

# MOSES H. CONE MEMORIAL PARK DEVELOPED AREA MANAGEMENT PLAN

Environmental Assessment  
January 2015



**Cover Photograph Credit: Robert Clark**



IN REPLY REFER TO:

## United States Department of the Interior

National Park Service  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, North Carolina 28803



L7617  
PIN 10347  
January 5, 2015

Dear Friends of the Moses H. Cone Memorial Park:

After much study and preparation I am pleased to announce the release of the Moses H. Cone Memorial Park Developed Area Management Plan (DAMP) and Environmental Assessment.

Many of you have been eagerly awaiting the completion of this effort, and we thank you for your patience and participation along the way. While the plan has a long history, we feel that we now have a fuller knowledge and understanding of the extraordinary resources at the site. We are confident that the direction provided in this plan will provide the Memorial Park with a solid management approach for the future.

The National Park Service (NPS) preferred management alternative described in the plan is Alternative One, "Enhance What We Have". This alternative recognizes that we have opportunities for interpretation, rehabilitation, and collaboration that we want to take advantage of in a focused way going forward.

Now that we have a carefully crafted plan that creates the vision for the management of the Moses H. Cone Memorial Park we hope that you will please take some time to review the plan, and share your thoughts and comments with us. The public comment period opens on January 5, 2015 and continues through February 9, 2015. We are hosting a public open house at the Blowing Rock Clubhouse on January 15, 2015 from 4:00 – 6:00 pm.

Sincerely,

Mark H. Woods  
Superintendent



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# SUMMARY

## INTRODUCTION

After Moses Cone's death in 1908, his wife Bertha assumed ownership of the Moses Cone estate. To ensure the perpetual maintenance of the estate and its opening to the public after her death, Bertha Cone deeded the property to the Moses H. Cone Memorial Hospital in 1911, giving it the name "Moses H. Cone Memorial Park." She retained the right to live at and manage the estate for the remainder of her life.

Following Bertha Cone's death in 1947, the trustees of the hospital agreed that the Blue Ridge Parkway (Parkway) would be better able to manage the estate. A deed filed for registration on January 11, 1950 transferred the Moses H. Cone Memorial Park from the Moses H. Cone Memorial Hospital to the United States of America. Under the terms of the indenture, the National Park Service assumed the obligations of the 1911 settlement and agreed to maintain a system of roads on the estate equal in extent to the system then in operation, and to develop the park in accordance with an agreed master plan, which has never been completed. This planning effort remedies that deficiency and creates a master plan for the Moses H. Cone Memorial park in compliance with the terms of indenture in the deed.

By 1952 the NPS had developed a set of general development and master plan drawings to document where roads, parking areas and utilities were to be constructed. In order to accommodate visitors, the National Park Service developed an access road from the Parkway to a new parking lot behind the Flat Top Manor House, and removed many of the buildings and structures that had formerly supported agricultural uses. Park housing and a maintenance area were constructed. Much later a road to Bass Lake and parking area were constructed and then a comfort station.

Current NPS management planning takes a more comprehensive approach that looks beyond general development to resource and visitor use management. The Parkway's recently completed (2012) General Management Plan (GMP) provides overall Parkway-wide guidance and zoning which creates a long-term vision for how Parkway resources would be managed. This Developed Area Management Plan (DAMP) tiers from the GMP to apply those Parkway-wide concepts and provide management direction at this particular site. An up-to-date management plan is needed to:

- Clearly define resource conditions and visitor experiences to be achieved at the Moses H. Cone Memorial Park.
- Provide a framework for National Park Service managers to use when making decisions about how to best protect Memorial Park resources, how to provide an appropriate range of visitor experience opportunities, how to manage visitor use, and what kinds of facilities, if any, to develop.
- Ensure that this foundation for decision making has been developed in consultation with interested stakeholders and adopted by NPS leadership after an adequate analysis of the benefits, impacts, and economic costs of alternative courses of action.

## **THE NO-ACTION ALTERNATIVE (CONTINUE CURRENT MANAGEMENT)**

The no-action alternative represents a continuation of existing management and trends at the Memorial Park and provides a baseline for comparison in evaluating the changes and impacts of the other action alternatives. The National Park Service would continue to manage the Memorial Park as it is currently being managed, but there is not a comprehensive park-wide resource and visitor use management direction for setting priorities. Resource and visitor use issues and conflicts would continue to be resolved on a case-by-case basis without the guidance of an agreed upon park-wide management strategy.

The Flat Top Manor House would continue to be managed primarily as a craft and book sales shop and the Memorial Park as a recreational area. Managers would continue to adjust daily management practices to respond to current laws and policies, natural and cultural resource management mandates, visitor safety needs, infrastructure deficiencies, fiscal constraints, and changes in visitor use patterns and characteristics.

The extant features of the Memorial Park--the Flat Top Manor House, carriage house, apple barn, carriage trails and Bass and Trout Lakes would continue to be the focus for NPS management and the backdrop for the visitor's use and experience. Visitors would continue to receive current levels of ranger led programs with some potential additions of interpretive wayside exhibits along trails and at Memorial Park buildings. Little would be changed in the current levels of park operations and visitor use support as long as current funding level is maintained and adjusted for inflation.

Both cultural and natural resource management activities would continue to be directed to treat some of the Memorial Park areas as historic/cultural landscapes while other areas would be conserved in their now more natural condition. Existing natural and cultural resources would be managed in accordance with NPS policies while perpetuating traditional recreational uses. The agricultural lease program would continue to be the preferred way in which pastures and the meadows are maintained.

The approximately 24 miles of carriage roads, now managed as trails, would continue to be a primary focus of recreation activities on the estate. No new uses would be allowed. The Flat Top Manor House, carriage roads, Bass and Trout Lakes, and the Flat Top Mountain destinations of the Cone Cemetery and an observation tower comprise the current overall NPS provided visitor experience.

Bouldering (i.e.: ropeless climbing that concentrates on short, sequential moves on rock usually no more than 15 feet off the ground) would continue at China Orchard area and a new horse trailer parking area would be created adjacent to the Blowing Rock Charity Horse Show grounds accessed by Laurel Lane and US 221.

## **ALTERNATIVE ONE (ENHANCE WHAT WE HAVE), NPS PREFERRED ALTERNATIVE**

Alternative One (Enhance What We Have) has been identified as the National Park Service's preferred management approach. This action alternative provides a park-wide and comprehensive approach for resource and visitor use management. Specific management zones detailing acceptable resource conditions, visitor experience and use levels, and appropriate activities and development would be applied park-wide.

Alternative One's focus is on the Memorial Park being managed as a "Learning Center," a place for an in-depth interpretive and visitor use program that promotes public understanding and appreciation of *the extended Cone Family*, their estate and the far reaching influence they had regionally and nationally. The primary change in the Memorial Park's infrastructure would be in the expansion of the current parking area behind the Flat Top Manor House. Existing historic structures, landscape areas and features would provide the necessary facilities and places for the Memorial Park to be managed as a "Learning Center." Educational programs, personal services and visitor activities would be supported by adaptively using existing structures rather than constructing new facilities.

The historic buildings and only the most intact parts of the historic landscape--meadows, lakes, orchards, and conifer plantations would continue to be maintained at current levels. Flexible use of historic structures and cultural landscapes would be encouraged to facilitate increased educational and interpretive services and traditional recreation uses for visitors. Natural resources would be managed to allow natural succession to continue on areas that have gone unattended. Sensitive natural areas would be managed in accordance with NPS policies.

Primary visitor services would continue at the Flat Top Manor House. Structures' interior spaces may be modified to accommodate interpretive exhibits that facilitate visitors overall understanding of the Cone family, the estate and their influence beyond the boundaries of the park. A business opportunity would continue in the lower floor of the Flat Top Manor House to provide a sales area. Park education programs would be conducted both on and off-site with a strong focus on web-based outreach to a global audience.

Bouldering would continue at China Orchard area and a new horse trailer parking area would be created adjacent to the Blowing Rock Charity Horse Show grounds accessed by Laurel Lane and US 221.

Full implementation of this alternative would require some additional capital investment and operations increases that are not programmed at this time. Funding this alternative would also require some private/public partnerships through donations, grants, in-kind services, volunteers, etc.

## **ALTERNATIVE TWO (CULTURAL LANDSCAPE REHABILITATION)**

This action alternative also provides a park-wide and comprehensive approach for resource and visitor use management. Specific management zones detailing acceptable resource conditions, visitor experience and use levels and appropriate activities and development would be applied park-wide.

Alternative Two's focus is on the estate's period of significance from 1899 to 1947 and it concentrates on the Cones and their Country Place Era estate and their life there. A much expanded interpretive and visitor use program would focus the public's understanding and recognition of the historic importance of the Cone estate with its historic structures and designed landscapes. A combination of adaptive use and new construction would be used to provide the necessary infrastructure and facilities to support this concept. This would result in rehabilitation of the Memorial Park to include preservation of extant resources, rehabilitation of the cultural landscape, and interpretation of the cultural landscape, buildings and features found on the estate from 1899 to 1947.

Educational programs, personal services and visitor activities would be supported by utilizing the Flat Top Manor House as a visitor center. No craft concessioner space would be provided in the Flat Top Manor House or on the estate. Special events would be managed according to NPS policy for all areas of the Memorial Park. Building and grounds rehabilitation and construction would be made based upon interpretive and educational needs; special events may be considered in facilities or rehabilitated grounds, however, these must be in accordance with NPS policy. Recreation would focus on the traditional recreational uses

envisioned by the Cones; the exceptions being the allowance of bouldering at China Orchard and public fishing at Bass Lake, which were not traditional uses. A new horse trailer parking area would be created adjacent to the Blowing Rock Charity Horse Show grounds accessed by Laurel Lane and US 221.

Full implementation of this alternative would require significant additional capital investment and operations increases that are not programmed at this time. Funding this alternative would require substantial funding and volunteer involvement of private and academic sector partnerships including funding donations, grants, in-kind services, volunteers, etc.

## **THE NEXT STEPS**

After the distribution of the *DAMP/EA* there will be a minimum 30-day public review and comment period after which the NPS planning team will evaluate comments from other federal agencies, tribes, organizations, businesses, and individuals regarding the plan. If major substantive issues not covered adequately in the EA are raised, or new alternatives the park wishes to consider are suggested, the EA would be rewritten to incorporate them and reissued for a second 30-day review upon completion. If any of the issues point to the potential for significant impacts, a notice of intent (NOI) to prepare an environmental impact statement (EIS) would be prepared and submitted to the *Federal Register* for announcement. If commenters correct or add factual information that have no bearing on the determination of significant impact, the information would be added to the text of the EA when possible. Parkway management may also respond through the use of errata sheets to comments that do not increase the degree of impact described in the EA. The combination of the EA and the errata sheets forms the complete and final record on which the FONSI or decision to prepare an EIS is based. The FONSI documents the NPS selection of an alternative for implementation. With the signing of the FONSI, the plan can then be implemented.

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## ACRONYMS AND ABBREVIATIONS

BLRI	Blue Ridge Parkway
BMP	Best Management Practices
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CLI	Cultural Landscape Inventory
CLR	Cultural Landscape Report
DAMP	Developed Area Management Plan
DO	NPS Director's Order
DOI	Department of the Interior
EA	Environmental Assessment
EO	Executive Order
ESA	Endangered Species Act
FPPA	Farmland Protection Policy Act
FTE	Full-time Employee
GMP	General Management Plan
HFR	Historic Furnishings Report
Memorial Park	Moses H. Cone Memorial Park
MP	Milepost
MTS	Mountains-to Sea Trail
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NPS	National Park Service
RLU	Resource Landscape Units
SER	Southeast Regional Office
SHPO	State Historic Preservation Office
USFWS	United States Fish and Wildlife Service

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# CHAPTER 1: PURPOSE AND NEED

## INTRODUCTION

### BACKGROUND

In January, 1949, the Moses H. Cone Memorial Park was transferred to the NPS to become a part of the Blue Ridge Parkway. Under the terms of the transfer, the NPS agreed to maintain the Cone Cemetery on Flat Top Mountain, to keep open and maintain a system of roads, and to develop the Memorial Park in accordance with an agreed upon master/management plan. To date, a comprehensive master/general management plan to guide maintenance, concession activities, resource protection, and visitor use of the Memorial Park has not been prepared and approved.

### BRIEF DESCRIPTION OF THE PARK

The Moses H. Cone Memorial Park is a designed historic landscape representative of the Country Place era administered by the Blue Ridge Parkway. The Memorial Park is listed as a historic district in the National Register for Historic Places. The estate was originally the summer home and seasonal retreat of textile magnate Moses Cone and his wife Bertha. Moses Cone accrued his wealth in the textile business and at the age of 36 he and his wife Bertha L. Cone began to acquire several parcels of land between 1893 and 1899 to develop a 3,516 acre estate, located adjacent to the town of Blowing Rock. The Cones built an impressive Flat Top Manor House, designed by architect Orlo Epps, on a prominent knoll with expansive views of the mountains to the south. The 20 room majestic white Flat Top Manor House was set in a landscape of designed and natural beauty with three constructed lakes, approximately 180 acres of apple orchards, pastures, two deer parks and an extensive carriage road system, some 24 miles in length.

The Cones engaged in their own agricultural programs, providing employment for many Blowing Rock residents, and helped to establish the nearby Sandy Flat School, Sandy Flat Missionary Baptist Church and residences for their tenants and employees.

After Moses Cone's death in 1908 Bertha Cone continued manage the estate for almost 40 years. Upon her death in 1947, the estate became the property of the Moses H. Cone Memorial Hospital; trustees determined that they would be unable to adequately maintain the property and elected to transfer it to the federal government for inclusion within the Blue Ridge Parkway. The Moses H. Cone Memorial Park was transferred to the NPS on January 21, 1949. It was to be developed and maintained as a recreational area and public park.

The NPS decided that the Flat Top Manor House area would be the primary visitor attraction so around 1955-57 a visitor parking area was built behind the Flat Top Manor House and carriage house. A system of concrete walks was constructed that link the Flat Top Manor House with the visitor parking area. The parking area is accessed from a spur road leading onto the estate from the Parkway motor road.

The Moses H. Cone Memorial Park is located in Watauga County, North Carolina and lies between Mileposts (MP) 292 and 295 on the Blue Ridge Parkway, just north of Blowing Rock, North Carolina (see **Figure 1**).

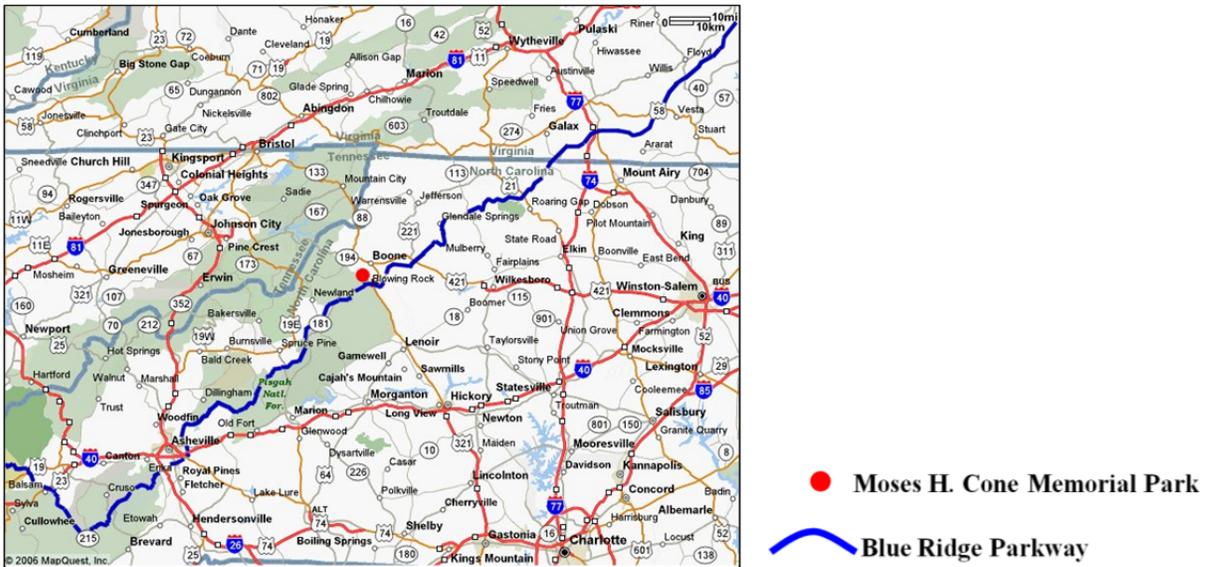


Figure 1. Regional Location Map

## PURPOSE AND NEED FOR THE PLAN

Under the terms of the indenture, the National Park Service agreed to “develop the park in accordance with an agreed master plan”, which has never been completed. This planning effort remedies that deficiency and creates a master plan for the Moses H. Cone Memorial park in compliance with the terms of indenture in the deed.

The Parkway’s recently completed (2012) General Management Plan (GMP) provides overall Parkway-wide guidance and zoning which creates a long-term vision for how Parkway resources would be managed. Because of the uniqueness of this resource on the Parkway – and its levels of development, visitation, and management -- a decision was made to put the Developed Area Management Plan (DAMP), which was started before the GMP, on hold until management direction for the entire Parkway was established and direction for the site provided. This DAMP tiers from the Parkway GMP and applies those Parkway-wide concepts and provide management direction to this particular site.

When approved, this Developed Area Management Plan (DAMP) will be the central document for managing the Memorial Park for the next 20+ years. The purposes of this management plan are as follows:

- Confirm the purpose, significance, and special mandates of the Moses H. Cone Memorial Park.
- Clearly define resource conditions and visitor uses and experiences to be achieved in the Memorial Park.
- Provide a framework for park managers to use when making decisions about how to best protect resources, provide quality visitor uses and experiences, manage visitor use, and develop facilities in/near the Memorial Park.
- Ensure that this foundation for decision making has been developed in consultation with interested stakeholders and adopted by NPS leadership after an adequate analysis of the benefits, impacts, and economic costs of alternative courses of action.

The National Park Service (NPS) is preparing an Environmental Assessment (EA) to evaluate three management alternatives for the Moses H. Cone Memorial Park (Memorial Park), which is administered, by the Blue Ridge Parkway (BLRI) and to identify a developed area management plan (DAMP) and desired future conditions for the Memorial Park. The proposed actions include alternatives ranging from current management, to maintaining the recreational focus of the Memorial Park (the “Enhance What We Have” alternative), to rehabilitating the estate to its characteristic period of significance (the “Working with the Cultural Landscape Rehabilitation” alternative).

## **IMPLEMENTATION OF THE PLAN**

The implementation of the approved plan will depend on future funding. The approval of a plan does not guarantee that the funding and staffing needed to implement the plan will be forthcoming. Full implementation of the approved plan could be many years in the future.

The implementation of the approved plan also could be affected by other factors. Once the DAMP has been approved, additional feasibility studies and more detailed planning and environmental impact analysis would be completed, as appropriate, before any proposed actions can be carried out. For example:

- Appropriate permits would be obtained before implementing actions that would impact wetlands.
- Appropriate federal and state agencies would be consulted concerning actions that could affect threatened and endangered species.
- Native American tribes and the state historic preservation office (SHPO) consultation would continue.

The DAMP does outline how particular programs or projects should be prioritized or implemented. However, some specific decisions may need to be addressed during more detailed planning efforts associated with the development of future strategic and implementation plans. All future plans will tier from the DAMP and will be based on the goals, future conditions, and appropriate types of activities established in it.

## **FOUNDATION FOR PLANNING AND MANAGEMENT**

This Developed Area Management Plan / Environmental Assessment analyze the impacts to the natural, social, and physical environment of three alternatives, including the no-action alternative, Alternative One, the NPS preferred alternative, and Alternative Two. This environmental assessment has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 and regulations of the Council of Environmental Quality (40 CFR 1500 – 1508); the National Park Service Director’s Order No. 12 (DO-12) and the associated handbook *Conservation Planning, Environmental Impact Analysis, and Decision-making*; and Section 106 of the National Historic Preservation Act (NHPA) of 1966 (as amended). This document will be used to comply with Section 106 regulations.

## **PURPOSE AND SIGNIFICANCE**

The Moses H. Cone Memorial Park’s purpose and significance are not defined by the legislation that established the Blue Ridge Parkway or by the Parkway’s natural resources or historic designed landscape. The Cone estate existed prior to the development of the Parkway and it was not considered by National Park Service landscape architects as one of the developed areas to be provided along the Parkway in the original

1935 master plan. Therefore, the basis for determining the Memorial Park's purpose and significance comes from the deed that transferred ownership of the Memorial Park to the NPS and from the natural and cultural resources found within the estate boundaries. Statements within the deed clearly indicate and/or imply Bertha Cone's and the Cone Memorial Hospital Board of Trustees' intent for the Memorial Park. Resources that are present within the developed area and the available visitor experiences also serve as a basis for articulating both purpose and significance statements that capture the Memorial Park's importance to the nation's natural and/or cultural heritage.

