan. A series of public meetings will be held in during the summer of 2004 to provide information on the alternatives and solicit public feedback on the Draft GMP/EIS.



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A summary table of the list of recipients is provided  
in Appendix H.



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## **GLOSSARY OF TERMS**



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## GLOSSARY OF TERMS

The controlling definitions for terms under the President's Council on Environmental Quality National Environmental Policy Act regulations are contained at 40 Code of Federal Regulations; the numbers in parentheses refer to the appropriate section. These definitions are provided as a supplement to those regulatory definitions.

**Categorical exclusion** (1508.4)—An action with no measurable environmental impact which is described in one of the categorical exclusion lists in section 3- 3 or 3- 4 and for which no exceptional circumstances (section 3- 5) exist.

**Connected actions** (1508.25)—Actions that are closely related. They automatically trigger other actions that have environmental impacts, they cannot or will not proceed unless other actions have been taken previously or simultaneously, or they are interdependent parts of a larger action and/or depend on the larger action for their justification.

**Conservation planning and impact assessment**—Within the National Park Service, this process is synonymous with the National Environmental Policy Act process. This process evaluates alternative courses of action and impacts so that decisions are made in accord with the conservation and preservation mandate of the NPS Organic Act.

**Cooperating agency** (1508.5)—A federal agency other than the one preparing the National Environmental Policy Act document (lead agency) that has jurisdiction over the proposal by virtue of law or special expertise and that has been deemed a cooperating agency by the lead agency. State or local governments, and/or Indian tribes, may be designated cooperating agencies as appropriate (see 1508.5 and 1502.6).

**Cultural resources** (NPS- 28, appendix A)—Aspects of a cultural system that are valued by or significantly representative of a culture or that contain significant information about a culture. A cultural resource may be a tangible entity or a cultural practice. Tangible cultural resources are categorized as districts, sites, buildings, structures, and objects for the National Register of Historic Places, and as archeological resources, cultural landscapes, structures, museum objects, and ethnographic resources for NPS management purposes.

**Cumulative actions** (1508.25)—Actions that, when viewed with other actions in the past, the present, or the reasonably foreseeable future, regardless of who has undertaken or will undertake them, have an additive impact on the resource the proposal would affect.

**Cumulative impact** (1508.7)—The impacts of cumulative actions.

**Direct effect** (1508.8)—An impact that occurs as a result of the proposal or alternative in the same place and at the same time as the action.

**Environmental assessment** (1508.9)—A brief National Environmental Policy Act document that is prepared to (a) help determine whether the impact of a proposal or alternatives could be significant; (b) aid the National Park Service in compliance with the National Environmental Policy Act by evaluating a proposal that will have no significant impacts, but that may have measurable adverse impacts; or (c) evaluate a proposal that either is not described on the list of categorically excluded actions, or is on the list but exceptional circumstances (section 3- 5) apply.

**Environmental impact statement** (1508.11)—A detailed National Environmental Policy Act document that is prepared when a proposal or alternatives have the potential for significant impact on the human environment.

**Environmental screening process**—The analysis that precedes a determination of the appropriate level of National Environmental Policy Act documentation. The minimum requirements of the environmental screening process are a site visit,



consultation with any agency that has jurisdiction by law or special expertise, and the completion of a screening checklist. The process must be complete for all NPS actions that have the potential for environmental impact and are not described in section 3-3.

**Environmentally preferred alternative** (1505.2, Q6a)—Of the alternatives analyzed, the one that would best promote the policies in the National Environmental Policy Act section 101. This is usually selected by the interdisciplinary team members. It is presented in the NPS National Environmental Policy Act document (draft and final environmental assessment or environmental impact statement) for public review and comment.

**Exceptional circumstances**—Circumstances that, if they apply to a project described in the NPS categorical exclusion lists (sections 3-3 and 3-4), mean a categorical exclusion is inappropriate and an environmental assessment or an environmental impact statement must be prepared because the action may have measurable or significant impacts. Exceptional circumstances are described in section 3-5.

**Finding of no significant impact (FONSI)** (1508.13)—A determination based on an environmental assessment and other factors in the public planning record for a proposal that, if implemented, would have no significant impact on the human environment.

**Human environment** (1508.14)—Defined by the Council on Environmental Quality as the natural and physical environment, and the relationship of people with that environment (1508.14). Although the socioeconomic environment receives less emphasis than the physical or natural environment in the Council on Environmental Quality regulations, the National Park Service considers it an integral part of the human environment.

**Impact topics**—Specific natural, cultural, or socioeconomic resources that would be affected by the proposed action or alternatives (including no action). The magnitude, duration, and timing of the effect to each of these resources are evaluated in the impact section of an environmental assessment or environmental impact statement.

**Indirect impact** (1508.8)—Reasonably foreseeable impacts that occur removed in time or space from the proposed action. These are “downstream” impacts, future impacts, or the impacts of reasonably expected connected actions (e.g., growth of an area after a highway to it is complete).

**Issues**—In the National Environmental Policy Act, issues are environmental, social, and economic problems or effects that may occur if the proposed action or alternatives (including no action) are implemented or continue to be implemented.

**Lead agency** (1508.16)—The agency either preparing or taking primary responsibility for preparing the National Environmental Policy Act document.

**Life Cycle Costing (Analysis)**—An accounting method that analyzes the total costs of a product or service, including construction, maintenance, manufacturing, marketing, distribution, useful life, salvage, and disposal.

**Major federal action** (1508.18)—Actions that have a large federal presence and that have the potential for significant impacts to the human environment. They include adopting policy, implementing rules or regulations; adopting plans, programs, or projects; ongoing activities; issuing permits; or financing projects completed by another entity.

**Memo to file**—A memo to the planning record or statutory compliance file that NPS offices may complete when (a) National Environmental Policy Act has already been completed in site-specific detail for a proposal, usually as part of a document of larger scope, or (b) a time interval has passed since the National Environmental Policy Act document was approved, but information in that document is still accurate.

**Mitigated Environmental Assessment** (Q40)—An environmental assessment that has been rewritten to incorporate mitigation into a proposal or to change a proposal to reduce impacts to below significance.



**Mitigation** (1508.20)—A modification of the proposal or alternative that lessens the intensity of its impact on a particular resource.

**National Environmental Policy Act process**—The objective analysis of a proposal to determine the degree of its environmental and interrelated social and economic impacts on the human environment, alternatives and mitigation that reduce that impact, and the full and candid presentation of the analysis to, and involvement of, the interested and affected public.

**Notices of availability**—Separate notices submitted to the *Federal Register* that the draft environmental impact statement and the final environmental impact statement are ready for distribution.

**Notice of intent** (1508.22)—The notice submitted to the *Federal Register* that an environmental impact statement will be prepared. It describes the proposed action and alternatives, identifies a contact person in the National Park Service, and gives time, place, and descriptive details of the agency’s proposed scoping process.

**Preferred alternative** (1502.14 (e))—The alternative an NPS decision- maker has identified as preferred at the draft environmental impact statement stage or environmental assessment. Identification of the preferred alternative helps the public focus its comments during review of the National Environmental Policy Act document.

**Programmatic documents**—Broader scope environmental assessments or environmental impact statements that describe the impacts of proposed policy changes, programs, or plans.

**Proposal** (1508.23)—The stage at which the National Park Service has a goal and is actively preparing to make a decision on one or more alternative means of accomplishing that goal. The goal can be a project, plan, policy, program, and so forth. The National Environmental Policy Act process begins when the effects can be meaningfully evaluated.

**Record of decision** (1505.2)—The document that is prepared to substantiate a decision based on an environmental impact statement. It includes a statement of the decision made, a detailed discussion of decision rationale, and the reasons for not adopting all mitigation measures analyzed, if applicable.

**Scoping** (1508.25)—Internal NPS decision- making on issues, alternatives, mitigation measures, the analysis boundary, appropriate level of documentation, lead and cooperating agency roles, available references and guidance, defining purpose and need, and so forth. External scoping is the early involvement of the interested and affected public.

**Tiering** (1508.28)—The use of broader, programmatic National Environmental Policy Act documents to discuss and analyze cumulative regional impacts and define policy direction, and the incorporation by reference of this material in subsequent, narrower documents to avoid duplication and focus on issues “ripe for decision” in each case.

**Vessel**—Under 36 Code of Federal Regulations 1.4, vessels are defined as every type or description of craft, other than a seaplane on the water, used or capable of being used as a means of transportation on water, including a buoyant device permitting or capable of free flotation.



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## **APPENDIX A**

### **LIST OF RELEVANT LEGISLATION**



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## APPENDIX A: LIST OF RELEVANT LEGISLATION

Laws and executive orders that apply to the management of the Chattahoochee River National Recreation Area are provided below.

### NATIONAL PARK SERVICE ENABLING LEGISLATION

Act of August 25, 1916 (National Park Service Organic Act); Public Law 64- 235; 16 United States Code Section 1 *et seq.* as amended

Reorganization Act of March 3, 1933; 47 Stat. 1517

General Authorities Act, October 7, 1976; Public Law 94- 458; 90 Stat. 1939; 16 United States Code 1a- 1 *et seq.*

Act amending the Act of October 2, 1968 (commonly called Redwoods Act), March 27, 1978; Public Law 95- 250; 92 Stat. 163; 16 United States Code Subsection(s) 1a- 1, 79a- q

National Parks and Recreation Act, November 10, 1978; Public Law 95- 625; 92 Stat. 3467; 16 United States Code 1 *et seq.*

### OTHER LAWS AFFECTING NPS OPERATIONS

#### Accessibility

Americans with Disabilities Act; Public Law 101- 336; 104 Stat. 327; 42 United States Code 12101

Architectural Barriers Act of 1968; Public Law 90- 480; 82 Stat. 718; 42 United States Code 4151 *et seq.*

Rehabilitation Act of 1973; Public Law 93- 112; 87 Stat. 357; 29 United States Code 701 *et seq.* as amended by the Rehabilitation Act Amendments of 1974; 88 Stat. 1617

#### Cultural Resources

American Indian Religious Freedom Act; Public Law 95- 341; 92 Stat. 469; 42 United States Code 1996

Antiquities Act of 1906; Public Law 59- 209; 34 Stat. 225; 16 United States Code 432; 43 Code of Federal Regulations 3

Archaeological and Historic Preservation Act of 1974; Public Law 93- 291; 88 Stat. 174; 16 United States Code 469

Archaeological Resources Protection Act of 1979; Public Law 96- 95; 93 Stat. 712; 16 United States Code 470aa *et seq.*; 43 Code of Federal Regulations 7, subparts A and B; 36 Code of Federal Regulations 79

Indian Sacred Sites. Executive Order 13007. 3 Code of Federal Regulations 196 (1997).

National Historic Preservation Act as amended; Public Law 89- 665; 80 Stat. 915; 16 United States Code 470 *et seq.*; 36 Code of Federal Regulations 18, 60, 61, 63, 68, 79, 800

Protection of Historic and Cultural Properties, Executive Order 11593; 36 Code of Federal Regulations 60, 61, 63, 800; 44 Federal Register 6068



Public Buildings Cooperative Use Act of 1976; Public Law 94- 541; 90 Stat. 2505; 42 United States Code 4151- 4156

## Natural Resources

Analysis of Impacts on Prime or Unique Agricultural Lands in Implementing the National Environmental Policy Act; E.S. 80- 3, 08/11/80, 45 Federal Register 59109

Clean Air Act as amended; Public Law Chapter 360; 69 Stat. 322; 42 United States Code 7401 *et seq.*

Coastal Zone Management Act of 1972 as amended; Public Law 92- 583; 86 Stat. 1280; 16 United States Code 1451 *et seq.*

Endangered Species Act of 1973, as amended; Public Law 93- 205; 87 Stat. 884; 16 United States Code 1531 *et seq.*

Executive Order 11988: Floodplain Management; 42 Federal Register 26951; 3 Code of Federal Regulations 121 (Supp 177)

Executive Order 11990: Protection of Wetlands; 42 Federal Register 26961; 3 Code of Federal Regulations 121 (Supp 177)

Executive Order 11991: Protection and Enhancement of Environmental Quality

Federal Insecticide, Fungicide, and Rodenticide Act; Public Law 92- 516; 86 Stat. 973; 7 United States Code 136 *et seq.*

Federal Water Pollution Control Act (commonly referred to as Clean Water Act); Public Law 92- 500; 33 United States Code 1251 *et seq.* as amended by the Clean Water Act; Public Law 95- 217

Fish and Wildlife Coordination Act of 1958 as amended; Public Law 85- 624; 72 Stat. 563; 16 United States Code 661 *et seq.*

Migratory Bird Conservation Act; Public Law Chapter 257; 45 Stat. 1222; 16 United States Code 715 *et seq.*

Migratory Bird Treaty Act of 1918; Public Law 186; 40 Stat. 755

National Environmental Policy Act of 1969; Public Law 91- 190; 83 Stat. 852; 42 United States Code 4321 *et seq.*

National Park System Final Procedures for Implementing Executive Order. 11988 and 11990 (45 Federal Register 35916 as revised by 47 Federal Register 36718)

Protection and Enhancement of Environmental Quality; Executive Order 11514 as amended, 1970; Executive Order 11991; 35 Federal Register 4247; 1977; 42 Federal Register 26967)

Resource Conservation and Recovery Act; Public Law 94- 580; 30 Stat. 1148; 42 United States Code 6901 *et seq.*

Rivers and Harbors Act of 1899; 33 United States Code Chapter 425, as amended by Public Law 97- 332, October 15, 1982 and Public Law 97- 449; 33 United States Code 401- 403

Water Resources Planning Act of 1965 (Public Law 89- 80; 42 United States Code 1962 *et seq.*) and Water Resource Council's Principles and Standards; 44 Federal Register 723977

Watershed Protection and Flood Prevention Act; Public Law 92- 419; 68 Stat. 666; 16 United States Code 100186



**Other**

Administrative Procedures Act; 5 United States Code 551- 559, 701- 706

Concessions Policy Act of 1965; Public Law 89- 249; 79 Stat. 969; 16 United States Code 20 *et seq.*

Department of Transportation Act of 1966; Public Law 89- 670; 80 Stat. 931; 49 United States Code 303

Energy Supply and Environmental Coordination Act of 1974

Executive Order 12003: Energy Policy and Conservation; 3 Code of Federal Regulations 134 (Supp 1977); 42 United States Code 2601

Executive Order 12008: Federal Compliance with Pollution Control Standards

Executive Order 12372: Intergovernmental Review of Federal Programs; 47 Federal Register 30959

Forest and Rangeland Renewable Resources Planning Act; Public Law 95- 307; 92 Stat. 353; 16 United States Code 1600 *et seq.*

Freedom of Information Act; Public Law 93- 502; 5 United States Code 552 *et seq.*

Intergovernmental Cooperation Act of 1968; Public Law 90- 577; 40 United States Code 531- 535 and 31 United States Code 6501- 6508

Intergovernmental Coordination Act of 1969; 42 United States Code 4101, 4231, 4233

Noise Control Act of 1972 as amended; Public Law 92- 574; 42 United States Code 4901 *et seq.*

Outdoor Recreation Coordination Act of 1963; Public Law 88- 29; 77 Stat. 49

Payment in Lieu of Taxes Act; Public Law 94- 565; 90 Stat. 2662; 31 United States Code 6901 *et seq.*

Surface Transportation Assistance Act of 1982; 96 Stat. 2097; 23 United States Code 101; and many others

Wildfire Disaster Recovery Act; Public Law 101- 286



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**APPENDIX B**

**PARK- SPECIFIC SPECIAL MANDATES**

**AND COMMITMENTS**



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## APPENDIX B: PARK- SPECIFIC SPECIAL MANDATES AND COMMITMENTS

This section provides an overview of the special mandates and commitments that are specific to the management of the Chattahoochee River National Recreation Area. The following is a summary of key information on laws and regulations that have been enacted to manage the impact of activities along the Chattahoochee River corridor.

### ENABLING LEGISLATION

The Act of August 15, 1978 (Public Law 95- 344) established the Chattahoochee River National Recreation Area and its boundaries, providing for the preservation and the protection of the natural, scenic, recreational, and historical values of the river. As created in the act, the recreation area consists of the river and its bed together with lands, waters, and interests therein, along the 48- mile corridor from Buford Dam to Peachtree Creek. The Act of October 30, 1984 (Public Law 98- 568) increased the park size from 6,300 acres to 6,800 acres. The Secretary of the Interior may make minor revisions to the boundary map to facilitate access to the recreation area.

In 1999, a bill was passed that approved addition of approximately 3,200 acres to the existing 6,800 acre park. Parcels within the new areas are currently being acquired by the National Park Service as they are negotiated with property owners. However, under this legislation, the National Park Service can only acquire land from willing sellers.

### EROSION AND SEDIMENTATION ACT

The State of Georgia Erosion and Sedimentation Act (OCGA 12- 7- 1) provides a mechanism for controlling erosion and sedimentation from land- disturbing activities by establishing a permit process. To receive a permit, an applicant must submit an erosion and sedimentation control plan which incorporates best management practices. Local governments, with oversight by the Georgia Environmental Protection Division and the area Soil and Water Conservation District, are primarily responsible for implementing the act. State law directs local governments to enact erosion and sedimentation ordinances, granting the local government the authority to issue permits for land- disturbing activities. Stream buffer zone requirements under the Erosion and Sedimentation Act state that land- disturbing activities shall not be conducted within:

- 25 feet of any state waters. Construction of drainage structures are allowed in the buffer zone and a variance may be granted by the director of the Environmental Protection Division; and
- 100 feet of trout streams. Variance may be granted by the director of the Environmental Protection Division.

Cobb County has adopted more stringent minimum requirements for the control of erosion and sedimentation. As established in the Official Code of Cobb County, in addition to the 25- foot buffer for any state waters, land disturbing activities shall not be conducted within:

- 50 feet of the banks of any stream in Cobb County, as defined on the Cobb County Stream Buffer Map dated June 8, 1999, where total watershed area intercepted is less than or equal to 5 square miles;
- 75 feet of the banks of any stream in Cobb County where total watershed area intercepted is equal to 5 square miles and less than or equal to 10 square miles;
- 100 feet of the banks of any stream in Cobb County where total watershed area intercepted is greater than 10 square miles; and
- 200 feet of the banks of Nickajack Creek, from Church Road downstream to its confluence with Mill Creek and from Buckner Road downstream to its confluence with the Chattahoochee River.

Cobb County also requires that developers complete BMP training before they can receive a land- disturbing permit.



## METROPOLITAN RIVER PROTECTION ACT

The Metropolitan River Protection Act (OCGA 12- 5- 440) was enacted in 1973 in recognition of both the value of the Chattahoochee River as a resource and its vulnerability to impacts from urban development. The act created a protection corridor encompassing all land within 2,000 feet of either bank of the Chattahoochee River for the 48 miles between Buford Dam and Peachtree Creek. In 1998, the Georgia General Assembly amended the act, extending the corridor another 36 miles to the downstream limits of the Atlanta Region in Fulton and Douglas Counties. The following local jurisdictions have land in the corridor: Cobb, Fulton, Gwinnett, Forsyth, and Douglas counties and the cities of Atlanta, Roswell, Berkeley Lake, Duluth, Suwanee, and Sugar Hill.

The Metropolitan River Protection Act directed the Atlanta Regional Commission to develop the Chattahoochee Corridor Plan establishing several criteria to minimize the impact of development of land along the river. The Metropolitan River Protection Act and the Chattahoochee Corridor Plan require that all land- disturbing activity within the protected corridor be reviewed and approved before the activity begins. The Atlanta Regional Commission is responsible for reviewing applications for land- disturbing activities and determining whether they are consistent with the Corridor Plan. Local governments then issue approvals based on commission findings, monitor development activities, and enforce the act if required. The Atlanta Regional Commission monitors local implementation and enforcement of the act. In Forsyth County, reviews are conducted and local implementation monitored by the Georgia Mountains Regional Development Center.

All land- disturbing activities must be consistent with the corridor plan. The corridor plan establishes three sets of standards:

**Vulnerability Standards:** All land in the corridor is in one of six vulnerability categories (A- F) based on the land's susceptibility to development impacts. Vulnerability categories limit development by restricting the percentage of an area that can be disturbed and the percentage that can be converted to impervious surfaces. Percentages range from 90 percent maximum land disturbance and 75 percent maximum impervious surface in the least restrictive category (A) to 10 percent maximum land disturbance and 2 percent impervious surface in the most restrictive category (F).

**Buffer Zone Standards:** Buffer zone standards require an undisturbed, natural vegetative buffer within 50 feet of the Chattahoochee River and prohibit all impervious surfaces within 150 feet of the river. Natural vegetative buffers are also required within 35 feet of designated tributaries (those shown as blue lines on 1:24,000 scale USGS topographic maps).

**Floodplain Standards:** Fill in the river's 100- year floodplain must be balanced with an equal volume of cut so that there is not a reduction in flood storage. Obstruction of flood flow is prohibited in this area. Within the river's 500- year floodplain, building height is limited to 35 feet above the existing grade.

## TRIBUTARY BUFFER ORDINANCES

The Metropolitan River Protection Act was amended in 1983 to require adoption of tributary buffer ordinances by jurisdictions that are outside of the corridor but have streams tributary to the corridor portion of the Chattahoochee River. Outside the corridor, tributary buffer ordinances are locally adopted and administered, with the width determined by individual jurisdiction. Buffer widths must be at least 25 feet, the minimum buffer for state waters under the Erosion and Sedimentation Act. Some localities have established larger buffers, such as:

South Fulton County has adopted the "South Fulton County Tributary Protection Ordinance," which requires that a 75-foot natural vegetative buffer be maintained on each side of all tributaries in unincorporated Fulton County south of the corporate city limits of Atlanta. An additional 25 feet of impervious surface setback shall be maintained adjacent to and outside of all required natural vegetative buffers.

North Fulton County has established the "Chattahoochee River Corridor Tributary Protection Area," which extends 35 feet on either side of all tributaries of the Chattahoochee River.

The official code of Cobb County requires that land- disturbing activities not be constructed within 50 to 200 feet of the banks of any stream in Cobb County.

Forsyth County requires a 50- foot natural vegetative buffer and a 75- foot impervious surface setback.



The city of Roswell has adopted a Chattahoochee Tributary Map that establishes tributary protection areas, requiring a minimum buffer of 50 feet with a 100- foot buffer along Big Creek and its tributaries.

The city of Alpharetta requires a 100- foot vegetative buffer and a 150- foot impervious surface setback.

## PROTECTION OF WATER SUPPLY WATERSHEDS

A water supply watershed is an area of land within the drainage basin upstream of a public drinking water intake. To help protect surface water supplies, the Georgia Planning Act of 1989 (OCGA 12- 2- 8) directs steps to protect the quality and quantity of water available from watersheds used for public water supply. Minimum criteria for the protection of water supply watersheds have been established in the Environmental Protection Division's Rules for Environmental Planning Criteria (Chapter 391- 3- 16).

Criteria for protection of surface water supplies require buffer zones and setbacks around streams and a maximum impervious surface density. The specific standards to be applied depend on the distance from the water intake and the size of the watershed. For streams within seven miles upstream of the water supply intake, a 100- foot vegetative buffer is required with a 150- foot impervious surface setback. Outside a seven- mile radius upstream of the water supply intake, the buffer and impervious surface setback requirements are 50 feet and 75 feet, respectively. There also must be an overall impervious surface density of 25 percent or less.

Forsyth County and the cities of Roswell and Alpharetta are all located in the Big Creek water supply watershed. Forsyth County is located outside the seven- mile radius upstream of the surface water intake, thus requiring a 50- foot natural vegetative buffer, a 75- foot impervious surface setback, and an overall impervious surface density of 25 percent or less. Alpharetta and Roswell are located within seven miles of the surface water intake, and thus require a 100- foot vegetative buffer, a 150- foot impervious surface setback, and an overall impervious surface density of 25 percent or less.

## STORMWATER MANAGEMENT

Stormwater management programs are implemented at both state and local levels. At the state level, the Environmental Protection Division has implemented a permit program that relies on the National Pollutant Elimination System to regulate discharge of stormwater to streams and rivers. Phase I of the program applies to medium and large municipal separate storm sewer systems, construction activity disturbing five acres of land or greater, and eleven categories of industrial activity. Large and medium systems are defined by populations greater than 250,000 and populations between 100,000 and 250,000 respectively. Metropolitan Atlanta fits the definition of a large municipal system, and permit requirements apply to Fulton and Gwinnett counties and all incorporated cities. Phase II of the program requires additional operators of small municipal separate storm sewer systems (serving populations of at 10,000 with a population density of 1000 people per square mile) and operators of small construction sites (1 to 5 acres) to be covered by National Pollutant Elimination System permits.

State permit requirements include development of local stormwater management programs to control the quantity and quality of stormwater release. Stormwater management ordinances are adopted by local governments to provide for implementation and enforcement of their stormwater management program. Ordinances generally require the use of BMPs and submittal and approval of stormwater management plans for new developments. A number of municipalities, like Gwinnett County, require that controls be included to maintain runoff from a developed site at the same level as before development. This is usually accomplished through detention and retention structures that store excess runoff and release it slowly, thus allowing sediment to settle and not increasing downstream flooding.

## TOTAL MAXIMUM DAILY LOAD

Under Section 303 (d) of the Clean Water Act, states are required to develop lists of streams and water bodies that do not meet ambient water quality standards. The resulting inventory of impaired streams, called the 303 (d) list, is updated every two years by states and is the basis for decisions related to restoring water quality. The law requires that the states establish priority rankings



for waters on the lists and develop total maximum daily loads for these waters. A total maximum daily load is a calculation of the maximum amount of a pollutant that a waterbody can receive and continue to meet its designated use.

Based on an evaluation of the states' implementation of their Clean Water Act 303 (d) responsibilities, the U.S. Environmental Protection Agency developed changes and improvements to the total maximum daily load regulations. On July 13, 2000, the agency issued a final total maximum daily load rule that will improve current regulations. Congress has required the U.S. Environmental Protection Agency (delegated to the Environmental Protection Division) to establish total maximum daily loads for the Chattahoochee River basin by 2002, under the current total maximum daily load regulation.

## SERVICEWIDE LAWS AND POLICIES

This section summarizes the most appropriate of the legal and administrative mandates that apply to managing all units of the national park service. These are measures that the National Park Service must strive to meet, regardless of the alternative selected for the long- term management of the Chattahoochee National Recreation Area. The body of laws and executive orders that guide park management, with their legal citations, are identified in Appendix A.

### **The National Park Service Organic Act and the Redwood Act Amendment to the National Park Service General Authorities Act**

One of the most important statutory directives for the National Park Service (NPS) is provided by the interrelations of the NPS Organic Act of 1916 and the Redwood Act Amendment to the NPS General Authorities Act of 1970. The Organic Act mandates that the National Park Service “shall promote and regulate the use of Federal areas known as national parks, monuments, and reservations by such means and measures as conform to the fundamental purpose of said parks, monuments, and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.”

The General Authorities Act amends the Organic Act to broaden the types of areas that are included in the national park system, such as national seashores, recreation areas, and parkways. The Redwood Act further amends the General Authorities Act to reassert system- wide the high standard of protection set forth in the Organic Act. In the Redwood Act, “Congress further reaffirms, declares, and directs that the promotion and regulation of the various areas of the Nation Park System shall be consistent with and founded in the purpose established by the first section of the Act of August 25, 1916, to the common benefit of all the people of the United States. The authorization of activities shall be construed and the protection, management, and administration of these areas shall be conducted in light of the high public value and integrity on the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress.”

Both the Organic Act and the General Authorities Act, as amended by the Redwood Act, define a single standard for the management of the park service: to safeguard the units of the national park system, conserving resources and values for enjoyment of all people of the United States and prohibiting impairment. Director’s Order 55, *Interpreting the National Park Service Organic Act*, serves as the NPS interpretation of the meaning of the Organic Act and the General Authorities Act, as amended.

### **National Historic Preservation Act**

The National Historic Preservation Act of 1966 authorized the Secretary of the Interior to “expand and maintain a national register of districts, sites, buildings, structures, and objects significant in American history, architecture, archeology, and culture.” Section 106 of the act requires federal agencies to consider the effects of their undertakings on National Register properties and to allow the Advisory Council on Historic Preservation “a reasonable opportunity to comment” on such undertakings. The National Register of Historic Places was expanded from the original roster of historic landmarks and areas of the National Park System to a



comprehensive inventory of historic properties nationwide. National Park Service actions affecting properties listed on the National Register of Historic Places are subject to review by state historic preservation officers and the Advisory Council.

Section 110 requires among other things that the park to "establish a preservation program to protect and preserve historic properties in consultation with others" and that this program ensure "that historic properties under the jurisdiction or control of [the National park Service], are identified, evaluated, and nominated to the National Register." Further, Section 110 requires "that such properties under the jurisdiction or control of [the park] as are listed in or may be eligible for the National Register are managed and maintained in a way that considers the preservation of their historic, archaeological, architectural, and cultural values in compliance with section 106 of this Act and gives special consideration to the preservation of such values in the case of properties designated as having National significance." Section 112 requires that studies or other actions taken with regards to historic properties be done by personnel or contractors who meet appropriate professional qualifications standards developed by the Secretary of the Interior. It also requires that the park maintain data from historic properties studies in an appropriate database available to prospective researchers.

### **National Environmental Policy Act**

The National Environmental Policy Act of 1969 states as policy that federal agencies must assess the environmental impacts of any proposed action that they fund, support, permit, or implement. It specifically directs federal agencies to document the environmental impact of the proposed action, any adverse environmental effects which cannot be avoided should the proposed action be implemented, and alternatives to the proposed action.

The act also established the Council on Environmental Quality, which is charged with the implementation and oversight of the National Environmental Policy Act. The Council on Environmental Quality subsequently developed the legal requirements (40 Code of Federal Regulations 1500- 1508) that all federal agencies must follow in evaluating the environmental effects of proposed actions. These procedures involve three levels of documentation: categorical exclusions; environmental assessments; and environmental impact statements. In the National Park Service, construction activities, natural or cultural resource management projects, and park plans trigger the majority of National Environmental Policy Act documents. The National Environmental Policy Act enables the National Park Service to integrate compliance with other legal mandates and provides a format for public involvement. Director's Order 12 sets forth the policy and procedures by which the service will comply with the National Environmental Policy Act.

### **Clean Air Act**

The Clean Air Act provides a legal framework for the National Park Service to preserve and protect parks' air quality related values. The act establishes national ambient air quality standards for certain criteria pollutants. Major provisions of the act are intended to set a goal for cleaner air by setting national primary and secondary ambient air quality standards. Primary standards define levels of air quality necessary to protect public health, while secondary standards define levels necessary to protect public welfare from any known or anticipated adverse effects of a pollutant.

Under the Clean Air Act, the U.S. Environmental Protection Agency is required to set new source performance standards, based on best- demonstrated technology and to establish national emission standards for hazardous air pollutants. The U.S. Environmental Protection Agency is also required to develop programs for prevention of significant deterioration of air quality in attainment areas. Air pollution permits in attainment areas mandate installation of pollution controls that represent the best available control technology.

The Clean Air Act also requires states to develop and submit a state implementation plan for achieving national ambient air quality standards within each state. The state implementation plan must establish state air quality control regions and specify emission limits, schedules, and timetables for compliance from both stationary and mobile sources. The Clean Air Act requires federal facilities to comply with state air pollution requirements. The Clean Air Act reinforces the NPS Organic Act role as a protector of natural and cultural resources within the national park system. Under the Clean Air Act, the National Park Service is responsible



for protecting air quality within park unit boundaries, and for taking appropriate action to do so, when reviewing emission sources within and outside of the park system.

### Clean Water Act

The Federal Water Pollution Control Act of 1972, as amended by the Clean Water Act and the Water Quality Act of 1987, forms the legal framework to support maintenance and restoration of water quality. The Clean Water Act establishes the National Pollutant Discharge Elimination System as the regulatory mechanism to achieve water quality goals by regulating pollutant discharge to navigable streams, lakes, and rivers. Through standards promulgated by individual states, the Clean Water Act requires the NPS to protect its water resources from point and nonpoint sources of pollution. Many NPS construction activities are regulated by the Clean Water Act under stormwater permitting requirements.

### Endangered Species Act

The Endangered Species Act of 1973, amended in 1982 and 1987, is intended to prevent the further decline of endangered and threatened plant and animal species and to help in the restoration of populations of these species and their habitats. The Endangered Species Act, jointly administered by the Department of Commerce and the Department of the Interior, requires that each federal agency consult with the U.S. Fish and Wildlife Service to determine whether endangered or threatened species are known to exist or have critical habitats on or in the vicinity of the site of a proposed action.

Section 7(c) of the Endangered Species Act authorizes the U.S. Fish and Wildlife Service to review proposed major federal actions to assess the potential impacts to listed species. In accordance with Section 7 (c), the National Park Service, in consultation with the U.S. Fish and Wildlife Service, must identify and promote the conservation of all federally listed species and their critical habitat within park boundaries.

### Executive Orders on Wetlands and Floodplains

Executive Order 11988, *Floodplain Management* (May 24, 1977), requires federal agencies to evaluate the potential effects of actions in floodplains to avoid adversely impacting floodplains wherever possible. Executive Order 11988 also requires federal agencies to ensure that planning programs and budget requests reflect consideration of flood hazards and floodplain management, including the restoration and preservation of such land areas as natural undeveloped floodplains, and to prescribe procedures to implement the policies and procedures of this executive order.

Executive Order 11990, *Protection of Wetlands* (May 24, 1977), requires federal agencies to take action to avoid adversely impacting wetlands wherever possible, to minimize wetlands destruction, and to preserve procedures to implement the policies and procedures of this executive order. It is the intent of these executive orders that, wherever possible, federal agencies implement the floodplains/wetlands requirements through existing procedures, such as those internal procedures established to implement National Environmental Policy Act. The National Park Service often integrates compliance with the executive orders with other legal mandates, such as National Environmental Policy Act.

### Wilderness Act

The Wilderness Act of 1964 established the National Wilderness Preservation System, composed of federal lands designated as wilderness areas. Wilderness areas are to be administered “for the use and enjoyment of the American people in such a manner as will leave them unimpaired for future use and enjoyment as wilderness.” The law states that “the designation of any area of any park, monument, or other unit of the national park system as a wilderness area shall in no manner lower the standards evolved for the use and preservation of such park, monument, or other unit of the national park system.”

Except as specifically provided by law, permanent roads are prohibited within any wilderness area. Except as needed for administrative purposes, temporary roads or use of motorized vehicles or equipment are forbidden within any wilderness area.



The following exceptions are permitted: where the use of motorboats is already established, it may be permitted to continue subject to management restrictions; all wheelchairs, including motorized wheelchairs, are allowed in NPS wilderness areas; measures necessary to control fire, insects, and diseases may be taken; and certain mining activities are permitted.

### **Management Policies 2001**

This is the first update of Management Policies since 1988. The policies are derived from the laws that have been enacted to establish and govern the NPS and the National Park System. This document serves as the basic, Servicewide policy manual used by park superintendents and other NPS managers to guide their decision-making. The manual prescribes policies which enable the NPS to preserve park resources and values unimpaired for the enjoyment of future generations, as required by law. The policies have been updated to keep pace with new laws that have been enacted, changes in technology and American demographics, and new understandings of the kinds of actions that are required to best protect the natural and cultural resources of the parks. The policies stress the importance of: using the parks for educational purposes; demonstrating environmental leadership in the parks; managing park facilities and resources in ways that will sustain them for future generations of Americans to enjoy; and working with partners to help accomplish the NPS mission. The new Management Policies is available on the NPS World Wide Web site at <http://www.nps.gov/refdesk/mp/index.html>.

### **Director's Order #12**

*Director's Order #12* describes the policy and procedures by which the National Park Service will comply with the National Environmental Policy Act. The Council on Environmental Quality, part of the Executive Office of the President, is the "caretaker" of National Environmental Policy Act. The National Park Service is required to abide by all National Environmental Policy Act regulations (40 Code of Federal Regulations 1500- 1508) and any other procedures and requirements imposed by other higher authorities, such as the Department of the Interior.

### **Director's Order #28**

*Director's Order #28*, issued pursuant to 16 United States Code (1 through 4), addresses cultural resource management. The National Park Service will protect and manage cultural resources in its custody through effective research, planning, and stewardship and in accordance with the policies and principles contained in the National Park Service *Management Policies 2001*.

### **Ban on Personal Watercraft**

Personal watercraft use is a relatively new recreational activity that has been observed in approximately 32 of the 87 units of the national park system that allow motorized boating. The NPS is proposing regulations that will prohibit personal watercraft in units of the national park system unless the NPS determines that such use is appropriate for a specific unit based on that unit's enabling legislation, resources and values, other visitor uses, and overall management objectives.



Appendix Table B.1: Surface Water Quality Standards for the State of Georgia  
 (Georgia Environmental Protection Division 2001)

Use Classification	Fecal coliform standard (MPN/100 ml)				Dissolved Oxygen <sup>4</sup>		pH	Temperature <sup>4</sup>	
	30- day geometric mean <sup>v</sup> (MPN/100 ml)	Maximum (MPN/100 ml)	Standard <sup>ii</sup> if water quality and sanitary studies show fecal coliform levels from non-human sources occasionally exceed 200 col/100 ml	Daily Average (mg/l)	Min (mg/l)	Standard Units		Maximum Rise (F)	Maximum (F)
Drinking- Water Supplies	200 (May- October <sup>2/</sup> )	—	300 in lakes and reservoirs 500 in free flowing freshwater streams	5.0	4.0	6.0- 8.5	5	90	
Recreation <sup>3/</sup>	1,000 (November- April)	4,000 (Nov- April)	Not applicable	5.0	4.0	6.0- 8.5	5	90	
Fishing	200 (May- October <sup>2/</sup> )	—	300 in lakes and reservoirs 500 in free flowing freshwater streams	5.0	4.0	6.0- 8.5	5	90	
	1,000 (November- April)	4,000 (Nov- April)	Not applicable	5.0	4.0	6.0- 8.5	5	90	

<sup>v</sup>Geometric mean based on at least four samples collected from a given sampling site over a 30- day period at intervals not less than 24 hours. The geometric mean of a series of N terms is the N<sup>th</sup> root of their product. Example: the geometric mean of 2 and 18 is the square root of 36.

<sup>2/</sup> May through October is the season when water contact recreation activities are expected to occur.

<sup>3/</sup> The state does not encourage swimming in surface waters, since a number of factors which are beyond the control of any state regulatory agency contribute to elevated levels of fecal coliform.



<b>Appendix Table B.2: Streams within the CRNRA that are “Not Supporting” or “Only Partially Supporting” Their Designated Uses (From The 1998 Georgia Environmental Protection Division 305(b) Report for Areas within the CRNRA, in NPS 2000e):</b>				
Location	Use Classification	Criterion Violated	Notes & Comments	Refs*
Chattahoochee River, below Buford Dam to Hwy 20	Recreation & drinking water	DO	(3 miles) Dam releases causing low DO, with biological impacts	94- 5 (N); 98 (N)
Chattahoochee River Hwy 20 to Hwy 141	Recreation & drinking water	FC, FCG	(15 miles) Urban runoff effects	98 (P)
Chattahoochee River Hwy 141 to Hwy 19	Recreation & drinking water	FC, FCG	(13 miles) Urban runoff effects	98 (P)
Chattahoochee River Hwy 19 to I- 285	Recreation & drinking water	FC, FCG	(11 miles) Urban runoff effects	94- 5 (N); 98 (N)
Chattahoochee River I- 285 to Peachtree Creek	Recreation & drinking water	FC (94- 5) FC, FCG (98)	(6 miles) Urban runoff effects	94- 5 (N); 98 (N)
Ball Mill Creek Fulton/DeKalb Counties	Fishing	FC (98)	(3 miles) Urban runoff effects	94- 5 (N); 98 (N)
Big Creek Fulton County	Fishing & drinking water	FC	(5 miles) Urban runoff effects	94- 5 (P)
Crooked Creek, Gwinnett County	Fishing	FC	(2 miles) Urban runoff effects	94- 5 (N); 98 (N)
James Creek Forsyth County	Fishing	FC	(2 miles) Non- point runoff. Watershed protection needed.	94- 5 (N)
Johns Creek Fulton County	Fishing	FC	(4 miles) Urban runoff effects	94- 5 (N); 98 (N)
Level Creek, Gwinnett County	Fishing	FC	(5 miles) Urban runoff effects	94- 5 (N); 98 (N)
Long Island Creek Fulton County	Fishing	FC	(5 miles) Urban runoff effects	94- 5 (N); 98 (N)
March Creek Fulton County	Fishing	FC	(4 miles) Urban runoff effects	94- 5 (N); 98 (N)
Hog Waller Creek (into Big Creek, Roswell)	Fishing	FC	(4 miles) Urban runoff effects	98 (P)
Richland Creek Gwinnett County	Fishing	FC	(5 miles) Urban runoff effects	94- 5 (N); 98 (N)
Rottenwood Creek Cobb County	Fishing	FC, Pb	(9 miles) Urban runoff effects	94- 5 (N); 98 (N)
Sope Creek Cobb County	Fishing	FC, Pb	(11 miles) Urban runoff effects	94- 5 (N); 98 (N)
Sope Creek, a tributary to Cobb County	Fishing	Cd, Cu, Pb	(1 mile) Urban runoff effects	98 (P)
Suwanee Creek Gwinnett County	Fishing	FC	(4 miles) Non- point and urban runoff	94- 5 (N); 98 (N)
Willeo Creek Cobb/Fulton Counties	Fishing	FC, Pb	(5 miles) Urban runoff effects	94- 5 (N); 98 (N)

Refs = References which refer to the non- support: “94- 5” = Georgia Environmental Protection Division, 1996, *Water quality in Georgia*.

“98” = Georgia Environmental Protection Division, 1998, *Georgia 1998 lists of water as required by the Section 303(d) of the Fed. Clean Water Act*. N = not supporting designated uses; P = partially supporting designated uses; FC = fecal coliforms; DO = dissolved oxygen; FCG = fish consumption guidelines; Pb = lead; Cd = cadmium; Cu = copper.



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## **APPENDIX C**

### **ISSUES ANALYSIS**

#### **Cost Analysis Tables Choosing By Advantages Summary Tables**



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Appendix Table C-1: Summary of Issues Identified During Public Scoping of the Chattahoochee River GMP/EIS.

Summary Concern	Issue Category	Things NPS Can't Do	Things NPS Must Do	Might/ GMP	Might (Other Types of Plans)	Not Planning Issue)
<b>ACCESS</b>						
2. Fences that go into the river adjacent to parks blocks some river access (Question: what are legal jurisdictions for river proper - river bottoms, banks, bottoms? Answer - Only if blocking access - floating - in the river)	I					X
12. River access needed at all public areas	I			X		
56. Multi-use access	I			X		
78. Keep the river unrestricted to fishing, and boaters (i.e. canoes, rafts)	I	II		X		
80. Create a corridor to connect each park unit	I			X		
140. Boat launching points are needed at Hwy. 141 bridge, Jones Bridge, Holcomb Bridge	I			X		
149. Improve angler access and temperatures in the river below Morgan Falls	I			X		
<b>FACILITY NEEDS</b>						
3. Need for restrooms (Medlock Bridge Unit)(Note - we lumped all restroom comments as GMP)	2			X		
4. Install parking meters	2					X
42. Provide more restroom facilities within a close walking distance to the river, and include signs along river that indicate restroom location	2			X		
106. Keep the exercise stations at Cochran Shoals	2			X		
107. Create a visitor's center or central location for visitor to gather (Visitor center - HQ - individual offices outside the park)	2			X		
113. Improve bathroom facilities at Powers Island	2			X		
114. Bathrooms are needed at Columns Drive	2			X		
121. Racks to lock bikes where park units are accessible by bicycle	2			X		
125. Picnic tables and trash cans at each unit	2			X		
127. Facilities at park units should be more "green" by using solar power, recycled goods, etc.	2				X	
146. Install a restroom facility and information board at Bowman's Island unit	2			X		X
177. Keep restrooms and other facilities cleaner	2					X
182. Implement a recycling program (cans, plastic, etc.)	2					X
<b>ECOLOGICAL</b>						
1. How much vegetation will the U.S. Forest Service (assume the commentor meant National Park Service) clear adjacent to McGinnis Ferry Road? (Pine Plantation adjacent to McGinnis)				X		
5. Preserve and protect the natural environment	3			X		
11. Protect wildlife species	1			X		
52. Protect the natural beauty of the CRNRA for all to enjoy	7			X		
90. Install bird boxes with predator guards in park area to encourage breeding	3					X
91. Provide for a wildlife sanctuary	3			X		
97. Increase river and tributary buffers	5			X		
129. Critical Protection Zones should be identified in ecologically sensitive areas	5			X		
134. Maintain insect diversity and population	3			X		
148. Seed wildflowers within the park	5	X				
156. Maintain the park's natural setting	5			X		
158. Identify native species in the park and manage to maximize their biodiversity	3			X		

Appendix Table C-1: Summary of Issues Identified During Public Scoping of the Chattahoochee River GMP/EIS.

Summary Concern	Issue Category	Things NPS Can't Do	Things NPS Must Do	Might/ GMP	Might (Other Types of Plans)	Not Planning Issue)
<b>IMPACTS (Note: if within regulatory arena)(Impairment)</b>						
7. Protect environment from noise	4		X			
8. Protect environment from pollution (i.e. sewage spills, dumping, non-point source pollution, animal feces contamination)	4		X			
9. Protect environment from erosion	4		X			
10. Protect fish habitat	4			X		
40. Construct catch basins on streams entering the river	II				X	
41. Increase the number of releases from Buford Dam (coordinate with other agencies - COE on the releases)	4			X		
67. Monitor river quality and publish test results for public view	4	8			X	
71. Monitor and report fecal coliform levels in the river	4				X	
101. Do not allow siphoning of river water to float barges	4	5			X	
102. Stop additional sewage disposal into (Lake Lanier) and the Chattahoochee	4				X	
111. Limit impervious surface in the park	4				X	
128. GMP should include goals for protecting water quantity (draw on Tri-State)	4				X	
133. Eliminate sources of siltation, stormwater discharge, and (enforce the Clean Water Act - this is how we interpreted) other pollutants	4			X		
<b>USE</b>						
6. Limit development	5				X	
13. Prohibit motorized craft from access to waters	5	I			X	
14. Allow unrestricted access to non-motorized craft	5	I			X	
26. Keep motorized vehicles out of park area	5				X	
27. Designate the park a quiet wildlife area	5				X	
30. Restrict development within a barrier around the park	5		X			
54. Provide paved areas for rollerbladers/skaters	5				X	
64. Enforce leash and pet cleanup laws	5		X			
66. Preserve greenspace	5				X	
75. Preserve land around the river for "people use"	5				X	
82. Safety concerns for children	5				X	
87. Stop carnival activities that the current concessioner is permitting	5				X	
88. Less corporate usage/parties	5				X	
89. More boat rentals above Morgan Falls, and along Johnson Ferry areas I and II	5				X	
104. Off-leash areas for dogs to swim (Note- need clarification on dog policy) (36 CFR 2.15)	5		X			
105. Fenced area for dogs to play	5				X	
108. Dogs should be confined to designated walking paths located away from tributaries	5				X	
110. Build a playground at Columns Drive	5				X	
119. Release water in the evening between 6:30 and 8:30 p.m.	5				X	
130. A visitor carrying capacity should be identified	5				X	
138. Commercial and non-commercial whitewater kayak and canoe instruction	5				X	
144. Do not allow dogs in Cochran Shoals	5				X	
153. The park should change the "recreation" focus to wildlife sanctuary	5				X	
174. Limit/oppose construction of soccer fields and other athletic fields	5				X	
176. Develop better and less expensive system for renewal/decals (wanted removable stickers to interchange between vehicles)	5				X	X
178. Concessionaire operating permits for outside persons/organizations	5					X
179. Increase public safety	5					X
181. Create "whitewater" park near adjacent park units	5		X			

Appendix Table C-1: Summary of Issues Identified During Public Scoping of the Chattahoochee River GMP/EIS.