The Moses H. Cone Memorial Park in December 2013 was designated as a historic district and listed in the National Register of Historic Places. Information from the National Registration nomination form section 8 Statement of Significance and Applicable National Register Criteria also was used as a source from which significance statements were prepared.

## **PARK PURPOSE**

Purpose statements are used to define management priorities and they are important because they are basic to all other assumptions about the park and its developed areas and the ways in which it and they should be used and managed.

- Develop and maintain the lands known as Flat Top Manor Estate a unit of the Blue Ridge Parkway and as a historic district.
- Serve as a free public park and recreation area for the enjoyment of present and future generations.
- Memorialize Moses H. Cone in a manner consistent with his values and affection for the area and its people.
- Protect, preserve and maintain the cultural, historical and natural resources associated with this "Country Place Era" estate whose period of significance is from 1899 to 1947.
- Provide for the public understanding of the "Country Place Era" lifestyle as envisioned and lived by Moses and Bertha Cone.

## **PARK SIGNIFICANCE**

Significance statements are important for identifying resources management and interpretation priorities, and in defining the kinds of visitor experiences most appropriate for the Memorial Park.

- The period of significance as defined in the National Register for the Moses H. Cone Memorial Park Historic District is from 1899 to 1947 encompassing the years of development of the property by Moses Cone, from 1899 until his death in 1908, and the period in which his wife, Bertha, maintained and operated the property, until her death in 1947.
- The Moses H. Cone Memorial Park was owned and developed as a gentleman's country estate by Moses H. Cone an American captain of industry of the late nineteenth and early twentieth centuries.
- Moses H. Cone Memorial Park's designed historic landscape and natural areas represent one of the largest and best preserved Country Place era estates in western North Carolina.

- The Moses H. Cone Memorial Park (Flat Top Estate) where Cone took an active role in the design and management of the estate symbolizes the life of Moses Cone more than any other place associated with him.
- The Moses H. Cone Memorial Park contains a historically significant network of carriage drives that is one of the most complete and intact systems of Country Place Era carriage roads in the country including planned views, architectural design elements and roadside plantings of native species. The system of carriage roads are listed as a contributing resource in the 2013 National Register Nomination.
- The Moses H. Cone Memorial Park’s historically significant landscape design was listed in the National Register of Historic Places and incorporates many of the characteristics of a turn of the twentieth century Country Place era estate—including forests, pastures, meadows, lakes and ponds, planned views and gardens, as well as an imposing major house and numerous outbuildings.
- The Moses H. Cone Memorial Park preserves Flat Top Estate, which is significant at a state level for architectural design as an early example of Colonial Revival style in North Carolina and as a particularly grand, fully realized, and intact example of this building type.
- The Moses H. Cone Memorial Park possess historic archeological resources with the potential to yield significant information pertaining to nineteenth and early twentieth century life ways, as well as evidence of the built environment relating to the Cone period.
- Remnant apple orchards, which once formed an important part of the estate contain a wide variety of old southern apples; some of which are now rare and thus are important to understanding the history of orchards and the preservation of these apples germplasm (heredity material transmitted from one generation to another).

## **FUNDAMENTAL RESOURCES AND VALUES**

Fundamental resources and values warrant primary consideration during planning because they are critical to achieving the park’s purpose and maintaining its significance. The following resources and values are central to managing the Memorial Park and express the importance of the park to our natural and cultural heritage.

The Moses H. Cone Memorial Park has been listed in the National Register of Historic Places as a Historic District. The historic district is significant at the state level under National Register Criterion A as an example of a Country Place era and under National Register Criterion B for its historic association with Moses Cone, who revolutionized textile manufacturing in the South, and particularly in North Carolina, during the late nineteenth century. The historic district was determined to have a state level of significance under National Register Criterion C in the area of landscape architecture for the planning of the estate, in particular the extensive network of carriage roads and associated plantings designed by Moses Cone. The historic district is one of the largest and best preserved country place era estates in western North Carolina, incorporating a large Flat Top Manor House surrounded by orchards, pastures, meadows, lakes and other constructed water features, roads, and forests.

### ***Cultural Resources***

Cultural resource values are summarized from the draft Moses Cone National Register Nomination form, dated April 04, 2011. Excerpts were taken from the Narrative Description section, pages 5 through 42.

### **The Flat Top Estate Historic District**

The Flat Top Manor Historic District is a collection of buildings, structures, and garden features that supported the residential and recreational activities of the property during the early twentieth century and less so since the NPS has managed the Memorial Park. The focal point of the district is the Flat Top Estate, a large Colonial Revival dwelling set atop a small knoll that overlooks the Bass Lake. The landscape around the Flat Top Estate has an open character due to the extensive area of mown grass maintained around the house and associated buildings and garden features. The combination of the elevated terrain and grass cover create a large open district oriented to the views.

### **Buildings**

The carriage house sits east of the Flat Top Estate and is one of the five surviving Cone-era buildings on the property. The carriage house is built into the hillside, with a raised masonry basement below two wood-framed levels.

### **Sandy Flat School/Sandy Flat Missionary Baptist Church**

Sandy Flat School/Sandy Flat Missionary Baptist Church is located on the north side of U.S. Highway 221. The school was completed by 1908 on land donated by the Cones. After school consolidation resulted in the closing of the school in 1927, Bertha Cone repurchased the property and allowed the Sandy Flat Missionary Baptist Church congregation to begin using the building.

### **Apple Barn**

The apple barn is the only surviving agricultural building on the estate and the barn is located southeast of the Flat Top Manor House at the site of the Sawmill Place Orchard.

### **Servants' Quarter**

Although constructed by the Cone family as part of the estate, this building is considered non-contributing due to its relocation to a new site and the construction of a new foundation in the early 1950s.

### **Views and Vistas**

Views and vistas are an integral part of the Moses Cone Estate experience. Moses and Bertha Cone clearly considered views in the design of the estate, particularly in the siting of the house, the orchestration of the carriage road trails, the pastoral lake and pasture scenes, ornamental plantings, and the construction of viewing platforms and towers. Cone took advantage of the road engineering process by highlighting views from switchbacks and hairpin turns, as the carriages were forced to slow down to navigate the road. The passage of the roads through forests and open spaces provided a series of contrasting views. Some of the most dramatic views were those afforded from the summits of the two peaks on the estate—Flat Top and Rich mountains.

### **Vegetation Features**

The majority of the Moses Cone Estate is currently wooded. These woodlands are primarily characterized as native hardwood communities some of which have arisen through secondary succession due to the abandonment of agricultural activities. There are also older woodlands, as well as evergreen plantations established by Moses Cone during the late nineteenth and early twentieth centuries. These plantations are primarily located in the lower elevations of the southern half of the estate. Species that comprise the plantations planted by Mr. Cone include white pine (*Pinus strobus*), Fraser fir (*Abies fraseri*), hemlocks, and Norway spruce. Other species that were planted include black spruce (*Picea ariana*). Balsam firs (*Abies balsamea*) that were planted in large numbers in 1904 were lost to the balsam woolly adelgid. Bertha Cone is known to have augmented the plantings established during her husband's tenure on the property, adding a considerable number of shrubs alongside the carriage drives, particularly around Bass Lake. Understory

shrubs were also added by the Cones along the margins of the carriage drives. Bertha Cone focused much of her attention on the Bass Lake plantings. Meadows and pastures occur sporadically throughout the property, and cover approximately 8 to 10 percent of the estate.

### **Lakes and Pools**

Within the Moses H. Cone Memorial Park, there are several examples of constructed water features that Moses and Bertha Cone established to enhance the estate. These features were generally created by damming perennial stream corridors, or constructing stone-lined pools and basins that were watered by streams and springs on the property. These historic constructed water features include Bass and Trout Lakes, a farm pond, a pair of pools shaped like a heart, and a cascade pool along the margin of the Rich Mountain Road. Bass Lake and Hearth Pond were designed to be used for fishing and as ornamental features.

### **Bridges**

There are several bridges that are used on the Moses Cone Estate to convey the carriage drives and farm roads, as well as the Blue Ridge Parkway over stream and road corridors.

### **Small-scale Features**

#### **Stone Walls**

Stone walls are used throughout the estate to provide a structural edge to special spaces, and as retaining structures that help to establish relatively level road corridors, garden terraces, and building sites.

#### **Fences and Balustrades**

The Moses H. Cone Memorial Park historic district features several fence types. Most are related to agricultural uses, principally the pasturing of livestock. Pasture fences are composed of wood posts connected with strands of barbed wire. There are also limited sections of wooden post and board fences. Some post-and-board fencing lines carriage drives as a protective measure rather than to contain livestock.

#### **Gates**

There are several distinct types of gates present within the Moses H. Cone Memorial Park historic district.

#### **Natural Resources**

Within the Memorial Park there are three small areas of old-growth forest--north of Rich Mountain, around Trout Lake and along Flannery Fork Branch.

There are two North Carolina State Natural Heritage Areas located on the Moses Cone Estate including:

- ***Moses Cone Park – Flat Top Mountain Natural Area:*** The site is significant for good quality examples of Northern Hardwood Forest and Rich Cove Forest communities.
- ***Moses Cone Park – Rich Mountain Natural Area:*** The site contains fairly good examples of Rich Cove Forest and Acidic Cove Forest community types.

## **PRIMARY INTERPRETIVE THEMES STATEMENTS**

Primary interpretive themes describe ideas, concepts, or messages about the Moses H. Cone Memorial Park that are so important all visitors should understand them. Based on the Memorial Park's purpose and significance these themes provide guidelines for making decisions concerning which interpretive stories would be told to visitors and what interpretive facilities and activities would be required to tell those stories.

Primary themes do not include everything that may be interpreted, but they include those ideas that are critical to understanding the Memorial Park's significance.

- The Flat Top Manor Estate featured an intensely developed and carefully crafted designed landscape incorporating systematic and scientific farming orchard practices, ponds, pastures and carriage roads.
- The Flat Top Manor Estate is an example of the Colonial Revival design approach, as well as classical and colonial revival influences, and its construction at the turn of the 19<sup>th</sup> century in a mountain setting was an extraordinary undertaking.
- The Flat Top Manor Estate was historically the Cone's rural retreat for recreation and now as a memorial park it is the public's to use.
- Moses H. Cone's life is the story of a self-made man who became the leading denim textile industrialist.
- The Cone's lives and interests at the estate were a unique blend of urban and mountain culture and their interactions between different social levels.
- The location and development of Flat Top Manor Estate was dictated by proximity to Cone's textile mills, road access, land prices and availability, climate, and Cone's familiarity with the community and social environment.
- The extended Cone family members and their lifestyle and interests offer a unique study of fine and decorative arts at the turn of the 19<sup>th</sup> Century.
- Day-to-day life, and operation of the Flat Top Manor House and estate, provides insights into the Cone's use of new technologies, servant's perspectives, lifestyles, and social relationships.

## **SPECIAL MANDATES AND ADMINISTRATIVE COMMITMENTS**

Special mandates and administrative commitments refer to requirements for the Parkway that are specified in laws or formal agreements. Consequently, these requirements are not open for reevaluation as a part of the general management plan; instead, they serve as guidelines with which planning proposals must be consistent. Mandates and administrative commitments that influence the Blue Ridge Parkway general management plan include the following:

### ***Moses Cone Hospital Deed of Trust***

At the time the NPS took ownership through the deed registered in 1950, the agency assumed the obligations of the original 1911 deed, agreeing to maintain a system of estate roads equal in extent to the system then in operation, and to develop the park in accordance with an agreed master plan. There were other stipulations as well – the Memorial Park was to be maintained for the public for recreational pursuits. The deed contained several conditions including: Moses H. Cone Memorial Park was to be the name of the area; access to the cemetery where Mr. and Mrs. Cone are buried should be kept open for family and friends; a system of carriage roads equal in extent to what existed at that time; the Hospital board would donate \$10,000 per year for maintenance and construction; and that the Memorial Park would be developed according to an agreed upon Master Plan.

### ***Eastern National***

A nonprofit cooperating association chartered in 1948 to provide interpretive book sales at visitor centers and, in turn, promote educational and interpretive activities by returning profits to the National Park Service. The Blue Ridge Parkway serves as an agent of Eastern National under Public Law 79-633, authorizing cooperating associations.

### ***Southern Highland Craft Guild***

Through a concession contract, the National Park Service contracts with the Southern Highland Handicraft Guild to operate a craft sales shop in the Flat Top Manor House of the Moses H. Cone Memorial Park.

### ***Mountains-to-Sea Trail Memorandum of Agreement***

This is an agreement of cooperation among the Parkway; the U.S. Forest Service; the North Carolina Department of Environment, Health, and Natural Resources; and the Friends of the Mountains-to-Sea Trail organization for planning and construction of the Mountains-to-Sea Trail system. Much of this trail is on parkway lands in North Carolina between the Great Smoky Mountains National Park and the Doughton Park recreation area. Trail maintenance is the responsibility of the Friends of the Mountains-to-Sea Trail volunteers.

### ***Blue Ridge Parkway Agricultural Leases***

Agriculture has had an important influence on the land and the people of the Blue Ridge Mountains. Under the Parkway's Agricultural Land Use Program, lands are leased out to other landowners for agricultural use to ensure and perpetuate the cultural and traditional pastoral scenes typical of the Appalachian hill country. This blending of the Parkway and the adjoining lands helps create the impression of a park that extends, in some instances, to the horizon.

### ***Concurrent Legislative Jurisdiction***

Memorandum of Agreement for Concurrent Jurisdiction at National Park Service Units in the State of North Carolina, dated July 27, 1984.

## **SERVICEWIDE LAWS AND POLICIES**

This section identifies what must be done at the Memorial Park to comply with federal laws and policies of the NPS. Many park management directives are specified in laws and policies guiding the NPS and are therefore not subject to alternative approaches. For example, there are laws and policies about managing environmental quality (such as the Clean Air Act, the Endangered Species Act, and Executive Order (EO) 11990 "Protection of Wetlands"); laws governing the preservation of cultural resources (such as the National Historic Preservation Act and the Native American Graves Protection and Repatriation Act); and laws about providing public services (such as the Americans with Disabilities Act) — to name only a few. In other words, a DAMP is not needed to decide, for instance, that it is appropriate to protect endangered species, control exotic species, protect archeological sites, conserve artifacts, or provide for handicap access. Laws and policies have already decided those and many other things for us. Although attaining some of these conditions set forth in these laws and policies may have been temporarily deferred in the park because of funding or staffing limitations, the NPS will continue to strive to implement these requirements with or without this DAMP.

Some of these laws and executive orders are applicable solely or primarily to units of the National Park System. These include the 1916 Organic Act that created the NPS, the General Authorities Act of 1970, the act of March 27, 1978, relating to the management of the National Park System, and the National Parks

Omnibus Management Act (1998). Other laws and executive orders have much broader application, such as the Endangered Species Act, the National Historic Preservation Act, and Executive Order 11990 that addresses the protection of wetlands.

The NPS Organic Act (16 USC § 1) provides the fundamental management direction for all units of the National Park System:

*[P]romote and regulate the use of the Federal areas known as national parks, monuments, and reservations...by such means and measure 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 National Park System General Authorities Act (16 USC § 1a-1 et seq.) affirms that while all National Park System units remain “distinct in character,” they are “united through their interrelated purposes and resources into one National Park System as cumulative expressions of a single national heritage.” The act makes it clear that the NPS Organic Act and other protective mandates apply equally to all units of the system. Further, amendments state that NPS management of park units should not “derogate...the purposes and values for which these various areas have been established.”

The NPS also has established policies for all units under its stewardship. These are identified and explained in a guidance manual entitled *NPS Management Policies 2006*. The “action” alternatives (Alternatives One and Two) considered in this document incorporate and comply with the provisions of these mandates and policies.

To truly understand the implications of an alternative, it is important to combine the servicewide mandates and policies with the management actions described in an alternative.

**Table 1** shows some of the most pertinent servicewide mandates and policy topics related to planning and managing the Moses H. Cone Memorial Park; across from each topic are the *desired conditions that the staff is striving to achieve* for that topic and thus the table is written in the present tense. **Table A-1** in **Appendix A** expands on this information by citing the law or policy directing these actions. The alternatives in this DAMP address the desired future conditions that are not mandated by law and policy and must be determined through a planning process.

**Table 1. Servicewide Mandates and Policies Pertaining to the Moses H. Cone Memorial Park**

Topic	Current laws and policies require the following conditions be achieved
<b>Socioeconomics</b>	<p>The Blue Ridge Parkway and Cone Memorial Park is managed as part of a greater ecological, social, economic, and cultural system.</p> <p>Good relations are maintained with adjacent landowners, surrounding communities, and private and public groups that affect, and are affected by, the park. The park is managed proactively to resolve external issues and concerns and ensure that park values are not compromised.</p> <p>Because the Parkway and the Memorial Park are an integral part of larger regional environment, the NPS works cooperatively with others to anticipate, avoid, and resolve potential conflicts, protect national park resources, and address mutual interests in the quality of life for community residents. Regional cooperation</p>

Topic	Current laws and policies require the following conditions be achieved
	involves federal, state, and local agencies, Indian tribes, neighboring landowners, and all other concerned parties.
<b>Natural Resources</b>	
<b>Wildlife, Including Neo-tropical Migratory Birds</b>	<p>Populations of native animal species function in as natural condition as possible except where special considerations are warranted.</p> <p>The management of populations of migratory birds is incorporated into NPS planning processes.</p>
<b>Native Vegetation</b>	The NPS would maintain as parts of the natural ecosystem, all native plants in the park. Populations of native plant species function in as natural condition as possible except where special considerations are warranted.
<b>Soils</b>	<p>The NPS actively seeks to understand and preserve the soil resources of the park, and to prevent, to the extent possible, the unnatural erosion, physical removal, or contamination of the soil, or its contamination of other resources.</p> <p>Natural soil resources and processes function in as natural a condition as possible, except where special considerations are allowable under policy.</p>
<b>Water Resources</b>	<p>Surface water and groundwater are protected, and water quality meets or exceeds all applicable water quality standards.</p> <p>NPS and NPS-permitted programs and facilities are maintained and operated to avoid pollution of surface water and groundwater.</p>
<b>Wetlands</b>	<p>The natural and beneficial values of wetlands are preserved and enhanced.</p> <p>The NPS implements a “no net loss of wetlands” policy and strives to achieve a longer-term goal of net gain of wetlands across the National Park System through the restoration of previously degraded wetlands.</p> <p>The NPS avoids to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and avoids direct or indirect support of new construction in wetlands wherever there is a practicable alternative.</p> <p>The NPS compensates for remaining unavoidable adverse impacts on wetlands by restoring wetlands that have been previously degraded.</p>
<b>Cultural Resources</b>	
<b>Archeological Resources</b>	Archeological sites are identified and inventoried and their significance is determined and documented. Archeological sites are protected in an undisturbed condition unless it is determined through formal processes that disturbance or natural deterioration is unavoidable. When disturbance or deterioration is unavoidable, the site is professionally documented and excavated and the resulting artifacts, materials, and records are curated and conserved in consultation with the North Carolina and Virginia state historic preservation offices (and American Indian tribes if applicable). Some archeological sites that can be adequately protected may be interpreted to visitors.