Summary Concern	Issue Category	Things NPS Can't Do	Things NPS Must Do	Might/ GMP	Might (Other Types of Plans)	Not Planning Issue)
<b>BOUNDARIES</b>						
15. Expand the CRNRA land holdings (Good basis for decision point)	6			X		
32. Extend the park to South Fulton and Douglas Counties	6			X		
60. Expand the park boundaries	6			X		
85. Secure property along the river where development has not occurred	6			X		
100. NPS should acquire the full 10,000 acres which it has been authorized	6			X		
168. Extend the park boundaries north toward Helen	6			X		
<b>TRAILS</b>						
16. Develop more well-designed mountain bike trails	7			X		
18. Limit access to river via hiking trails only	7			X		
28. Interconnected mountain bike trail system	7			X		
29. Interconnected mountain biking and hiking trails	7			X		
34. Fix and maintain eroded mountain bike trails	7			X		
35. Create separate trails for different trail users	7			X		
39. Construct a continuous through-hiking trail following the river	7			X		
43. Develop and implement a simple system of trail marking	7			X		
44. Lack of mountain bike trails is a personal concern	7			X		
45. Use public right-of-way lands along the river to connect mountain bike and hiking trails	7			X		
46. The National Park Service should work with the Southern Off-Road Bicycle Association (S.O.R.B.A.) and the Roswell-Alpharetta Mountain Biking Organization (R.A.M.B.O.) to develop, build and maintain mountain bike or multi-use trails	7			X		
47. Increase access to mountain bikers to more park units	7			X		
48. Construct a bike lane along the length of the river	7			X		
49. Install a single-track mountain bike trail at Sope Creek	7			X		
50. Create wilderness trails along the river	7			X		
51. Establish land conservation and responsibility measures, such as allowing users to "adopt" certain portions of the wilderness or trail areas	7			X		
53. Expand and upgrade current walking, hiking, and biking trails with designated rest areas	7			X		
59. Build longer and additional trails	7			X		
61. Provide easier access to pedestrians between park units via pedestrian-specific pathways	7			X		
70. Designate a certain amount of impervious surface for biking	7			X		
73. Monitor and report on mountain bike usage, use field surveys	7			X		
77. Need additional sight-seeing trails	7			X		
81. Add a bike wash station in designated biking areas	7			X		
94. Prohibit all non-pedestrian traffic on trails	7			X		
112. Use alternating days for multi-use trails	7			X		
120. Road bike lanes throughout park	7			X		
122. Open more units to mountain bikers, such as the Gold Branch	7			X		
126. Flag or mark all trails	7			X		
135. Update trail maps	7			X		
136. Improve trail markings	7			X		
154. Open Vickery Creek to mountain biking	7			X		
157. Build sidewalk entrances to parks to increase pedestrian access (connectivity - assumed instead of sidewalk)	7			X		
160. Construct bike trails in already disturbed areas	7			X		
161. Connect trails for hiking and biking throughout the park	7			X		
175. Limit amount of developed trails	7			X		

Appendix Table C-1: Summary of Issues Identified During Public Scoping of the Chattahoochee River GMP/EIS.

Summary Concern	Issue Category	Things NPS Can't Do	Things NPS Must Do	Might/Other Types of Plans	Might (Other Types of Plans)	Not Planning Issue)
<b>OUTREACH</b>						
17. Increase communication and relationships between the Park Service and other agencies and stakeholders	8			X		
19. Need for environmental education common to all alternatives; process to accomplish the goal(s)	8				X	
20. Need for an environmental education center (i.e. Geosphere)	8				X	
37. Advertise public meetings better	8				X	
38. Need to have programs that encourage public participation on river clean-up	8				X	
55. The NPS needs to have town hall meetings for residents to discuss plans that would most benefit their community	8				X	
57. Use volunteers for trail maintenance	8					X
63. Use vandal-resistant cases to house park maps	8					X
68. Involve more community groups and stakeholders in river efforts (i.e., Trout Unlimited, etc.)	8				X	
69. Increase communication between federal government and state agencies	8			X		
74. Increase public awareness via the Internet, and a high-quality website for the CRNRA	8				X	
76. Schedule volunteer "work days" with the community	8					X
79. Implement an educational outreach and awareness campaign	8				X	
92. Encourage trips for inner-city youth to the park	8				X	
93. More training programs for teachers and volunteers	8				X	
95. Add clerical assistance to Geosphere Center	8					X
109. Place educational signs in the park	8				X	
132. Take down trail maps posted in park and replace with directional signs	8				X	
147. The park should offer group walks and interpretive programs to help educate the public	8				X	
152. Post signs for gate closing times	8					X
164. Prisoners should participate in community service activities on river such as river clean-ups	8					X
165. River needs more detailed maps depicting river depths and elevations	8					X
166. Have fundraisers for the park	8					X
172. NPS should maintain administrative control of CRNRA, do not allow control to go to outside private companies/organizations	8		X			
180. Increase wages for Park Rangers	8					X
183. Include any county and state parks on general location map(s) of the CRNA/RA	8				X	
<b>PRIVATE PROPERTY</b>						
24. Opposition to development of public access or recreational facilities through private property	9	I	X			
25. Opposition to any impact on existing residential property (use could affect privacy)	9				X	
83. Privacy for homeowners on or near the park	9				X	
84. Will the homeowner's property value change with different uses of the park?	9					X
99. Tax cut incentives for private and corporate landowners who donate or sell land	9					X
<b>TRANSIT</b>						
22. Improve parking facilities	2				X	
23. Designate parking areas away from river	10				X	
36. Not enough parking at Cochran Shoals	10				X	
86. Traffic and safety issues are a concern around the Johnson Ferry and Columns Drive area	10					X
137. Better shuttle bus system	10				X	
143. Enlarge and repave Columns Drive parking lot	10				X	
167. Improve parking and road to Settles Bridge access area	10				X	

Appendix Table C-1: Summary of Issues Identified During Public Scoping of the Chattahoochee River GMP/EIS.

Summary Concern	Issue Category	Things NPS Can't Do	Things NPS Must Do	Might/ GMP	Might (Other Types of Plans)	Not Planning Issue)
<b>FISHERIES / FISHING</b>						
21. Stop illegal fishing on river	II		X			
58. Designate catch and release trout fishing areas	II				X	
72. Monitor and report on fish populations	II					X
116. Increase stocking of river with larger fish	II				X	
117. Reduce the limit of fish that can be taken out	II				X	
124. Create spawning habitat for fish	II	X				
139. Designate sections of the river for catch and release, and fly fishing only	II				X	
141. Barbless, single hooks on river north of Roswell Road	II				X	
142. Catch and release fishing between Hwy. 20 to Buford Dam	II				X	?
145. Establish a section of river for trophy trout fishing	II				X	
150. Establish flow rates to protect trout fisheries	II	X				
151. Implement a delayed harvest program with special emphasis on East Palisades/Whitewater Creek	II				X	
162. Establish a "no kill" section between Morgan Falls and Buford Dam, should be catch and release only	II				X	
171. Increase the awareness/education of "State Fish Consumption Guidelines" to fisherman	II				X	
<b>ENFORCEMENT</b>						
33. Enforce stricter penalties for polluters and violators of environmental laws	12					X
62. Use citizens to accompany rangers in problem identification in the park (i.e. the "second pair of eyes" theory)	12					X
65. Increase the presence of rangers within the units	12	8		X		
96. Establish a position with the sole responsibility in conjunction with local and state agencies to monitor the enforcement of environmental laws along the river	12				X	
103. Stronger and more effective enforcement of clean water laws	12				X	
115. Bicycle patrols are needed at Columns Drive	12				X	
118. Check fishing licenses more frequently	12				X	
123. Enforce the Metropolitan River Protection Act and adhere to the Chattahoochee Corridor Plan	12				X	X
155. Stronger zoning enforcement	12	X				
163. Place phones at certain areas in the park for fisherman to report poachers	12					X
169. Regulatory enforcement should include tributaries of the Chattahoochee						X
170. Increase protection of Historic Resources in Park areas					X	
173. Enforcement of parking fines (observes many cars going "unfined" while using park facilities)	12					X
<b>RESTORATION</b>						
98. Exotic plant eradication	13					
131. Goals should be established for restoring damaged areas	13				X	
159. Staff a restoration ecologist	13					
31. The Atlanta Regional Commission should focus their environmental efforts on big polluters, like the City of Atlanta and large corporate violators	NA	X				

Appendix Table C-1: Summary of Issues Identified During Public Scoping of the Chattahoochee River GMP/EIS.

Summary Concern	Issue Category	Things NPS Can't Do	Things NPS Must Do	Might/ GMP	Might (Other Types of Plans)	Not Planning Issue)
<b>Key to Issue Categories:</b>						
NA Not Applicable						
1. Access (River or general)						
2. Facility Needs						
3. Ecological						
4. Impacts						
5. Use						
6. Boundaries						
7. Trails						
8. Outreach						
9. Private Property						
10. Transit						
11. Fisheries/Fishing						
12. Enforcement						
13. Restoration						

Appendix Table C-2. Impact Topics, Impact Thresholds, and Corresponding Issues Identified During Scoping.

Primary Impact Topic	Impact Thresholds	Corresponding GMP Issue Identified During Scoping (Appendix Table C-1)
Air quality	Negligible adverse: Effects of air quality from emission sources in the area surrounding the park are not detectable and would have no discernable effect on natural resources or visitor experience in the park	5, 6, 8, 13, 26
	Minor adverse: Effects of air quality from sources in the area surrounding the park are slightly detectable and are not expected to have an overall effect on natural resources or visitor experience in the park	
	Moderate adverse: Effects of air quality from sources in the area surrounding the park are clearly detectable and could have an appreciable effect on air natural resources or visitor experience inside the park	
	Major adverse: Effects of air quality from sources in the area surrounding the park are substantial and could have a highly noticeable effect on natural resources or visitor experience inside the park	
	Negligible adverse: Effects of air quality from emission sources in the park are not detectable and would have no discernable effect on air quality in the area	8, 6, 30
	Minor adverse: Effects of air quality from sources in the park are slightly detectable and are not expected to have an overall effect on air quality in the area	
	Moderate adverse: Effects of air quality from sources in park are clearly detectable and could have an appreciable effect on air quality in the area	
	Major adverse: Effects of air quality from sources in the park are substantial and could have a highly noticeable effect on air quality in the area	
Surface Water Quality	Negligible adverse: Effects of runoff on surface water quality of the streams inside the park are not detectable	8, 9, 10, 67, III, 128, 133, 6
	Minor adverse: Effects on surface water quality of the streams inside the park are slightly detectable with no overall change	
	Moderate adverse: Effects of runoff on streams inside the park are clearly detectable and are expected to have an appreciable effect on surface water quality	
	Major adverse: Effects of runoff on streams inside the park are substantial and highly noticeable, and are expected to have a permanent effect on surface water quality	
	Negligible beneficial: Implementation of management plans and best management practices improves water quality in a very small area Overall effect is detectable, but very small	
	Minor beneficial: Implementation of management plans and best management practices improves water quality in a small area inside the park. Overall effect is clearly detectable.	
	Moderate beneficial: Implementation of management plans and best management practices improves water quality in a several small areas inside the park. Overall effect is clearly detectable.	
	Major beneficial: Implementation of management plans and best management practices improves water quality in a several small areas and/or several large areas inside the park. Overall effect is clearly detectable.	
	Negligible adverse: Effects of runoff caused by increased visitor use on surface water quality of the streams inside the park are not detectable	8, 9, 10, 67, III, 128, 133, 34
	Minor adverse: Effects on surface water quality of the streams inside the park caused by increased visitor use are slightly detectable with no overall change	
	Moderate adverse: Effects of runoff on streams inside the park caused by increased visitor use are clearly detectable and are expected to have an appreciable effect on surface water quality	
Major adverse: Effects of runoff on streams inside the park caused by increased visitor use are substantial and highly noticeable, and are expected to have a permanent effect on surface water quality		
Negligible beneficial: Implementation of management plans and best management practices improves water quality in a very small area Overall effect is detectable, but very small		
Minor beneficial: Implementation of management plans and best management practices improves water quality in a small area inside the park. Overall effect is clearly detectable.		

Appendix Table C-2. Impact Topics, Impact Thresholds, and Corresponding Issues Identified During Scoping.

Primary Impact Topic	Impact Thresholds	Corresponding GMP Issue Identified During Scoping (Appendix Table C-1)
	Moderate beneficial: Implementation of management plans and best management practices improves water quality in a several small areas inside the park. Overall effect is clearly detectable.	
	Major beneficial: Implementation of management plans and best management practices improves water quality in a several small areas and/or several large areas inside the park. Overall effect is clearly detectable.	8, 9, 10, 67, III, 128, 133
	Negligible adverse: effects of nonpoint surface runoff from the development in the surrounding area on water quality of streams in the park are not detectable	
	Minor adverse: effects of nonpoint surface runoff from the development in the surrounding area on water quality of streams in the park are slightly detectable with no overall change	
	Moderate adverse: effects of nonpoint surface runoff from the development in the surrounding area on water quality of streams in the park are clearly detectable and are expected to have an appreciable effect on surface water quality	
	Major adverse: effects of nonpoint surface runoff from the development in the surrounding area on water quality of streams in the park are substantial and highly noticeable, and are expected to have a permanent effect on surface water quality	
	Negligible beneficial: Implementation of management plans and best management practices improves water quality in a very small area Overall effect is detectable, but very small	5, 8, 9, 11, 52, 91, 97, 129, 134, 158, 156, 10, 133
	Minor beneficial: Implementation of management plans and best management practices improves water quality in a small area inside the park. Overall effect is clearly detectable.	
	Moderate beneficial: Implementation of management plans and best management practices improves water quality in a several small areas inside the park. Overall effect is clearly detectable.	
	Major beneficial: Implementation of management plans and best management practices improves water quality in a several small areas and/or several large areas inside the park. Overall effect is clearly detectable.	
	Major adverse: effects of nonpoint surface runoff from the development in the surrounding area on aquatic ecology of the Chattahoochee River are substantial and highly noticeable, and are expected to have a permanent effect on surface water quality	
Wetlands and Floodplains	Negligible adverse: Impacts on wetlands due to filling activities are perceptible and can be measured; and are highly localized and confined to a single limited area. Mitigation would result in offsetting acreage, functions and values of affected wetlands.	
	Minor adverse: Effects on wetlands due to filling activities are measurable and perceptible, and occur at more than one location. Overall effect is still within a very small area. Mitigation would result in offsetting acreage, functions and values of affected wetlands.	
	Negligible beneficial: Implementation of management plans and best management practices, and addition of new park areas protects measurable and perceptible areas of wetlands at only one location. Overall effect is still within a very small area.	
	Minor beneficial: Implementation of management plans and best management practices, and addition of new park areas protects measurable and perceptible areas of wetlands at more than one location. Overall effect is still within a very small area.	5, 52, 97, 129, 156, 8, 9
	Moderate adverse: Effects on wetlands due to filling activities at several small sites or a larger area at a single location. Mitigation would result in offsetting acreage, functions and values of affected wetlands.	
	Moderate beneficial: Implementation of management plans and best management practices, and addition of new park areas protects several small wetlands or a larger wetland at a single location.	
	Major adverse: Effects on wetlands due to filling activities at numerous locations of larger size, or effects on a single large wetland. Mitigation would result in offsetting acreage, functions and values of affected wetlands.	

Appendix Table C-2. Impact Topics, Impact Thresholds, and Corresponding Issues Identified During Scoping.

Primary Impact Topic	Impact Thresholds	Corresponding GMP Issue Identified During Scoping (Appendix Table C-1)
	Major beneficial: Implementation of management plans and best management practices, and addition of new park areas protects wetlands at numerous locations of larger size, or a single large wetland.	
	Negligible adverse: Impacts on floodplains due to filling activities are perceptible and can be measured; and are highly localized and confined to a single limited area.	
	Minor adverse: Effects on floodplains due to filling activities are measurable and perceptible, and occur at more than one location. Overall effect is still within a very small area.	
	Minor beneficial: Implementation of management plans and best management practices, and addition of new park areas protects measurable and perceptible areas of floodplains at more than one location. Overall effect is still within a very small area.	5, 11, 52, 91, 129, 156, 8, 9, 10, 133, 60, 6
	Moderate adverse: Effects on floodplains due to filling activities at several small sites or a larger area at a single location.	
	Moderate beneficial: Implementation of management plans and best management practices, and addition of new park areas protects several small floodplain areas or a larger section of floodplain at a single location.	
	Major adverse: Effects on wetlands and floodplains due to filling activities at numerous locations of larger size, or effects on a single large floodplain area.	
	Major beneficial: Implementation of management plans and best management practices, and addition of new park areas protects floodplains at numerous locations of larger size, or a single large floodplain area.	1, 5, 11, 52, 91, 129, 156, 158, 8, 9, 10
	Negligible adverse: Impacts on floodplains and wetlands due to runoff from the area surrounding the park are perceptible and can be measured; and are highly localized and confined to a single limited area.	
	Minor adverse: Impacts on floodplains and wetlands due to runoff from the area surrounding the park are measurable and perceptible, and occur at more than one location. Overall effect is still within a very small area.	
	Moderate adverse: Impacts on floodplains and wetlands due to runoff from the area surrounding the park area affects several small sites or a larger area at a single location.	
	Major adverse: Impacts on floodplains and wetlands due to runoff from the area surrounding the park area affects numerous locations of larger size, or effects on a single large floodplain area.	
Rare, Threatened and Endangered Species	Negligible adverse: Plan implementation would have no effect on state- or federally-listed species of plants and animals or designated critical habitat.	
	Minor adverse: Adverse impacts on state- or federally- listed species of plants and animals or designated critical habitat would probably not occur or be meaningfully measured or detected. The resource may be affected, but is unlikely to be affected.	
	Minor beneficial: Addition of new park areas protects measurable and perceptible areas of protected species habitat at more than one location. Overall effect is still within a very small area. .	1, 5, 11, 52, 91, 129, 156, 158, 8, 9
	Moderate adverse: Adverse impacts on state- or federally- listed species of plants and animals or designated critical habitat would result in a local population decline due to reduced survivorship and/or a shift in distribution of the species. The resource may be affected, and is likely to be adversely affected.	
	Moderate beneficial: Addition of new park areas protects several small areas of protected species habitat or a larger section of habitat at a single location.	
	Major adverse: Adverse effects could jeopardize the continued existence of a state- or federally- listed species of plant or animal or adversely modify a designated critical habitat so that direct causality or mortality would occur. The continued existence of a protected species would likely be jeopardized or a critical habitat would be adversely modified.	
	Major beneficial: Addition of new park areas protects protected species habitat at numerous locations of larger size, or a single large area. Large areas or may be restored.	

Appendix Table C-2. Impact Topics, Impact Thresholds, and Corresponding Issues Identified During Scoping.

Primary Impact Topic	Impact Thresholds	Corresponding GMP Issue Identified During Scoping (Appendix Table C-1)
Terrestrial Ecological Resources - Deciduous forests	Negligible adverse: No native forests would be affected, or some individual trees or other native vegetation would be affected as a result of plan implementation, but there would no effect on species composition. Effects would be short-term and small scale.	
	Minor adverse: Would effect some individual native trees or other vegetation but overall, would affect only a minor part of the total population. Mitigation to offset impacts would be required and would be effective.	
	Minor beneficial: Addition of new park areas protects measurable and perceptible areas of deciduous forest at more than one location. Overall effect is still within a very small area. Some small areas can be restored.	5, 11, 52, 91, 129, 156, 158, 8, 9
	Moderate adverse: Would affect some individual native trees and other vegetation and would also affect a sizeable segment of the specie's population and over a relatively large area. Mitigation to offset adverse effects could be extensive but would probably be successful.	
	Moderate beneficial: Addition of new park areas protects several small areas of deciduous forest or a larger section of terrestrial habitat at a single location. Numerous areas may be restored.	
	Major adverse: Effects would have a considerable long-term effect on deciduous forest and would affect a relatively large area. Mitigation measures to offset adverse impacts would be required and would be extensive. Success of mitigation would not be guaranteed and would only be deemed successful after a long period of monitoring.	
	Major beneficial: Addition of new park areas protects deciduous forest habitat at numerous locations of larger size, or a single large area. Large areas or may be restored.	
Terrestrial Ecological Resources - Other Native Wildlife	Negligible adverse: No native wildlife would be affected, or some individual species would be affected as a result of plan implementation, but there would no effect on species composition. Effects would be short-term and small scale.	
	Minor adverse: Would affect some individual wildlife but overall would affect only a minor part of the total population. Mitigation to offset impacts would be required and would be effective.	
	Minor beneficial: Addition of new park areas would have a beneficial effect on some individual wildlife but overall would only provide improved conditions for a minor part of the total population	8, 9, 6
	Moderate adverse: Would affect some individual wildlife and would also affect a sizeable segment of the specie's population and over a relatively large area. Mitigation to offset adverse effects could be extensive but would probably be successful.	
	Moderate beneficial: Addition of new park areas would have a beneficial effect on some individual wildlife species and would also benefit a sizeable segment of the specie's population and over a relatively large area.	
	Major adverse: Effects would have a considerable long-term effect on native wildlife and would affect a relatively large area. Mitigation measures to offset adverse impacts would be required and would be extensive. Success of mitigation would not be guaranteed and would only be deemed successful after a long period of monitoring.	
	Major beneficial: Addition of new park areas would have a considerable long-term positive effect on native wildlife over a relatively large area.	8, 9, 6
Prime and Unique Farmlands	Negligible adverse: Effects of construction on prime and unique farmlands are not detectable	
	Minor adverse: Effects of construction on prime and unique farmlands are slightly detectable with no overall change	
	Moderate adverse: Effects of construction on are expected to have an appreciable effect on prime and unique farmlands	

Appendix Table C-2. Impact Topics, Impact Thresholds, and Corresponding Issues Identified During Scoping.

Primary Impact Topic	Impact Thresholds	Corresponding GMP Issue Identified During Scoping (Appendix Table C-1)
	Major adverse: Effects of runoff on the prime and unique farmlands are substantial and highly noticeable, and are expected to have a permanent effect	5, 52, 156, 8, 170
	Negligible adverse: Impacts on prime and unique farmlands due to development in the area surrounding the park are perceptible and can be measured; and are highly localized and confined to a single limited area.	
	Minor adverse: Impacts on prime and unique farmlands due to development in the area surrounding the park are measurable and perceptible, and occur at more than one location. Overall effect is still within a very small area.	
	Moderate adverse: Impacts on prime and unique farmlands due to development in the area surrounding the park affects several small sites or a larger area at a single location.	
	Major adverse: Impacts on prime and unique farmlands due to development in the area surrounding the park affects numerous locations of larger size, or effects on a single large floodplain area.	
Cultural Resources - Archeological Resources	Negligible adverse: Impact is at the lowest levels of detection - barely measurable with no perceptible consequences, either adverse or beneficial, to archeological resources. For purposes of Section 106, the determination of effect would be <i>no adverse effect</i> .	
	Minor adverse: disturbance of a site(s) results in little, if any, loss of the site(s) significance or integrity and the site's National Register eligibility is unaffected. For purposes of Section 106, the determination of effect would be <i>adverse effect</i> .	
	Minor beneficial: maintenance and preservation of a site(s). For purposes of Section 106, the determination of effect would be <i>no adverse effect</i> .	5, 52, 156, 8, 170
	Moderate adverse: disturbance of the site(s) does not diminish the significance or integrity of the site(s) to the extent that its National Register eligibility is jeopardized. For purposes of Section 106, the determination of effect would be <i>adverse effect</i> .	
	Moderate beneficial: stabilization of the site(s). For purposes of Section 106, the determination of effect would be <i>no adverse effect</i> .	
	Major adverse impact: disturbance of the site(s) diminishes the significance and integrity of the site(s) to the extent that it is no longer eligible to be listed in the National Register. For purposes of Section 106, the determination of effect would be <i>adverse effect</i> .	
	Major beneficial: active intervention to preserve the sites. For purposes of Section 106, the determination of effect would be <i>no adverse effect</i> .	
Cultural Resources - Historical Buildings, Structures and Objects	Negligible adverse: Impact(s) is at the lowest levels of detection - barely perceptible and not measurable. For purposes of Section 106, the determination of effect would be <i>no adverse effect</i> .	
	Minor adverse: impact would not affect the character defining features of a National Register of Historic Places eligible or listed structure, building, or object. For purposes of Section 106, the determination of effect would be <i>no adverse effect</i> .	
	Minor beneficial: stabilization/ preservation of character defining features in accordance with the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties</i> , to maintain existing integrity of a structure, building, or object. For purposes of Section 106, the determination of effect would be <i>no adverse effect</i> .	5, 52, 156, 8
	Moderate adverse - impact would alter a character defining feature(s) of the structure, building, or object but would not diminish the integrity of the resource to the extent that its National Register eligibility is jeopardized. For purposes of Section 106, the determination of effect would be <i>no adverse effect</i> .	
	Moderate beneficial- rehabilitation of a structure or building in accordance with the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties</i> , to make possible a compatible use of the property while preserving its character defining features. For purposes of Section 106, the determination of effect would be <i>no adverse effect</i> .	

Appendix Table C-2. Impact Topics, Impact Thresholds, and Corresponding Issues Identified During Scoping.