Topic	Current laws and policies require the following conditions be achieved
<b>Historic Structures</b>	<p>Historic structures are inventoried and their significance and integrity are evaluated under National Register of Historic Places criteria. The qualities that contribute to the listing or eligibility for listing of historic structures in the National Register are protected in accordance with the <i>Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation</i> (unless it is determined through a formal process that disturbance or natural deterioration is unavoidable).</p>
<b>Ethnographic Resources, Including Human Remains and Burials</b>	<p>Appropriate cultural anthropological research is conducted in cooperation with groups associated with the park.</p> <p>The NPS accommodates access to and ceremonial use of Indian sacred sites by Indian religious practitioners and avoids adversely affecting the physical integrity of these sacred sites.</p> <p>NPS general regulations on access to and use of natural and cultural resources in the park are applied in an informed and balanced manner that is consistent with park purposes and does not unreasonably interfere with American Indian use of traditional areas or sacred resources and does not result in the degradation of national park resources.</p> <p>American Indians and other individuals and groups linked by ties of kinship or culture to ethnically identifiable human remains, sacred objects, objects of cultural patrimony, and associated funerary objects are consulted when such items may be disturbed or are encountered on park lands.</p> <p>Access to sacred sites and park resources by American Indians continues to be provided when the use is consistent with park purposes and the protection of resources.</p> <p>All ethnographic resources determined eligible for listing or listed in the National Register are protected. If disturbance of such resources is unavoidable, formal consultation with the state historic preservation officer, the Advisory Council on Historic Preservation, and American Indian tribes as appropriate, is conducted. This consultation is in accordance with the National Historic Preservation Act and the Advisory Council's implementing regulations and the nationwide programmatic agreement between the Advisory Council, state historic preservation officers, and NPS that guides Section 106 compliance throughout the NPS.</p> <p>All agencies are required to consult with tribal governments before taking actions that affect federally recognized tribal governments. These consultations are to be open and candid so that all interested parties may evaluate for themselves the potential impact of relevant proposals.</p> <p>The identities of community consultants and information about sacred and other culturally sensitive places and practices are kept confidential when research agreements or other circumstances warrant.</p>
<b>Cultural Landscapes</b>	<p>Cultural landscape inventories are conducted to identify landscapes potentially eligible for listing in the National Register, and to assist in future management</p>

Topic	Current laws and policies require the following conditions be achieved
	<p>decisions for landscapes and associated resources, both cultural and natural.</p> <p>The management of cultural landscapes focuses on preserving the landscape’s physical attributes, biotic systems, and use when that use contributes to its historical significance.</p> <p>The preservation, rehabilitation, restoration, or reconstruction of cultural landscapes undertaken in accordance with the <i>Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes</i>.</p>
<b>Museum Collections</b>	<p>All museum collections (objects, specimens, and manuscript collections) are identified and inventoried, catalogued, documented, preserved, and protected, and provision is made for their access to and use for exhibits, research, and interpretation.</p> <p>The qualities that contribute to the significance of collections are protected in accordance with established standards.</p>
<b>Concessions and Commercial Services</b>	<p>Same as Visitor Use and Experience and Park Use Requirements.</p> <p>All commercial services must be authorized, must be necessary and/or appropriate, and must be economically feasible. Appropriate planning must be done to support commercial services authorization.</p>
<b>Visitor Use and Experience, Including Recreational and Visual Resources</b>	<p>Park resources are conserved “unimpaired” for the enjoyment of future generations. Visitors have opportunities for forms of enjoyment that are uniquely suited and appropriate to the superlative natural and cultural resources found in the park. No activities occur that would cause derogation of the values and purposes for which the park has been established.</p> <p>For all zones, districts, or other logical management divisions within a park, the types and levels of visitor use are consistent with the desired resource and visitor experience conditions prescribed for those areas.</p> <p>Park visitors would have opportunities to understand and appreciate the significance of the park and its resources, and to develop a personal stewardship ethic.</p> <p>To the extent feasible, programs, services, and facilities in the park are accessible to and usable by all people, including those with disabilities.</p>
<b>Human Health and Safety</b>	<p>While recognizing that there are limitations on its capability and constraints imposed by the Organic Act to not impair resources, the service and its concessioners, contractors, and cooperators would seek to provide a safe and healthful environment for visitors and employees.</p> <p>The park staff will strive to identify recognizable threats to safety and health and protect property by applying nationally accepted standards. Consistent with mandates and non-impairment, the park staff will reduce or remove known hazards and/or apply appropriate mitigation, such as closures, guarding, gating, education,</p>

Topic	Current laws and policies require the following conditions be achieved
	and other actions.
Other Topics	
<b>Park Operations</b>	<p>NPS and concessioner visitor management facilities are harmonious with park resources, compatible with natural processes, aesthetically pleasing, functional, as accessible as possible to all segments of the population, energy-efficient, and cost-effective.</p> <p>All decisions regarding park operations, facilities management, and development in the park — from the initial concept through design and construction — reflect principles of resource conservation. Thus, all park developments and park operations are sustainable to the maximum degree possible and practical. New developments and existing facilities are located, built, and modified according to the <i>Guiding Principles of Sustainable Design</i> (NPS 1993) or other similar guidelines.</p> <p>Management decision-making and activities throughout the NPS should use value analysis, which is mandatory for all Departments of Interior bureaus, to help achieve this goal. Value planning, which may be used interchangeably with value analysis/value engineering/value management, is most often used when value methods are applied on general management or similar planning activities.</p>
<b>Transportation to and within the Park</b>	<p>Visitors have reasonable access to the park, and there are connections from the park to regional transportation systems as appropriate. Transportation facilities in the park provide access for the protection, use, and enjoyment of park resources. They preserve the integrity of the surroundings, respect ecological processes, protect park resources, and provide the highest visual quality and a rewarding visitor experience.</p> <p>The NPS participates in all transportation planning forums that may result in links to parks or impact park resources. Working with federal, tribal, state, and local agencies on transportation issues, the NPS seeks reasonable access to parks, and connections to external transportation systems.</p>

## SCOPING

Scoping is an open process that determines the breadth of environmental issues and alternatives to be addressed in an EA. Scoping involves obtaining internal and external input on project-related issues from resource specialists and the public, respectively. Park planning staff conducted internal scoping with appropriate BLRI staff and external scoping with the public, including interested and affected groups or individuals.

An interdisciplinary team comprising BLRI staff members contributed to the internal scoping process. In March 2003, an internal staff scoping workshop was held to draft the preliminary Memorial Park purpose, significance, interpretive themes, decision points and management prescriptions and to analyze resources and visitor experiences. Following that workshop in June 2003, public scoping meetings were held in Blowing Rock and Boone, North Carolina to present the findings of the staff workshop and to gather public input on those topics and other areas of interest to the public visiting the Memorial Park.

BLRI staff spent Fall 2004 to Fall 2006, reviewing public input and using that input to refine purpose, significance, interpretive themes, decision points and management prescriptions. Alternative concepts were also defined and management zoning was used to apply those alternative concepts to the Memorial Park. These concepts defined what the Memorial Park's future would be and proposed a range of alternatives.

For external scoping, public meetings were again held November 15-16, 2006 in Boone, North Carolina. On November 8, 2006, "*Developed Area Management Plan (DAMP) Newsletter 1*" was published explaining the basic alternative concepts to the public. Public comment was solicited on the alternatives through May 31, 2007, and NPS staff again used that input to formulate the DAMP.

## **RELATIONSHIP OF THIS PLAN TO OTHER PLANNING EFFORTS**

Moses H. Cone Memorial Park is managed by the Blue Ridge Parkway as part of the Highlands District. The Highlands District encompasses some 89 miles of the Parkway from milepost 217 at the Virginia/North Carolina state line to milepost 306. The Memorial Park is located in Watauga County, North Carolina adjacent to the town of Blowing Rock and some five miles from the town of Boone. A portion of the Park boundary is bordered by Pisgah National Forest. Grandfather Mountain State Park and the lands owned and operated by the nonprofit Grandfather Mountain Stewardship Foundation are located nearby. There is one long distance trail regionally designated trail-the Mountains-to-Sea Trail that traverses the Memorial Park. Parkway staff is currently working with those neighbors and partners to better understand the interrelationship of these planning efforts to the Parkway.

This section is limited to parkway and neighboring plans that are directly adjacent to the Memorial Park, are currently underway (or recently completed), and particularly relevant to developed area management plan topics.

### **TRAILS, RECREATION, AND RECREATION AREAS**

#### ***Blue Ridge Parkway General Management Plan***

The General Management Plan was approved in October 2012 and the final GMP/EIS and Record of Decision was issued in April 2013. The Moses H. Cone Memorial Park was not included in the GMP as one of its recreational areas. Park management decided to plan for management of the Memorial Park as a separate area given its cultural significance and affiliation with Moses and Bertha Cone.

#### ***Blue Ridge Parkway Climbing Management Plan***

The Parkway began work on a climbing strategy in the winter of 2011. This would result in a plan which would provide a comprehensive look across the Parkway at climbing use to determine where it is or is not appropriate, how access could be safely provided, how to minimize or mitigate resource damage, and what adaptive management strategies would be used to address and manage the recreational activity in the future. The bouldering area located in the China Orchard area of the Memorial Park would be affected by this planning.

#### ***High Country Council of Governments Trail Planning***

Along the Highlands segment of the Parkway, the High Country Council of Governments has completed a road cycling map for Wilkes County, and plans to do similar maps for the other six counties within their jurisdiction (Alleghany, Ashe, Avery, Mitchell, Watauga, and Yancey). Watauga County plans to emphasize the acquisition of land for development of greenways, bike trails, and other recreation opportunities, such as

stream access. The High Country Council of Governments has also completed a regional trail plan for the seven counties it serves. The plan has identified corridors through those counties as part of a regional hiking trail system.

## **CONCESSIONS PLANNING**

### ***Blue Ridge Parkway Concessions Management Plan***

The Parkway has been working on condition assessments and financial analyses on most all of the concessions along the Parkway to begin implementing a concessions management plan. In addition, the Parkway is in the midst of writing new concession contracts some of which have been announced for bid. This is a several year process. The Cone DAMP would be the decision making process to determine if the concessions contract for craft sales would continue in its current location in the Flat Top Manor House or be eliminated all together from the estate.

## **NATURAL AND CULTURAL RESOURCES PLANNING**

### ***Moses H. Cone Memorial Park Historic District Nomination***

Parkway staff met with Southeast Region (SER) Cultural Resource Managers (CRM) to discuss the DAMP alternatives in July 2010. Parkway staff and SER CRM agreed that the draft national register nomination, cultural landscape inventory (CLI) and cultural landscape report (CLR) update needed to be completed before additional work on DAMP proceeded. Determination of period of significance and contributing structures would have a direct affect on proposed actions and potential impacts. The National Register nomination form was submitted to the National Park Service, Washington Office for consideration in December 2012 and was designated in December 2013.

### ***Moses H. Cone Memorial Park Cultural Landscape Report Update***

A Cultural Landscape Report (CLR) for the Moses H. Cone Memorial Park was completed in 1993. In 2010 the park moved forward with the Southeast Region Cultural Resource Division to contract for an update of the 1993 CLR. That Update plan was completed in November 2013. This document provides an update to address changes that have occurred at the property since the 1993 CLR. The document also provides recommendations as to how current park management could provide visitor amenities without further impacting the integrity of the landscape.

### ***Cultural Landscape Inventory***

A Cultural Landscape Inventory (CLI) for the Moses H. Cone Memorial Park was completed in March 2013. The CLI was based largely on the recent work completed on the CLR update. Detailed information and analysis of historical development, existing conditions, and landscape characteristics and features, were completed which allowed for determinations of integrity and significance.

### ***Flat Top Manor House Historic Furnishings Report***

The Furnishings Report was completed in 2013. The report is the first formal study of the site-associated furnishings at the Flat Top Manor House from its occupancy (1892-1947). The report documents the historic occupants and interior furnishings for all periods, makes recommendations for interpretation, and what work would need to be done to implement the options. The report is not an implementation plan for furnishing the house, which would need to be completed at a later date. This report represents an exhaustive attempt to gather as much information as possible about Flat Top Manor, the Cone and Lindau families, other occupants and known visitors to the estate. The work is coupled with positioning the estate's story in a broader historical context.

### ***Museum Security & Fire Protection Survey***

The survey was completed in 2011. The survey did make recommendations for the Flat Top Estate and Carriage House. A Moses Cone Flat Top Manor House Fire Protection Engineering Report was completed in 2012. This report makes recommendations to the NPS on fire threats to the building and possible solutions, and options for fire detection and suppression system upgrades. There were three primary purposes of the survey. The first, to reveal and identify weaknesses in existing security and fire protection systems, equipment, procedures, policies, and operations that could result in the loss of such museum resources as collections (artifacts, specimens, and archives), collection records and documentation, and exhibits, as well as museum structure. The second, to identify how to correct any weaknesses or deficiencies found. The ultimate goal of implementing recommended corrective actions is the protection of museum assets against all forms of losses including those due to theft, natural disasters, structural fire or to fire fighting activities.

The 2011 survey included a complete on-site review of the park's current planning, staffing, operation, procedures, hardware, and facilities or structures relevant to museum collection management. Facilities spaces were surveyed to identify security and fire prevention, detection, and suppression weaknesses and deficiencies, and make specific recommendations for their correction. The building currently does not have an adequate fire detection system and no fire suppression system other than fire extinguishers.

### ***Blue Ridge Parkway National Historic Landmark Designation***

The Parkway is being nominated for designation as a national historic landmark (NHL). The draft nomination is being completed by cultural resources staff in the Southeast Region office of the National Park Service. The nomination should be submitted for consideration within 2013. Designation as a national historic landmark has implications for future management of the Parkway.

### ***Blue Ridge Parkway Vista Management Plan***

National Park Service. The Parkway is currently preparing a vista management plan for the length of the Parkway (except those areas covered under the environmental assessment for vista management with Carolina northern flying squirrel). The plan would identify appropriate strategies for preserving, cutting, and managing vistas for the future. Once the Memorial Park DAMP is completed vistas identified for cyclical cutting would be incorporated into parkway-wide vista clearing contract.

### ***Plant survey of Moses Cone Estate***

Survey completed by Dr. Gary Walker, ASU ca. 1994.

### ***Blue Ridge Parkway Fish Management Plan***

National Park Service, 1989, though old includes activities at Bass and Trout Lakes.

### ***Blue Ridge Parkway Hazard Tree Plan***

National Park Service. revised 2013 (is under review; Moses Cone is a high priority for tree work).

### ***Blue Ridge Parkway Hemlock Woolly Adelgid Management Plan***

National Park Service, 2007 (hemlock hedge is sprayed as needed).

### ***Blue Ridge Parkway Agricultural Lease Visual Impact Analysis Action Plan***

National Park Service, Draft 2002.

### ***Blue Ridge Parkway Fire Management Plan***

National Park Service, 2004. Cone Park is included in the BRP Fire Management Plan and two sites are identified as locations for possible prescribed fires.

## **U.S. FOREST SERVICE PLANNING**

### ***Pisgah and Nantahala National Forest, Forest Plan Revision, North Carolina***

The Pisgah National Forest, Forest Plan was updated in 1997 and is undergoing revision in 2014 with a scheduled completion/decision in 2016. The Parkway resource management and planning staff works in close partnership with the U.S. Forest Service and will engage in that planning process.

## **LAND MANAGEMENT**

### ***Blowing Rock Reservoir Land Exchange***

The USA completed an exchange of lands and interests in land with the town of Blowing Rock. The proposed exchange would add 198 acres of undeveloped mountain land to the Blue Ridge Parkway boundary in the vicinity of the China Creek area adjoining the Moses H. Cone Estate. In exchange, the USA conveyed to the town of Blowing Rock 20 acres of land located within the Cone Estate boundary on Flat Top Branch along with 8 easements for water and sewer. The 20 acre tract of land includes a water reservoir that would provide town residents with a sustainable source of drinking water. The land is sufficient for reservoir enlargement to meet North Carolina municipal water guidelines. Prior to her death, Bertha Cone, having retained life estate rights in Flat Top Manor and the surrounding estate, granted the town a limited right to draw water from two branches on Flat Top Mountain. That right terminated at her death.

## **PLANNING ISSUES AND CONCERNS**

During the scoping period (early information gathering) for this developed area management plan, issues and concerns were identified by the general public; NPS staff; county, state, and other federal agency representatives; parkway partners; resource experts; and representatives from various organizations. An issue is defined as an opportunity, conflict, or problem regarding the use or management of public lands. Comments were solicited at public meetings and through a planning newsletter.

Comments received during the scoping process demonstrated that there is much that the public values about the Moses H. Cone Memorial Park, especially its history and heritage, access to carriage trails for recreation and equestrian use and craft sales.

## **INTERPRETATION AND VISITOR USE**

From the Blowing Rock meeting parkway staff learned that people want the Park Service to do more interpretive work with the Cone family history. Visitors to the estate want to learn more about the family members — including the art-collecting sisters — and the estate itself, as well as period agricultural practices, the history of the orchards and the uses of other existing structures on the grounds.

## **EQUESTRIAN USE AND MOUNTAIN BIKING**

Many requests were heard to continue horseback riding and to add carriage trips on the estate's trails. Some equestrian users and walkers were opposed to sharing the trails with mountain bikers, but biking enthusiasts also weighed in with requests for areas to ride.

## **ART AND CRAFT SALES**

The location of the craft sales concession was raised as an issue. Some people wanted the craft sales concessioner to stay in the Flat Top Manor House others wanted the sales area to be located off of the estate.

## **CAMP CATAWBA**

In 2005 the Parkway gained full ownership and administrative responsibility for the 14 acre Camp Catawba (Life Estate of Tui St. George Tucker.) Although not a part of the Moses H. Cone Estate, Camp Catawba adjoins estate land on the north side along Penley Branch at the Wadkins Road trailhead. As a part of assuming full management of the Camp there were two issues to be addressed. Individuals who as children attended the Camp wanted the park to manage the buildings as historic and the camp setting as a cultural landscape for preservation and educational purposes. Trail access between the Camp and the Memorial Park was requested by former Camp attendees.

## **DECISION POINTS ARISING FROM ISSUES**

Major decision points are the questions that would be answered by the developed area management plan alternatives. To identify the specific decision points for the DAMP, the planning team considered the issues, concerns and opportunities provided by the public, partner groups and organizations through scoping and public comment. They looked for places where people's visions for the future are substantially different. The tension created by these differences would be the questions that the plan needs to answer: "Should the Memorial Park be like this or like that?" "Should the mission goals be accomplished one way, or another?" These either/or kinds of questions (which could also be expressed as questions of degree along a continuum) may be answered differently by different stakeholders. The planning alternatives reflect the range of people's viewpoints in answering the questions.

- To what extent should the historic features, activities, and character of the Moses Cone Estate be restored or perpetuated as a part of the Memorial Park and how should reconstruction of demolished original structures fit into alternatives?
- What are the desired conditions for natural resources in the Memorial Park, and what management strategies need to be implemented to ensure long term sustainability of those conditions?
- What types and levels of visitor use and activities could be sustained while preserving desired resource conditions and quality visitor experiences or what changes might be appropriate to accommodate recreation opportunities, partnerships or reflect funding and operational limitations?
- How should visitors move around the area and what opportunities should be available to them in order to understand what structures and landscape features were originally there and to appreciate the significance of the Moses Cone Estate and Memorial Park?
- Given the desired conditions for resources and visitor experiences, what kinds and levels of development and infrastructure are needed to support visitation and park operations?
- Could park management protect scenic views, cultural resources and natural habitats via partnerships and agreements with Memorial Park neighbors, or to what extent are other approaches needed?
- What are the desired conditions for managing forested areas, removing hazard trees and preserving historic plantings?

## **ISSUES AND CONCERNS NOT ADDRESSED IN THE DAMP**

Not all of the issues or concerns raised by the public are included in this DAMP. Other issues raised by the public were not considered because they:

- Are already prescribed by law, regulation, or policy (see the “Servicewide Mandates and Policies” section)
- Would be in violation of laws, regulations, or policies
- Are being more appropriately addressed in the General Management Plan (GMP)

This section briefly summarizes these issues, and the basis for excluding them from this DAMP.

### **HORSE RENTAL ON CONE PROPERTY**

The DAMP does not propose or preclude providing visitors with the opportunity for rental of horses on the Memorial Park. However, further study of this use and its impacts is needed to determine where and if private rental use is appropriate. This is an implementation level decision.

### **BICYCLING**

Bicycling is currently not allowed at the Memorial Park (other than asphalt paved roads), and this would continue to be the case into the future. Public scoping reinforced this concept as there were very few comments suggesting bicycles would be appropriate at the Memorial Park, and numerous comments asking that current use continue on carriage roads, which currently provide equestrian and walking opportunities.

The addition of bicycles would compromise the safety of existing use and potentially create road capacity issues. The GMP addresses bicycling use along the Parkway motor road and associated trails.

## **IMPACT TOPICS**

Impact topics are the resources of concern that could be affected by the range of alternatives. They are used to focus the evaluation of the potential environmental consequences of the alternatives. Impacts are organized by topic, such as “impacts on the visitor experience” or “impacts on vegetation and soils.” Impact topics serve to focus the environmental analysis and to ensure the relevance of impact evaluation. These impact topics were identified based on federal laws and other legal requirements, Council on Environmental Quality (CEQ) guidelines, NPS management policies, staff subject-matter expertise, and issues and concerns expressed by the public and other agencies early in the planning process (see previous section). Also included is a discussion of some impact topics that are commonly addressed, but that are not addressed in this plan for the reasons given.

## **TOPICS ANALYZED IN THIS ENVIRONMENTAL ASSESSMENT**

### **SOILS**

NPS *Management Policies 2006*, Section 4.8.2.4, *Soil Resource Management*, requires the National Park Service to “preserve soil resources” and to prevent loss of soils (through accelerated erosion or physical removal) or contamination of soils. The service is further challenged to minimize adverse and irreversible impacts on soils. Construction of a comfort station and parking areas, restoration of orchards and historic meadows, carriage trail pullouts to allow for passing, restoration of views from Flat Top Manor to Bass Lake, Heart Pond and Upper Pond, construction of new trails and rehabilitation of authorized and unauthorized trails, continued bouldering in China Orchard, continued management of agricultural leases, establishment of new agricultural parcels for lease, and abatement of lead and arsenic in apple orchards would disturb soils in the project area. Soil grading and other construction related activity could permanently change the character of the soil and could lead to increased sedimentation into park waters.

### **WATER RESOURCES, INCLUDING WETLANDS**

NPS *Management Policies 2006*, Section 4.6, *Water Resources Management*, requires protection of water quality (Sec. 4.6.3) consistent with the provisions of the Clean Water Act of 1977, a national policy to restore and maintain the chemical, physical, and biological integrity of the nation’s waters and to prevent, control, and abate water pollution. Section 404 of the Clean Water Act authorizes the U.S. Army Corps of Engineers (USACE) to prohibit or regulate, through a permitting process, the discharge of dredged or fill material into U.S. waters. Section 401 of the Act requires that any applicant for a federal permit or license that may result in a discharge to waters of the United States must first obtain certification from the state. If the state finds that the discharge would violate state water quality standards, it may reject the permit or license.

NPS *Management Policies 2006*, Sec. 4.6.6, *Watershed and Stream Processes*, also requires the Service to protect stream processes including flooding, stream migration, and erosion and sedimentation.

Executive Order 11990, *Protection of Wetlands*, NPS *Management Policies 2006*, Section 4.6.5, *Wetlands*, and NPS Director's Order 77-1, *Wetland Protection*, require an examination of impacts to wetlands, a protection goal of "no net loss," and a long-term goal to enhance natural wetland values.

Streams within the vicinity of the project including, Penley Branch, Flat Top Branch, China Creek, String Fellow Branch, Flannery Fork, Winkler's Creek, and Sims Creek, and lakes, including Bass Lake, Trout Lake, Heart Pond, Upper Pond, and Blowing Rock Reservoir, and a small wetland at Bass Lake could be impacted by construction activities, canopy clearing to restore views and cultural landscapes, establishment and use of existing and new agricultural fields, that could affect stream processes by increasing sedimentation into these systems. Restoration of the trout fishery at Trout Lake and the control of lily pads for aesthetic reasons at Bass Lake could also have an impact.

## VEGETATION

Section 4.4, *Biological Resource Management*, of NPS *Management Policies 2006*, requires units in the National Park System to "minimize human impacts on native plants... populations, communities, and ecosystems, and the processes that sustain them." Vegetation within the project area could be impacted from new construction, canopy clearing for views and restoration of cultural landscapes, trampling from off-trail use, restoration of orchards, gardens, and hedges, establishment of new agricultural fields, construction of new trails and parking areas, realignment of roads, and fence-building. Moreover, existing invasive plants known to the site, such as purple loosestrife (*Lythrum salicaria*), bull thistle (*Cirsium vulgare*), multi-flora rose (*Rosa multiflora*), oriental bittersweet (*Celastrus orbiculatus*) and coltsfoot (*Tussilago farfara*) could spread. The presence of hemlock woolly adelgid is impacting naturally occurring hemlocks and historic hemlock hedges planted by the Cones. Control of lily pads for historical or aesthetic desired future conditions at Bass Lake and Trout Lake could also have an impact or effect. Removal, natural succession or restoration of the existing, but aging, white pine plantation could be impacted. Old growth forests at Blowing Rock Reservoir, but not at the northern edge of the property, would be impacted by a land exchange with the Town of Blowing Rock. Vegetation of special concern that could be impacted by ground disturbing activities or off-trail trampling are: Gray's lily (*Lilium grayi*), trailing wolfsbane (*Aconitum reclinatum*), burr reed, *Aperganum cloracarpum*, and dwarf rattlesnake plantain (*Goodyera repens*).

## WILDLIFE, INCLUDING NEO-TROPICAL MIGRATORY BIRDS

As with vegetation, NPS *Management Policies 2006*, Section 4.4, *Biological Resource Management*, requires units in the National Park System to "minimize human impacts on native ... animals, populations, communities, and ecosystems, and the processes that sustain them." Also, the Memorandum of Understanding (MOU) (dated April 2010) between the NPS and the U. S. Fish and Wildlife Service (USFWS) meets the requirements under section 3 of Executive Order 13186 concerning the responsibilities of Federal agencies to protect migratory birds. This MOU promotes the conservation of migratory birds from any action having or likely to have a negative impact on migratory bird populations. In addition to avoiding or minimizing impacts to migratory bird populations, agencies are expected to take reasonable steps that include restoring and enhancing habitat, preventing or abating pollution affecting birds, and incorporating migratory bird conservation into agency planning processes whenever possible. Clearing vegetation could potentially reduce or alter wildlife habitat, especially of yellow-bellied sapsucker (*Sphyrapicus varius appalachiensis*) and Diana fritillary (*Speyeria diana*). Construction activities could temporarily displace wildlife from the immediate vicinity. Though beavers (*Castor canadensis*) were extirpated prior to the creation of the estate, beavers have now reinhabited

many of the waters within the estate. The impact of both beavers and deer on cultural landscapes must be evaluated (see cultural landscape section). Allowing natural processes for beavers and white-tailed deer (*Odocoileus virginianus*) could impact landscape vegetation, such as maple trees along Bass Lake. Other species that would be considered include Alleghany woodrat (*Neotoma magister*) and Savannah sparrow (*Passerculus sandwichensis*).

## **HISTORIC STRUCTURES**

The National Historic Preservation Act (NHPA), as amended in 1992 (16 USC 470 *et seq.*); NEPA of 1969 (42 USC 4321 *et seq.*); NPS Directors Order 28, Cultural Resource Management Guideline, NPS Management Policies 2006 (Sec. 5.3.5.4, Historic and Prehistoric Structures), and NPS Directors Order 12, Conservation Planning, Environmental Impact Analysis, and Decision Making, require the consideration of impacts on historic structures and buildings listed in or eligible for listing in the National Register of Historic Places. Flat Top Manor, Carriage House, and Servant's Quarters are directly involved in this project. Flat Top Manor, the Carriage House, the Sandy Flat Baptist Church, and the Apple Barn were listed in the National Register of Historic Places in December 2013. Restoration or marking locations of former buildings, such as the boathouse, bowling alley, laundry house, could also beneficially or adversely affect visitor use patterns and volumes.

## **CULTURAL LANDSCAPES**

Cultural landscapes are defined by Directors Order 28, Cultural Resource Management Guideline (1998), as “a reflection of human adaptation and use of natural resources and is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built. The character of a cultural landscape is defined both by physical materials, such as roads, buildings, walls, and vegetation, and by use reflecting cultural values and traditions.” NPS Management Policies 2006, Sec. 5.3.5.2 Cultural Landscapes, requires that “significant physical attributes, biotic systems, and uses” that contribute to the historic significance be preserved. The process of change would be included in decisions regarding treatment and management of biotic cultural resources (NPS Management Policies 2006, Sec 5.3.5.2.5, Biotic Cultural Resources). The proposed project is entirely within a designed cultural landscape. A Cultural Landscape Report (CLR) was completed in 1993 by Dr. Ian Firth of the University of Georgia. An update to the original document was completed in 2014. All actions proposed would have, whether ground disturbing, recreationally oriented or information oriented, either a negative, neutral, or positive, an adverse or beneficial effect on the cultural landscape. Carrying capacity could be exceeded if changes result in increased visitation. The re-colonization of beavers and deer would be an example of biotic cultural resource for which the process of change must be incorporated.

## **ARCHEOLOGICAL RESOURCES**

The National Park Service is required to, “preserve collections of prehistoric and historic material remains, and associated records, recovered under the authority of the Antiquities Act (16 U.S.C. 431-433), the Reservoir Salvage Act (16 U.S.C. 469-469c), section 110 of the National Historic Preservation Act (16 U.S.C. 470h-2), or the Archaeological Resources Protection Act (16 U.S.C. 470aa-mm)”. These regulations (36 CFR Part 79), promulgated under the authority of the Secretary of Interior, apply to findings made by historic preservation professionals that meet qualification standards for Federal projects. NPS Policies 2006, Sec. 5.3.5.1, Archeology, requires that the National Park Service protect

resources from vandalism and looting and work to enhance conditions of known archeological resources. All actions are being proposed on a site eligible for the National Register. The site contains an existing garbage/dump site abandoned local land fill, remnants of heirloom orchards and early 20<sup>th</sup> century farming practices, and remnant foundations and home sites where 35 houses once existed but have been removed. All proposed ground-disturbing activities could impact archeology.

## **ETHNOGRAPHIC RESOURCES**

The National Park Service must be respectful of ethnographic resources, those cultural and natural features that are of traditional significance to traditionally associated peoples. These are contemporary peoples whose interest in the park began prior to its establishment (1936) and who have associated with the park for more than two generations (40 years) (NPS Management Policies 2006, Sec. 5.3.5.3, *Ethnographic Resources*). The proposed project has been identified as a potential ethnographic resource in the park's draft Ethnographic Overview and Assessment (August 2008), and family heirs are known to be concerned about the short- and long-term direction of management for the site especially contemporary recreational use. The Cone Hospital System also has interest in the resources and activities on the Moses H. Cone Memorial Park and must be evaluated and considered.

## **MUSEUM COLLECTIONS**

The NPS Management Policies 2006, Sec. 5.3.5.5, Museum Collections, and Directors Order 28, Cultural Resource Management Guideline, require the consideration of impacts on museum collections (historic artifacts, natural specimens, and archival and manuscript material). Proposals to restore small scale (rock walls, bridges) and large scale (boat house, bowling alley, laundry room, etc.) replacing historic elements and archeological objects recovered during archeological surveys become part of the park's museum collection. Acquiring original historic furnishings and/or period reproduction furnishings within Flat Top Manor could have an impact on the park's museum collection. The preservation of collections is related in large measure to their environment. Fully furnished rooms require extensive on-going curatorial care as well as security and fire protection.

Special considerations, such as fire suppression and security systems, HVAC systems, historic furnishings plans, IPM, environmental monitoring, conservation treatments, access plans, would need to be considered.

## **STEWARDSHIP OF HUMAN REMAINS AND BURIALS**

Sec. 5.3.4 of NPS Management Policies and 43 CFR part 10 requires that historic burial areas and graves be protected. The gravesite of Bertha and Moses Cone could be affected by increased visitation. Though we are currently unaware of any other cemeteries or burial sites, there is potential for other burials on the grounds given the number of people living and working on the estate. Should such sites be subsequently identified, they would be protected according to NPS Management Policies. We would carry out the provisions of the Native American Graves Protection and Repatriation Act (NAGPRA) 25 USC 3001 et seq. and its implementing regulations regarding consideration, treatment and disposal of human remains and cultural items that are inadvertently discovered.

## **SOCIOECONOMICS**

Though the proposed project would not directly displace or relocate residents, it could potentially affect local and regional economy and businesses, especially those that depend on tourism. A potential relocation for the Highland Craft Guild could have a positive, neutral, or negative affect to their sales. There would be increased quality of life benefits for local residents and businesses as new and expanded opportunities to experience the estate are realized.

## **VISITOR USE AND EXPERIENCE, INCLUDING RECREATIONAL AND VISUAL RESOURCES**

In addition to traditional uses of the park, the proposal considers new recreational and visitor experiences, such as installing new interpretive exhibits throughout the park that focus on the Cone family, growing of apples, how chemicals use has affected the local environment, constructing new trails (China Orchard), providing more tours of the first and second floors of Flat Top Manor, restoring portions of the cultural landscape including gardens, and fields and meadows. Visitor use and experience would be affected through noise, aesthetic, traffic-related changes, and volume of use. Overcrowding could impact natural and cultural resources and could be socially unacceptable to some users. More information on the Cone family would be available through exhibits and sales items, increasing visitor knowledge about the site. Provision of new or increased visitor use opportunities would most likely have a beneficial impact, unless carrying capacity is exceeded. This could be addressed through adaptive management.

## **HUMAN HEALTH AND SAFETY**

There could be adverse safety impacts resulting from shared use trails (pedestrian, horse, carriages). Manure, potential use of herbicides to maintain gardens, orchards, hedges and poison ivy, and increased removal of trees to create and restore views and fields could affect human health and safety of employees and visitors.

Contaminated soils from past pesticide use on apple trees already exist at levels that are harmful to children. Fish in Bass Lake contain a high enough level of arsenic such that a limited number of fish should be consumed.

## **PARK OPERATIONS**

Construction of new comfort stations, trails, restoration of gardens, and hedges, restoration of historic buildings and other landscape features would create a long-term increase in maintenance cost in dollars and staff time as those assets must be maintained and repaired. Rehabilitation of existing authorized and unauthorized trails, maintenance of carriage roads, and maintenance of Flat Top Manor already uses 3 FTE (1 permanent, four seasonal). Increased use of the house would require additional janitorial services to maintain the home in good condition. Increased use of trails and carriage roads use has the potential to contribute to a need for enhanced enforcement and education activities, and potential human health and safety issues both of which would require additional enforcement staff time and cost. Curatorial staff time and resources would significantly increase if historic furnishings are returned to historic buildings and previously removed buildings are restored; environmental monitoring and pest monitoring and management would be required, increasing costs to purchase and maintain equipment and staff time to monitor. Security plans and access plans would need to be developed. The building currently does not have a fire suppression system, which needs to be installed at significant cost. Research and development for waysides would increase staff time as

would purchase of the exhibits themselves. Some additional staff time would be required to coordinate volunteer and partnerships opportunities, and to increase the number of agricultural parcels to be leased on the estate.

Maintaining the landscape in a near-original/historical condition (restoring open spaces; maintaining apple trees, flower beds, and tree stands; managing beaver and other "nuisance" species; replacing ornamental plantings -- maples, poplars, Norway Spruce, rhododendron, etc. - as they reach maturity), managing an active fishery program and enhancing and/or enlarging the agricultural leasing program would significantly increase park resource management staff time.

## **CONCESSIONS AND COMMERCIAL SERVICES**

If in the future, there is a business opportunity in the Flat Top Manor House it would be authorized by a concession contract. Eastern National, a cooperating association, would continue to operate the bookstore.

## **TRANSPORTATION**

Additional visitors could be attracted to the Blue Ridge Parkway by the visitor center and recreational activities. The visitor center could also bring in traffic from the Boone/Blowing Rock area, resulting in traffic impacts to public roads in the area. For these reasons, transportation- including road connections - is an impact topic that would be analyzed in this document.

## **IMPACT TOPICS DISMISSED FROM FURTHER CONSIDERATION**

### **AIR QUALITY**

The *Clean Air Act of 1963* (42 USC 7401 *et seq.*) was established to promote the public health and welfare by protecting and enhancing the nation's air quality. The primary source of air quality emissions from the implementation of the proposal and initial construction activities would be from equipment used to carry out the prescribed actions and removal of trees from forested areas to restore historic designed landscapes and open up the viewshed, which would have short-term, negligible adverse impacts on air quality. Best Management Practices (BMPs) would be utilized to limit dust generation and dispersal and keep equipment emissions down, i.e., equipment would be properly maintained. The NPS may use fire as a tool to open forests or maintain fields, which would be consistent with the Park's Fire Management Plan/EA. As a result, this impact topic was dismissed from further analysis.

### **GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE**

There is strong evidence linking global climate change to human activities, especially greenhouse gas emissions associated with the burning of fossil fuels (IPCC 2007). Some of the activities associated with the proposal and initial construction activities may result in fossil fuel consumption, such as equipment used to carry out the prescribed actions. Some specialized activities, such as using fire as a tool to open forests or maintain fields, may require mechanical fuel reduction by NPS personnel to assist in carrying out prescribed burns and initial response activities. In addition, the removal of trees to reconstruct cultural landscapes and enhance the viewshed may release sequestered carbon from woody vegetation. However, greenhouse gas

emissions associated with the proposed project would be negligible in comparison to adjacent land clearing and development, other agencies burning in the area, local, and, regional greenhouse gas emissions. Therefore, the issue of the contribution of mechanical fuel reduction and initial response activities to climate change through greenhouse gas emissions was dismissed from further analysis.

## **FLOODPLAINS**

Executive Order 11988, Floodplain Management, and NPS *Management Policies 2006*, Sec. 4.6.4, *Floodplains*, requires all Federal agencies to take action to reduce the risk of floodplain loss, to restore and preserve the natural and beneficial values served by floodplains, and to minimize the impact of floods on human safety, health, and welfare. The proposed project area is not located near or in any floodplains; therefore this topic was dismissed from consideration.

## **GEOLOGY**

In Section 4.8, *Geologic Resource Management*, of NPS *Management Policies 2006*, the National Park Service is charged with “allow[ing] natural geologic process to proceed unimpeded.” This process includes, but is not limited to, exfoliation, karst processes, seismic and volcanic activity. Though allowing bouldering to continue at China Orchard would have a negligible impact on rock surface degradation, it does not in and of itself significantly impair the natural geologic process. Since erosion, compaction and sedimentation would continue to occur at China Orchard with continued use, this subject would be addressed under the impact topic of soils. The proposed project would not influence large scale geological processes and thus was dismissed from consideration.

## **PRIME AND UNIQUE FARMLANDS**

In August 1980, the CEQ directed Federal agencies to assess the effects of their actions on farmland soils classified by the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) as prime or unique (7 CFR 657.5). Prime farmland is defined as soil that particularly produces general crops, such as common foods, forage, fiber, and oil seed; unique farmland produces specialty crops, such as fruits, vegetables, and nuts. With the exception of the construction of a visitor center, the proposal does not irretrievably change prime or unique farmlands. Soil types were recently mapped by NRCS on BLRI lands, and since no prime or unique soils were identified, the project area does not meet the definition of farmland as stated in Title 7, Chapter 73, Section 4201 (c)(1) of the Farmland Protection Policy Act (FPPA). Therefore, the topic of prime and unique farmlands was dismissed as an impact topic in this EA.

## **THREATENED AND ENDANGERED SPECIES**

There are no federally-listed threatened or endangered animals or plants or designated critical habitat in the vicinity. Though one bog turtle has been seen crossing US Hwy. 221, they are not known to occur on Memorial Park property. The northern long-eared bat (*Myotis septentrionalis*) has been proposed to be federally listed as an endangered species. They are found in much of the eastern and northern central United States and all of the Canadian provinces. During the winter the bats hibernate in large caves and mines with no air current and high humidity. They prefer tight crevices and cracks leaving only the nose and ears visible. In the summer, northern long-eared bats can be found roosting singly or in colonies

underneath bark, in cavities, or in the crevices of both live and dead trees. They have not been seen in Cone Park, but there is evidence of them to the north and south on the Parkway, and it is likely that they inhabit Cone Park during portions of the year.

## **SPECIAL DESIGNATIONS**

According to NPS *Management Policies 2006*, Section 4.3, *Special Designations*, units of the National Park Service recognizes that additional management considerations are required for special designations, including:

- **Research natural areas** contain prime examples of natural resources and processes that have value for long-term study,
- **Experimental research areas** are sites set aside for manipulative research,
- **National Natural Landmarks** contain the best examples of biotic community or geological features,
- **Biosphere Reserves** are world-renowned for their natural resources, and
- **World Heritage List** sites feature outstanding universal value to humanity.

Moses H. Cone Memorial Park has none of these special designations, thus this topic was dismissed.

## **WILDERNESS AREAS**

The Wilderness Act (1964 ), Directors Order 41, *Wilderness Preservation, Management and Reference Manual 41*, and NPS *Management Policies 2006*, Sec. 6, *Wilderness Preservation and Management*, requires the National Park Service to identify lands in their ownership that may be eligible for inclusion in the national wilderness and preservation system. The criteria requires that lands (1) be at least 5,000 acres in size, (2) be untrammled by humans, (3) be undeveloped and retain its primeval character, (4) be affected primarily by natural forces, (5) be protected to preserve its natural condition, and (6) offer an outstanding opportunity for solitude or primitive recreation. Moses H. Cone Memorial Park is 3,500 acres in size and does not meet any of the six criteria herein.

## **NATIONAL WILD AND SCENIC RIVERS**

The Wild and Scenic Rivers Act (1968), Directors Order 46A, *Wild and Scenic Rivers within the National Park System*, and NPS *Management Policies 2006*, Sec. 2.3.1.9, *Wild and Scenic Rivers*, requires that significant river segments be considered for this special designation. None of the waters located within the proposed project area is eligible for the National Wild and Scenic Rivers System.

## **ENVIRONMENTAL JUSTICE**

Presidential Executive Order 12898, *General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, requires all Federal agencies to incorporate environmental justice

into their missions by identifying and addressing the disproportionately high and/or adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities. The proposed project would not have disproportionate health or environmental effects on minorities or low-income populations or communities as defined in the US EPA's *Draft Environmental Justice Guidance* (July 1996). Therefore, Environmental Justice was dismissed as an impact topic in this EA.

## **NPS MANAGEMENT POLICIES 2006, SECTION 1.4: THE PROHIBITION ON IMPAIRMENT OF PARK RESOURCES AND VALUES**

By enacting the NPS Organic Act of 1916 (Organic Act), Congress directed the U.S. Department of Interior and the NPS to manage units “to conserve the scenery and the natural and historic objects and wildlife therein and to provide for the enjoyment of the same in such a manner and by such a means as will leave them unimpaired for the enjoyment of future generations” (16 USC § 1). Congress reiterated this mandate in the Redwood National Park Expansion Act of 1978 by stating that NPS must conduct its actions in a manner that will ensure no “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” (16 USC 1a-1).