Primary Impact Topic	Impact Thresholds	Corresponding GMP Issue Identified During Scoping (Appendix Table C-1)
	Major adverse - impact would alter a character defining feature(s) of the structure, building, or object, diminishing the integrity of the resource to the extent that it is no longer eligible to be listed in the National Register. For purposes of Section 106, the determination of effect would be <i>adverse effect</i> .	
	Major beneficial- restoration in accordance with the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties</i> , to accurately depict the form, features, and character of a structure or building as it appeared during its period of significance. For purposes of Section 106, the determination of effect would be <i>no adverse effect</i> .	
Cultural Resources - Properties of Traditional, Religious, and Cultural Significance	Negligible: Impact(s) would be barely perceptible and would neither alter resource conditions, such as traditional access or site preservation, nor the relationship between the resource and the affiliated group's body of beliefs and practices. There would be no change to a group's body of beliefs and practices. For purposes of Section 106, the determination of effect on TCPs would be <i>no adverse effect</i> .	
	Minor adverse - impact(s) would be slight but noticeable but would neither appreciably alter resource conditions, such as traditional access or site preservation, nor the relationship between the resource and the affiliated group's body of beliefs and practices. For purposes of Section 106, the determination of effect on TCPs would be <i>no adverse effect</i> .	
	Minor beneficial - would allow traditional access and/or accommodate a group's traditional practices or beliefs. For purposes of Section 106, the determination of effect on TCPs would be <i>no adverse effect</i> .	5, 52, 156, 8, 170
	Moderate adverse - impact(s) would be apparent and would alter resource conditions. Something would interfere with traditional access, site preservation, or the relationship between the resource and the affiliated group's beliefs and practices, even though the group's beliefs and practices would survive. For purposes of Section 106, the determination of effect on TCPs would be <i>adverse effect</i> .	
	Moderate beneficial - would facilitate traditional access to accommodate a group's practices and beliefs. For purposes of Section 106, the determination of effect on TCPs would be <i>no adverse effect</i> .	
	Major adverse: impact(s) would alter resource conditions. Something would block or greatly affect traditional access, site preservation, or the relationship between the resource and the affiliated group's body of beliefs and practices, to the extent that the survival of a group's beliefs and/or practices would be jeopardized. For purposes of Section 106, the determination of effect on TCPs would be <i>adverse effect</i> .	
	Major beneficial: would encourage traditional access to accommodate a group's practices and beliefs. For purposes of Section 106, the determination of effect on TCPs would be <i>no adverse effect</i> .	
Local and Regional Transportation	Negligible adverse: a change in local and regional transportation features that would not be detectable and would have no discernable effect on the park resources and values	
	Minor adverse: a change in local and regional transportation features that would be slightly detectable but would not be expected to have an overall effect on the park resources and values	
	Moderate adverse: a change in local and regional transportation features that would be clearly detectable and could have an appreciable effect on the park resources and values	12, 56, 7, 8, 9, 130, 22, 23, 36, 86, 137, 143, 167, 173
	Major adverse: a substantial and noticeable effect on of local and regional transportation features that could permanently alter park resources and values	
	Negligible adverse: a change that would not be detectable and would have no discernable effect on visitor use of paved and unpaved trails	
	Minor adverse: a change that would be slightly detectable but would not be expected to have an overall effect on visitor use of paved and unpaved trails	

Appendix Table C-2. Impact Topics, Impact Thresholds, and Corresponding Issues Identified During Scoping.

Primary Impact Topic	Impact Thresholds	Corresponding GMP Issue Identified During Scoping (Appendix Table C-1)
	Minor beneficial: a change that would be slightly detectable and would not be expected to have an overall minor beneficial effect on visitor use of paved and unpaved trails	16, 18, 28, 29, 34, 35, 39, 43, 44, 45, 46, 47, 48, 49, 50, 51, 53, 59, 61, 70, 73, 77, 81, 94, 112, 120, 122, 126, 135, 136, 154, 157, 160, 161, 175
	Moderate adverse: a change that would be clearly detectable and could have an appreciable adverse effect on visitor use of paved and unpaved trails	
	Moderate beneficial: a change that would be clearly detectable and could have an appreciable beneficial effect on visitor use of paved and unpaved trails	
	Major adverse: a change that would result in a substantial and noticeable adverse effect on visitor use of paved and unpaved trails	
	Major beneficial: a change that would result in a substantial and noticeable beneficial effect on visitor use of paved and unpaved trails	
	Negligible adverse: a change that would not be detectable and would have no discernable effect on connections between adjacent communities and the park	
	Minor adverse: a change that would be slightly detectable but would not be expected to have an overall effect on connections between adjacent communities and the park	
	Minor beneficial: a change that would be slightly detectable and would not be expected to have an overall minor beneficial effect on connections between adjacent communities and the park	28, 29, 39, 45, 157, 24, 25, 83
	Moderate adverse: a change that would be clearly detectable and could have an appreciable adverse effect on connections between adjacent communities and the park	
	Moderate beneficial: a change that would be clearly detectable and could have an appreciable beneficial effect on connections between adjacent communities and the park	
	Major adverse: a change that would result in a substantial and noticeable adverse effect on visitor use of paved and unpaved trails	
	Major beneficial: a change that would result in a substantial and noticeable beneficial effect connections between adjacent communities and the park	
	Negligible adverse: a change that would not be detectable and would have no discernable effect on management of motorized transportation in the park	
	Minor adverse: a change that would be slightly detectable but would not be expected to have an overall effect on management of nonmotorized transportation in the park	
	Minor beneficial: a change that would be slightly detectable and would not be expected to have an overall minor beneficial effect on management of nonmotorized transportation in the park	6, 111, 13, 14, 26, 54, 110, 138, 16, 18, 28, 29, 34, 35, 39, 43, 46, 47, 48, 49, 50, 53, 59, 61, 70, 73, 77, 81, 94, 112, 120, 122, 126, 135, 136, 154, 157, 160, 175, 57, 92, 164, 115
	Moderate adverse: a change that would be clearly detectable and could have an appreciable adverse effect on management of nonmotorized transportation in the park	
	Moderate beneficial: a change that would be clearly detectable and could have an appreciable beneficial effect on management of nonmotorized transportation in the park	
	Major adverse: a change that would result in a substantial and noticeable adverse effect on management of nonmotorized transportation in the park	
	Major beneficial: a change that would result in a substantial and noticeable beneficial effect on management of nonmotorized transportation in the park	
	Negligible adverse: a change that would not be detectable and would have no discernable effect on off-road bicycle use in the park	
	Minor adverse: a change that would be slightly detectable but would not be expected to have an overall effect on off-road bicycle use in the park	
	Minor beneficial: a change that would be slightly detectable and would not be expected to have an overall minor beneficial effect on off-road bicycle use in the park	121, 16, 28, 29, 34, 35, 43, 44, 45, 46, 47, 48, 49, 53, 59, 70, 73, 81, 94, 112, 120, 122, 126, 135, 154, 136, 160, 161, 175
	Moderate adverse: a change that would be clearly detectable and could have an appreciable adverse effect on off-road bicycle use in the park	

Appendix Table C-2. Impact Topics, Impact Thresholds, and Corresponding Issues Identified During Scoping.

Primary Impact Topic	Impact Thresholds	Corresponding GMP Issue Identified During Scoping (Appendix Table C-1)
	Moderate beneficial: a change that would be clearly detectable and could have an appreciable beneficial effect on off-road bicycle use in the park	
	Major adverse: a change that would result in a substantial and noticeable adverse effect on off-road bicycle use in the park	
	Major beneficial: a change that would result in a substantial and noticeable beneficial effect on off-road bicycle use in the park	
	Negligible adverse: a change that would not be detectable and would have no discernable effect on erosion and runoff associated with off-road bicycle use	
	Minor adverse: a change that would be slightly detectable and would have a measurable effect on erosion and runoff associated with off-road bicycle use in a few localized areas	
	Moderate adverse: a change that would be clearly detectable and could produce appreciable adverse effects of erosion and runoff associated with off-road bicycle in numerous localized areas	5, 52, 97, 8, 9, 10, 67, 34, 175
	Major adverse: a change that would result in a substantial and noticeable increase in erosion and runoff associated with off-road bicycle use over widespread portion of in the park	
	Minor beneficial: a change that would be slightly detectable and would not be expected to have an overall minor beneficial effect on off-road bicycle use in the park	
	Moderate beneficial: a change that would be clearly detectable and could have an appreciable beneficial effect on off-road bicycle use in the park	
Visitor and Community Values - Recreational Opportunity	Negligible adverse: a change would not be detectable to the visitor and would have no discernable effect on the ability to provide shared experiences such as walking, picnicking, bicycling, horseback riding, and participating in other activities that have come to be associated with the park?	
	Minor adverse: a change that would be slightly detectable but would not be expected to have an overall effect on the ability to provide shared experiences such as walking, picnicking, bicycling, horseback riding, and participating in other activities that have come to be associated with the park?	
	Minor beneficial: a change that would be slightly detectable and would be expected to have an overall noticeable benefit on the ability to provide shared experiences such as walking, picnicking, bicycling, horseback riding, and participating in other activities that have come to be associated with the park	12, 56, 78, 140, 5, 52, 156, 7, 8, 9, 10, 6, 14, 26, 27, 30, 66, 75, 82, 110, 153, 179, 15, 60, 100, 16, 18, 28, 29, 34, 35, 39, 43, 44, 45, 47, 48, 49, 50, 53, 59, 61, 70, 77, 94, 112, 120, 122, 126, 157, 161, 175, 116, 117
	Moderate adverse: a that would be clearly detectable by the visitor and could have an appreciable adverse effect on the lasting value of the park as a gathering place for family and friends	
	Moderate beneficial: a change that would be clearly detectable by the visitor and could have an appreciable beneficial effect on the ability to provide shared experiences such as walking, picnicking, bicycling, horseback riding, and participating in other activities that have come to be associated with the park	
	Major adverse: a substantial and noticeable adverse effect on the ability to provide shared experiences such as walking, picnicking, bicycling, horseback riding, and participating in other activities that have come to be associated with the park	
	Major beneficial: a change that would have a substantial and noticeable positive effect on the ability to provide shared experiences such as walking, picnicking, bicycling, horseback riding, and participating in other activities that have come to be associated with the park	
	Negligible adverse: a change would not be detectable to the visitor and would have no discernable effect on the ability to provide individual and physically challenging recreation such as biking, boating, fishing, jogging, and hiking	
	Minor adverse: a change that would be slightly detectable but would not be expected to have an overall effect on the ability to provide individual and physically challenging recreation such as biking, boating, fishing, jogging, and hiking	
	Minor beneficial: a change that would be slightly detectable and would be expected to have an overall noticeable effect on the ability to provide individual and physically challenging recreation such as biking, boating, fishing, jogging, and hiking	12, 140, 149, 89, 10, 106, 116, 117, 118, 120, 122, 157, 16, 161, 175, 28, 29, 34, 47, 48, 50, 53, 54, 61, 59

Appendix Table C-2. Impact Topics, Impact Thresholds, and Corresponding Issues Identified During Scoping.

Primary Impact Topic	Impact Thresholds	Corresponding GMP Issue Identified During Scoping (Appendix Table C-1)
	Moderate adverse: a that would be clearly detectable by the visitor and could have an appreciable adverse effect on the ability to provide individual and physically challenging recreation such as biking, boating, fishing, jogging, and hiking	
	Moderate beneficial: a change that would be clearly detectable by the visitor and could have an appreciable beneficial effect on the ability to provide individual and physically challenging recreation such as biking, boating, fishing, jogging, and hiking	
	Major adverse: a substantial and noticeable adverse effect on the lasting value of the park as a gathering place for family and friends	
	Major beneficial: a change that would have a substantial and noticeable positive effect on effect on the ability to provide individual and physically challenging recreation such as biking, boating, fishing, jogging, and hiking	
Visitor and Community Values - Visitor experience	Negligible adverse: a change would not be detectable to the visitor and would have no discernable effect on the ability of the park to provide a restorative value to people as a place of natural beauty and escape from the nearby urban setting	
	Minor adverse: a change that would be slightly detectable but would not be expected to have an overall effect on the ability of the park to provide a restorative value to people as a place of natural beauty and escape from the nearby urban setting	
	Minor beneficial: a change that would be slightly detectable and would be expected to have an overall noticeable benefit by improving the restorative value of the park to people as a place of natural beauty and escape from the nearby urban setting	5, 52, 156, 148, 7, 8, 9, 6, 27, 66
	Moderate adverse: a that would be clearly detectable by the visitor and could have an appreciable adverse effect on the ability of the park to provide a restorative value to people as a place of natural beauty and escape from the nearby urban setting	
	Moderate beneficial: a change that would be clearly detectable by the visitor and could have an appreciable beneficial effect on the ability of the park to provide restorative value to people as a place of natural beauty and escape from the nearby urban setting	
	Major adverse: a substantial and noticeable adverse effect on traditional park character and visitor experience	
	Major beneficial: a change that would have a substantial and noticeable positive effect on the ability of the park to provide restorative value to people as a place of natural beauty and escape from the nearby urban setting	
	Negligible adverse: a change would not be detectable to the visitor and would have no discernable effect on the park's scenery, opportunities to learn about the natural world, natural quiet, and the ability to hear natural sounds	
	Minor adverse: a change that would be slightly detectable but would not be expected to have an overall effect on the park's scenery, opportunities to learn about the natural world, natural quiet, and the ability to hear natural sounds	
	Minor beneficial: a change that would be slightly detectable and would be expected to have an overall noticeable benefit on the park's scenery, opportunities to learn about the natural world, natural quiet, and the ability to hear natural sounds	5, 52, 156, 148, 7, 8, 9, 6, 27, 66
	Moderate adverse: a that would be clearly detectable by the visitor and could have an appreciable adverse effect on the park's scenery, opportunities to learn about the natural world, natural quiet, and the ability to hear natural sounds	
	Moderate beneficial: a change that would be clearly detectable by the visitor and could have an appreciable beneficial effect on the on the park's scenery, opportunities to learn about the natural world, natural quiet, and the ability to hear natural sounds	
	Major adverse: a substantial and noticeable adverse effect on park's scenery, opportunities to learn about the natural world, natural quiet, and the ability to hear natural sounds	
	Major beneficial: a change that would have a substantial and noticeable positive effect on the on the scenery, opportunities to learn about the natural world, natural quiet, and the ability to hear natural sounds	

Appendix Table C-2. Impact Topics, Impact Thresholds, and Corresponding Issues Identified During Scoping.

Primary Impact Topic	Impact Thresholds	Corresponding GMP Issue Identified During Scoping (Appendix Table C-1)
	Negligible adverse: a change would not be detectable to the visitor and would have no discernable effect on the lasting value of the park as a gathering place for family and friends	
	Minor adverse: a change that would be slightly detectable but would not be expected to have an overall effect on the lasting value of the park as a gathering place for family and friends	
	Minor beneficial: a change that would be slightly detectable and would be expected to have an overall noticeable benefit on the lasting value of the park as a gathering place for family and friends	5, 52, 156, 7,8, 9, 10, 6, 82
	Moderate adverse: a that would be clearly detectable by the visitor and could have an appreciable adverse effect on the lasting value of the park as a gathering place for family and friends	
	Moderate beneficial: a change that would be clearly detectable by the visitor and could have an appreciable beneficial effect on the lasting value of the park as a gathering place for family and friends	
	Major adverse: a substantial and noticeable adverse effect on the lasting value of the park as a gathering place for family and friends	
	Major beneficial: a change that would have a substantial and noticeable positive effect on the lasting value of the park as a gathering place for family and friends	
Visitor and Community Values - Numbers and types of visitor facilities	Negligible adverse: a change would not be detectable to the visitor and would have no discernable effect on the ability of management to repair and maintain facilities	
	Minor adverse: a change that would be slightly detectable but would not be expected to have an overall effect on the ability of management to repair and maintain facilities	
	Minor beneficial: a change that would be slightly detectable and would be expected to have an overall noticeable benefit on the ability of management to repair and maintain facilities	3, 42, 106, 107, 113, 114, 127, 146, 177, 110, 53, 81
	Moderate adverse: a that would be clearly detectable by the visitor and could have an appreciable adverse effect on the ability of management to repair and maintain facilities	
	Moderate beneficial: a change that would be clearly detectable by the visitor and could have an appreciable beneficial effect on the ability of management to repair and maintain facilities?	
	Major adverse: a substantial and noticeable adverse effect on the ability of management to repair and maintain facilities	
	Major beneficial: a change that would have a substantial and noticeable positive effect on the ability of management to repair and maintain facilities	
	Negligible adverse: a change would not be detectable to the visitor and would have no discernable effect on historic resources present within the park and their appreciation by the public	
	Minor adverse: a change that would be slightly detectable but would not be expected to have an overall effect on the historic resources present within the park and their appreciation by the public	
	Minor beneficial: a change that would be slightly detectable and would be expected to have an overall noticeable benefit on the historic resources present within the park and their appreciation by the public	170
	Moderate adverse: a that would be clearly detectable by the visitor and could have an appreciable adverse effect on the historic resources present within the park and their appreciation by the public	
	Moderate beneficial: a change that would be clearly detectable by the visitor and could have an appreciable beneficial effect on the historic resources present within the park and their appreciation by the public	
	Major adverse: a substantial and noticeable adverse effect on the historic resources present within the park and their appreciation by the public	

Appendix Table C-2. Impact Topics, Impact Thresholds, and Corresponding Issues Identified During Scoping.

Primary Impact Topic	Impact Thresholds	Corresponding GMP Issue Identified During Scoping (Appendix Table C-1)
	Major beneficial: a change that would have a substantial and noticeable positive effect on the historic resources present within the park and their appreciation by the public	
Visitor and Community Values - Traditional Character	Negligible adverse: a change would not be detectable to the visitor and would have no discernable effect on the park's natural qualities, including ecological resources	
	Minor adverse: a change that would be slightly detectable but would not be expected to have an overall effect on the park's natural qualities, including ecological resources	
	Minor beneficial: a change that would be slightly detectable and would be expected to have an overall noticeable benefit on the park's natural qualities, including ecological resources	5, 52, 156, 148, 7, 8, 9, 6, 27, 66
	Moderate adverse: a that would be clearly detectable by the visitor and could have an appreciable adverse effect on the park's natural qualities, including ecological resources	
	Moderate beneficial: a change that would be clearly detectable by the visitor and could have an appreciable beneficial effect on the park's natural qualities, including ecological resources	
	Major adverse: a substantial and noticeable adverse effect the park's natural qualities, including ecological resources	
	Major beneficial: a change that would have a substantial and noticeable positive effect on the on the park's natural qualities, including ecological resources	
	Negligible adverse: a change would not be detectable to the visitor and would have no discernable effect on the park's traditional, familiar character of the park's recreational features	
	Minor adverse: a change that would be slightly detectable but would not be expected to have an overall effect on the park's traditional, familiar character of the park's recreational features	
	Minor beneficial: a change that would be slightly detectable and would be expected to have an overall noticeable benefit on the park's traditional, familiar character of the park's recreational features	80, 106, 5, 52, 156, 8, 67, 6, 13, 14, 27, 66, 75, 108, 153, 16, 18, 29, 35, 43, 47, 48, 49, 50, 53, 59, 77, 94, 122, 175, 116, 117, 139, 142, 145, 162
	Moderate adverse: a that would be clearly detectable by the visitor and could have an appreciable adverse effect on the park's traditional, familiar character of the park's recreational features	
	Moderate beneficial: a change that would be clearly detectable by the visitor and could have an appreciable beneficial effect on the on the park's traditional, familiar character of the park's recreational features	
	Major adverse: a substantial and noticeable adverse effect on the park's traditional, familiar character of the park's recreational features	
	Major beneficial: a change that would have a substantial and noticeable positive effect on the on traditional, familiar character of the park's recreational features	
	Negligible adverse: a change that would not be detectable and would have no discernable effect on community character	
	Minor adverse: a change that would be slightly detectable but would not be expected to have an overall effect on community character	
	Minor beneficial: a change that would be slightly detectable but would not be expected to have a noticeable beneficial effect on community character	5, 52, 156, 8, 19, 38, 55, 68, 74, 76, 79, 92, 147, 24, 25, 83, 84
	Moderate adverse: a change that would be clearly detectable and could have an appreciable effect on community character	
	Moderate beneficial: a change that would be clearly detectable and could have an appreciable beneficial effect on community character	
	Major adverse: a substantial and noticeable change that could permanently alter community character	
	Major beneficial: a substantial and noticeable change that could permanently alter community character in beneficial manner	

Appendix Table C-2. Impact Topics, Impact Thresholds, and Corresponding Issues Identified During Scoping.

Primary Impact Topic	Impact Thresholds	Corresponding GMP Issue Identified During Scoping (Appendix Table C-1)
	Negligible adverse: a change that would not be detectable and would have no discernable effect on the park as a major asset to the quality of life in the Atlanta metropolitan area	
	Minor adverse: a change that would be slightly detectable but would not be expected to have an overall effect on the park as a major asset to the quality of life in the Atlanta metropolitan area	
	Minor beneficial: a change that would be slightly detectable but would not be expected to have an noticeable beneficial effect on the park as a major asset to the quality of life in the Atlanta metropolitan area	5, 11, 52, 91, 156, 7, 8, 9, 10, 67, 102, 133, 6, 27, 30, 66, 110, 153, 179, 60, 100, 51, 59, 20, 68, 79, 24, 25, 83, 84
	Moderate adverse: a change that would be clearly detectable and could have an appreciable effect on the park as a major asset to the quality of life in the Atlanta metropolitan area	
	Moderate beneficial: a change that would be clearly detectable and could have an appreciable beneficial effect on the park as a major asset to the quality of life in the Atlanta metropolitan area	
	Major adverse: a substantial and noticeable change that could permanently alter the park as a major asset to the quality of life in the Atlanta metropolitan area	
	Major beneficial: a substantial and noticeable change that could permanently alter the park as a major asset to the quality of life in the Atlanta metropolitan area	
	Negligible adverse: a change that would not be detectable and would have no discernable effect on scenic and recreational amenities provided by the park	
	Minor adverse: a change that would be slightly detectable but would not be expected to have an overall effect on scenic and recreational amenities provided by the park	
	Minor beneficial: a change that would be slightly detectable but would not be expected to have an noticeable beneficial effect on scenic and recreational amenities provided by the park	12, 56, 78, 3, 5, 11, 52, 148, 156, 7, 8, 9, 10, 111, 6, 13, 14, 27, 30, 66, 130, 153, 179, 60, 100, 16, 18, 29, 34, 35, 39, 47, 48, 50, 53, 59, 61, 94, 154, 157, 160, 161, 175, 116, 117, 145, 139, 98, 131
	Moderate adverse: a change that would be clearly detectable and could have an appreciable effect on scenic and recreational amenities provided by the park	
	Moderate beneficial: a change that would be clearly detectable and could have an appreciable beneficial effect on scenic and recreational amenities provided by the park	
	Major adverse: a substantial and noticeable change that could permanently alter scenic and recreational amenities provided by the park	
	Major beneficial: a substantial and noticeable change that could permanently alter scenic and recreational amenities provided by the park	
	Negligible adverse: a change that would not be detectable and would have no discernable effect on proximity and access to the park	
	Minor adverse: a change that would be slightly detectable but would not be expected to have an overall effect on proximity and access to the park	
	Minor beneficial: a change that would be slightly detectable but would not be expected to have an noticeable beneficial effect on proximity and access to the park	12, 56, 140, 13, 26, 30, 75, 130, 176, 15, 60, 100, 18, 45, 47, 61, 157, 24, 25, 83, 22, 137, 167
	Moderate adverse: a change that would be clearly detectable and could have an appreciable effect on proximity and access to the park	
	Moderate beneficial: a change that would be clearly detectable and could have an appreciable beneficial effect on proximity and access to the park	
	Major adverse: a substantial and noticeable change that could permanently alter proximity and access to the park	
	Major beneficial: a substantial and noticeable change that could permanently alter proximity and access to the park	
	Negligible adverse: a change that would not be detectable and would have no discernable effect on the experience provided for adjoining neighborhoods	
	Minor adverse: a change that would be slightly detectable but would not be expected to have an overall effect the experience provided for adjoining neighborhoods	

Appendix Table C-2. Impact Topics, Impact Thresholds, and Corresponding Issues Identified During Scoping.