NPS Management Policies 2006, Section 1.4.4, explains the prohibition on impairment of park resources and values:

*While Congress has given the Service the management discretion to allow impacts within parks, that discretion is limited by the statutory requirement (generally enforceable by the federal courts) that the Park Service must leave park resources and values unimpaired unless a particular law directly and specifically provides otherwise. This, the cornerstone of the Organic Act, establishes the primary responsibility of the National Park Service. It ensures that park resources and values will continue to exist in a condition that will allow the American people to have present and future opportunities for enjoyment of them.*

The NPS has discretion to allow impacts on Park resources and values when necessary and appropriate to fulfill the purposes of a Park (NPS 2006 sec. 1.4.3). However, the NPS cannot allow an adverse impact that would constitute impairment of the affected resources and values (NPS 2006 sec 1.4.3). An action constitutes an impairment when its impacts “harm the integrity of Park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values” (NPS 2006 sec 1.4.5). To determine impairment, the NPS must evaluate “the particular resources and values that would be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts” (NPS 2006 sec 1.4.5). A determination on impairment for the preferred alternative will be attached to the decision document.

# CHAPTER 2: ALTERNATIVES

## INTRODUCTION

Developing a management vision for the future is the primary role of the Memorial Park Developed Area Management Plan (DAMP) planning process. The planning looks years into the future and considers the Park holistically in its full ecological and cultural context and as part of the surrounding region. Evaluating a set of management alternatives enables the planning team and the public to compare and contrast the advantages of one course of action over another, and provides a sound approach for decision making required by the National Environmental Policy Act. The Council on Environmental Quality regulations for implementing NEPA requires that Federal agencies explore and objectively evaluate all reasonable alternatives to the preferred alternative. This chapter describes the three alternatives for the Moses H. Cone Memorial Park DAMP, including the No Action Alternative, Alternative One (Enhance What We Have) and Alternative Two (Cultural Landscape Rehabilitation).

## ALTERNATIVES DEVELOPMENT

Just as reaching agreement on the Moses H. Cone Memorial Park’s purpose and significance, the planning team had to come to an understanding of what resources and infrastructure currently are within the Memorial Park. The Park is a composite of a variety of important natural, cultural and visual resources and contemporary infrastructure.

Coming to an agreed upon understanding of what resources and visitor experiences are in the Park and where they are located was necessary before developing alternative management concepts and defining and applying management zone prescriptions.

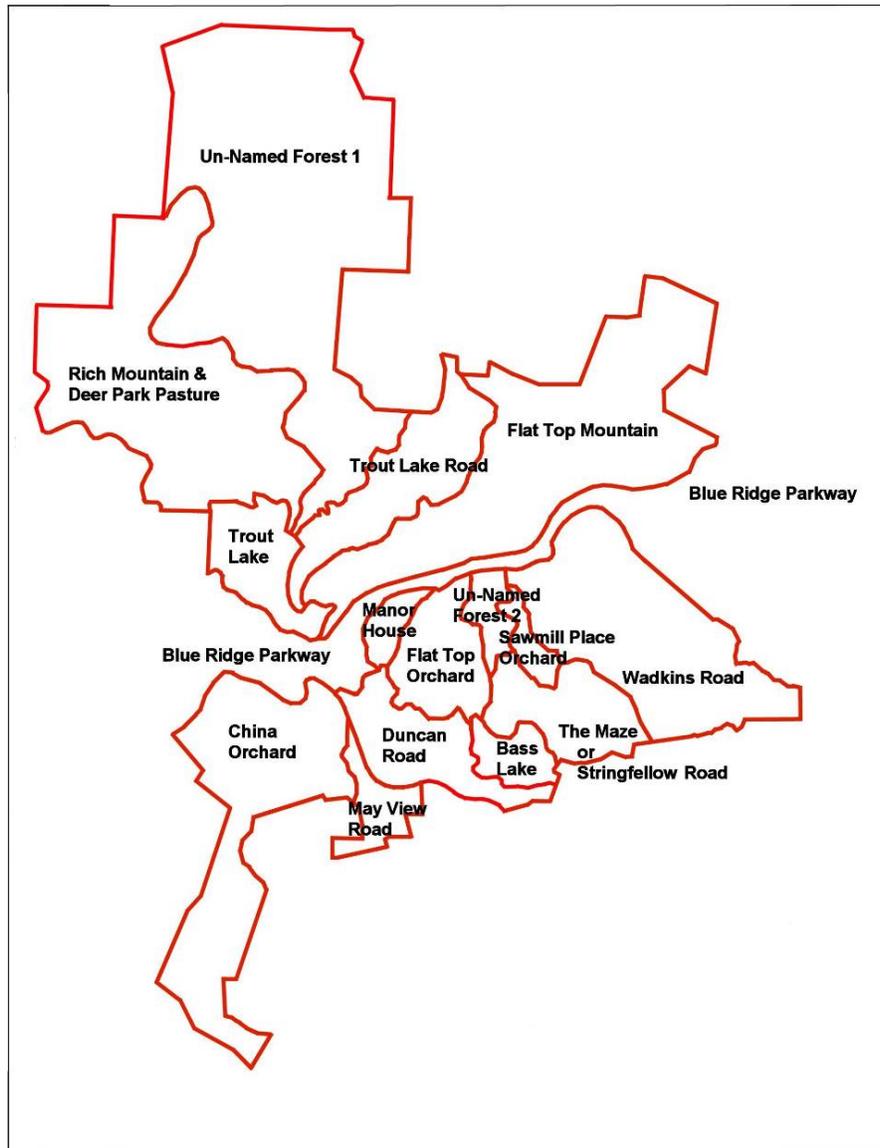
Defining resource landscape units (RLU) provided the means to classify within the Memorial Park the types of resources, their spatial distribution throughout the Park and the potential visitor experiences they could support. The Memorial Park is a collection of different RLU’s that have minor to significant differences in terms of resource values and visitor use experiences that exist among the various geographic areas of the Park.



Figure 2. Developing Management Alternatives

**Figure 2** shows the various steps that were accomplished by the planning team in developing alternative management concepts and defining and applying management zone prescriptions.

The landscape framework analysis conducted by the staff determined that the Memorial Park is comprised of 16 Resource Landscape Units (RLUs). It is important to note that RLUs were defined by inventorying and evaluating existing conditions, not future conditions. Each of these 16 units is described fully in **Appendix B** and its location within the Park is shown on the Resource Landscape Unit Location Map see **Figure 3**. They are grouped under headings that identify the natural or man-made feature that most affects the visitor experience. Those headings include—Historic Building, Constructed Water Features, Orchard, Carriage Road System, Mountain and Pasture, Un-Named Forest and Road. Each RLU is described fully in **Appendix B**.



**Figure 3. Resource Landscape Unit Location Map**

## RESOURCE LANDSCAPE UNITS (RLU)

The various distinct landscape areas that comprise the Park were delineated through a landscape inventory, mapping and analysis process. The Memorial Park is comprised of 16 RLU's. This is the first step leading to the assignment of management zones.

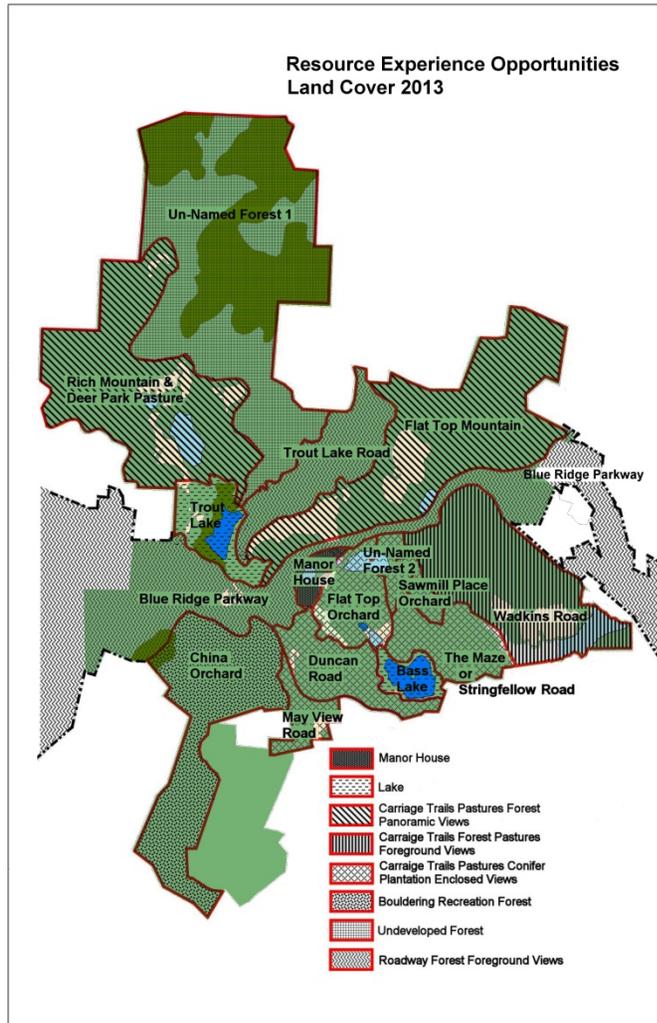
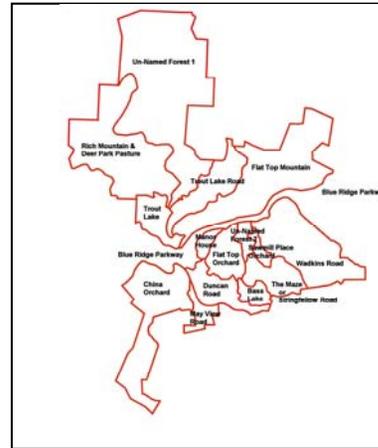
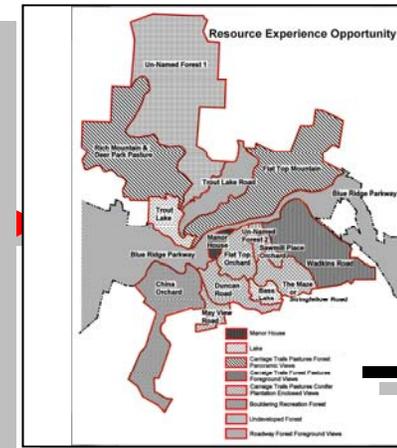


Figure 4: Resource Experience Opportunity Areas

### Resource Landscape Units



### Resource Experience Opportunities



### Resource Experience Opportunities (REO)

After the RLU's were identified they were described in terms of their landscape character and each one was analyzed with respect to 6 visitor use attributes to determine what resource experience opportunity(ies) it potentially provides, see **Figure 4**.

The purpose for identifying the range of REO's a park has to offer is three-fold—1) to understand what potential educational &/or recreational values are within each RLU., 2) find potential mismatches between proposed resource based visitor use and preserving sensitive natural and cultural resources and 3) use RLU's and their available REO's for developing and applying appropriate management zoning and prescriptions.

## **RESOURCE LANDSCAPE UNIT DESCRIPTIONS**

The following is a list of the Resource Landscape Units (RLUs) and their component parts. For a more detailed description of the RLUs and the resources found within each, please see **Appendix B**.

### **HISTORIC BUILDING RESOURCE LANDSCAPE UNITS**

Manor House

### **CONSTRUCTED WATER FEATURE RESOURCE LANDSCAPE UNITS**

Bass Lake

Trout Lake

### **ORCHARD RESOURCE LANDSCAPE UNITS**

Sawmill Place Orchard

Flat Top Orchard

China Orchard

### **CARRIAGE ROAD SYSTEM RESOURCE LANDSCAPE UNITS**

Duncan Road

May View Road

The Maze/Stringfellow Road

Wadkins Road

### **MOUNTAIN AND PASTURE RESOURCE LANDSCAPE UNITS**

Flat Top Mountain

Rich Mountain & Deer Park Pasture

### **UN-NAMED FOREST RESOURCE LANDSCAPE UNITS**

Un-Named Forest #1

Un-Named Forest #2

### **ROAD RESOURCE LANDSCAPE UNITS**

Trout Lake Road

Blue Ridge Parkway

## MANAGEMENT ZONES AND PRESCRIPTIONS

The primary building blocks for reaching an approved management plan for a national park system unit are the management zones and the alternatives. All are developed within the scope of the park's and/or its component visitor use area's purpose, significance, mandates, and legislation. As per NPS planning policy only one set of management zones is to be applied and used in managing a park.

Management zones prescribe a range of desired resource conditions and visitor experiences for the park that are to be achieved and maintained in different areas of the park and its component visitor use areas such as the Moses H. Cone Memorial Park. Management zones include statements about the appropriate kinds and levels of management, use, and development in each zone. The management zones and prescriptions applied in the DAMP were developed as part of the Blue Ridge Parkway general management plan process. The Final General Management Plan/Environmental Impact Statement was approved April 2012.

### DESCRIPTION OF MANAGEMENT ZONES

The eight management zones for the Blue Ridge Parkway that are being applied on the Memorial Park are summarized in **Table 2**.

#### ***Special Natural Resources***

This zone represents areas that would emphasize the highest level of protection of sensitive habitats. Natural resources and processes would be preserved to maintain their pristine conditions and ecological integrity. Visitor opportunities would be limited to avoid human-caused impacts on these sensitive or rare ecosystems.

#### ***Natural***

This zone represents areas that would support the broader ecological integrity of the Parkway where natural processes predominate. Only low-impact recreational activities would be allowed. Visitors would be immersed in nature with opportunities to experience solitude and tranquility.

#### ***Scenic Character***

This zone represents areas that would emphasize protection and viewing opportunities of the scenic landscapes and natural and cultural settings of the central and southern Appalachian highlands.

#### ***Recreation***

This zone represents areas that would support moderate levels of visitor use to accommodate recreational, educational, and interpretive opportunities. While some resource modifications could occur, natural and cultural resources would remain largely intact.

#### ***Visitor Services***

This zone represents areas of the Parkway that would support moderate to high levels of development and visitor services in order to accommodate concentrated visitor use and diverse recreational, educational and interpretive opportunities.

#### ***Historic Parkway***

This zone represents areas that would emphasize protection and interpretation of the historic parkway corridor, which includes the road prism and its original supporting structures and constructed land forms.

***Special Cultural Resources***

This zone represents areas that would emphasize protection of cultural landscapes and historic structures *not* associated with the design and development of the Blue Ridge Parkway. The Moses H. Cone Memorial Park is the best example of a Parkway recreation area in which this management zone would be important.

***Park Support***

This zone represents areas that support administrative facilities for operations and maintenance.

**Table 2: Blue Ridge Parkway Management Zones Applied At Moses H. Cone Memorial Park** on the following pages gives an overview of each management zone and describes the desired conditions for resources within each zone. It also allows comparison of the differences between zones—some slight, some major—in the tolerance for resource impacts, appropriate management activities, visitor use levels, and appropriate recreational activities.

**Table 2: Blue Ridge Parkway Management Zones Applied at Moses H. Cone Memorial Park**

	Special Natural Resources	Natural	Scenic Character	Recreation
<b>Overview</b>	Areas that would emphasize the highest level of protection of sensitive habitats. Natural resources and processes would be preserved to maintain their pristine conditions and high ecological integrity. Visitor opportunities would be limited to avoid human-caused impacts on these rare ecosystems.	Areas that would support the broader ecological integrity of the Cone Memorial Park and parkway where natural processes predominate. Only low-impact recreational activities would be allowed. Visitors would be immersed in nature with opportunities to experience solitude and tranquility.	Areas of the Cone Memorial Park and parkway that would emphasize protection and sightseeing opportunities of the scenic landscapes and natural and cultural settings of the central and southern Appalachian highlands. Desired conditions include maintaining the visual variety of the Parkway road's forested and pastoral/rural landscape settings consistent with early parkway design.	Areas that would support moderate levels of visitor use to accommodate a wide range of recreational, educational, and interpretive opportunities. While some resource modifications could occur, natural and cultural resources would remain largely intact.
<b>Natural Resource Condition</b>	Ecological communities would be protected in a pristine condition, functioning unhindered by human activities and development. Globally imperiled habitats, state natural heritage areas and conservation sites, federal and state listed species, and other rare and exceptional natural resources, processes, systems, and values would be preserved and enhanced. <sup>1</sup>	Ecological integrity would be maintained by preserving and restoring natural resources and processes through an integrated natural resource management approach.	A mosaic of native vegetation communities would be maintained to showcase the Parkway's and Cone Memorial Park's diverse natural settings.	Natural processes would function unhindered by human activities and development in most areas, except where managed specifically for visitor use. The natural and pastoral settings of the Parkway and Cone Memorial Park would be maintained or modified as necessary to provide appropriate recreational opportunities and visitor health and safety.
<b>Tolerance for Natural Resource Impacts</b>	Extremely low tolerance for natural resource impacts. Modification of natural resources would only occur when necessary to restore habitats or to mitigate for human-caused impacts. Evidence of visitor use would be largely unnoticeable.	Low tolerance for natural resource impacts. Only minimal modifications would be allowed that harmonize with the natural environment.	Low to moderate tolerance for natural resource impacts. Modifications that enhance the scenic qualities of the Parkway's and Cone Memorial Park's landscapes would be allowed in a manner that minimizes natural resource impacts.	Low to moderate tolerance for natural resource impacts on accommodate visitor use and to ensure visitor health and safety. Modifications would be aesthetically blended with the environment and designed to minimize resource impacts.

<sup>1</sup> All globally imperiled habitats, state natural heritage areas and conservation sites, federal and state listed species would be protected within all of the management zones, as required by NPS policy

Visitor Services	Historic Parkway	Special Cultural Resources	Park Support
<p>Areas of the Parkway and Cone Memorial Park that would support moderate to high levels of development and visitor services in order to accommodate concentrated visitor use and diverse recreational, educational, and interpretive opportunities.</p>	<p>Areas that would emphasize protection and interpretation of the historic parkway corridor, which includes the Parkway road prism and its original supporting structures and constructed landforms, including overlooks, water features, and recreation areas.</p>	<p>Areas that would emphasize protection of cultural landscapes and historic structures <i>not</i> associated with the design and development of the Blue Ridge Parkway. These include vernacular landscapes, or designed landscapes, such as the Moses H. Cone Memorial Park. Visitors would have opportunities to explore history first hand.</p>	<p>Areas of the Parkway that support administrative facilities for operations and maintenance.</p>
<p>Natural systems and processes would be maintained to the greatest extent possible while emphasizing visitor use management objectives. The effects of developments and visitor use on the natural surroundings would be minimized through planning and design efforts.</p>	<p>The historic character of the Parkway would be protected and maintained while allowing for modifications that achieve desired conditions for special natural resource.</p>	<p>Natural resources would be managed to maintain the character of these cultural landscapes.</p>	<p>Natural resources would be managed to accommodate facilities for park operations. The effects of developments on the natural surroundings would be minimized through planning and design efforts.</p>
<p>Moderate tolerance for resource impacts to accommodate visitor use and facilities. Modification of some visitor use areas would be allowed to enhance protection of sensitive natural resources.</p>	<p>Moderate tolerance for natural resource impacts in order to preserve the Memorial Park's original design and historic structures that contribute to its significance. Modification of some designed landscape areas, such as vista clearings would be allowed to enhance protection of sensitive natural resources.</p>	<p>Moderate tolerance for natural resource impacts to maintain these special cultural resources.</p>	<p>Moderate tolerance for natural resource impacts. Modification of natural resources would be allowed to accommodate park operations and to maintain employee health and safety.</p>

	Special Natural Resources	Natural	Scenic Character	Recreation
<b>Appropriate Natural Resource Management Activities</b>	Rare habitats would be actively restored and rare species would be recovered or reintroduced. Management activities would emphasize research, inventory, monitoring, prescribed burns, pest management, exotic species eradication, and other types of resource stewardship. There would be very little evidence of onsite management except when necessary to address threats to resources or prevent human-caused impacts.	Onsite management actions would emphasize resource protection objectives while providing limited facilities and services to support basic visitor needs. Management activities would emphasize research, inventory, monitoring, prescribed burns, pest management, exotic species eradication, and other types of resource stewardship. Degraded sites would be restored in order to reestablish natural systems and processes with a priority on rare habitats for threatened and endangered species.	Onsite management actions would emphasize maintaining the designed landscapes and open pastoral settings of the Parkway with sensitivity to natural resource conditions, including wildlife corridors. Appropriate activities could include managing for certain types of vegetation types over others to help maintain certain desired landscapes, such as open, pastoral settings. Activities could also include prescribed burns, pest management, and exotic species eradication, and other types of resource stewardship.	Degraded sites would be evaluated to determine if they should be hardened in order to accommodate visitor use or restored to a desired natural condition. Invasive species would be suppressed to prevent further spread or eradicated where feasible. Management would be adapted as needed to protect threatened and endangered species and rare habitats.
<b>Cultural Resource Condition</b>	Cultural resources contributing to national historic landmark designation and national register-eligible properties would be preserved using methods that do not impact sensitive natural resource conditions. All other cultural resources would be evaluated to determine if they should be preserved, stabilized, restored, or left unmaintained.	Cultural resources contributing to national historic landmark designation and national register-eligible properties would be protected. Selected cultural resources would be preserved or stabilized in order to provide educational opportunities for visitors.	The visual variety of the Parkway's forested, pastoral, and rural landscapes would be maintained consistent with the Parkway Land Use Maps.	Cultural resources contributing to national historic landmark designation and national register-eligible properties would be protected. Selected cultural resources would be preserved to reflect a particular era, allowing people to experience these resources first-hand to learn about their associated stories and events.
<b>Tolerance for Cultural Resource Impacts</b>	Low to moderate tolerance for cultural resource impacts.	Low to moderate tolerance for cultural resource impacts. Minor modifications of cultural landscape elements would be allowed only for resource protection.	Low to moderate tolerance for cultural resource impacts. Modifications that enhance the scenic qualities of the cultural landscapes would be allowed.	Low to moderate tolerance for cultural resource impacts when necessary to provide for visitor use.

Visitor Services	Historic Parkway	Special Cultural Resources	Park Support
<p>Natural resources would be actively managed to accommodate interpretive, educational, and other visitor services.</p> <p>Invasive species would be controlled to prevent further spread into other adjacent management zones.</p> <p>Management would be adapted as needed to protect threatened and endangered species and rare habitats.</p>	<p>Natural resources in the designed landscapes of the Parkway would be actively managed to maintain the landscape appearance.</p> <p>Management would be adapted as needed to protect threatened and endangered species and rare habitats.</p>	<p>Natural resources would be actively managed as a component of the cultural landscape.</p> <p>Management would be adapted as needed to protect endangered species and rare habitats.</p>	<p>Natural resources would be managed as necessary to accommodate facilities for park operations.</p> <p>Management would be adapted as needed to protect endangered species and rare habitats.</p>
<p>Cultural resources would be actively managed to accommodate interpretation, education, and other visitor services.</p> <p>Selected cultural resources would provide distinct visitor opportunities and experiences, and would be the backdrop for interpretation, visitor use, and services where appropriate.</p>	<p>The historic design character and components of the Parkway road prism, certain recreation areas, and facilities would be preserved.</p>	<p>Maintain the integrity of these primarily local and regionally significant structures and landscapes. A variety of resource treatments may be appropriate, depending on the condition and location of the resource.</p>	<p>Cultural resources contributing to the Parkway's national historic landmark or to the Moses H. Cone Memorial Park historic district designation would be protected.</p>
<p>Low to moderate tolerance for cultural resource impacts on provide for visitor use.</p>	<p>Low tolerance for cultural resource impacts.</p>	<p>Extremely low tolerance for cultural resource impacts.</p>	<p>Moderate tolerance for cultural resource impacts to accommodate facilities for park operations.</p>

	Special Natural Resources	Natural	Scenic Character	Recreation
<b>Appropriate Cultural Resource Management Activities</b>	Cultural landscapes would be allowed to gradually revert to a more natural state, except when cultural features could be preserved without compromising natural resource values. Cultural resources that do not contribute to parkway's national historic landmark designation could be stabilized or left unmaintained.	Selected historic structures would be stabilized or hardened <sup>2</sup> to provide enhanced educational and interpretive opportunities for visitors. Cultural resources that do not contribute to parkway's national historic landmark designation could be stabilized or left unmaintained.	The Parkway's designed landscapes and open pastoral settings would be maintained with sensitivity to cultural resource conditions. Selected historic structures could be stabilized or hardened to provide enhanced educational and interpretive opportunities for visitors.	Cultural resources that do not contribute to parkway's national historic landmark and the Cone Memorial Park historic district designations could possibly be stabilized or left unmaintained. Selected historic structures could be stabilized or hardened to provide enhanced educational and interpretive opportunities for visitors.
<b>Overall Visitor Experience</b>	Most visitors would experience these areas visually, as part of the more distant and rugged scenic views of parkway or Cone Memorial Park landscape. Limited opportunities would be available to visitors with time and backcountry skills who are seeking opportunities for outdoor challenge and solitude. Visitors would require a moderate to high level of skill, self-reliance, and effort to access these areas.	Visitors to these areas would likely encounter intact natural resources, features, and systems for personal inspiration, education, and recreation. Visitor would have, among a variety of outdoor recreation activities, opportunities to experience solitude, contemplation, self-reliance, challenge, and risk. Visitor would require a moderate level of skill and effort to access these areas.	Visitors would have opportunities to see and experience a variety of scenic settings evocative of central and southern Appalachian landscapes. Access would require a low to moderate degree of difficulty.	Visitors would have opportunities to participate in a range of both structured and self-guiding recreational, interpretive, and educational opportunities. Visitors would experience a mostly natural setting where some visitor services are available to accommodate moderate levels of use. Access would require a low to moderate degree of difficulty for visitors.
<b>Visitor Use Levels</b>	Visitor use levels would be very low to protect resource integrity. If conditions warrant, especially fragile areas could be closed to visitation.	Visitor use levels would be low to avoid degrading natural resources and values.	Visitor use levels would be low to high, depending on the level of amenities and services.	Visitor use levels would be low to moderate, depending on the proximity to access points and developments.

<sup>2</sup> In this context, hardening refers to properly securing structures to prevent unauthorized access, treating surfaces in historically appropriate methods to prevent vandalism (graffiti), placement of sacrificial surfaces to deter defacing of historic structures, increased patrol of these areas by law enforcement, or better illumination, etc.

Visitor Services	Historic Parkway	Special Cultural Resources	Park Support
<p>Selected historic structures could be stabilized or hardened to provide enhanced educational and interpretive opportunities for visitors.</p>	<p>The historic character of the Parkway would be preserved while allowing for minor modifications to achieve desired conditions for visitor experiences, resource protection, and vista management.</p>	<p>Cultural landscapes and historic structures would be preserved and maintained to reflect a particular era or appearance.</p>	<p>Cultural resources would be left undisturbed, except when necessary for constructing new facilities for park operations.</p>
<p>Visitors would have opportunities to participate in a range of recreational, interpretive, and educational opportunities to experience and learn about the natural and cultural heritage of the central and southern Appalachians in built environments and social settings. Visitors would experience a designed setting that supports high levels of use, including a variety of visitor services and overnight accommodations. Access to these areas would be easy for visitors.</p>	<p>Visitors would have a leisurely, uninterrupted driving experience in a designed roadway setting with a scenic backdrop of central and southern Appalachian landscapes and in the absence of commercial advertising, congestion, and driving conflicts. Access to these areas would be easy for visitors.</p>	<p>Visitors would see and experience historic structures in their original landscape settings that are indicative of the cultural heritage and settlement patterns of the region.</p>	<p>Visitor opportunities and experiences would not be emphasized in this zone to avoid interference with park operations and maintenance activities.</p>
<p>Visitor use levels would be moderate to high. Visitors may experience traffic congestion in parking areas.</p>	<p>Visitors encounter other vehicles at volumes and frequencies where free-flow speeds are maintained; where the ability to move in traffic is only slightly restricted; and where the effects of minor incidents and breakdowns are easily absorbed.</p>	<p>Visitor use levels would be low to moderate, depending on the proximity to access points and developments.</p>	<p>Visitor use levels would be very low.</p>

	Special Natural Resources	Natural	Scenic Character	Recreation
<b>Appropriate Recreational Activities</b>	Ranger-led walks would be provided when appropriate for resource protection. Hiking and backpacking would be limited to designated trails only. No horseback riding or motorized use would be allowed.	Low-impact recreational activities could include: hiking, backpacking, nature observation, photography, backcountry camping at designated sites, self-guiding interpretation, and small-group guided activities that do not degrade natural values. Horseback riding would be allowed on certain designated trails where appropriate. No motorized vehicles would be allowed, except when authorized for management activities.	Recreational activities would include: scenic viewing, photography, walking, guided hikes, and other activities that would be appropriate for particular landscape settings. Horseback riding would be allowed on certain designated trails.	Recreational activities would include: organized group programs, self-guiding interpretation, nature observation, picnicking, hiking, backpacking, viewing natural and cultural resources, photography, exploring, backcountry camping at designated sites, Horseback riding would be allowed on certain designated trails.
<b>Visitor Services</b>	Limited directional signs, onsite interpretive materials, and structured interpretive programs related to the management and protection of natural resources would be available to visitors at selected locations. Proactive education and law enforcement strategies would be emphasized to prevent exploitation of resources. Park staff and law enforcement presence would be low.	Directional signs, interpretive waysides, and structured interpretive programs would be provided to promote safe and responsible recreation. Proactive education and law enforcement strategies would be emphasized at targeted locations to prevent exploitation of resources. Park staff and law enforcement presence would be low.	Low levels of visitor services would be provided. The majority of services would be in adjacent zones, such as the historic parkway and visitor services zones. Park staff and law enforcement presence would be low.	Moderate levels of visitor services could be provided, such as orientation, guided interpretive programs, signs and wayside exhibits, and commercial services. Park staff and law enforcement presence would be moderate.

Visitor Services	Historic Parkway	Special Cultural Resources	Park Support
<p>There would be a wide variety of recreational opportunities available to visitors, including: dining, lodging, camping, walking, picnicking, shopping, and scenic viewing, park special events, structured interpretive programs, and guided walks.</p>	<p>Recreational activities would include: low-speed and safe driving, scenic viewing, picnicking, bicycling (on the Parkway motor road), hiking, running, jogging, camping, interpretive activities, and other similar compatible uses.</p>	<p>Recreational activities would include: interpretive programs, sightseeing, photography, walking, and other activities appropriate to the setting.</p>	<p>Recreational activities would only be offered if they do not conflict with parkway operations and maintenance activities.</p>
<p>Moderate to high levels of visitor services would be provided and could include: orientation and interpretive programs, signs, wayside exhibits, commercial operations, gift shops, and shuttle services. Park staff and law enforcement presence would be moderate to high. Orientation, interpretation, and educational opportunities would be concentrated in this zone.</p>	<p>Moderate levels of visitor services would be provided, such as orientation, interpretive and educational programs, signs and wayside exhibits, and commercial services. Proactive education and law enforcement would be emphasized to promote visitor safety.</p>	<p>Specific onsite interpretive themes would be presented to visitors.</p>	<p>Minimal visitor services would be provided.</p>

	Special Natural Resources	Natural	Scenic Character	Recreation
<b>Levels of Development</b>	<p>Minimal developments, such as unpaved trails, would be provided in a manner that limits habitat fragmentation and generally protects natural resource conditions. Existing developments that are not consistent with the desired natural resource conditions could be removed.</p>	<p>Minimal facilities would be provided for visitors that support resource protection and facilitate low-impact use, including: unpaved trails, trailhead facilities, and onsite interpretive media when needed. Trail networks would be well planned; network density would be kept low to limit habitat fragmentation and generally avoid natural resource impacts. Existing developments that are not consistent with the desired resource conditions could be removed or modified.</p>	<p>Trails, roads, and other recreation facilities would be provided that are unobtrusive and blend with the natural and cultural landscapes of the Parkway.</p>	<p>A moderate level of development would be provided to guide visitor use, enhance recreational opportunities, and protect resources, including: interpretive media, trails, trailhead restrooms, trail shelters, picnic tables. There would be a low to medium density of road and trail networks to ensure safe access, circulation for visitors, and protection of resources. The surfaces of roads, trails, parking areas, and other heavy use areas may be hardened where appropriate.</p>

Visitor Services	Historic Parkway	Special Cultural Resources	Park Support
<p>There would be a moderate to high level of development to meet visitor use and park operation needs.</p> <p>Orientation, amenities, and visitor services would be provided that support a safe and satisfying experience, including: visitor centers, contact stations, picnic areas, trails, interpretive media, parking areas, and sidewalks.</p> <p>There would be a medium to high density of paved roads and parking lots to ensure safe access and circulation for visitors.</p>	<p>Developments would include existing facilities in the Parkway road prism, such as: roads, parking areas, trails, vista cuts, waysides, information and regulatory signs, bridges, tunnels, walls, fences, guard walls and rails, and drainage structures.</p> <p>Other types of development directly associated with the original parkway concept would include visitor contact stations, picnic areas, comfort stations, exhibits, and maintenance areas.</p>	<p>Trails, roads, signs, waysides, and interpretive exhibits would be provided in a historic context.</p>	<p>Administrative offices, maintenance structures, equipment and fuel storage, utility systems, and staff offices, meeting spaces, and living quarters could be in this zone.</p>

## FORMULATION OF THE ALTERNATIVES

The DAMP alternatives focus on what resource conditions, visitor uses, experiences, and opportunities should be provided at the Memorial Park rather than on details of how these conditions and uses/experiences should be achieved. However, the action alternatives do include site development concepts for the Flat Top Manor House resource landscape unit. More detailed implementation plans would be developed following approval of the DAMP.

Alternative visions for managing the Memorial Park were developed by identifying different ways to address the planning issues identified in Chapter 1, in context with the Memorial Park's purpose and significance and interpretive themes. In developing this range of alternatives, the National Park Service's development of suitable and feasible alternatives required balancing natural and cultural resource protection with visitor services, facilities, and recreational opportunities. The following major decision points were used to further guide development of the alternative concepts:

1. To what extent should the historic features, activities, and character of the Moses Cone Estate be restored or perpetuated and how should reconstruction of demolished original structures fit into alternatives?
2. What are the desired conditions for natural resources on the estate, and what management strategies need to be implemented to ensure long term sustainability of those conditions?
3. What types and levels of visitor use and activities could be sustained while preserving desired resource conditions and quality visitor experiences or what changes might be appropriate to accommodate recreation opportunities, partnerships or reflect funding and operational limitations?
4. How should visitors move around the area and what opportunities should be available to them in order to understand what structures and landscape features were originally there and to appreciate the significance of the Moses Cone Estate?
5. Given the desired conditions for resources and visitor experiences, what kinds and levels of development and infrastructure are needed to support visitation and park operations?
6. Could the park protect scenic views, cultural resources and natural habitats via partnerships and agreements with park neighbors, or to what extent are other approaches needed?
7. What are the desired conditions for which to manage forest areas, to remove hazard trees and to preserve historic plantings?

A workshop was conducted on August 27 and 28, 2003 by the National Park Service to formulate alternatives. Participants included parkway staff and formal partner group representatives from Eastern National, Southern Highland Craft Guild and the Blue Ridge Parkway Foundation. That working group developed the following four preliminary action alternative management concepts.

- **Preliminary Alternative One**

- Concept** - *Recognition of the estate as the "Learning Center" on the Cone Family*
  - Resource Emphasis** - *Manage natural and cultural resources as illustrative of elements of the Moses Cone story (innovative technology, agricultural practices, landscape design, etc.)*

**Visitor Experience Emphasis** - Interpretation and learning through experiencing estate features (Flat Top Manor House, farm structures, orchards, carriage trails, etc.)

- **Preliminary Alternative Two**

**Concept** - Recognition of Expanding Recreational Opportunities of the estate

**Resource Emphasis** - Manage natural and cultural resources to promote recreational opportunities

**Visitor Experience Emphasis** - A wide range of recreational activities consistent with mandated natural and cultural resource protection

- **Preliminary Alternative Three**

**Concept** - Recognition of the “Traditional” Recreational values of the estate

**Resource Emphasis** - Manage natural and cultural resources to perpetuate traditional recreational uses as envisioned by the Cones (1893-1947)

**Visitor Experience Emphasis** - Appreciation of the natural quiet, solitude, and beauty of the estate in ways enjoyed by the Cones and their guests

- **Preliminary Alternative Four:**

**Concept** - Recognition of the Historic Importance of the Cone Country Era estate

**Resource Emphasis** - Preservation, restoration, reconstruction, and/or interpretation of the cultural landscape, buildings and features of the estate (1893-1947)

**Visitor Experience Emphasis** - Visitors experience the historic period of the Cone Estate

Workshop participants after reviewing and discussing the four preliminary alternative concepts decided that Preliminary Alternative One was a suitable and feasible alternative management concept for the Memorial Park. The management concept and resource and visitor use emphases were in keeping with the Park’s purpose, significance, and interpretive themes. This alternative would address each of the seven decision points.

The group decided to reject Preliminary Alternative Two - *Expanding Recreational Opportunities*. Park resource and planning staff believed that expanding non-traditional recreational uses such as mountain biking and promoting other recreational uses of lakes and open areas would be an inappropriate use of the historically significant landscape, carriage trails and water resource features. Expansion of recreation as a management emphasis did not support the purpose and significance of the Memorial Park

The discussion about the appropriateness of recreational activities led the group to combine Preliminary Alternatives Three and Four into a new Alternative Two. The group believed that those two alternatives were mutually inclusive and should be combined given the compatibility between resource preservation and visitor use. The new Alternative Two management concept and resource and visitor use emphases were very much in keeping with the Park’s purpose, significance, and interpretive themes. It also would address six of the seven decision points.

The two action alternatives that are proposed and evaluated in the DAMP are the following:

- **Alternative One-Enhance What We Have**

**Concept** - Recognition of the estate as the “Learning Center” on the Cone Family.

**Resource Emphasis** - Manage natural and cultural resources as illustrative of elements of the Moses Cone story (innovative technology, agricultural practices, landscape design, etc.)

**Visitor Experience Emphasis** - Interpretation and learning through experiencing estate features (Flat Top Manor House, farm structures, orchards, carriage trails, etc.)

- **New Alternative Two- Cultural Landscape Rehabilitation**  
(Combined Alternatives Three and Four Above)

**Concept** - Recognition of the Historic Importance of the Cone Country Era estate and its “Traditional” Recreational Values.

**Resource Emphasis** – Preservation, rehabilitation, and interpretation of the cultural landscape, buildings and features of the estate (1893-1947), while managing resources to perpetuate traditional recreational uses as envisioned by the Cones.

**Visitor Experience Emphasis** - Visitors experience the historic period of the Cone Estate and appreciate the natural quiet, solitude, and beauty of the estate in ways enjoyed by the Cones and their guests.

## APPLYING MANAGEMENT ZONING ON THE GROUND

All of the patterns of spatial organization on the landscape today are reminiscent of the landscape during the Moses and Bertha Cone era, and they contribute to the historic significance and setting of the Memorial Park. The extent of woodland cover present today is greater, however, than that present during the Cones' lifetime. Forest vegetation has encroached upon the meadows and pastures, apple orchards have all but disappeared and ornamental shrubs are declining. Deciding the approach for management and interpretation of the historic estate's landscape was central to considering how to develop management alternatives and then to apply management zoning on the ground.

Recognizing the differences between current landscape and vegetation conditions from what they were in 1940 (see **Figures 5 and 6**) directly influenced the foundation for the two action alternatives. The NPS preferred alternative, Alternative One, enhancing what we (the NPS) have, accepts that more than 83 percent of the land is wooded today and only 175 acres of the 514 acres of pasture remains. That changed landscape is still representative of how the historic landscape was spatially organized. Therefore, landscape and vegetation conditions mapped in 2013 are used as the basis for applying management zones on the ground for Alternative One.

Alternative Two, cultural landscape rehabilitation seeks to rehabilitate some of the farm, garden and recreation landscape surrounding the Flat Top Manor House, partially restore one orchard, manage carriage road vegetation and vistas, and more actively manage the conifer plantations. While the end condition of this alternative is not to restore the landscape to its 1940 condition, the 1940 mapped spatial organization would serve as a basis for rehabilitation or responding to other management actions.

The location and extent of forests, pastures, conifer plantations and orchards documented on the 2013 and 1940 maps (see **Figures 5 and 6**) established where to place and the size of each of the cultural and natural resource management zones for the alternatives.

**Table 3** provides a comparison of acreage for general land cover categories. The objective for this table was to record changes in land cover over time based upon how vegetation had been managed by Moses and Bertha Cone and the NPS. This provided data that assisted in applying management zoning for Alternatives One and Two. The graphic flow chart that follows on the next two pages shows the general steps used to apply the zoning.

**Table 3: Land Cover Comparison**

LAND COVER COMPARISON					
Land Areas	1940		2013		% of change 1940 to 2103
	Acreage	% of total	Acreage	% of total	
Base Acreage	3,470.00	100.000	3,644.00 (1)	100	+ 5.0
Lakes	24.60	.7	38.96	1.1	+ 58.4
Forest	2,607.86	75.2	3,018.05	82.8	+ 15.7
Conifer Plantation (2)	108.68	3.1	0	0	- 100.0
Pasture/Meadow	513.81	14.8	174.8	4.8	- 66.0
Orchard	210.11	6.1	12.57	.3	- 94.0
Garden	4.94	.1	1.28	.04	- 74.1
Old Growth Forest	0	0	398.34	10.9	(3)
Wetland	0	0	69.38	1.9	(4)

Notes:

- (1) Acreage difference from 1940 to 2013 resulted from land exchange between NPS/BRP and the Town of Blowing Rock.
- (2) For 2013 conifer plantation counted in forest land cover because forest succession has been the on-going management approach.
- (3) Old growth forest was not identified on the historic 1940 land cover mapping.
- (4) Wetland was not identified on the historic 1940 land cover mapping.