Primary Impact Topic	Impact Thresholds	Corresponding GMP Issue Identified During Scoping (Appendix Table C-1)
	Minor beneficial: a change that would be slightly detectable but would not be expected to have an noticeable beneficial effect on the experience provided for adjoining neighborhoods	5, 52, 156, 7, 8, 9, 67, 71, 102, 133, 6, 27, 64, 66, 82, 15, 60, 100, 38, 55, 68, 74, 76, 79, 164, 24, 25, 83, 84, 99, 86, 167
	Moderate adverse: a change that would be clearly detectable and could have an appreciable effect on the experience provided for adjoining neighborhoods	
	Moderate beneficial: a change that would be clearly detectable and could have an appreciable beneficial effect the experience provided for adjoining neighborhoods	
	Major adverse: a substantial and noticeable change that could permanently alter the experience provided for adjoining neighborhoods	
	Major beneficial: a substantial and noticeable change that could permanently alter the experience provided for adjoining neighborhoods	

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**Table C.3: Highlights of Class C Cost Comparison by Alternative**

<u>Alternative</u>	<u>Action</u>	<u>Gross Construction Costs</u>
Focus on Solitude	Trails/Access	4,838,000*
	Restrooms/Picnic	303,000
	Education/Visitors	2,072,000
	Signage	224,000
	Cultural Resources/Restoration	1,173,000
	Design and Construction	1,550,000
Total: 10,160,000		
<hr/>		
Centralized Access	Trails/Access	7,950,000*
	Restrooms/Picnic	482,000
	Education/Visitors	6,979,000†
	Signage	224,000
	Cultural Resources/Restoration	1,173,000
	Design and Construction	3,025,000
Total: 19,833,000		
<hr/>		
Expanded Use	Trails/Access	10,103,000*
	Restrooms/Picnic	512,000
	Education/Visitors	13,701,000
	Signage	224,000
	Cultural Resources/Restoration	1,173,000
	Design and Construction	4,628,000
Total: 30,341,000		
<hr/>		
No Action	N/A	N/A



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Table C-4. Life-Cycle Analysis Summary

Project/Location: Chattahoochee River National Recreation Area

Subject: Functional Component

Description: Project Life Cycle = 25 Years  
Discount Rate = 7.00%  
Present Time = Apr-04

INITIAL COSTS	Quantity UM	Unit Price	Alternative 1		Alternative 2		Alternative 3		Alternative 4	
			Est.	PW	Est.	PW	Est.	PW	Est.	PW
Construction Costs										
A. Trails/Access		\$0.00	0	4,838,000	4,838,000	7,950,000	7,950,000	10,103,000	10,103,000	
B. Restrooms/Picnic Areas		\$0.00	0	302,000	302,000	482,000	482,000	512,000	512,000	
C. Education Centers		\$0.00	0	2,072,000	2,072,000	6,978,000	6,978,000	13,701,000	13,701,000	
D. Signage		\$0.00	0	224,000	224,000	224,000	224,000	224,000	224,000	
E.		\$0.00	0							
F.		\$0.00	0							
G.		\$0.00	0							
<b>Total Initial Cost</b>			<b>0</b>							
<b>Initial Cost PW Savings (Compared to Alt. 1)</b>				<b>7,436,000</b>	<b>(7,436,000)</b>		<b>15,634,000</b>		<b>24,540,000</b>	
							<b>(15,634,000)</b>		<b>(24,540,000)</b>	
<b>REPLACEMENT COST/ SALVAGE VALUE</b>										
<b>Description</b>	<b>Year</b>	<b>PW Factor</b>								
A. Trails/Access	20	0.2584	0	4,838,000	1,250,231	7,950,000	2,054,431	10,103,000	2,610,807	
B. Restrooms/Picnic Areas	20	0.2584	0	302,000	78,042	482,000	124,557	512,000	132,310	
C. Education Centers	50	0.0339	0	2,072,000	70,339	6,978,000	236,887	13,701,000	465,118	
D. Signage	10	0.5083	0	224,000	113,870	224,000	113,870	224,000	113,870	
E.	0	1.0000	0							
<b>Total Replacement/Salvage Costs</b>			<b>0</b>		<b>1,512,482</b>		<b>2,529,745</b>		<b>3,322,105</b>	
<b>ANNUAL COSTS</b>										
<b>Description</b>	<b>Excl. %</b>	<b>PWA</b>								
A. Maintenance	0.000%	11.654	0							
B. Operations	0.000%	11.654	8,157,508	930,000	10,837,832	10,837,832	10,837,832	930,000	10,837,832	
C. Staffing	0.000%	11.654	47,266,933	7,375,000	85,945,176	64,502,583	5,535,000	7,216,000	84,092,256	
D.	0.000%	11.654	0							
E.	0.000%	11.654	0							
F.	0.000%	11.654	0							
<b>Total Annual Costs (Present Worth)</b>			<b>55,424,442</b>		<b>96,783,008</b>		<b>75,340,415</b>		<b>94,930,089</b>	
<b>Total Life Cycle Costs (Present Worth)</b>			<b>55,424,442</b>		<b>105,731,490</b>		<b>93,504,160</b>		<b>122,792,194</b>	
<b>Life Cycle Savings (Compared to Alt. 1)</b>					<b>(50,307,049)</b>		<b>(38,079,719)</b>		<b>(67,367,752)</b>	
<b>Discounted Payback (Compared to Alt. 1)</b>				<b>-2.02</b>	<b>Years</b>		<b>-8.12</b>	<b>Years</b>	<b>-6.68</b>	
<b>Total Life Cycle Costs (Annualized)</b>			<b>4,756,000</b>	<b>Per Year</b>	<b>9,072,874</b>	<b>Per Year</b>	<b>8,023,640</b>	<b>Per Year</b>	<b>10,536,862</b>	
					<b>Per Year</b>				<b>Per Year</b>	

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Table C-5 - CRNRA GMP/EIS Choosing by Advantage - Attributes Assigned to Each Factor by Alternative<sup>1</sup>

Alternative 1	Alternative 2	Alternative 3	Alternative 4 - No Action
<b>Factor 1: Protect and improve the conditions of park natural resources including – habitat diversity and quality, species health and diversity and water quality.</b>			
Establishes Pristine River Zone	No Pristine River Zone	<u>No Pristine River Zone</u>	No Pristine River Zone
Lowest internal nonpoint sources, impervious and stormwater runoff (no new roads and infrastructure; possibly reduce)	Moderate internal nonpoint sources, impervious and stormwater runoff (no new roads and infrastructure; possibly reduce)	<u>Highest internal nonpoint sources, impervious and stormwater runoff (no new roads and infrastructure; possibly reduce)</u>	High internal nonpoint sources, impervious and stormwater runoff (no new roads and infrastructure; possibly reduce)
Greatest amount of restoration. Highest protection of wetlands and floodplains. Building/facility removal (e.g. Abbots Bridge)	Moderate amount of restoration. Highest protection of wetlands and floodplains. Building/facility removal (e.g. Abbots Bridge)	<u>Low amount of restoration. Highest protection of wetlands and floodplains. Building/facility removal (e.g. Abbots Bridge)</u>	Lowest amount of restoration. Highest protection of wetlands and floodplains. Building/facility removal (e.g. Abbots Bridge)
Highest species protection; increased diversity; T&E	Moderate species protection; increased diversity; T&E	<u>Lowest species protection; increased diversity; T&amp;E</u>	Low species protection; increased diversity; T&E
High reintroduction of native species (and reduce related impacts – e.g. dogs)	Moderate reintroduction of native species (and reduce related impacts – e.g. dogs)	<u>Lowest reintroduction of native species (and reduce related impacts – e.g. dogs)</u>	Low reintroduction of native species (and reduce related impacts – e.g. dogs)
Low potential for erosion and sedimentation (less development)	Moderate potential for erosion and sedimentation (less development)	<u>High potential for erosion and sedimentation (less development)</u>	Highest potential for erosion and sedimentation (less development)

<sup>1</sup>Note: The lowest assessment for each factor is highlighted in the assessment row by a heavy underline. In instances where more than one alternative scores lowest, only one is highlighted.

Table C- 5 - CRNRA GMP/EIS Choosing by Advantage - Attributes Assigned to Each Factor by Alternative<sup>1</sup> (Continued)

Alternative 1	Alternative 2	Alternative 3	Alternative 4 – No Action
Lowest noise and light impacts	Moderate noise and light impacts	<u>Moderate noise and light impacts</u>	Low noise and light impacts
Lowest access and facility infrastructure	Moderate access and facility infrastructure	<u>Highest access and facility infrastructure</u>	High access and facility infrastructure
Highest protection of green viewshed	High protection of green viewshed	<u>Lowest protection of green viewshed</u>	Moderate protection of green viewshed
Highest opportunity for scientific research	High opportunity for scientific research	<u>Lowest opportunity for scientific research</u>	Moderate opportunity for scientific research
Highest control/elimination of exotics	High control/elimination of exotics	<u>Low control/elimination of exotics</u>	Lowest control/elimination of exotics
<b>Factor 2: Protect and/or improve cultural resources</b>			
Lowest infrastructure and visitor use and related cultural resource impact – lowest exposure to site	Moderate infrastructure and visitor use and related cultural resource impact – moderate exposure to site	High infrastructure and visitor use and related cultural resource impact – high exposure to site	<u>Highest infrastructure and visitor use and related cultural resource impact – highest exposure to site</u>
High number of cultural resource management zones	High number of cultural resource management zones	Moderate number of cultural resource management zones	<u>No Zones</u>
Highest cultural resource research potential	Moderate cultural resource research potential	Lowest cultural resource research potential	<u>Low cultural resource research potential</u>

<sup>1</sup>Note: The lowest assessment for each factor is highlighted in the assessment row by a heavy underline. In instances where more than one alternative scores lowest, only one is highlighted.

Table C-5 - CRNRA GMP/EIS Choosing by Advantage - Attributes Assigned to Each Factor by Alternative' (Continued)

Alternative 1	Alternative 2	Alternative 3	Alternative 4 - No Action
Least impacts to cultural resources from exotic plants	Moderate level of impact to cultural resources from exotic plants	High level of impact to cultural resources from exotic plants	<u>Highest level of impact to cultural resources from exotic plants</u>
Lowest erosion potential and related impacts to cultural resources	Moderate erosion potential and related impacts to cultural resources	High erosion potential and related impacts to cultural resources	<u>Highest erosion potential and related impacts to cultural resources</u>
<b>Factor 3: Provide a diversity of visitor experience and opportunities</b>			
Lowest diversity of visitor experience (fewer facilities)	<u>Moderate diversity of visitor experience (fewer facilities)</u>	Highest diversity of visitor experience (fewer facilities)	High diversity of visitor experience (fewer facilities)
Adds Pristine River zone	<u>No Pristine River zone</u>	No Pristine River zone	No Pristine River zone
<b>Factor 4: Provide opportunities for resource- oriented activities (non- facilitated based) such as solitude, isolation, and natural resource based experiences</b>			
Greatest opportunity for solitude	Moderate opportunity for solitude	<u>Least opportunity for solitude</u>	Low opportunity for solitude
Greatest opportunity to experience natural beauty	Moderate opportunity to experience natural beauty	<u>Least opportunity to experience natural beauty</u>	Low opportunity to experience natural beauty
Lowest level of user conflict	Moderate level of user conflict	<u>Highest level of user conflict</u>	High level of user conflict

Note: The lowest assessment for each factor is highlighted in the assessment row by a heavy underline. In instances where more than one alternative scores lowest, only one is highlighted.

Table C-5 - CRNRA GMP/EIS Choosing by Advantage - Attributes Assigned to Each Factor by Alternative<sup>1</sup> (Continued)

Alternative 1	Alternative 2	Alternative 3	Alternative 4 - No Action
Lowest intrusion from NPS operation (motors, chainsaws, developed maintenance)	Moderate intrusion from NPS operation (motors, chainsaws, developed maintenance)	<u>Highest intrusion from NPS operation (motors, chainsaws, developed maintenance)</u>	High intrusion from NPS operation (motors, chainsaws, developed maintenance)
Low NPS- guided activities	Highest NPS- guided activities	<u>High NPS- guided activities</u>	Least NPS- guided activities
<b>Factor 5: Provide opportunities for facility- oriented recreation experiences, such as biking, horseback riding, and picnicking</b>			
<u>Limited/fewer facilities, lowest number of facilities</u>	Moderate number of facilities	Highest number of facilities	Moderate number of facilities
<u>Lowest amount of paved trails or surfaces</u>	Moderate amount of paved trails or surfaces	Highest amount of paved trails or surfaces	Moderate amount of paved trails or surfaces
<u>Lowest opportunity for biking, skating, etc.</u>	Moderate opportunity for biking, skating, etc.	Highest opportunity for biking, skating, etc.	Low opportunity for biking, skating, etc.

<sup>1</sup>Note: The lowest assessment for each factor is highlighted in the assessment row by a heavy underline. In instances where more than one alternative scores lowest, only one is highlighted.

Table C-5 - CRNRA GMP/EIS Choosing by Advantage - Attributes Assigned to Each Factor by Alternative<sup>1</sup> (Continued)

Alternative 1	Alternative 2	Alternative 3	Alternative 4 – No Action
<b>Factor 6: Provide opportunities for immediate park neighborhoods and the adjacent communities</b>			
<u>Lowest opportunity for connectivity/linkages with adjacent communities</u>	Moderate opportunity for connectivity/linkages with communities	Highest opportunity for connectivity/linkages with communities	High opportunity for connectivity/linkages with communities
<u>Low opportunity for on-site information/education for communities</u>	High opportunity for on-site information/education for communities	Highest opportunity for on-site information/education for communities	Lowest opportunity for on-site information/education for communities
<b>Factor 7: Provide opportunities to enhance park operations</b>			
Fewest new facilities – maintains simplicity; lowest coordination need	Moderate facility increase, moderate complexity	<u>Highest number of new facilities and highest complexity</u>	Moderate facility increase, moderate complexity
Resource Management more controlled – least complex issues, fewer compliance needs	Moderate RM complexity and compliance	<u>Highest RM complexity and compliance</u>	High RM complexity and compliance
Highest effort to change traditional use patterns	High effort to change traditional use patterns	<u>Minimal effort to change traditional use patterns</u>	Least effort to change traditional use patterns
Demands limited focus on partnerships	High focus on partnerships	<u>Moderate focus on partnerships</u>	Least focus on partnerships

<sup>1</sup>Note: The lowest assessment for each factor is highlighted in the assessment row by a heavy underline. In instances where more than one alternative scores lowest, only one is highlighted.

Table C-5 - CRNRA GMP/EIS Choosing by Advantage - Attributes Assigned to Each Factor by Alternative<sup>1</sup> (Continued)

Alternative 1	Alternative 2	Alternative 3	Alternative 4 - No Action
<b>Factor 8: Improve visibility and awareness of educational opportunities concerning NPS and the Chattahoochee River National Recreation Area</b>			
Greatest demand for outreach	Moderate demand for outreach	Minimal demand for outreach	<i>Least outreach</i>
Most neighborhood involvement to create linkages	Moderate neighborhood involvement to create linkages	Minimal neighborhood involvement to create linkages	<u>No neighborhood involvement to create linkages</u>
Least local government involvement to create linkages	Most local government involvement to create linkages	Moderate local government involvement to create linkages	<u>Minimal government involvement to create linkages</u>
Fewest facilities, contact stations, kiosks. Lowest physical visibility	Moderate number of facilities, etc. Moderate physical visibility	Highest number facilities, contact stations, etc. Highest physical visibility	<u>Moderate facilities and physical visibility</u>

<sup>1</sup>Note: The lowest assessment for each factor is highlighted in the assessment row by a heavy underline. In instances where more than one alternative scores lowest, only one is highlighted.

## **APPENDIX D**

### **PARK LEGISLATION**

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PUBLIC LAW 106-154—DEC. 9, 1999

CHATTAHOOCHEE RIVER NATIONAL  
RECREATION AREA IMPROVEMENTS

113 STAT. 1736

PUBLIC LAW 106-154—DEC. 9, 1999

Public Law 106-154  
108th Congress

An Act

Dec. 9, 1999  
(H. R. 2140)

To improve protection and management of the Chattahoochee River National Recreation Area in the State of Georgia.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

18 USC 460i  
note.

**SECTION 1. FINDINGS AND PURPOSES.**

(a) **FINDINGS.**—Congress finds that—

(1) the Chattahoochee River National Recreation Area in the State of Georgia is a nationally significant resource;

(2) the Chattahoochee River National Recreation Area has been adversely affected by land use changes occurring inside and outside the recreation area;

(3) the population of the metropolitan Atlanta area continues to expand northward, leaving dwindling opportunities to protect the scenic, recreational, natural, and historical values of the 2,000-foot-wide corridor adjacent to each bank of the Chattahoochee River and its impoundments in the 48-mile segment known as the "area of national concern";

(4) the State of Georgia has enacted the Metropolitan River Protection Act to ensure protection of the corridor located within 2,000 feet of each bank of the Chattahoochee River, or the corridor located within the 100-year floodplain, whichever is larger;

(5) the corridor located within the 100-year floodplain includes the area of national concern;

(6) since establishment of the Chattahoochee River National Recreation Area, visitor use of the recreation area has shifted dramatically from waterborne to water-related and land-based activities;

(7) the State of Georgia and political subdivisions of the State along the Chattahoochee River have indicated willingness to join in a cooperative effort with the United States to link existing units of the recreation area through a series of linear corridors to be established within the area of national concern and elsewhere on the river; and

(8) Congress appropriates funds in support of the cooperative effort described in paragraph (7), funding from the State, political subdivisions of the State, private foundations, corporate entities, private individuals, and other sources will be available to fund more than half the estimated cost of the cooperative effort.

(b) **PURPOSES.**—The purposes of this Act are—

(1) to increase the level of protection of the open spaces within the area of national concern along the Chattahoochee

PUBLIC LAW 106-154—DEC. 9, 1999

113 STAT. 1737

River and to enhance visitor enjoyment of the open spaces by adding land-based linear corridors to link existing units of the recreation area;

(2) to ensure that the Chattahoochee River National Recreation Area is managed to standardize acquisition, planning, design, construction, and operation of the linear corridors; and

(3) to authorize the appropriation of Federal funds to cover a portion of the costs of the Federal, State, local, and private cooperative effort to add additional areas to the recreation area so as to establish a series of linear corridors linking existing units of the recreation area and to protect other open spaces of the Chattahoochee River corridor.

**SEC. 2. AMENDMENTS TO CHATTAHOOCHEE RIVER NATIONAL RECREATION AREA ACT.**

(a) **BOUNDARIES.**—Section 101 of the Act entitled “An Act to authorize the establishment of the Chattahoochee River National Recreation Area in the State of Georgia, and for other purposes”, approved August 15, 1978 (16 U.S.C. 460ii), is amended—

(1) in the third sentence, by inserting after “numbered CHAT-20,003, and dated September 1984,” the following: “and on the maps entitled ‘Chattahoochee River National Recreation Area Interim Boundary Map #1’, ‘Chattahoochee River National Recreation Area Interim Boundary Map #2’, and ‘Chattahoochee River National Recreation Area Interim Boundary Map #3’, and dated August 6, 1998,”;

(2) by striking the fourth sentence and inserting the following: “No sooner than 180 days after the date of the enactment of this sentence, the Secretary of the Interior (hereafter referred to as the ‘Secretary’) may modify the boundaries of the recreation area to include other land within the Chattahoochee River corridor by submitting a revised map or other boundary description to the Committee on Energy and Natural Resources of the United States Senate and the Committee on Resources of the United States House of Representatives. The revised map or other boundary description shall be prepared by the Secretary after consultation with affected landowners, the State of Georgia, and affected political subdivisions of the State. The revised boundaries shall take effect 180 days after the date of submission unless, within the 180-day period, Congress enacts a joint resolution disapproving the revised boundaries.”; and

(3) in the next-to-last sentence, by striking “may not exceed approximately 6,800 acres.” and inserting “may not exceed 10,000 acres.”.

(b) **ACQUISITION OF PROPERTY.**—Section 102 of the Act entitled “An Act to authorize the establishment of the Chattahoochee River National Recreation Area in the State of Georgia, and for other purposes”, approved August 15, 1978 (16 U.S.C. 460ii-1), is amended—

(1) in subsection (a), by inserting “from willing sellers” after “purchase”; and

(2) by striking subsection (f).

(c) **COOPERATIVE AGREEMENTS.**—Section 103 of the Act entitled “An Act to authorize the establishment of the Chattahoochee River National Recreation Area in the State of Georgia, and for other

113STAT.1738

PUBLIC LAW 106-154—DEC. 9, 1999

purpose", approved August 15, 1978 (16 U.S.C. 460i-2), is amended by striking subsection (b) and inserting the following:

"(b) COOPERATIVE AGREEMENTS.—The Secretary may enter into cooperative agreements with the State of Georgia, political subdivisions of the State, and other entities to ensure standardized acquisition, planning, design, construction, and operation of the recreation area."

(d) FUNDING.—Section 105 of the Act entitled "An Act to authorize the establishment of the Chattahoochee River National Recreation Area in the State of Georgia, and for other purposes", approved August 15, 1978 (16 U.S.C. 460i-4), is amended—

(1) by striking "SEC. 105. (a)" and inserting the following:

"SEC. 105. FUNDING SOURCES AND GENERAL MANAGEMENT PLAN.

"(a) FUNDING.—

"(1) LIMITATION ON USE OF APPROPRIATED FUNDS.—";

(2) in subsection (a)—

(A) by striking "\$79,400,000" and inserting "\$115,000,000";

(B) by striking "this Act" and inserting "this title";

and

(C) by adding at the end the following:

"(2) DONATIONS.—The Secretary may accept a donation of funds or land or an interest in land to carry out this title.

"(3) RELATION TO OTHER FUNDING SOURCES.—Funds made available under paragraph (1) are in addition to funding and the donation of land and interests in land by the State of Georgia, local government authorities, private foundations, corporate entities, and individuals for purposes of this title."; and

(3) in subsection (c)—

(A) by redesignating paragraphs (1) through (3) as subparagraphs (A) through (C), respectively, and indenting appropriately;

(B) by striking "(c) Within" and inserting the following:

"(c) GENERAL MANAGEMENT PLAN.—

"(1) INITIAL PLAN.—Within";

(C) in paragraph (1) (as designated by subparagraph (B)), by striking "transmit to" and all that follows through "Representatives" and inserting "transmit to the Committee on Resources of the House of Representatives"; and

(D) by adding at the end the following:

"(2) REVISED PLAN.—

"(A) IN GENERAL.—Within 3 years after the date funds are made available, the Secretary shall submit to the committees specified in paragraph (1) a revised general management plan to provide for the protection, enhancement, enjoyment, development, and use of the recreation area.

"(B) PUBLIC PARTICIPATION.—In preparing the revised plan, the Secretary shall encourage the participation of the State of Georgia and affected political subdivisions of the State, private landowners, interested citizens, public officials, groups, agencies, educational institutions, and other entities."

(e) TECHNICAL CORRECTIONS.—Title I of the Act entitled "An Act to authorize the establishment of the Chattahoochee River

PUBLIC LAW 106-154—DEC. 9, 1999

113 STAT. 1739

National Recreation Area in the State of Georgia, and for other purposes", approved August 15, 1978 (16 U.S.C. 460ii et seq.), is amended—

(1) in sections 102(d) and 103(a), by striking "of this Act" and inserting "of this title";

16 USC 460ii-1,  
460ii-2.

(2) in section 104(b)—

16 USC 460ii-3.

(A) by striking "of this Act" and inserting "of this title";

(B) by striking "under this Act" and inserting "under this title";

(C) by striking "by this Act" and inserting "by this title"; and

(D) by striking "in this Act" and inserting "in this title";

(3) in section 104(d)(2), by striking "under this Act" and inserting "under this title";

(4) in section 105(c)(1)(A), as redesignated by subsection (d)(3), by striking "of this Act" and inserting "of this title";

16 USC 460ii-4.

(5) in section 106(a), by striking "in this Act" and inserting "in this title"; and

16 USC 460ii-5.

(6) in section 106(d), by striking "under this Act" and inserting "under this title".

Approved December 9, 1999.

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LEGISLATIVE HISTORY—H. R. 2140 (S. 109):

HOUSE REPORTS: No. 106-369 (Comm. on Resources).

SENATE REPORTS: No. 106-62 accompanying S. 109 (Comm. on Energy and Natural Resources).

CONGRESSIONAL RECORD, Vol. 145 (1999):

Oct. 18, considered and passed House.

Nov. 19, considered and passed Senate.

WEEKLY COMPILATION OF PRESIDENTIAL DOCUMENTS, Vol. 35 (1999):

Dec. 9, Presidential statement.

○

APPENDIX A

92 STAT. 474

PUBLIC LAW 95-344—AUG. 15, 1978

Public Law 95-344  
95th Congress

An Act

Aug. 15, 1978  
[H.R. 8336]

To authorize the establishment of the Chattahoochee River National Recreation Area in the State of Georgia, and for other purposes.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

Chattahoochee  
River National  
Recreation Area,  
Ga.

Establishment.  
16 USC 460ii.

Publication in  
Federal Register.

Land acquisition.  
16 USC 460i-1.

TITLE I

SEC. 101. The Congress finds the natural, scenic, recreation, historic, and other values of a forty-eight-mile segment of the Chattahoochee River and certain adjoining lands in the State of Georgia from Buford Dam downstream to Peachtree Creek are of special national significance, and that such values should be preserved and protected from developments and uses which would substantially impair or destroy them. In order to assure such preservation and protection for public benefit and enjoyment, there is hereby established the Chattahoochee River National Recreation Area (hereinafter referred to as the "recreation area"). The recreation area shall consist of the river and its bed together with the lands, waters, and interests therein within the boundary generally depicted on the map entitled "Chattahoochee River National Recreation Area", numbered CHAT-20,000, and dated July 1976, which shall be on file and available for public inspection in the office of the National Park Service, Department of the Interior. Following reasonable notice in writing to the Committee on Interior and Insular Affairs of the United States House of Representatives and to the Committee on Energy and Natural Resources of the United States Senate of his intention to do so, the Secretary of the Interior (hereinafter referred to as the "Secretary") may, by publication of a revised map or other boundary description in the Federal Register, (1) make minor revisions in the boundary of the recreation area, and (2) revise the boundary to facilitate access to the recreation area, or to delete lands which would be of little or no benefit to the recreation area due to the existence of valuable improvements completely constructed prior to the date of enactment of this Act. The total area, exclusive of the river and its bed, within the recreation area may not exceed six thousand three hundred acres.

SEC. 102. (a) Within the recreation area the Secretary is authorized to acquire lands, waters, and interests therein by donation, purchase with donated or appropriated funds, or exchange. Property owned by the State of Georgia or any political subdivision thereof may be acquired only by donation.

(b) When a tract of land lies partly within and partly without the boundaries of the recreation area, the Secretary may acquire the entire tract by any of the above methods in order to avoid the payment of severance costs. Land so acquired outside of the boundaries of the recreation area may be exchanged by the Secretary for non-Federal land within such boundaries, and any portion of the land not utilized for such exchanges may be disposed of in accordance with the provisions of the Federal Property and Administrative Services Act of 1949 (40 U.S.C. 471 et seq.).

PUBLIC LAW 95-344—AUG. 15, 1978

92 STAT. 475

(c) Except for property which the Secretary determines to be necessary for the purposes of administration, development, access, or public use, an owner of improved property which is used solely for noncommercial residential purposes on the date of its acquisition by the Secretary may retain, as a condition of such acquisition, a right of use and occupancy of the property for such residential purposes. The right retained may be for a definite term which shall not exceed twenty-five years or, in lieu thereof, for a term ending at the death of the owner or the death of the spouse, whichever occurs later. The owner shall elect the term to be retained. The Secretary shall pay the owner the fair market value of the property on the date of such acquisition, less the fair market value of the term retained by the owner.

(d) Any right of use and occupancy retained pursuant to this section may, during its existence, be conveyed or transferred, but all rights of use and occupancy shall be subject to such terms and conditions as the Secretary deems appropriate to assure the use of the property in accordance with the purposes of this Act. Upon his determination that the property, or any portion thereof, has ceased to be so used in accordance with such terms and conditions, the Secretary may terminate the right of use and occupancy by tendering to the holder of such right an amount equal to the fair market value, as of the date of the tender, of that portion of the right which remains unexpired on the date of termination.

(e) As used in this section, the term "improved property" means a detached, year-round noncommercial residential dwelling, the construction of which was begun before January 1, 1975, together with so much of the land on which the dwelling is situated, the said land being in the same ownership as the dwelling, as the Secretary shall designate to be reasonably necessary for the enjoyment of the dwelling for the sole purpose of noncommercial residential use, together with any structures accessory to the dwelling which are situated on the land so designated.

"Improved property."

SEC. 103. (a) The Secretary shall administer, protect, and develop the recreation area in accordance with the Act of August 25, 1916 (39 Stat. 535), and in accordance with any other statutory authorities available to him for the conservation and management of historic and natural resources, including fish and wildlife, to the extent he finds such authority will further the purposes of this Act. In developing and administering the recreation area, the Secretary shall take into consideration applicable Federal, State, and local recreation plans and resource use and development plans, including, but not limited to, the Atlanta Regional Commission Chattahoochee Corridor Study, dated July 1972.

16 USC 460ii-2.

16 USC 1.

(b) The Secretary is authorized and encouraged to enter into cooperative agreements with the State or its political subdivisions whereby he may assist in the planning for and interpretation of non-Federal publicly owned lands within or adjacent or related to the recreation area to assure that such lands are used in a manner consistent with the findings and purposes of this Act.

(c) In planning for the development and public use of the recreation area, the Secretary shall consult with the Secretary of the Army to assure that public use of adjacent or related water resource development or flood control projects and that of the recreation area are complementary.

92 STAT. 476

PUBLIC LAW 95-344—AUG. 15, 1978

Regulations. (d) In administering the recreation area, the Secretary may permit fishing in waters under his jurisdiction in accordance with applicable State and Federal laws and regulations. The Secretary, after consultation with the appropriate State agency responsible for fishing activities, may designate zones where, and establish periods when, fishing shall be permitted and issue such regulations as he may determine to be necessary to carry out the provisions of this subsection. Except in emergencies, such regulations shall be put into effect only after consultation with the appropriate State agency.

16 USC 460ii-3. SEC. 104. (a) The Federal Energy Regulatory Commission shall not license the construction of any dam, water conduit, reservoir, powerhouse, transmission line, or other project works under the Federal Power Act (16 U.S.C. 791a et seq.), on or directly affecting the recreation area, and no department or agency of the United States shall assist by loan, grant, license, or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which such area is established, except where such project is determined by the State of Georgia to be necessary for water supply or water quality enhancement purposes and authorized by the United States Congress. Nothing contained in the foregoing sentence, however, shall preclude licensing of, or assistance to, developments upstream or downstream from the recreation area or on any stream tributary thereto which will not invade the recreation area or unreasonably diminish the scenic, recreational, and fish and wildlife values present therein on the date of approval of this Act. Nothing contained in this subsection shall preclude the upgrading, improvement, expansion or development of facilities or public works for water supply or water quality enhancement purposes if such action would not have a material adverse effect on the values for which the recreation area is established.

Report to congressional committees. (b) No department or agency of the United States shall recommend authorization of any water resources project that would have a direct and adverse effect on the values for which such area is established, as determined by the Secretary, nor shall such department or agency request appropriations to begin construction of any such project, whether heretofore or hereafter authorized, without at least sixty days in advance, (1) advising the Secretary in writing of its intention to do so and (2) reporting to the Committee on Interior and Insular Affairs of the United States House of Representatives and to the Committee on Energy and Natural Resources of the United States Senate the nature of the project involved and the manner in which such project would conflict with the purposes of this Act or would affect the recreation area and the values to be protected by it under this Act. It is not the intention of Congress by this Act to require the manipulation or reduction of lake water levels in Lake Sidney Lanier. Nothing in this Act shall be construed in any way to restrict, prohibit, or affect any recommendation of the Metropolitan Atlanta Water Resources Study as authorized by the Public Works Committee of the United States Senate on March 2, 1972.

Land acquisition. (c) The Secretary is directed to proceed as expeditiously as possible to acquire the lands and interests in lands necessary to achieve the purposes of this Act.

16 USC 460ii-4. SEC. 105. (a) From the appropriations authorized for fiscal year 1978 and succeeding fiscal years pursuant to the Land and Water

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92 STAT. 477

Conservation Fund Act (78 Stat. 897), as amended, not more than \$72,900,000 may be expended for the acquisition of lands and interests in lands authorized to be acquired pursuant to the provisions of this Act.

16 USC 4601-4.

(b) Effective on October 1, 1978, there are authorized to be appropriated not to exceed \$500,000 for the development of essential public facilities.

Appropriation authorization.

(c) Within three years from the effective date of this Act, the Secretary shall, after consulting with the Governor of the State of Georgia, develop and transmit to the Committee on Interior and Insular Affairs of the United States House of Representatives and to the Committee on Energy and Natural Resources of the United States Senate a general management plan for the use and development of the recreation area consistent with the findings and purposes of this Act, indicating:

Plan, report to congressional committees.

(1) lands and interests in lands adjacent or related to the recreation area which are deemed necessary or desirable for the purposes of resource protection, scenic integrity, or management and administration of the area in furtherance of the purposes of this Act, the estimated cost of acquisition, and the recommended public acquisition agency;

(2) the number of visitors and types of public use within the recreation area that can be accommodated in accordance with the full protection of its resources; and

(3) the facilities deemed necessary to accommodate and provide access for such visitors and uses, including their location and estimated cost.

#### TITLE II

SEC. 201. Section 4 of the Act approved August 31, 1965 (79 Stat. 588), as amended, providing for the commemoration of certain historical events in the State of Kansas, is further amended by changing "\$2,000,000." to "\$2,750,000.": *Provided*, That such increase shall be effective on October 1, 1978.

Appropriation authorization.

#### TITLE III

##### FINDINGS AND PURPOSE

SEC. 301. (a) The Congress hereby finds that—

16 USC 2301.

(1) the purpose of the National Park System is to preserve outstanding natural, scenic, historic, and recreation areas for the enjoyment, education, inspiration, and use of all people;

(2) units of the National Park System have recently been established near major metropolitan areas in order to preserve remaining open space and to provide recreational opportunities for urban residents (many of whom do not have access to personal motor vehicles); and

(3) circumstances which necessarily require people desiring to visit units of the National Park System to rely on personal motor vehicles may diminish the natural and recreational value of such units by causing traffic congestion and environmental damage, and by requiring the provision of roads, parking, and other facilities in ever-increasing numbers and density.

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## **APPENDIX E**

### **ISSUE FILTERING TABLE**

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**APPENDIX E: ISSUE FILTERING TABLE**

Not all NEPA resource categories were carried forward into the GMP/EIS. For certain issues, it was determined that implementation of any of the alternatives would not result in adverse impacts on the natural or man-made environment. The following table summarizes how specific NEPA resource categories were either retained or eliminated from further consideration. The text which follows the table provides a detailed basis for the elimination of each resource category:

**Table E- 1: Chattahoochee River National Recreation Area GMP/EIS Resources and Values Filtering Process<sup>1</sup>**

Resource Category	Decision Point 1	Decision Point 2	Decision Point 3
Surface Water Quality	✓	✓	✓
Surface Water Quantity	✓	✓	✓
Groundwater Quality			
Groundwater Quantity			
Aquatic Biological Resources	✓	✓	✓
Terrestrial Biological Resources	✓	✓	✓
Floodplains	✓	✓	✓
Wetlands	✓	✓	✓
Endangered Species	✓	✓	✓
Climate			
Special Status Species that do not Occur in the Park			
Physiography/Topography			
Earth Resources/Soils	✓	✓	✓
Prime and Unique Farmlands	✓	✓	✓
Natural or Depletable Resources			
Ecologically Critical Areas	✓	✓	✓
Wild and Scenic Rivers			
Archeological Resources	✓	✓	✓
Historical Resources	✓	✓	✓
Eligibility for Placement on the National Register of Historic Places	✓	✓	✓
Cultural Landscapes	✓	✓	✓
Traditional Uses	✓	✓	✓
Ethnographic Resources	✓	✓	✓
Indian Trust Resources			
Sacred Sites			
Noise			
Air Quality	✓	✓	✓
Socially or Culturally Disadvantaged Populations			

**Table E- 1: Chattahoochee River National Recreation Area GMP/EIS Resources and Values Filtering Process' (Continued)**

Resource Category	Decision Point 1	Decision Point 2	Decision Point 3
Land Use Plans, Policies, Controls	✓	✓	✓
Socioeconomic Resources (population, economics)	✓	✓	✓
Transportation	✓	✓	✓
Recreation	✓	✓	✓
Urban Quality	✓	✓	✓
Viewshed Quality	✓	✓	✓
Aesthetic Resources	✓	✓	✓
Energy Resources			
Public Health and Safety			
Natural or Depletable Resource Requirements & Conservation Potential			

'Checked categories were carried forward into the GMP/EIS for further analysis; shaded areas were eliminated from further consideration because they did not apply

The following is the basis for elimination of the specific resource categories:

**Groundwater Quantity:** Implementation of a particular management alternative would not have any impact on groundwater quantity, either positive or negative. Groundwater quantity is affected by various physical, geological and hydrologic factors that are outside of the control of park management.

**Groundwater Quality:** Groundwater quality would not be affected by any park management alternative. Groundwater quality is affected by factors such as transportation- or industrial- related spills of hazardous chemicals or industrial and commercial operations outside of park boundaries.

**Special Status Species that do not Occur in the Park:** Management alternatives would not affect any rare, threatened or endangered species in areas outside the park or in neighboring states. The park provides temporary habitat for some migratory species of protected animals from other states and outside of the park boundaries, but habitat for these species within the park would be preserved under any alternative that is selected. Therefore, this issue does not have to be analyzed further in the GMP/EIS.

**Physiography/Topography:** Alternative park management activities could result in some ground disturbing activities related to construction of parking lots, buildings, and roads. However, none of these activities would result in a significant modification of topography or physiography within the park boundaries.

**Climate:** None of the management alternatives would result in climate modification.

**Wild and Scenic Rivers:** The Chattahoochee River is not a federally- designated Wild and Scenic River, and the no management alternative would affect any designated Wild and Scenic River.

**Indian Trust Resources:** Designated Indian Trust Resources do not exist within the park, and therefore would not be impacted by any management alternative.

**Sacred Sites:** Designated native American sacred sites do not exist within the park, and would not be impacted by any management alternative.

**Noise:** The largest noise generator in the vicinity of the CRNRA is traffic. The alternatives considered in this GMP/EIS would not significantly change the overall traffic patterns or volumes that are projected to occur in the area around the park. Traffic in the area will continue to increase as described in the transportation section of the GMP/EIS, regardless of whether the CRNRA any of the management plan alternatives are instituted.

**Socially or Culturally Disadvantaged Populations:** Executive Order (EO) 12898 regarding "Federal Actions to address Environmental Justice in Minority Populations and Low- Income Populations." requires, as of February 11, 1994, that each federal agency make achieving environmental justice part of their mission by identifying and addressing disproportionate high and

adverse human health effects of its programs, policies or activities on minority or low- income populations. The order applies to all federal actions that require NEPA documentation, and has three general objectives: 1) focus the attention of federal agencies on the human health and general environmental conditions in minority and low- income communities with the goal of achieving environmental justice; 2) foster nondiscrimination in federal programs that could substantially affect human health or the environment; and 3) give minority and low- income communities greater opportunities for public participation on matters relating to human health and safety.

For the purpose of fulfilling EO 12898 in the context of the National Environmental Policy Act, the alternatives addressed in the CRNRA GMP/EIS were assessed during the planning process. It was determined that none of the alternatives would result in discernable adverse effects upon any minority or low- income population or community. The following is a summary of the rationale for this conclusion:

1. Implementation of the GMP would not result in any adverse effects on human health. Therefore, none of the alternatives would have direct or indirect effects on any minority or low- income population or community.
2. Implementation of the plan would not have adverse impacts on the natural or man- made environment, as required by park policy. Therefore, plan implementation would not adversely effect any minority or low- income population or community.
3. Implementation of the plan would not result in any identified effects that would be specific to any minority or low- income population or community. Any development of new park facilities that might occur under any of the alternatives would be spread equally from north to south along the 48- mile CRNRA.
4. Impacts on the socioeconomic environment due implementation of any of the alternatives are minor or positive and occur primarily within the local and regional geographic area or near the park. These impacts would be spread at hubs located along the entire 48- mile park, and would also be spread over a long period of time. Impacts on the socioeconomic environment are also not expected to significantly alter the character of any nearby community in a negative way. Connections or increased access to the park at any location along the 48- mile park will have a beneficial effect on the social and economic resources in these areas.

**Energy Resources:** Implementation of the alternatives would involve varying use of energy resources, but these impacts would be minor in nature, and would not have a significant effect on regional energy resources.

**Public Health and Safety:** The National Park Service is charged with providing a safe and healthy environment within the park boundaries. This would be required under any management alternative and does not require additional analysis in the GMP/EIS.

**Natural or Depletable Resource Requirements & Conservation Potential:** None of the management alternatives would result in a significant depletion of natural resources, nor would they affect the potential to effect conservation of natural resources within the park.

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## **APPENDIX F**

### **AGENCY COORDINATION**

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APPENDIX F: AGENCY COORDINATION

Georgia Department of Natural Resources  
Wildlife Resources Division

LONICE C. BARRETT, COMMISSIONER  
DAVID WALLER, DIVISION DIRECTOR

Georgia Natural Heritage Program  
2117 U.S. Hwy. 278 S.E., Social Circle, Georgia 30025-4714  
(770) 918-6411, (706) 557-3032

February 1, 2001

Sean R. Wallace  
Senior Environmental Scientist  
Parsons Engineering Science, Inc.  
5390 Triangle Parkway, Suite 100  
Norcross, GA 30092

**Subject: Known or Potential Occurrences of Special Concern Plant and Animal Species on or near Proposed National Park Service Trails Construction Project at the Chattahoochee National Recreation Area in Cobb, DeKalb, Forsyth, Fulton, and Gwinnett Counties, Georgia**

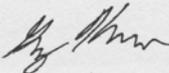
Dear Mr. Wallace:

This is in response to your request of December 13, 2000. Enclosed is a list of special concern species found within one half mile of the proposed boundary of the Chattahoochee National Recreation Area and eight maps showing these occurrences. Also provided are lists that should aid in assessing the potential for rare species occurrences within the area of concern. Although lists of plant and animal species potentially occurring in Forsyth County have not yet been generated, provided are the lists of plant and animal species potentially occurring in Cobb, DeKalb, Fulton, and Gwinnett counties.

Please keep in mind the limitations of our database. The data collected by the Georgia Natural Heritage Program comes from a variety of sources, including museum and herbarium records, literature, and reports from individuals and organizations, as well as field surveys by our staff biologists. In most cases the information is not the result of a recent on-site survey by our staff. Many areas of Georgia have never been surveyed thoroughly. Therefore, the Georgia Natural Heritage Program can only occasionally provide definitive information on the presence or absence of rare species on a given site. Our files are updated constantly as new information is received. Thus, information provided by our program represents the existing data in our files at the time of the request and should not be considered a final statement on the species or area under consideration.

If you know the location of populations of special concern species that are not in our database, please fill out the appropriate data collection form and send it to our office. Forms can be obtained through our web site (<http://www.dnr.state.ga.us/dnr/wild/natural.html>) or by contacting our office. If I can be of further assistance, please let me know.

Sincerely,



Greg Krakow  
Data Manager

enclosures

UR 7998

Edition date: November 26, 2000

## GEORGIA NATURAL HERITAGE PROGRAM

### EXPLANATION OF CODES

### FOR RARITY RANK AND LEGAL STATUS

The "State Rank" and "Global Rank" codes indicate relative rarity of species statewide and range-wide, respectively. An explanation of these codes follows. For further information please see [www.natureserve.org/ranking](http://www.natureserve.org/ranking).

#### STATE [GLOBAL] RANK

S1[G1]	Critically imperiled in state [globally] because of extreme rarity (5 or fewer occurrences).
S2[G2]	Imperiled in state [globally] because of rarity (6 to 20 occurrences).
S3[G3]	Rare or uncommon in state [rare and local throughout range or in a special habitat or narrowly endemic] (on the order of 21 to 100 occurrences).
S4[G4]	Apparently secure in state [globally] (of no immediate conservation concern).
S5[G5]	Demonstrably secure in state [globally].
SA	Accidental in state, including migratory or wide-ranging species recorded only once or twice or at very great intervals.
SN	Regularly occurring, usually migratory and typically nonbreeding species.
SR	Reported from the state, but without persuasive documentation (no precise site records and no verification of taxonomy).
SU[GU]	Possibly in peril in state [range-wide] but status uncertain; need more information on threats or distribution.
SX[GX]	Apparently extirpated from state [extinct throughout range]. GXC is known only in cultivation/captivity.
SE	An exotic established in state. May be native elsewhere in North America. Sometimes difficult to determine if native (SE?).
SH[GH]	Of historical occurrence in the state [throughout its range], perhaps not verified in the past 20 years, but suspected to be still extant.
[T]	Taxonomic subdivision (trinomial, either a subspecies or variety), used in a global rank, for example "G2T2."
Q	Denotes a taxonomic question - either the taxon is not generally recognized as valid, or there is reasonable concern about its validity or identity globally or at the state level.
?	Denotes questionable rank; best guess given whenever possible (e.g. S3?).

**FEDERAL STATUS (US Fish and Wildlife Service, USFWS)**

The following abbreviations are used to indicate the legal status of federally-protected plants and animals or those proposed for listing. For further information please see [www.natureserve.org/status](http://www.natureserve.org/status).

<b>LE</b>	Listed as endangered. The most critically imperiled species. A species that may become extinct or disappear from a significant part of its range if not immediately protected.
<b>LT</b>	Listed as threatened. The next most critical level of threatened species. A species that may become endangered if not protected.
<b>PE or PT</b>	Candidate species currently proposed for listing as endangered or threatened.
<b>C</b>	Candidate species presently under status review for federal listing for which adequate information exists on biological vulnerability and threats to list the taxa as endangered or threatened.
<b>PDL</b>	Proposed for delisting.
<b>E(S/A) or T(S/A)</b>	Listed as endangered or threatened because of similarity of appearance.
<b>(PS)</b>	Indicates "partial status" - status in only a portion of the species' range. Typically indicated in a "full" species record where an infraspecific taxon or population has U.S. ESA status, but the entire species does not.

**STATE STATUS (Georgia Department of Natural Resources, GA-DNR)**

The following abbreviations are used to indicate the status of state-protected plants and animals or those proposed for state-protection in Georgia.

<b>E</b>	Listed as endangered. A species which is in danger of extinction throughout all or part of its range
<b>T</b>	Listed as threatened. A species which is likely to become an endangered species in the foreseeable future throughout all or parts of its range.
<b>R</b>	Listed as rare. A species which may not be endangered or threatened but which should be protected because of its scarcity.
<b>U</b>	Listed as unusual (and thus deserving of special consideration). Uncommon plants subject to commercial exploitation would have this status.

**NOTE:**

This is a working list and is constantly revised. For the latest changes, acknowledgment of numerous sources, interpretation of data, or other information connected with this list, please contact:

Greg Krakow, Data Manager  
 Georgia Department of Natural Resources  
 Wildlife Resources Division  
 Georgia Natural Heritage Program  
 2117 U.S. Highway 278 S.E.  
 Social Circle, Georgia 30025-4714  
 Phone: 770-918-6411  
 Fax: 706-557-3033  
 E-mail: [greg\\_krakow@mail.dnr.state.ga.us](mailto:greg_krakow@mail.dnr.state.ga.us)

The proper citation for this list is:

Georgia Natural Heritage Program. (Edition with form top right corner). (Title from top right). Georgia Department of Natural Resources, Social Circle.