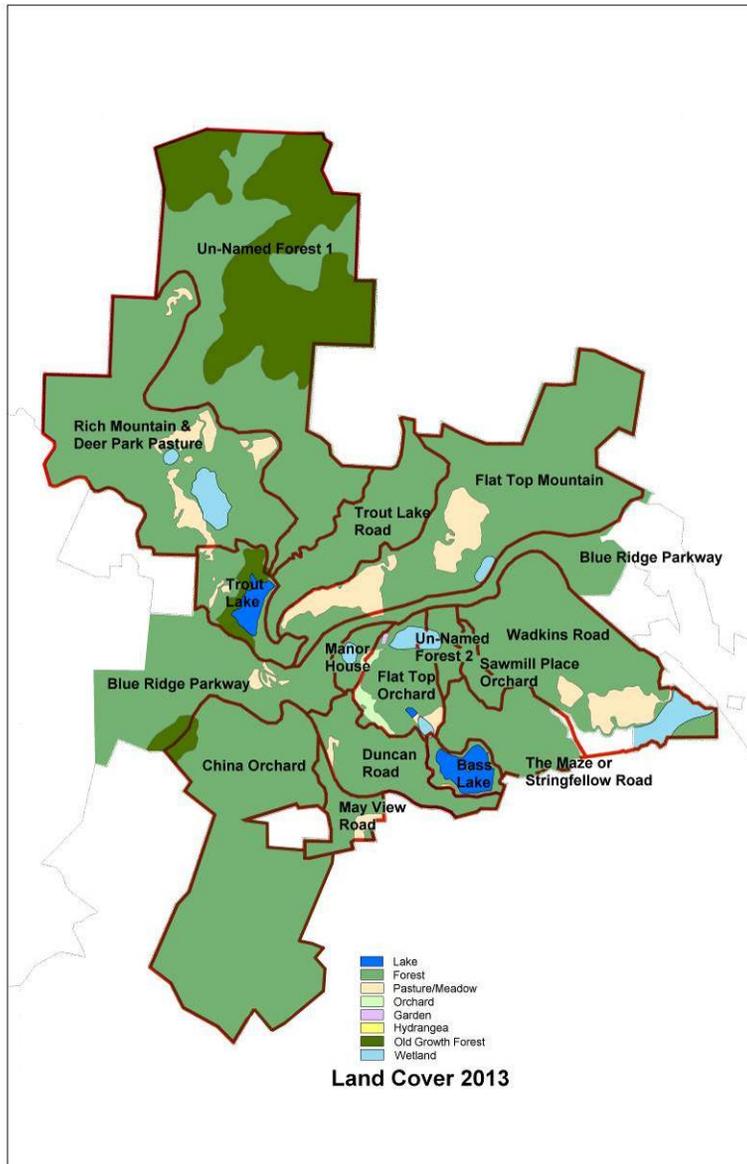


Figure 5. Land Cover 2013

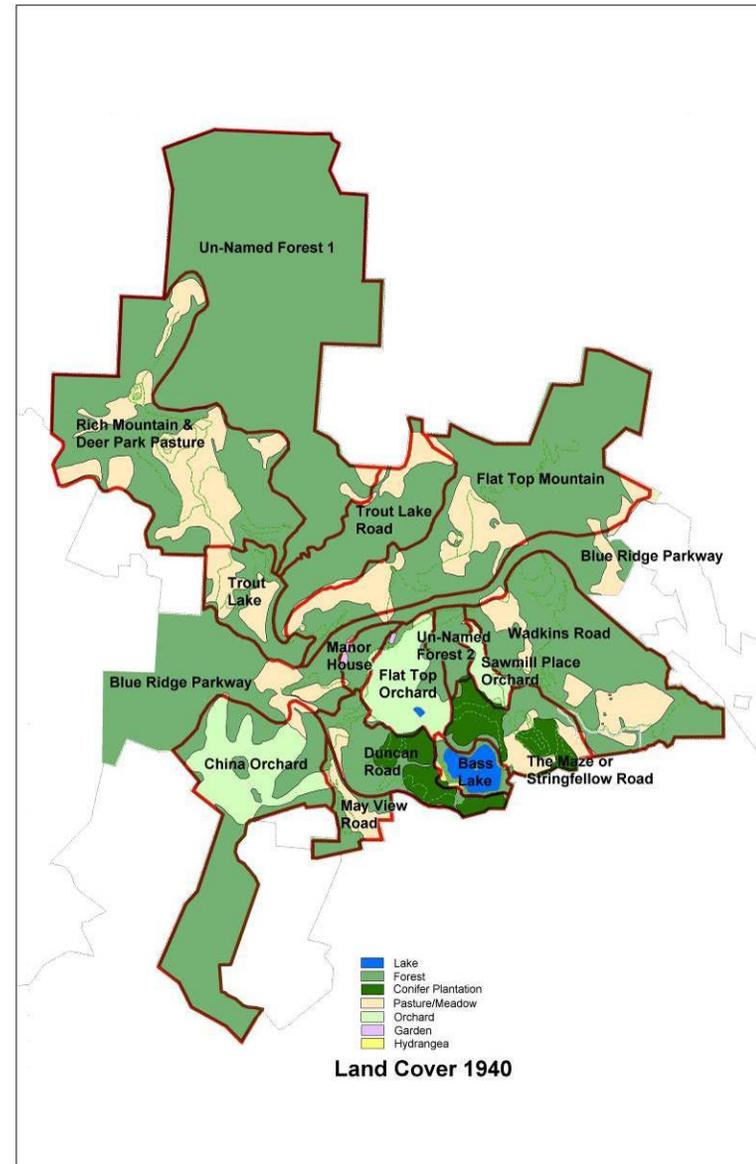
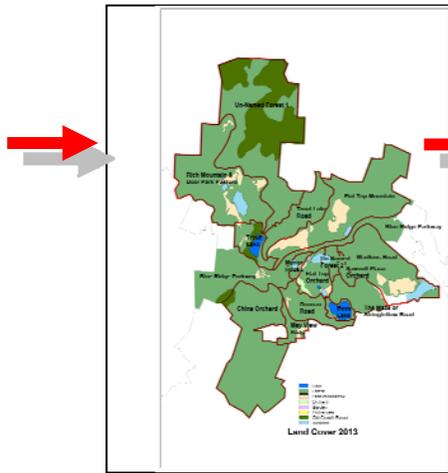


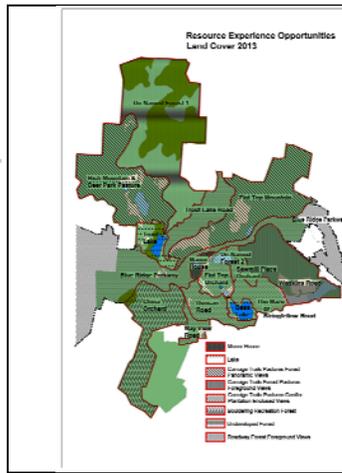
Figure 6. Land Cover 1940

**RLU's & 2013 Land Cover**

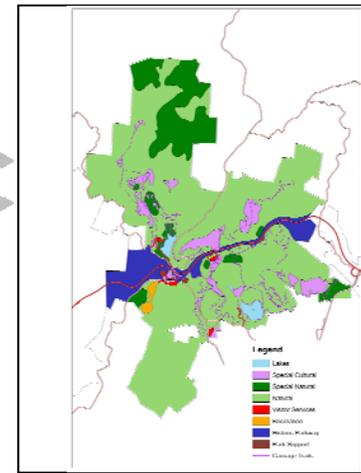
(Land cover map for 2013 depicts landscape conditions that guide application of management zoning for Alternative One.)



**RLU's, 2013 Land Cover & REO's**

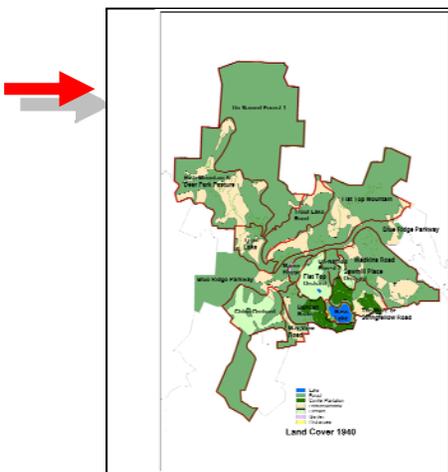


**RLU's & Management Zoning Alternative One**

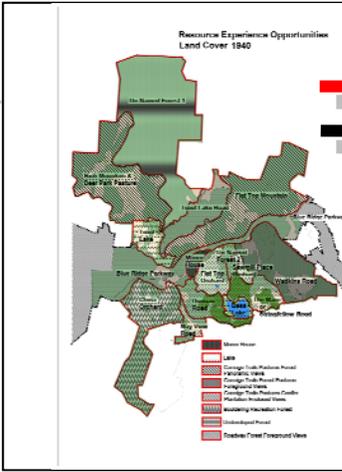


**RLU's & 1940 Land Cover**

(Land cover map for 1940 depicts landscape conditions that guide application of management zoning for Alternative Two.)

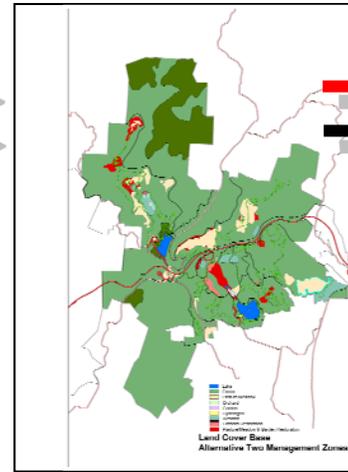


**RLU's, 1940 Land Cover**

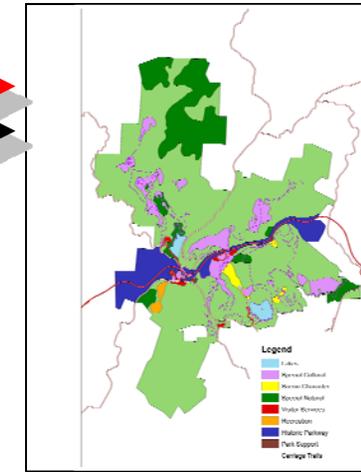


**2013 Land Cover**

(Rehabilitation areas based upon restoring some pasture, garden & orchard areas.)



**RLU's & Management Zoning Alternative Two**



## **POTENTIAL BOUNDARY ADJUSTMENTS**

The Moses H. Cone Memorial Hospital Board of Trustees transferred the Moses H. Cone Memorial Park to the United States of America in January 1949. The Memorial Park became part of the Blue Ridge Parkway and the National Park Service assumed ownership and management of the 3,516 acre estate. Since 1949 the NPS has not actively undertaken any acquisition actions that would expand the Park.

However, one land issue affecting land within the Memorial Park necessitated that the NPS consider a land exchange to remedy that land management issue. The issue involved a reservoir located within the Memorial Park that provides much of the water to the Town of Blowing Rock, North Carolina.

The Town reached an agreement with Bertha Cone prior to her death to utilize water from the stream where the reservoir is located today. To continue the Town's use of the water the NPS on January 10, 1955 issued a revocable special use permit for construction, use and maintenance of an earth dam to impound water for use in the Town's water system. Since that time the Town has utilized the impounded water as their primary source for potable water. The special use permit authorizing the Town's use of the reservoir expired. The NPS and Blowing Rock officials worked together to effect a land exchange in 2012. Fee simple interests in 20.48 acres of federally-owned lands within the Memorial Park were transferred to the Town of Blowing Rock, NC for fee simple interests in 198.29 acres of municipally-owned land located in Watauga County, North Carolina.

## **BLOWING ROCK CHARITY HORSE SHOW FOUNDATION, INC. AGRICULTURAL LEASE**

Park management and planning staff met with Blowing Rock Charity Horse Show (BRCH) officers to identify issues and concerns – primarily the BRCH's need for additional space. BRCH currently leases about 5 acres from the Parkway. That land is used to graze horses for most of the year and for parking during the annual horse show. The BRCH officials pointed out they would like to have permanent use of this area to further develop the horse show grounds. Discussion of a potential land exchange for this property is ongoing.

## **THE ALTERNATIVES**

### **ACTION COMMON TO ALL ALTERNATIVES**

*Please see Appendix B: Resource Landscape Units (RLUs) for more detailed descriptions of the RLUs themselves and a detailed discussion of the resources found within each RLU.*

#### ***Historic Building Resource Landscape Units***

##### **Flat Top Manor House**

Window treatments would be installed in the Flat Top Manor House to protect integrity of interior floors and other materials original to the house that are currently deteriorating due to light exposure. An integrated pest management (IPM) plan will be created and implemented. A fire suppression system and HVAC system would be installed in the Flat Top Manor House in all alternatives.

#### ***Orchard and Lake Resource Landscape Units***

##### **Sawmill Place Orchard, Flat Top Orchard, China Orchard and Bass Lake**

Arsenic contamination of surface and subsurface soils in and around the orchards and in fish at Bass Lake has been detected by Parkway contractors. Levels are such that minimal contact would not result in harm to human health or safety; however, ground disturbance in those areas should be avoided. Signs have been posted in contaminated areas warning staff and visitors of the contaminated soils and warning of ingestion of any soil. Staff would be trained in appropriate safety procedures for exposure and handling any contaminated materials or working in areas of contamination. Use restrictions are being developed to protect visitors and employees from contaminated soils in and adjoining the historic orchards, however, existing uses such as walking, hiking and apple picking pose no discernible threat to visitors or employees. There are also posted warnings against ingesting fish caught in Bass Lake due to arsenic contamination.

#### ***Lake Resource Landscape Units***

##### **Trout and Bass Lakes**

Currently boating is prohibited in the compendium and that management decision is proposed to be continued. The lakes would be managed as part of the cultural landscape and as a visual amenity. Restriction on boating also eliminates a visitor use that would increase the demand for more parking and concession and commercial services permitting. The construction of "recreational" fishing structures (decks or piers) would not be allowed.

#### ***Carriage Road Trails Resource Landscape Units***

##### **Wadkins Road**

Blowing Rock Reservoir Land Exchange-The Town of Blowing Rock and the National Park Service exchanged lands in order to expand the Town of Blowing Rock's reservoir, per congressional legislation. The lands given to the NPS (China Orchard tract) would be managed as part of the Moses Cone Estate and would provide passive recreational opportunities, including pedestrian trails.

##### **Trout Lake Road, Wadkins Road**

The Mountains-to-Sea Trail has been routed through the estate using existing carriage road trails (including Rich Mountain road). The trail would remain where currently routed.

##### **Flat Top Mountain**

The Cone Cemetery would be protected, and the observation tower preserved.

## ***Areas Outside of Identified Resource Landscape Units***

### **Camp Catawba**

Camp Catawba was determined in May 2007 ineligible for inclusion in the National Register of Historic Places by the North Carolina State Historic Preservation Office. The property was deemed not nationally significant because it lacked historic integrity. Camp Catawba would be surveyed and recorded by the Historic American Building Survey/Historic American Engineering Record of the National Park Service and then managed through benign neglect. The buildings have been made secure from entry by visitors.

### **Equestrian parking adjacent to Laurel Lane and 221**

New horse trailer parking area would be created adjacent to the Blowing Rock Charity Horse Show grounds accessed by Laurel Lane and US 221. The location of this parking is dependent on the outcome of the land exchange which is under discussion; since there are several possible layouts no site specific information or cost has been identified.

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

The No Action Alternative would allow the Moses H. Cone Memorial Park to continue to be managed without a comprehensive park-wide resource and visitor use management direction (see **Figures 8 and 9**). Resource and visitor use issues and conflicts would continue to be resolved as they arise without having a park-wide management direction for setting priorities or approaches. The Flat Top Manor House would continue to be managed primarily as a craft and book sales shop and recreational area (see **Figure 8**). Managers would continue to adjust daily management practices to respond to current laws and policies, natural and cultural resource management mandates, visitor safety needs, infrastructure deficiencies, fiscal constraints, changes in regional conditions, and changes in visitor use patterns and characteristics.

## **CONCEPT**

The extant features of the Memorial Park--the Flat Top Manor House, carriage house, apple barn, carriage road trails and Bass and Trout Lakes would continue to be the focus for NPS management and the backdrop for the visitor's use and experience. Visitors would continue to receive current levels of ranger led programs with some potential additions of interpretive wayside exhibits along trails and at Memorial Park buildings. Little would be changed in the current levels of park operations and visitor use support as long as current funding level is maintained and adjusted for inflation. Continued operation implementation would require some very minor additional capital investment for new educational waysides.

## **RESOURCE EMPHASIS**

Park management in the early 1950's was primarily interested in the Memorial Park's recreational opportunities, not its historical significance. That single emphasis has changed over the years with the passage of environmental and historic preservation laws and revised NPS management policies. Management of the Park's natural and cultural resources is now more equally balanced with recreational use. Both cultural and natural resource management activities would continue to be directed to treat some of the Park areas as historic/cultural landscapes while other areas conserved in their now more natural condition. Existing natural and cultural resources would be managed in accordance with NPS policies while perpetuating traditional recreational uses. The agricultural lease program would continue to be the preferred way in which pastures and the meadows are maintained.

## VISITOR EXPERIENCE EMPHASIS

With the exception of the employee residences, most outbuildings, orchards and extensive gardens which are gone and/or overgrown, visitors could experience many of the remaining parts of the estate as the Cones did. The 24 miles of carriage roads, now managed as trails would continue to be a primary focus of recreation activities on the estate. They are used extensively by visitors of all ages for horseback riding, walking, jogging, and private carriage rides. No new uses would be allowed. The Flat Top Manor House, carriage road trails, Bass and Trout Lakes, and the Flat Top Mountain destinations of the Cone Cemetery and an observation tower comprise the current overall NPS provided visitor experience. Several interpretive ranger-led programs are provided to the visiting public on the Memorial Park.

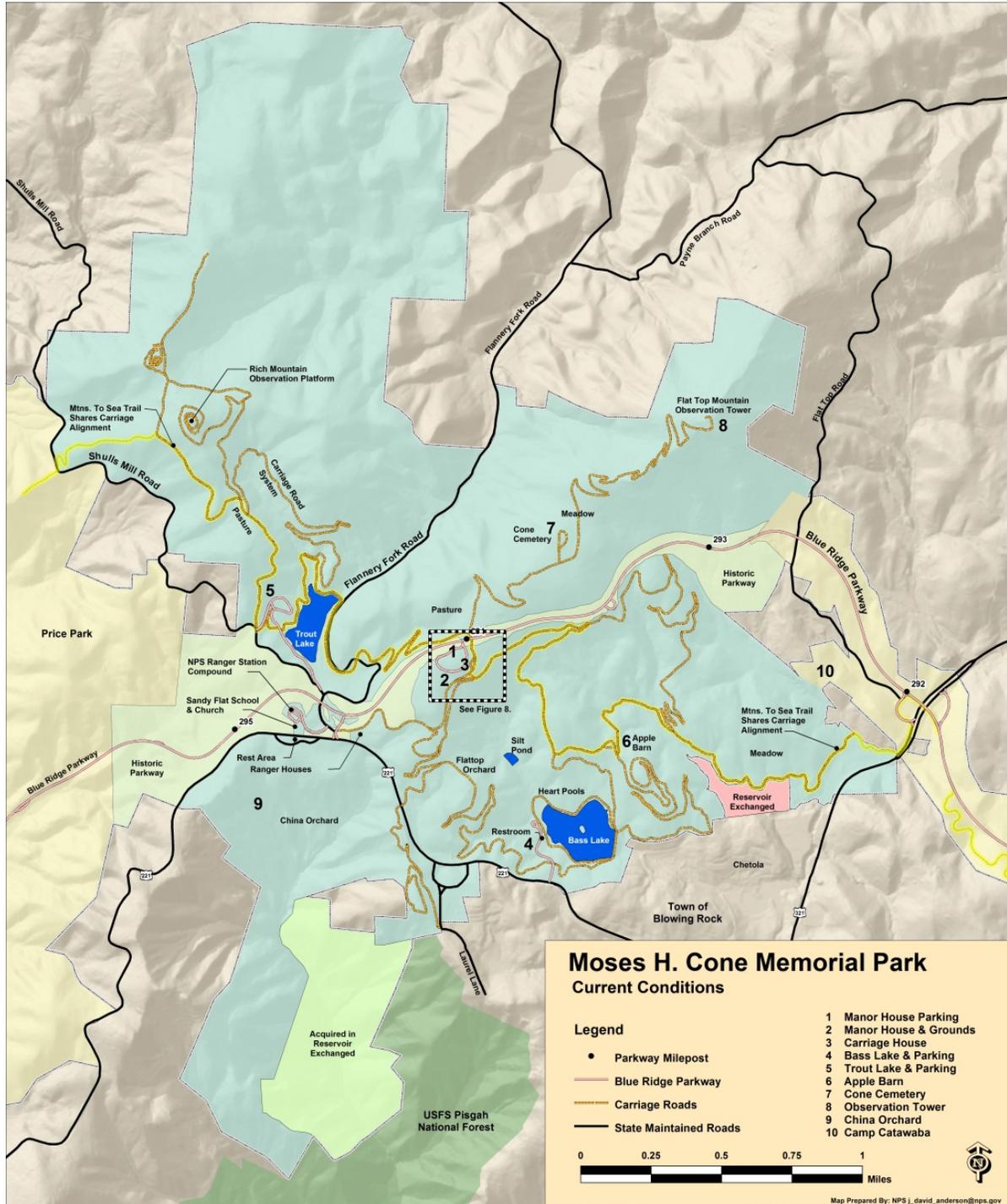


Figure 7. Current Conditions Map



**NO ACTION ALTERNATIVE  
CURRENT CONDITIONS**

**Manor House RLU  
Concept Plan Key Notes**

**Existing**

1. Historic Figure "8" Trail
2. Carriage road
3. Equestrian trail
4. Re-established balustrade
5. Historic Manor House
6. Important view to Bass Lake
7. Visitor parking
8. ADA access ramp
9. Carriage house
10. Carport
11. Relocated servant's quarters
12. Stone viaduct

**Figure 8. No Action Alternative - Manor House**

## **RESOURCE LANDSCAPE UNIT SPECIFIC PROPOSED ACTIONS**

Following is a more detailed discussion of how management of resources and visitors would continue by the resource landscape units. . Please see **Appendix B: Resource Landscape Units (RLUs)** for specific descriptions of the RLUs and the specific resources found within each RLU

### ***Historic Building Resource Landscape Units***

#### **Flat Top Manor House**

The Flat Top Manor House was opened to the public June 1951 as a craft center and has been managed as such by the Southern Highland Craft Guild since then. The NPS and Eastern National, the Parkway's cooperating history association, also maintains a staffed visitor contact and sales area on the Flat Top Manor House first floor. The visitor contact and craft sales areas are both open from May through October and the Southern Highland Craft Guild sales season extends into November. The upstairs portion of the Flat Top Manor House is open for guided tours conducted by NPS interpretive rangers. Visitor services including information, orientation, interpretation and museum and craft sales would continue to occur in the Flat Top Manor House.