**Special Concern Species Known from within a Half Mile Radius of the Proposed National Park Service Trails Construction Project at the Chattahoochee National Recreation Area in Cobb, DeKalb, Forsyth, Fulton, and Gwinnett Counties, Georgia**

Georgia Natural Heritage Program, 2117 US Hwy 278 SE, Social Circle, GA 30025. (770) 918-6411



According to our records, within one half mile of the project site (Forsyth County; Buford Dam Quadrangle), there are occurrences of the following:

*Aster georgianus* (Georgia Aster) 0.3 mi. NE of site

According to our records, within one half mile of the project site (Gwinnett County; Suwanee Quadrangle), there are occurrences of the following:

*Hydrastis canadensis* (Goldenseal) within the site  
*Melanthium woodii* (Ozark Bunchflower) less than 0.1 mi. N of site  
*Schisandra glabra* (Bay Starvine) within the site  
*Waldsteinia lobata* (Piedmont Barren Strawberry) less than 0.1 mi. N of site

According to our records, within one half mile of the project site (Fulton County; Chamblee Quadrangle), there are occurrences of the following:

*Schisandra glabra* (Bay Starvine) 0.2 mi. N of site  
*Schisandra glabra* (Bay Starvine) less than 0.1 mi. E of site

According to our records, within one half mile of the project site (Fulton County; Chamblee Quadrangle), there are occurrences of the following:

*Lampsilis subangulata* (Shinyrayed Pocketbook) within the site  
*Quincuncina infucata* (Sculptured Pigtoe) within the site

According to our records, within one half mile of the project site (Fulton County; Sandy Springs Quadrangle), there are occurrences of the following:

*Schisandra glabra* (Bay Starvine) 0.1 mi. E of site

According to our records, within one half mile of the project site (Cobb County; Sandy Springs Quadrangle), there are occurrences of the following:

*Schisandra glabra* (Bay Starvine) 0.2 mi. E of site

**Special Concern Species Known from within a Half Mile Radius of the Proposed National Park Service Trails Construction Project at the Chattahoochee National Recreation Area in Cobb, DeKalb, Forsyth, Fulton, and Gwinnett Counties, Georgia**

Georgia Natural Heritage Program, 2117 US Hwy 278 SE, Social Circle, GA 30025, (770) 918-6411



According to our records, within one half mile of the project site (Forsyth County; Buford Dam Quadrangle), there are occurrences of the following:

*Aster georgianus* (Georgia Aster) 0.3 mi. NE of site

According to our records, within one half mile of the project site (Gwinnett County; Suwanee Quadrangle), there are occurrences of the following:

*Hydrastis canadensis* (Goldenseal) within the site  
*Melanthium woodii* (Ozark Bunchflower) less than 0.1 mi. N of site  
*Schisandra glabra* (Bay Starvine) within the site  
*Waldsteinia lobata* (Piedmont Barren Strawberry) less than 0.1 mi. N of site

According to our records, within one half mile of the project site (Fulton County; Chamblee Quadrangle), there are occurrences of the following:

*Schisandra glabra* (Bay Starvine) 0.2 mi. N of site  
*Schisandra glabra* (Bay Starvine) less than 0.1 mi. E of site

According to our records, within one half mile of the project site (Fulton County; Chamblee Quadrangle), there are occurrences of the following:

*Lampsilis subangulata* (Shinyrayed Pocketbook) within the site  
*Quincuncina infucata* (Sculptured Pigtoe) within the site

According to our records, within one half mile of the project site (Fulton County; Sandy Springs Quadrangle), there are occurrences of the following:

*Schisandra glabra* (Bay Starvine) 0.1 mi. E of site

According to our records, within one half mile of the project site (Cobb County; Sandy Springs Quadrangle), there are occurrences of the following:

*Schisandra glabra* (Bay Starvine) 0.2 mi. E of site

**Special Concern Species Known from within a Half Mile Radius of the Proposed National Park Service Trails Construction Project at the Chattahoochee National Recreation Area in Cobb, DeKalb, Forsyth, Fulton, and Gwinnett Counties, Georgia**

Georgia Natural Heritage Program, 2117 US Hwy 278 SE, Social Circle, GA 30025, (770) 918-6411



According to our records, within one half mile of the project site (Fulton and Cobb counties; Sandy Springs Quadrangle), there are occurrences of the following:

- Elliptio fraterna* (Brother Spike) within the site (Cobb County)
- Quincuncina infucata* (Sculptured Pigtoe), an imprecise location, within the site (Cobb County)
- Schisandra glabra* (Bay Starvine) less than 0.1 mi. E of site (Fulton County)
- Schisandra glabra* (Bay Starvine) within the site (Cobb County)

According to our records, within one half mile of the project site (Fulton and Cobb Counties; Northwest Atlanta Quadrangle), there are occurrences of the following:

- Fothergilla major* (Mountain Witch-alder) within the site (Fulton County)
- Melanthium latifolium* (Broadleaf Bunchflower) approx. 0.5 mi. W of site (Cobb County)
- Nestronia umbellula* (Indian Olive) approx. 0.5 mi. W of site (Cobb County)
- Schisandra glabra* (Bay Starvine) 0.2 mi. E of site (Fulton County)

According to our records, within one half mile of the project site (Fulton County; Northwest Atlanta Quadrangle), there are occurrences of the following:

- Schisandra glabra* (Bay Starvine) within the site

Table 1. List of Georgia Heritage Program Plants and Animals Recorded Within The USGS Quad Sheets for the Chattahoochee River Area  
(Georgia Heritage Program Database, August 2000)

Quarter Quad Sheet record	Scientific Name	Common Name	Global Rank, State Rank, Federal Status, State Status †	Habitat
Buford Dam (NE)	Melanthium woodii	Ozark Bunchflower	G5 S2 — —	Mesic hardwood forests over basic soils
Buford Dam (SE)	Melanthium woodii	Ozark Bunchflower	G5 S2 — —	Mesic hardwood forests over basic soils
Buford Dam (SW)	Aster georgianus	Georgia Aster	G2G3 S2 — —	Upland oak-hickory-pine forests; especially with Echinaceae laevigata
Suwanee (NW)	Hydrastis canadensis	Goldenseal	G4 S2 — E	Rich woods in circumneutral soil
	Melanthium woodii	Ozark Bunchflower	G5 S2 — —	Mesic hardwood forests over basic soils
	Schisandra glabra	Bay Starvine	G3S2 — T	Stream terraces
	Waldsteinia lobata	Piedmont Barren Strawberry	G2? S2 — T	Stream terraces and adjacent gneiss outcrops
Humming (NE)	Amorpha schwarinii	Schwerin Indigo-bush	G3T2 S1 — —	Riverside terraces; borders of swampy floodplain woods, sometimes dominated by wiregrass and pine
	Platanthera integrilabia	Monkeyface Orchid	G2G3 S1S2 — T	Red maple-gum swamps; peaty seeps and streambanks with Parnassia asarifolia and Oxypolis rigidior asarifolia
Roswell (SE)	Schisandra glabra	Bay Starvine	G3 S2 — T	Stream terraces
	Waldsteinia lobata	Piedmont Barren Strawberry	G2? S2 — T	Stream terraces and adjacent gneiss outcrops
Roswell (SW)	Cyprinella callitaenia	Bluestripe Shiner	G2 S2 — T	Flowing areas in large creeks and medium-sized rivers over rocky substrates
	Lampsilis subangulata	Shiny-rayed Pocketbook	G2 S3 LE E	Sandy/rocky medium-sized rivers & creeks
	Notropis hypsilepis	Hightscale Shiner	G3 S2S3 — T	Flowing areas of small to large streams over sand or bedrock substrates
	Quincuncina infucata	Sculptured Pigtoe	G4 S3 — —	Main channels of rivers and large streams with moderate current in sand and limestone rock substrate
	Rhus michauxii	Dwarf Sumac	G2 S1 LE E	Open forests over ultramafic rock
Chamblee (NE)	Schisandra glabra	Bay Starvine	G3 S2 — T	Stream terraces
Chamblee (NW)	Quincuncina infucata	Sculptured Pigtoe	G4 S3 — —	Main channels of rivers and large streams with moderate current in sand and limestone rock

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Table 1. List of Georgia Heritage Program Plants and Animals Recorded Within The USGS Quad Sheets for the Chattahoochee River Area (Georgia Heritage Program Database, August 2000)

The "Global Rank" and "State Rank" columns indicate relative rarity of species at the rangewide or global level and the Georgia or state level, respectively. A simplified, standardized explanation of these ranks and of federal and state protection status follows.

- GLOBAL RANKING** (See *Global Conservation Status*, [www.iucn.org](http://www.iucn.org))
- S1[G1] = Critically imperiled in state [globally] because of extreme rarity (5 or fewer occurrences).
  - S2[G2] = Imperiled in state [globally] because of rarity (6 to 20 occurrences).
  - S3[G3] = Rare or uncommon in state [rare and local throughout range or in a special habitat or narrowly endemic] (on the order of 21 to 100 occurrences).
  - S4[G4] = Apparently secure in state [globally] (of no immediate conservation concern).
  - S5[G5] = Demonstrably secure in state [globally].
- STATE RANKING** (See *Georgia Native Plant Society*, [www.gnps.org](http://www.gnps.org))
- SA = Accidental in state, including species (usually birds or butterflies) recorded once or twice or only at very great intervals.
  - SN = Regularly occurring, usually migratory and typically non-breeding species.
  - SR = Reported from the state, but without persuasive documentation (no precise site records and no verification of taxonomy).
  - SU[GU] = Possibly in part in state [range-wide] but status uncertain; need more information on threats.
  - SK[GK] = Apparently extirpated from state [extinct throughout range]. GXC is known only in cultivation/captivity.
  - SE = An exotic established in state; may be native elsewhere in North America; sometimes nativity is difficult to determine (SE7).
  - SK[GH] = Of historical occurrence in the state [throughout its range], perhaps not verified in the past 20 years, but suspected to be still extant; (these organisms/communities need to be relocated).
  - [T] = Taxonomic subdivision (formal), either a subspecies or variety, used in a global rank, for example "OZT2".
  - Q = Denotes a taxonomic question - either the taxon is not generally recognized as valid, or there is reasonable concern about its validity or identity globally or at the state level.
  - ? = Denotes questionable rank; best guess given whenever possible.
- FEDERAL STATUS** (See *Federal Endangered Species Act*, [www.fws.gov](http://www.fws.gov))
- LE = Listed endangered. The most critically threatened species. A species that may become extinct or disappear from a significant part of its range if not immediately protected.
  - LT = Listed threatened. The next most critical level of threatened species. A species that may become endangered if not protected.
  - PE or PT = Candidate species currently proposed for listing as endangered or threatened.
  - C = Candidate species presently under status review for federal listing for which adequate information exists on biological vulnerability and threats to list the taxa as endangered or threatened.
  - NL = Status varies for different populations or parts of range with at least one part not listed (e.g., a species with part of its range assigned by USFWS as threatened, would be recorded as -LTNL).
- STATE STATUS** (See *Georgia Department of Natural Resources*, [www.dnr.ga.gov](http://www.dnr.ga.gov))
- The following abbreviations are used to indicate the status of state-protected plants and animals or those proposed for state-protection in Georgia.
- E = Listed as endangered.
  - T = Listed as threatened.
  - I = Listed as rare.
  - J = Listed as unusual (and thus deserving of special consideration), for example: plants subject to commercial exploitation.



United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE

247 South Milledge Avenue  
Athens, Georgia 30605

West Georgia Sub Office  
P.O. Box 52560  
Ft. Benning, Georgia 31995-2560

Coastal Sub Office  
4270 Norwich Street  
Brunswick, Georgia 31520

February 20, 2001

Sean R. Wallace  
Parsons Engineering Science, Inc.  
5390 Triangle Parkway, Suite 100  
Norcross, Georgia 30092

RE: FWS Log No. NG-01-88-FORS

Dear Mr. Wallace:

As you requested, the U.S. Fish and Wildlife Service (Service) submits the following comments on potential threatened and endangered species in Cobb, DeKalb, Forsyth, Fulton, and Gwinnett Counties. This letter is in accordance with section 7 of the Endangered Species Act of 1973, as amended, (16 U.S.C. 1531 et seq.), regarding listed species that may occur within the delineated boundaries of the National Park Service recreation areas provided to the Service in a previous letter dated December 13, 2000.

The table provided appears to be a complete listing of threatened and endangered species that may potentially occur within the above counties. The Service recommends the monkey-face orchid (*Platanthera integrilabia*) be cross-listed with the white fringeless orchid (*Platanthera integrilabia*), a federal candidate species.

If you have questions or need additional information, please contact Kim Jefferson in the Athens office at (706) 613-9493 ext. 22.

Sincerely,

Sandra S. Tucker  
Field Supervisor

**LISTED SPECIES IN COBB COUNTY**

FEDERAL ENDANGERED AND THREATENED SPECIES<sup>1</sup>

Animals

Bald eagle (T,SE)	<u><i>Haliaeetus leucoccephalus</i></u>	Inland waterways and estuarine areas in Georgia.
Red-cockaded woodpecker (E,SE)	<u><i>Picoides borealis</i></u>	Nest in mature pine with low understory vegetation (<1.5m); forage in pine and pine hardwood stands ≥30 years of age, preferably ≥10" dbh
Cherokee darter (T,ST)	<u><i>Etheostoma scotti</i></u>	Shallow water (0.1-0.5 m) in small to medium warm water creeks (1-15 m wide) with predominantly rocky bottoms. Usually found in sections with reduced current, typically runs above and below riffles and at ecotones of riffles and backwaters.
Gulf moccasinshell mussel (E,SE)	<u><i>Medionidus penicillatus</i></u>	Medium streams to large rivers with slight to moderate current over sand and gravel substrates; may be associated with muddy sand substrates around tree roots

Plants

Michaux's sumac (E,SE)	<u><i>Rhus michauxii</i></u>	Sandy or rocky open woods, usually on ridges with a disturbance history (periodic fire, prior agricultural use, maintained right-of-ways); the known population of this species in Cobb County has been extirpated (last seen in county in 1900)
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SPECIES OF MANAGEMENT CONCERN<sup>1</sup>: The Fish and Wildlife Service is evaluating population trends and threats to the following Species of Management Concern. Please contact us at 247 S. Milledge Ave., Athens, GA, 706-613-9493, if you locate these species during site surveys or have other information on the species' distributions in Georgia.

Animals

Bachman's sparrow (SR)	<u><i>Aimophila aestivalis</i></u>	Abandoned fields with scattered shrubs, pines, or oaks
Appalachian Bewick's wren (SR)	<u><i>Thyromanes bewickii altus</i></u>	Dense undergrowth, overgrown fields, thickets, and brush in open or semi-open habitat; feed primarily on insects
Bluestripe shiner (ST)	<u><i>Cyprinella callitaenia</i></u>	Brownwater streams

Plants

Monkey-face (ST)	<u><i>Platanthera integrilabia</i></u>	Red maple-blackgum swamps; also on sandy damp stream margins; or on seepy, rocky, thinly vegetated slopes
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STATE OF GEORGIA ENDANGERED AND THREATENED SPECIES<sup>1</sup>: The following species, as well as the Species of Management Concern marked above (SE, ST, SR), are protected by the State. For information on State listed species, contact the GA Department of Natural Resources, GA Natural Heritage Program, 2117 US HWY 278 SE, Social Circle, GA 30279 (706-557-3032).

Plants

Granite whitlow-grass (SE)	<u><i>Draba aprica</i></u>	Shallow soils on granite outcrops, especially beneath eastern redcedar
Indian olive (ST)	<u><i>Nestronia umbellula</i></u>	Dry open upland forests of mixed hardwood and pine
Bay star-vine (ST)	<u><i>Schisandra glabra</i></u>	Twining on subcanopy and understory trees/shrubs in rich alluvial woods

<sup>1</sup> Key to notations: E = endangered, T = threatened, and R = rare. The SE, ST, and SR indicate species also listed by the State of Georgia as endangered, threatened, and rare, respectively.

Updated February 2000

**LISTED SPECIES IN DEKALB COUNTY**

FEDERAL ENDANGERED AND THREATENED SPECIES<sup>1</sup>

Animals

- Gray bat (E,SE) *Myotis grisescens* Colonies restricted to caves or cave-like habitats; forage primarily over water along rivers or lake shores  
 Bald eagle (T,SE) *Haliaeetus leucocephalus* Inland waterways and estuarine areas in Georgia  
 Red-cockaded woodpecker (E,SE) *Picoides borealis* Nest in mature pine with low understory vegetation (<1.5m); forage in pine and pine hardwood stands ≥30 years of age, preferably ≥10" dbh

Plants

- Little amphianthus (T,ST) *Amphianthus pusillus* Shallow pools on granite outcrops, where water collects after a rain. Pools are less than 1 foot deep and rock rimmed.  
 Black-spored quillwort (E,SE) *Isoetes melanospora* Shallow pools on granite outcrops, where water collects after a rain. Pools are less than 1 foot deep and rock rimmed.

SPECIES OF MANAGEMENT CONCERN<sup>1</sup>: The Fish and Wildlife Service is evaluating population trends and threats to the following Species of Management Concern. Please contact us at 247 S. Millidge Ave., Athens, GA, 706-613-9493, if you locate these species during site surveys or have other information on the species' distributions in Georgia.

Animals

- Bachman's sparrow (SR) *Aimophila aestivalis* Abandoned fields with scattered shrubs, pines, or oaks  
 Appalachian Bewick's wren (SR) *Thyromanes bewickii altus* Dense undergrowth, overgrown fields, thickets, and brush in open or semi-open habitat; feed primarily on insects  
 Bluestripe shiner (ST) *Cyprinella callitaenia* Brownwater streams

Plants

- Flatrock onion (ST)*Allium speculae* Seepy edges of vegetation mats on outcrops of granitic rock  
 Alexander rock aster *Aster avitus*  
 Small-headed pipewort *Eriocaulon komickianum* Granite outcrops and upland-sandhill-acid seeps

STATE OF GEORGIA ENDANGERED AND THREATENED SPECIES<sup>1</sup>: The following species, as well as the Species of Management Concern marked above (SE, ST, SR), are protected by the State. For information on State listed species, contact the GA Department of Natural Resources, GA Natural Heritage Program, 2117 US HWY 278 SE, Social Circle, GA 30279 (706-557-3032).

Plants

- Indian olive (ST) *Nestronia umbellula* Dry open upland forests of mixed hardwood and pine  
 Bay star-vine (ST) *Schisandra glabra* Twining on subcanopy and understory trees/shrubs in rich alluvial woods  
 Granite rock stonecrop (ST) *Sedum pusillum* Granite outcrops among mosses in partial shade under red cedar trees  
 Piedmont barren strawberry (ST) *Waldsteinia lobata* Rocky acidic woods along streams with mountain laurel; rarely in drier upland oak-hickory-pine woods

<sup>1</sup> Key to notations: E = endangered, T = threatened, and R = rare. The SE, ST, and SR indicate species also listed by the State of Georgia as endangered, threatened, and rare, respectively.

Updated February 2000

## LISTED SPECIES IN FORSYTH COUNTY

### FEDERAL ENDANGERED AND THREATENED SPECIES<sup>1</sup>

#### Animals

Bald eagle (T,SE) Haliaeetus leucocephalus Inland waterways and estuarine areas in Georgia  
Red-cockaded woodpecker (E,SE) Picoides borealis Nest in mature pine with low understory vegetation (<1.5m); forage in pine and pine hardwood stands ≥30 years of age, preferably ≥10" dbh

**SPECIES OF MANAGEMENT CONCERN<sup>1</sup>:** The Fish and Wildlife Service is evaluating population trends and threats to the following Species of Management Concern. Please contact us at 247 S. Milledge Ave., Athens, GA, 706-613-9493, if you locate these species during site surveys or have other information on the species' distributions in Georgia.

#### Animals

Bachman's sparrow (SR) Aimophila aestivalis Abandoned fields with scattered shrubs, pines, or oaks  
Bluestripe shiner (ST) Cyprinella callitaenia Brownwater streams

#### Plants

Monkey-face (ST) Platanthera integrilabia Red maple-blackgum swamps; also on sandy damp stream margins; or on seepy, rocky, thinly vegetated slopes

**STATE OF GEORGIA ENDANGERED AND THREATENED SPECIES<sup>1</sup>:** The following species, as well as the Species of Management Concern marked above (SE, ST, SR), are protected by the State. For information on State listed species, contact the GA Department of Natural Resources, GA Natural Heritage Program, 2117 US HWY 278 SE, Social Circle, GA 30279 (706-557-3032).

#### Animals

Frecklebelly madtom (SE) Noturus munitus Rivers with moderate to swift current over substrates ranging from coarse gravel to boulders, submerged trees, and brush.

#### Plants

Piedmont barren strawberry (ST) Waldsteinia lobata Rocky acidic woods along streams with mountain laurel; rarely in drier upland oak-hickory-pine woods

<sup>1</sup> Key to notations: E = endangered, T = threatened, and R = rare. The SE, ST, and SR indicate species also listed by the State of Georgia as endangered, threatened, and rare, respectively.

Updated February 2000

FULTON COUNTY

FEDERAL ENDANGERED AND THREATENED SPECIES<sup>1</sup>

Animals

Bald eagle (T,SE) Haliaeetus leucocephalus Inland waterways and estuarine areas in Georgia  
 Red-cockaded woodpecker (E,SE) Picoides borealis Nest in mature pine with low understory vegetation (<1.5m); forage in pine and pine hardwood stands ≥30 years of age, preferably ≥10" dbh  
 Gulf moccasinshell mussel (E,SE) Medionidus penicillatus Medium streams to large rivers with slight to moderate current over sand and gravel substrates; may be associated with muddy sand substrates around tree roots

SPECIES OF MANAGEMENT CONCERN<sup>1</sup>: The Fish and Wildlife Service is evaluating population trends and threats to the following Species of Management Concern. Please contact us at 247 S. Milledge Ave., Athens, GA, 706-613-9493, if you locate these species during site surveys or have other information on the species' distributions in Georgia.

Animals

Bachman's sparrow (SR) Aimophila aestivalis Abandoned fields with scattered shrubs, pines, or oaks  
 Appalachian Bewick's wren (SR) Thyromanes bewickii altus Dense undergrowth, overgrown fields, thickets, and brush in open or semi-open habitat; feed primarily on insects  
 Bluestripe shiner (ST) Cyprinella callitaenia Brownwater streams

STATE OF GEORGIA ENDANGERED AND THREATENED SPECIES<sup>1</sup>: The following species, as well as the Species of Management Concern marked above (SE, ST, SR), are protected by the State. For information on State listed species, contact the GA Department of Natural Resources, GA Natural Heritage Program, 2117 US HWY 278 SE, Social Circle, GA 30279 (706-557-3032).

Animals

Peregrine falcon (SE) Falco peregrinus F. p. anatum nests on cliffs, high hills, or tall buildings; F. p. tundrius primarily seen in Georgia migrating along the coast

Plants

Bay star-vine (ST) Schisandra glabra Twining on subcanopy and understory trees/shrubs in rich alluvial woods  
 Piedmont barren strawberry (ST) Waldsteinia lobata Rocky acidic woods along streams with mountain laurel; rarely in drier upland oak-hickory-pine woods

<sup>1</sup> Key to notations: E = endangered, T = threatened, and R = rare. The SE, ST, and SR indicate species also listed by the State of Georgia as endangered, threatened, and rare, respectively.

Updated February 2000

**LISTED SPECIES IN GWINNETT COUNTY**

**FEDERAL ENDANGERED AND THREATENED SPECIES<sup>1</sup>**

Animals

Bald eagle (T,SE) Haliaeetus leucocephalus Inland waterways and estuarine areas in Georgia  
 Red-cockaded woodpecker (E,SE) Picoides borealis Nest in mature pine with low understory vegetation (<1.5m); forage in pine and pine hardwood stands ≥30 years of age, preferably ≥10" dbh

Plants

Little amphianthus (T,ST) Amphianthus pusillus Shallow pools on granite outcrops, where water collects after a rain. Pools are less than 1 foot deep and rock rimmed.  
 Black-spored quillwort (E,SE) Isoetes melanospora Shallow pools on granite outcrops, where water collects after a rain. Pools are less than 1 foot deep and rock rimmed.  
 Michaux's sumac (E,SE) Rhus michauxii Sandy or rocky open woods, usually on ridges with a disturbance history (periodic fire, prior agricultural use, maintained right-of-ways); the known population of this species in Gwinnett County has been extirpated

**SPECIES OF MANAGEMENT CONCERN<sup>1</sup>:** The Fish and Wildlife Service is evaluating population trends and threats to the following Species of Management Concern. Please contact us at 247 S. Milledge Ave., Athens, GA, 706-613-9493, if you locate these species during site surveys or have other information on the species' distributions in Georgia.

Animals

Bluestripe shiner (ST) Cyprinella callitaenia Brownwater streams  
 Northern pine snake Pituophis m. melanoleucus

Plants

Alexander rock aster Aster avitus  
 Small-headed pipewort Eriocaulon kormickianum Granite outcrops and upland-sandhill-acid seeps

**STATE OF GEORGIA ENDANGERED AND THREATENED SPECIES<sup>1</sup>:** The following species, as well as the Species of Management Concern marked above (SE, ST, SR), are protected by the State. For information on State listed species, contact the GA Department of Natural Resources, GA Natural Heritage Program, 2117 US HWY 278 SE, Social Circle, GA 30279 (706-557-3032).

Plants

Golden seal (SE) Hydrastis canadensis Rich woods and cove forests in the mountains  
 Bay star-vine (ST) Schisandra glabra Twining on subcanopy and understory trees/shrubs in rich alluvial woods  
 Granite rock stonecrop (ST) Sedum pusillum Granite outcrops among mosses in partial shade under red cedar trees  
 Piedmont barren strawberry (ST) Waldsteinia lobata Rocky acidic woods along streams with mountain laurel; rarely in drier upland oak-hickory-pine woods

<sup>1</sup> Key to notations: E = endangered, T = threatened, and R = rare. The SE, ST, and SR indicate species also listed by the State of Georgia as endangered, threatened, and rare, respectively.

Updated February 2000

**COORDINATION WITH FEDERALLY- RECOGNIZED AMERICAN INDIAN TRIBES  
WITH ANCESTRAL LANDS IN GEORGIA AND THE state historic preservation officer**

Consultation letters were sent in January 2001 to Federally- recognized American Indian Tribes with ancestral lands in Georgia requesting feedback concerning this GMP/EIS. These letters were followed up with individual phone calls. Additional letters were sent in March 2002 identifying the purpose and need of the project and requesting input. A copy of this letter request and the list of American Indian Tribes contacted follows. In addition, this letter request was also sent to the State Historic Preservation Officer.

**Federally Recognized American Indian Tribes with Ancestral Lands in Georgia**

Name	Contact Name and Title	Contact Address
Alabama- Coushatta Tribe of Texas	Mr. Kevin P. Battise, Chairman Ph: (409) 563- 4391 Fax: (409) 563- 4397	Route 3, P.O. Box 640, Livingston, TX 77351
Alabama- Quassarte Tribal Town (Creek)	Tarpie Yargee, Chief Ph: (405) 452- 3968 Fax: (405) 452- 3968	P.O. Box 187, Wetumka, OK 74883
Cherokee Nation of Oklahoma	Mr. Chad Smith, Principal Chief Ph: (918) 456- 0671 Fax: (918) 458- 5580	P.O. Box 948, Tahlequah, OK 74465
Coushatta Tribe of Louisiana (Creek)	Mr. Lovelin Poncho, Chairman Ph: (337) 584- 2261 Fax: (337) 584- 2998	P.O. Box 818, Elton, LA 70532
Eastern Band of Cherokee Indians	Mr. Leon Jones, Principal Chief Ph: (828) 497- 2771 Fax: (828) 497- 7007	Qualla Boundary, P.O. Box 455 Cherokee, NC 28719
Eastern Shawnee Tribe of Oklahoma	Charles D. Enyart, Chief Ph: (918) 666- 2435 Fax: (918) 666- 3325	P.O. Box 350 Seneca, MO 64865
Kialegee Tribal Town (Creek)	Lowell Wesley, Town King Ph: (405) 452- 3262 Fax: (405) 452- 3413	P.O. Box 332 Wetumka, OK 74883
Miccosukee Tribe of Indians of Florida	Mr. Billy Cypress, Chairman Ph: (305) 223- 8380 Fax: (305) 223- 1011	Tamiami Station P.O. Box 440021 Miami, FL 33144
Muscogee Nation of Oklahoma (Creek)	Mr. Perry Beaver, Principal Chief PH: (918) 756- 8700 Fax: (918) 756- 2911	P.O. Box 580 Okmulgee, OK 74447
Poarch Band of Creek Indians of Alabama	Mr. Eddie Tullis, Chief Ph: (251) 368- 9136 Fax: (251- 368- 1026	5811 Jack Springs Rd., Atmore, AL 36502
Seminole Nation of Oklahoma	Mr. Jerry Haney, Principal Chief Ph: (405) 257- 6287 Fax: (405) 257- 6205	P.O. Box 1498 Wewoka, OK 74884
Seminole Tribe of Florida	Mr. James Billie, Chairman Ph: (954) 966- 6500 Fax: (954) 967- 3486	6300 Stirling Road, Room 421, Hollywood, FL 33024
Thlopthlocco Tribal Town (Creek)	Ms. Grace Bunner, Town King Ph: (918) 623- 2620 Fax: (918) 623- 0419	P.O. Box 188 Okemah, OK 74859
United Keetoowah Band (Cherokee)	Dallas Proctor, Chief Ph: (918) 431- 1818 Fax: (918) 431- 1873	P.O. Box 189 Parkhill, OK 74451

Source: BIA (2002) = Department of the Interior, Bureau of Indian Affairs. *Tribal Leaders Directory*. January 2002



United States Department of Interior

NATIONAL PARK SERVICE  
CHATTAHOOCHEE RIVER NATIONAL RECREATION AREA  
1978 Island Ford Parkway  
Atlanta, Georgia 30350-3400

D18 (CHAT)

March 27, 2002

Mr. Kevin P Battise, Chairman  
Alabama-Coushatta Tribe of Texas  
PO Box 640  
Livingston, TX 77351

Dear Mr. Battise:

In accordance with the National Environmental Policy Act of 1969 (Public Law 91-190, as amended) (NEPA), the National Park Service (NPS) is preparing an Environmental Impact Statement (EIS) for the General Management Plan (GMP) for Chattahoochee River National Recreation Area, Georgia (CRNRA). A regional map of the park is available on the Internet at [www.npsplanning.org](http://www.npsplanning.org). Two additional maps are attached to assist you in locating the park in relation to the southeastern states and within metro Atlanta. The purpose of this letter is to request your comments on issues of concern that you might have regarding the updating of the GMP and input on the future management approaches for the park. We originally wrote to you in January 2001 and hope that this letter serves as a reminder that we welcome your input.

**The Purpose and Need:** The purpose of the Chattahoochee River National Recreation Area is to lead the preservation and protection of the 48 mile Chattahoochee River corridor from Buford Dam to Peachtree Creek, and its associated natural and cultural resources, for the benefit and enjoyment of the people. The general management planning process provides a comprehensive approach to establish the basic management philosophy for the park and provide strategies for addressing issues and achieving identified management objectives. The GMP/EIS will evaluate the environmental impacts of a range of alternatives to address distinct management approaches to preserving significant natural and cultural resources for public enjoyment, competing demands for limited resources, priorities for using available funds and

staff, and differing local and nationwide interests and views of what is most important.

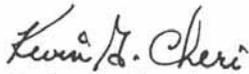
**The Process and Importance of Public Input:** The intent of the NEPA scoping process is to provide for early identification of concerns, issues, expectations, and values of existing and potential visitors, neighbors, people with traditional cultural ties to lands within the park, cooperating associations, other partners, scientists, scholars, and other government agencies. Public input gathered during this scoping process will be used in the EIS to assess and compare the effects of each available management alternative on the natural and man-made environment. The EIS will also recommend selection of a "preferred" management alternative. The National Park Service is requesting your input in these early stages of this project.

**Who to Contact:** If you are interested in providing input on the updated GMP/EIS, you are invited to respond in writing to:

Mr. Kevin Cheri, Superintendent  
Chattahoochee River National Recreation Area  
1978 Island Ford Parkway  
Atlanta, GA 30350-3400  
Phone (770)-399-8074 extension 221

Full public participation by federal, state, and local agencies, as well as other concerned organizations and private citizens, is invited throughout the preparation process of the updated GMP/EIS. The National Park Service would like to thank you for reviewing this scoping letter, and for preparing and submitting written comments.

Sincerely,

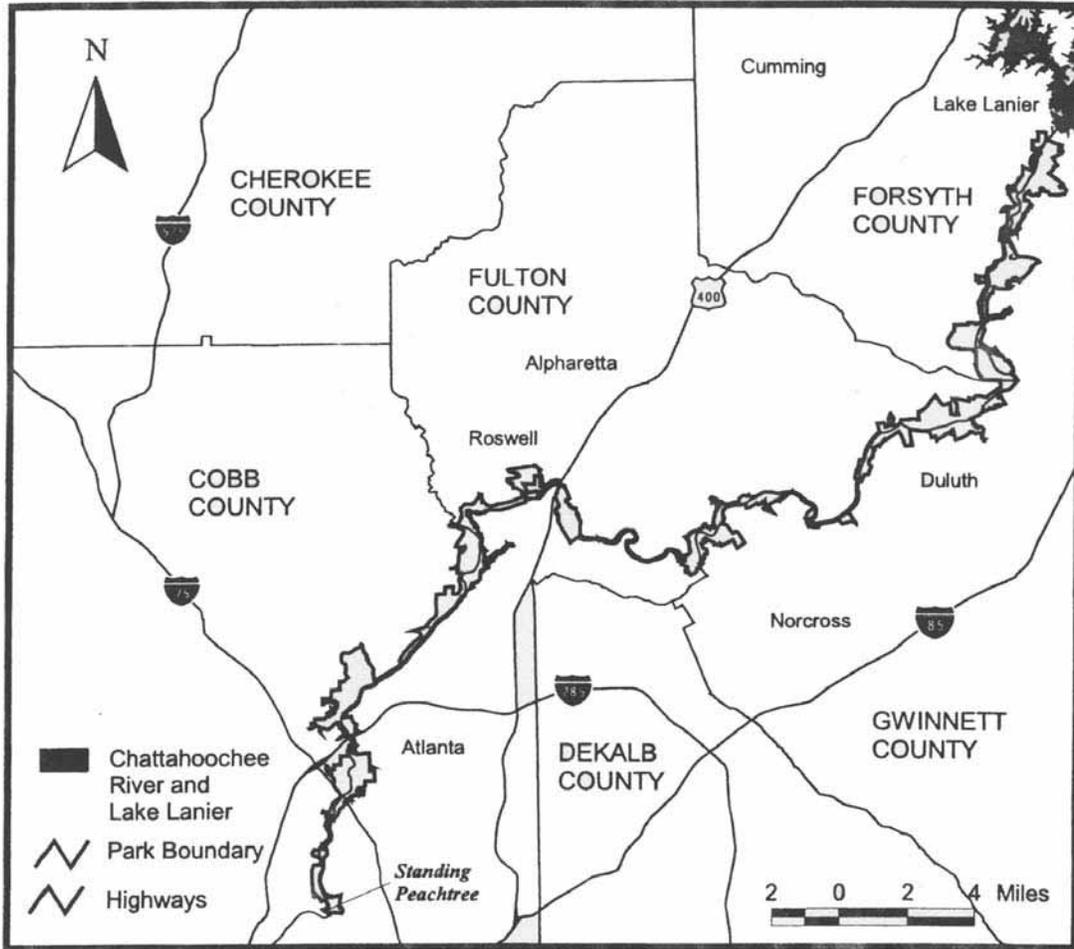


Kevin G. Cheri  
Superintendent





# Chattahoochee River National Recreation Area



*Park Boundary*

**APPENDIX G**

**SUMMARY OF TRANSPORTATION AND  
OTHER MAJOR IMPROVEMENT PROJECTS**

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## **APPENDIX G: SUMMARY OF TRANSPORTATION AND OTHER MAJOR IMPROVEMENT PROJECTS**

### **TRANSPORTATION IMPROVEMENT PROJECTS**

The Transportation Improvement Program, FY 2002- 2004, prepared by the Atlanta Regional Commission for the Atlanta Region, identifies transportation capacity improvements that are scheduled for construction in the area during the next three years. Projects that are scheduled for construction in the study area include the following:

#### **New Construction Projects**

The Northern ARC from GA 400 to the Chattahoochee River was proposed in 2002 but is no longer under consideration.

#### **Roadway Widening Projects**

- Cobb Parkway/US 41- GA 3 from Paces Mill Road to Akers Mill Road
- Old Alabama Road from Jones Bridge Road to GA 141/Medlock Bridge Road
- US 41/GA 3 –Northside Parkway at Chattahoochee River and approaches
- GA 20 from GA 400 to Sample Road
- Buford Dam Road from GA 9 to Sanders Road
- McGinnis Ferry Road from the Chattahoochee River to Sargent Road

There are also a number of bicycle and pedestrian facility projects in the study area that are scheduled for construction in the next three years. The TIP contains 240 bicycle and pedestrian projects scheduled for construction in the Atlanta Region during this period. Over 130 of these projects are in Cobb, DeKalb, Fulton, and Gwinnett Counties. Some of the projects that are located in the proximity of the park include:

#### **Bicycle Facilities**

- Medlock Bridge Road from Parsons Road to the Chattahoochee River
- Old Alabama Road from Riverside Drive to Market Boulevard
- Riverside Drive from Johnson Ferry to I- 285

GA 141/Peachtree Parkway from Spalding Drive to the Chattahoochee River

- Willeo/Azalea/Riverside from Cobb County line to GA 400.
- Vickery Creek from Riverwalk to Alpharetta border
- McGinnis Ferry Road from the Chattahoochee River to Sargent Road

#### **Pedestrian Facilities**

- Dunwoody Place from Roswell Road to Northridge Road
- Holcomb Bridge Road from Scott Road to Barnwell Road

Johns Creek Greenway from McGinnis Ferry Road at the Forsyth County Line to State Bridge Road at Aubrey Mill Reserve

Mt. Vernon Highway from Powers Ferry Road to Roswell Road

Northridge Road from Roswell Road to GA 400

Old Alabama Road from Riverside Drive to Market Boulevard

Peachtree Industrial Boulevard – Western Gwinnett County

Roswell Road from Cobb Parkway to Robinson Road

Johnson Ferry and Roswell Roads from Hildebrand to Johnson Ferry / Roswell to Abernathy Road

Paces Ferry Road from Peachtree Toad to the Chattahoochee River

The Atlanta Regional Commission has prepared an Atlanta Region 2025 Regional Transportation Plan to identify future needed transportation improvements in the Atlanta area. Forsyth County has also identified long range transportation projects that will be needed in the future. Numerous highway and transit projects are proposed that will improve access to the park. These projects include:

### **Highway Projects**

I- 285 High Occupancy Vehicle (HOV) lanes (0 to 2 lanes)

I- 75 HOV lanes (0 to 2 lanes)

GA 400 from I- 285 to North Springs MARTA station (collector- distributor system)

GA 400 from I- 285 to McFarland Road HOV lanes (0 to 2 lanes)

GA 400 Intelligent Transportation System (ITS) monitoring

GA 400 from GA 120 to GA 20 widening (4 to 6 lanes)

GA 120/Abbotts Bridge Road from State Bridge Road to Peachtree Industrial Boulevard widening (2 to 4 lanes)

McGinnis Ferry Road from Gwinnett County Line to McFarland Road widening (2 to 4 lanes)

Morgan Falls Bridge Crossing from GA 400 to Lower Roswell Road

GA 20 from Samples Road to Peachtree Industrial Parkway widening (2 to 4 lanes)

James Burgess Road from GA 20 to Old Atlanta Road widening (2 to 3 lanes)

Cummings Highway to the east of Bowmans Island widening

Dunwoody Place near Vickery Creek and Island Ford widening

Roberts Drive near Island Ford widening

### **Transit Projects**

MARTA rail extension from North Springs station to Holcomb Bridge Road (new construction)

MARTA rail extension from Holcomb Bridge Road to Haynes Bridge Road (new construction)

MARTA rail extension from Haynes Bridge Road to Windward Parkway (new construction)

People mover near the Cumberland Mall/Cobb Galleria area

Express bus service to selected new rail stations

Expansion of local bus service in the study area, particularly in Gwinnett County

Park and Ride facility at GA 120/State Bridge Road

Park and Ride facility at GA 400/Windward Parkway

### **Bicycle /Pedestrian Projects**

Bicycle/pedestrian trail in Windemere development (Forsyth County)

GA 400 from Alpharetta City Limit to the Chattahoochee River

Riverside Road from GA 400 to Eves Road

Chattahoochee River from Riverside Road to Gwinnett County Line

### **NATIONAL PARK SERVICE PROJECTS**

The National Park Service has programmed for funding a number of projects. The majority of these projects include facility maintenance and improvements, boat ramp improvements, rest rooms, additional parking spaces, non-impervious trail improvements, species surveying, exotic species control efforts, and other similar types of projects. These projects are programmed for different locations throughout the park corridor and are not concentrated in any one area. Compliance activities with regard to these activities and other planning efforts would also be conducted.

### **OTHER MAJOR DEVELOPMENT PROJECTS IN THE METROPOLITAN REGION**

Located outside the park are geographic areas of rapidly growing Forsyth, Gwinnett, North Fulton and Cobb Counties, Georgia. Of regional consequence are regional private economic and public infrastructure development trends in the Georgia 400 Sub Area whose epicenter is the Chattahoochee River drainage basin as it winds through metropolitan Atlanta. A review of studies related to regional trends for residential, commercial – office and industrial construction in this described sub area, including Developments of Regional Impact (DRI), administered by the Atlanta Regional Commission and the Georgia Regional Transportation Authority, is provided in the paragraphs that follow. With 90 DRI projects listed, the text provides a summary of the trends used as the basis for the cumulative impacts scenarios described in this GMP. An overview of the growth trends and sample projects is described below based upon The Economic Base Report of the Northern Sub Area Georgia 400 Study.

**Residential** - “The number of housing units in the Northern Sub Area is projected at 493,836 in 2001 and 608,749 in 2006 (Source: ESRI Business Information Services). This represents a growth of 31.6% between 2000 and 2006. In the GA 400 Corridor, the number of housing units is expected to increase from 128,136 to 168,242 over the same period, representing a growth of 31.3%....Since 1995, metropolitan Atlanta has led the nation in the number of housing units authorized by building permits.....Gwinnett, Fulton and Cobb have the largest share of building permits since 1995.”

**Office** – “The northern office markets have added more square feet of space than any other market (in metro Atlanta) between the first quarter of 1999 and the 1st quarter of 2002. The growth rates experienced in these other markets have also been very high.”

The cumulative impact on the park regarding other actions by private development is 40,000 new housing units constructed in the North Sub Area Ga 400 Study Area and is further impacted as the leading area for construction of office and retail space since 1995.

## **Developments of Regional Impact**

Under the Georgia Planning Act, development projects that are likely to have an impact beyond the host local government jurisdiction are subject to review as Developments of Regional Impact (DRI). These specific large scale development projects were reviewed as they potentially impact the park. Since July 1, 2002, over 200 DRI have been reviewed statewide. Ninety projects were specific to the counties surrounding the park as well as nearby DeKalb County.

These types of developments are delineated into types of development, regions and square footage. The office space developments are all greater than 400,000 gross square feet. The commercial developments are greater than 300,000 gross square feet. Wholesale and distribution developments are greater than 500,000 gross square feet. Hospitals have more than 300 new beds. Housing has greater than 400 new lots or units.

Industrial has more than 500,000 gross square feet and employ more than 1600 workers covering more than 400 acres. There are 18 categories of DRIs and include mixed use developments (400,000 square feet and 120- acres), hotels (400 rooms plus) and wastewater facilities (expansion by at least 50% from existing structures). In the 90 approved DRI projects, all of these DRI categories described above have been constructed in the counties surrounding the park. Thirteen DRI projects in the counties surrounding the park were complete or pending in 2002 (Source: ARC 2002 Developments of Regional Impact Status) including: Worldspan at Cobb Galleria, MBNA America Operations Center in Cobb County, Logust Grove Station and Indian Creek in Gwinnett County, and the Cauley Creek Water Reclamation Facility in Fulton County. In addition, DeKalb County is redesigning the raw water pump station located on the Chattahoochee River.

**APPENDIX H**  
**LIST OF RECIPIENTS**

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## **LIST OF RECIPIENTS**

The Draft General Management Plan/Environmental Impact Statement was distributed to the following delegates, agencies and organizations:

### **Georgia Congressional Delegation**

- Hon. David Scott
- Hon. Denise Majette
- Hon. Johnny Isakson
- Hon. Nathan Deal
- Hon. John Lewis
- Hon. John Linder
- Hon. Phil Gingrey
- Hon. Saxbly Chambliss
- Hon. Zell Miller

### **Federal Departments, Agencies, and Offices**

- Federal Emergency Management Association
- Kennesaw Mountain National Battlefield Park
- U.S. Army Corps of Engineers
- U.S. Department of Agriculture
  - National Resources Conservation Service
- U.S. Department of Transportation
- U.S. Environmental Protection Agency
  - Criminal Investigation Division
  - Environmental Accountability Division
  - Watershed and Non- point Source Group
  - Water- Wetlands, Coastal and Water Quality Branch
- U.S. Fish & Wildlife Service
- U.S. Forest Service
  - Chattahoochee- Oconee National Forest
- U.S. Geological Survey

### **State of Georgia**

- Georgia Department of Agriculture
- Georgia Department of Community Affairs
- Georgia Department of Industry
- Georgia Department of Natural Resources
  - Environmental Protection Division, Water Protection Branch
  - Georgia State Parks and Historical Sites
  - Historic Preservation Division
  - Pollution Prevention Assistance Division
  - Wildlife Resources Division, Fisheries Section (Buford Trout Hatchery)

- Georgia Department of Revenue
- Georgia Department of Transportation
- Georgia Environmental Facilities Authority
- Georgia Forestry Commission
- Georgia Greenspace Program
- Georgia Regional Transportation Authority
- Georgia Scenic Byways Program
- Georgia Trust for Historic Preservation
- Panola Mountain State Conservation Park
- Sweetwater Creek State Conservation Park

### **County Agencies**

- Cherokee County
- Cobb County
  - Cobb Commission
  - Cobb County Department of Transportation
  - Cobb County Parks, Recreation and Cultural Affairs
  - Cobb County School District
  - Cobb Marietta Water Authority
- Dekalb County
  - Public Works, Water and Sewer Division
- Douglas County
- Forsyth County
  - Forsyth County Board of Commissioners
  - Forsyth County Parks and Recreation
  - Forsyth County Planning and Development
- Fulton County
  - Fulton County Board of Commissioners
  - Fulton County Department of Environmental and Community Development
  - Fulton County Department of Parks and Recreation
- Gwinnett County
  - Gwinnett County Board of Commissioners
  - Gwinnett County Department of Community Services
- Paulding County

### **Local Agencies**

- City of Atlanta
  - Atlanta Urban Design Commission
  - Mayor of Atlanta
  - Mayor's Office of Community Affairs
  - Metropolitan Atlanta Rapid Transit Authority
- City of Austell
- City of Berkley Lake
- City of Buford

- City of Duluth
- City of Kennesaw
- City of Marietta
  - Marietta City Schools
- City of Powder Springs
- City of Roswell
  - Roswell Recreation and Parks Department
  - Roswell Visitors Center
- City of Sugarhill
- City of Suwanee

### **Organizations**

- Alliances for Better Education, Inc.
- American Water Resources Association
- Association of County Commissioners of GA
- Atlanta Audubon Society
- Atlanta Bicycle Campaign
- Atlanta Botanical Garden
- Atlanta Center for Excellence
- Atlanta Chamber of Commerce
- Atlanta Convention and Visitor Bureau
- Atlanta Fly Fishing Club
- Atlanta History Center
- Atlanta Journal Constitution
- Atlanta Junior Rowing Club
- Atlanta Outward Bound Center
- Atlanta Regional Commission
- Atlanta Sport & Social
- Atlanta Track Club
- Atlanta Whitewater Club
- Bells Ferry Civic Association
- Bicycle Federation of America
- Center for Neighborhood Technology
- Central Atlanta Progress
- Chattahoochee Hill Country Alliance
- Chattahoochee Nature Center
- Chattahoochee River Friends
- Chattahoochee Road Runners
- Chattahoochee Trail Horse Association
- Chattowah Open Land Trust
- Cobb Community Foundation
- Cobb County 4- H Club
- Cobb County Chamber of Commerce
- Cobb Landmarks & Historical Society

- Cobb Photographic Society
- Cochran Mill Nature Center & Arboretum, Inc.
- Cumberland CID
- Davidson- Arabia Mountain Nature Preserve
- DeKalb County Chamber of Commerce
- Dunwoody Nature Center, Inc.
- Earth Share of Georgia
- East Cobb Civic Association
- East Cobber
- Eco Action
- Environmental Defense Fund
- Environmental Education Alliance, Inc.
- Environmental Fund for GA
- Georgia Appalachian Trail Club
- Georgia Native Plant Society
- Garden Club of Georgia, Inc.
- Georgia Bicycle Federation
- Georgia Canoeing Association
- Georgia Chamber of Commerce
- Georgia Clean and Beautiful
- Georgia Endurance Riders Association
- Georgia Environmental Council, Inc.
- Georgia Environmental Organization, Inc.
- Georgia Environmental Policy Institute
- Georgia Forestry Association, Inc.
- Georgia Horse Council
- Georgia Lake Management Society
- Georgia Municipal Association
- Georgia Orienteering Club
- Georgia Ornithological Society
- Georgia Recycling Coalition
- Georgia Tech Crew
- Georgia Trend
- Georgia Trust/Historic Preservation
- Georgia Water & Pollution Control Association, Inc.
- Georgia Water Wise Council
- Georgia Wildlife Federation
- Georgians for Better Transportation
- Georgians for Transportation Alternatives
- Georgia Municipal Association
- Gwinnett Chamber of Commerce
- Gwinnett Open Land Trust
- Hands on Atlanta
- IMBA

- Izaak Walton League of America
- Keep Georgia Beautiful
- Kennesaw Archery Club
- Kennesaw State University
- Lake Allatoona Preservation Authority
- Latin American Association
- Life University
- Mable House
- Metro Chamber of Commerce
- Metro North Youth Soccer Association
- Metropolitan Association of Soil and Water Conservation Districts
- Midtown Garden Club
- Mt. View Arts Alliance
- Mt. View Community Club
- National Association for the Advancement of Colored People
- National Parks Conservation Association
- Natural Science for Youth Foundation
- The Natural Step
- Nickajack Creek Watershed Alliance
- North Metro Tech
- Northridge Community Association
- Outdoor Activity Center
- Park Pride
- PATH Foundation
- Piedmont Park Conservancy
- PLAN, Inc.
- Powder Springs Civic Assoc.
- Regional Business Coalition
- River Through Atlanta
- Rockdale County Trail Riders
- Roswell Alpharetta Mountain Biking Association (RAMBO)
- Roswell Convention & Visitor Bureau
- Roswell Historical Society
- Saddle Up Cobb
- SCAT
- Sierra Club
- Sierra Club - Georgia Chapter
- Sierra Club, Centennial Group
- SORBA
- SORBA- Woodstock, GA Chapter
- South Cobb Community Center
- South Peachtree Creek Nature Preserve
- Southeast Land Preservation Trust
- Southeast Region Eastern National

- Southern Bicycle League
- Southern Conservation Trust
- Southern Off Road Bicycle Association
- St. Andrew Rowing Club
- The Conservation Fund
- The Georgia Conservancy
- The Georgia Wildlife Federation
- The National Trust
- The Nature Conservancy of Georgia
- The Star & Beacon
- The Trust for Public Land
- The Turner Foundation
- The University of Georgia
- The Wilderness Society
- Town Center Area CID
- Trees Atlanta
- Trout Unlimited
- Trout Unlimited Georgia Chapter
- Trout Unlimited Cohutta Chapter
- Upper Chattahoochee Riverkeeper
- Whitefield Academy
- Zoo Atlanta

### **Individuals and Others**

The Draft General Management Plan/Environmental Impact Statement was also distributed to individuals, private companies, commercial institutions and numerous homeowners' associations on a mailing list maintained by the park.