Current functions and levels of service would continue as long as funding is available to do so.

### ***Constructed Water Feature Resource Landscape Units***

#### **Bass Lake**

Parking at Bass Lake would not be expanded and vehicles with trailers would not be allowed; the ban on equestrian use of carriage trail around the lake would continue. Views to the Flat Top Manor House and Flat Top Orchard would be maintained as they are now; very little clearing or viewshed management occurs. A new comfort station has been provided at Bass Lake with funding provided by park partners. Boating would continue to be prohibited.

#### **Trout Lake**

Parking area would be used for equestrian and hiker parking and the carriage road trails would be reserved for traditional equestrian and pedestrian use. The existing paved entrance road would not be removed and restored to a gravel carriage trail with the existing one-way exit converted to two-way traffic. Boating would continue to be prohibited.

### ***Orchard Resource Landscape Units***

#### **Sawmill Place Orchard, Flat Top Orchard and China Orchard**

These orchard areas would continue to be released from management.

#### **China Orchard**

The existing recreational opportunities for bouldering would be maintained but with no improvements to trails. NPS would continue to work with NCDOT to maintain the rest area parking and comfort station. If compaction expands at China Orchard trails and bouldering sites beyond acceptable limits, or vegetation exhibits unacceptable degradation, sections may be closed until the soil and vegetation character could be restored or rejuvenated or the trails may be rerouted to more appropriate locations.

## ***Carriage Drive System Resource Landscape Units***

### **Duncan Road, Maze/Stringfellow Road, May View Road and Wadkins Road**

Carriage road trails would be reserved for traditional recreational uses—pedestrians (all trails, limits to group size), horses (all but Bass Lake trail), and carriages--and preserved to their historic design intent. No new trails would be constructed and use of bikes on unpaved roads or trails would not be allowed.

### **Duncan Road and Maze/Stringfellow Road**

Conifer plantations would continue to be released from management other than hazard trees being removed.

### **Wadkins Road**

The Mountains to Sea trail has been routed through the estate and the portion on Wadkins Road trail would continue to be used and maintained.

## ***Mountain & Pasture Resource Landscape Units***

### **Flat Top Mountain**

The carriage road trails would be reserved for traditional equestrian and pedestrian use. The Cone Cemetery would be protected, and the observation tower preserved. Areas around the road trail would remain in their present natural or agricultural character.

### **Rich Mountain & Deer Park Pastures**

The existing Rich Mountain carriage road trails would be dedicated to the traditional use of equestrians and hikers. The open pasture areas would remain meadows of similar size to the historic design intent, but may require some fencing to isolate cattle grazing from trail users.

## ***Un-Named Forest Resource Landscape Units***

### **Unnamed Forest #1, Unnamed Forest #2**

These areas would continue to be managed as they are being managed now.

## ***Road Resource Landscape Unit***

### **Trout Lake Road**

This secondary road would be maintained to its deed reserved width.

### **Blue Ridge Parkway**

The section of Parkway right-of-way that bisects the Memorial Park would be managed to respect the estate's cultural landscape resource values.

## CURRENT CONDITIONS - VISITOR EXPERIENCE AND USE SEQUENCE

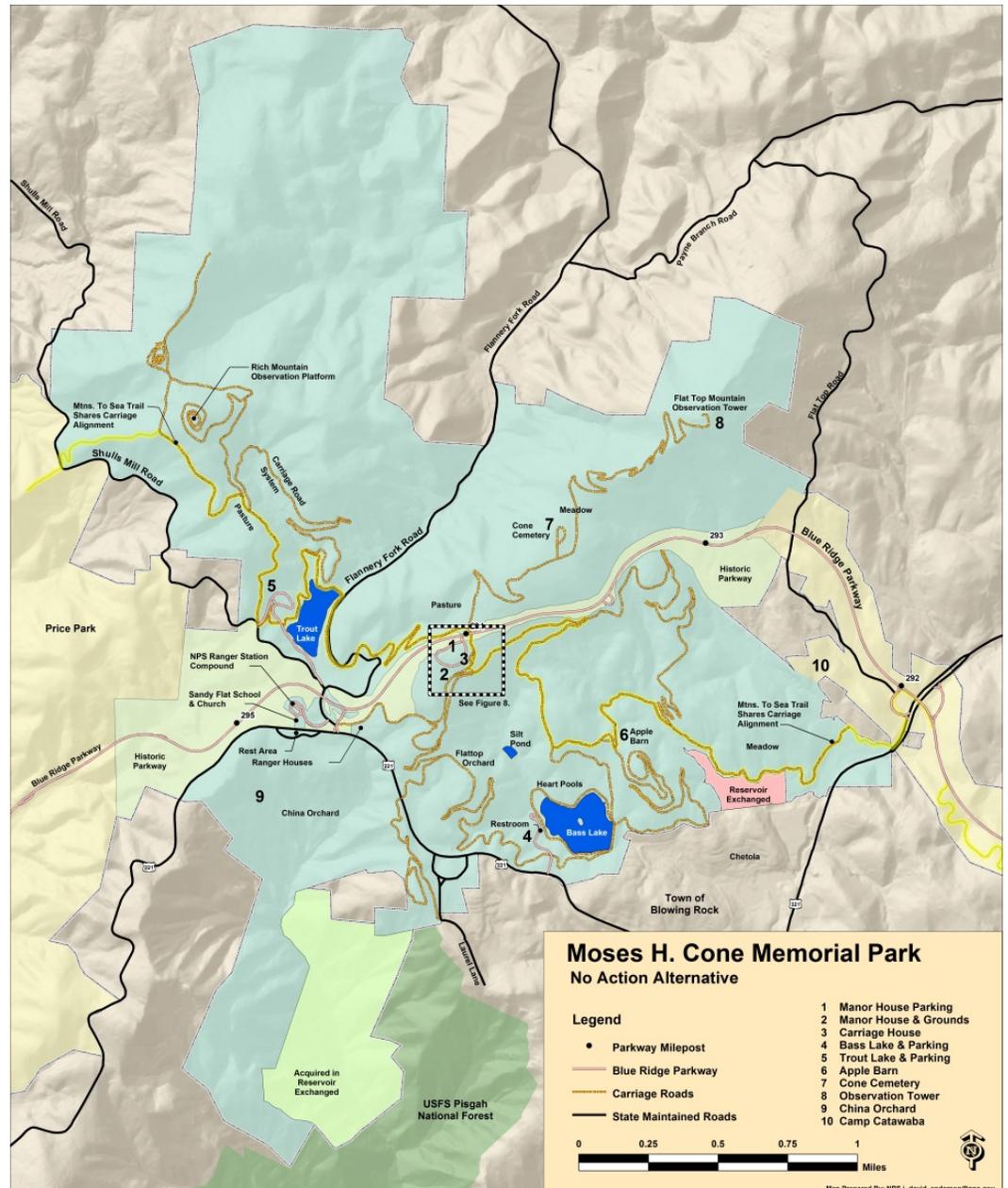
Visitor use within the Memorial Park would continue to be provided for as it is currently (**Figures 8 and 9**). Recreational visitors arriving at the Memorial Park would continue to begin their visit from one of three paved parking areas-Flat Top Manor House (**2**), Bass (**4**) or Trout (**5**) Lakes. The Flat Top Manor House (**2**) would continue to be operated as a visitor information, book sales and craft center.

Non-recreational visitors accessing the Memorial Park by following Memorial Park location signs along the Parkway would continue to begin their visit at the Flat Top Manor House parking area (**1**). House tours and interpretive ranger lead programs and walks would continue to be staged from the Flat Top Manor House and grounds (**2**).

The 24 miles of carriage road trails would continue to provide access for hikers, joggers, equestrian use, and carriage rides to the Memorial Park features-- Flat Top Manor House (**2**), carriage house (**3**), Bass Lake (**4**), the apple barn (**6**), Flat Top Mountain and the Cone Cemetery (**7**) and observation tower (**8**) on Flat Top Mountain. Along the carriage road trails at buildings and other sites wayside exhibits and personal service programs would be staged to provide visitors with more in depth interpretation about the Cones and the estate resources and their way of life.

Horseback riding and private carriage rides would continue to be staged from existing parking at Trout Lake (**5**). New horse trailer parking area would be created adjacent to the Blowing Rock Charity Horse Show grounds accessed by Laurel Lane and US 221.

The Mountains-to-Sea Trail would continue to be routed through the estate utilizing existing carriage trails.



**Figure 9. No Action Alternative - Visitor Experience and Use Sequence Map**

No trail access would be established to Camp Catawba (**10**) and the buildings would not be open to the public.

## **ALTERNATIVE ONE: ENHANCE WHAT WE HAVE, NPS PREFERRED ALTERNATIVE**

This action alternative provides a park-wide and comprehensive approach for resource and visitor use management. Specific management zones detailing acceptable resource conditions, visitor experience and use levels and appropriate activities and development would be applied park-wide (see **Figure 11**).

### **CONCEPT**

Alternative One's (Enhance What We Have) focus is on the Park being managed as a "Learning Center," a place for an in-depth interpretive and visitor use program that promotes public understanding and appreciation of *the extended Cone Family*, their estate and the far reaching influence they had in the region and nationally. The primary change in the Memorial Park's infrastructure would be in the expansion of the current parking area behind the Flat Top Manor House (see **Figure 10**). The Memorial Park's buildings and landscapes provide a backdrop against which the bigger story of Moses and Bertha Cone is told.

Existing historic structures, landscape areas and features would provide the necessary facilities and places for the Park to be managed as a "learning center." Educational programs, personal services and visitor activities would be supported by adaptively using existing structures rather than constructing new facilities.

Full implementation of this alternative would require some additional capital investment and operations increases that are not programmed at this time. Funding this alternative would also require some private/public partnerships through donations, grants, in-kind services, volunteers, etc.

### **CULTURAL RESOURCE EMPHASIS**

Moses H. Cone Memorial Park would be protected and maintained as National Register Historic District containing one of the finest Country Place era landscapes in the National Park System. The historic buildings and the most intact parts of the historic landscape would be preserved. Flexible use of historic structures and cultural landscapes would be encouraged to facilitate increased educational and interpretive services and traditional recreation uses for visitors. Research and investigation into the physical history of the property would be continued to help fill gaps in understanding and knowledge of the Cone period in support of appropriate resource management.

The shrub plantings established by the Cones, including rhododendrons, mountain laurels, and Pee Gee hydrangeas would be identified and a maintenance plan developed. Limits of the areas to be maintained would be determined to prevent further expansion.

### **NATURAL RESOURCE EMPHASIS**

The woodlands that have been released to natural succession since 1947 would continue to be managed in that manner. Sensitive natural areas would be managed in accordance with NPS policies. Natural resource values would be balanced with protection and maintenance of the extant cultural landscape features known to have been established by Moses and Bertha Cone.

## **VISITOR EXPERIENCE EMPHASIS**

One objective of the interpretive program would be to interpret the historic character of the Memorial Park to enable the public to understand its significance. Maintained visitor access to and within the Memorial Park would be limited to existing roads, paths, and road trails. Primary visitor services and programs would continue at the Flat Top Manor House. Historic structures' interior spaces may be modified according to *Secretary's Standards* to accommodate interpretive exhibits to facilitate visitors overall understanding of the Cone family, the estate as well as the Southern textile industry and Moses Cone's role in denim manufacturing. Park education programs would be conducted both on and off-site with a strong focus on web-based outreach to a global audience.

Bouldering and hiking recreation would continue at China Orchard. Traditional visitor uses of the carriage road trails would continue. A new horse trailer parking area would be created adjacent to the Blowing Rock Charity Horse Show grounds accessed by Laurel Lane and US 221.



## ALTERNATIVE ONE: ENHANCE WHAT WE HAVE

### Manor House RLU Concept Plan Key Notes

Existing  
Proposed Action

1. Historic Figure "8" Trail
2. Carriage road
3. Equestrian trail
4. Re-established balustrade
5. Historic Manor House
6. Important view to Bass Lake
7. Restore part of historic orchard
8. Employee parking-9spaces
9. Visitor parking-10 spaces
10. RV/bus visitor parking-17spaces
11. Visitor parking-57spaces
12. Visitor parking-30 Spaces
13. Visitor parking-35 spaces
14. ADA access ramp
15. Carriage house
16. Historic rose arbor location
17. Historic terraced gardens
18. Historic raspberry beds
19. Historic manure shed location
20. Carport
21. Historic chicken house location
22. Relocated servant's quarters
23. Stone viaduct

Figure 10. Alternative One - Manor House RLU Map

## **RESOURCE LANDSCAPE UNIT SPECIFIC PROPOSED ACTIONS**

Following is a more detailed discussion of how management of resources and visitors would occur by the resource landscape units. Please see **Appendix B: Resource Landscape Units (RLUs)** for specific descriptions of the RLUs and the specific resources found within each RLU.

### ***Historic Building Resource Landscape Units***

#### **Flat Top Manor House**

A business opportunity would continue under a concession contract, but would be allocated less space to accommodate and facilitate interpretation. Upon completion and approval of the DAMP if Alternative One is selected a public solicitation of a prospectus for a new concession contract would occur.

The reallocation of space would create more space within the Flat Top Manor House for interpretive exhibits - possibly about the influence the Cones had in the region and nationally and family and friends who stayed there.

The Eastern National bookstore would continue to be located in the Flat Top Manor House.

The NPS would continue to provide house tours of the second floor but additional rooms on the first floor would be added. The existing parking area could be expanded (see **Figure 10**).

### ***Constructed Water Feature Resource Landscape Units***

#### **Bass Lake and Trout Lake**

A fisheries management plan would be prepared to determine the park's goals for stocking the lakes and providing fishing opportunities for visitors.

#### **Bass Lake**

Parking at Bass Lake would be limited to vehicles without trailers and the current parking capacity maintained; the ban on equestrian use of carriage road trails around the lake would continue. There is potential for a future pedestrian connection from Bass Lake to the Flat Top Manor House. The area from the Flat Top Manor House to Silt Pond would be cleared of encroaching white pine to restore the visual connection between the house and Bass Lake. This area was once managed as orchard and would be replanted with native dogwood or red bud to mimic tree habitat and spring flowering rather than apple varieties which require intense maintenance.

Water lilies, which have become overgrown, would be managed and maintained. The rows of sugar maple trees along the margins of Bass Lake Road would be maintained and trees replaced as they die.

Bass Lake would be dredged to return the lake to a greater depth to reduce growth of water lilies. As a part of the dredging project the lakeshore banks would be re-contoured to have an informal and irregular sloped form bank managed under grass cover. Existing woody successional growth would be removed. The boathouse foundation would be stabilized. Appropriate locations along the bank would be located for visitor access and fishing

### **Trout Lake**

The current entrance road would be closed and reconstructed to its original use as part of the carriage road system. The current exit drive would be constructed for two-way traffic. Access to Trout Lake banks from the parking lot could be improved by clearing existing rhododendrons to provide for dispersed fishing opportunities. Appropriate locations along the bank would be located for visitor access and fishing.

## ***Orchard Resource Landscape Units***

### **Sawmill Place Orchard and China Orchard**

These orchard areas would continue to be released from management, but they would be included in a further search for rare apple cultivars. The historical boundaries of both orchards could still be identified on the ground and permanent markers would be placed at intervals to demarcate the edges of the orchards.

### **Flat Top Orchard**

A partial restoration of the Flat Top Orchard as part of an overall approach to maintaining the designed carriage drive sequence and experience would be implemented. Three locations would be studied and considered for restoration. These areas are where orchard restoration would be visible from the Flat Top Manor House and carriage roads and could be interpreted include: 1) the western edge beside Duncan Road; 2) the northeastern corner within the hairpin bend of the entrance road; and 3) the central area below the esplanade.

### **China Orchard**

NPS would continue to work with NCDOT to maintain the rest area parking and comfort station. Trail access to bouldering areas would be through an officially marked trail which would be designed and managed to control resource damage caused by existing social trails. If compaction expands at China Orchard trails and bouldering sites beyond acceptable limits, or vegetation exhibits unacceptable degradation, sections may be closed until the soil and vegetation character could be restored or rejuvenated or the trails may be rerouted to more appropriate locations.

## ***Carriage Drive System Resource Landscape Units***

### **Duncan Road, Maze/Stringfellow Road, May View Road and Wadkins Road**

The surviving carriage drive system established by Moses Cone would be protected and maintained, including related historic plantings. The dry laid stacked stone retaining walls associated with the carriage drives would be retained and maintained. Historic designed vistas that pertain to the carriage roads would be located, identified inventoried and evaluated. These vistas would be rehabilitated by clearing trees and shrubs that have grown up in the foreground and obscure views. Priorities for clearing the vistas would be determined by assessing their importance to the carriage drive experience, the feasibility of clearing given the terrain, and the potential to harm natural or cultural resources in the process of clearing. Vista maintenance would be included in the Parkway's cyclic vista cutting contract. A maintenance record/repair log that documents all work on the carriage roads, including the location and methods used would be established and maintained.

These carriage road trails would be reserved for traditional recreational uses—pedestrians (all roads, limits to group size), horses and carriages--and rehabilitated to their historic design intent. Use of bikes would not be allowed within the Memorial Park, except on asphalt paved roads.

### **Duncan Road and Maze/Stringfellow Road**

A silvicultural management plan for conifer plantations would be prepared to identify a range of options and alternatives for long-term care and stewardship of these resources. The silvicultural management plan would address tree stand replacement and care, including possible alternative species for the Fraser and balsam fir and Canadian and Carolina hemlock that are at risk due to pest infestations, and the potential for Southern pine bark beetle to affect pine stands. Viable alternatives for plantation stand management would address the advantages for natural and cultural resource values.

### **Wadkins Road**

The Mountains to Sea trail has been routed through the estate and the portion on Wadkins Road would continue to be used and maintained.

## ***Mountain & Pasture Resource Landscape Units***

### **Rich Mountain and Deer Park Pasture and Flat Top Mountain**

Same as No Action Alternative. The carriage road trails would be reserved for traditional equestrian and pedestrian use.

The present pattern of pastures and meadows would be maintained at their current size especially those pastures and meadows located along carriage road trails. A rehabilitation and maintenance plan would be developed for the pastures to address the threat from invading trees and shrubs and to direct agricultural leasing of the pastures and meadows.

### **Flat Top Mountain**

The Cone Family cemetery located in this area would remain true to historic design intent and would remain unaltered in any way.

### **Rich Mountain and Deer Park Pasture**

The ridge top part of the Rich Mountain has been used as a pasture since the deer were removed and this practice would continue. The area is now becoming overgrown and it would be included in the pasture rehabilitation and maintenance plan.

## ***Un-Named Forest Resource Landscape Units***

### **Un-Named Forest #1 and Un-Named Forest # 2**

These areas would continue to be managed as they are being managed now.

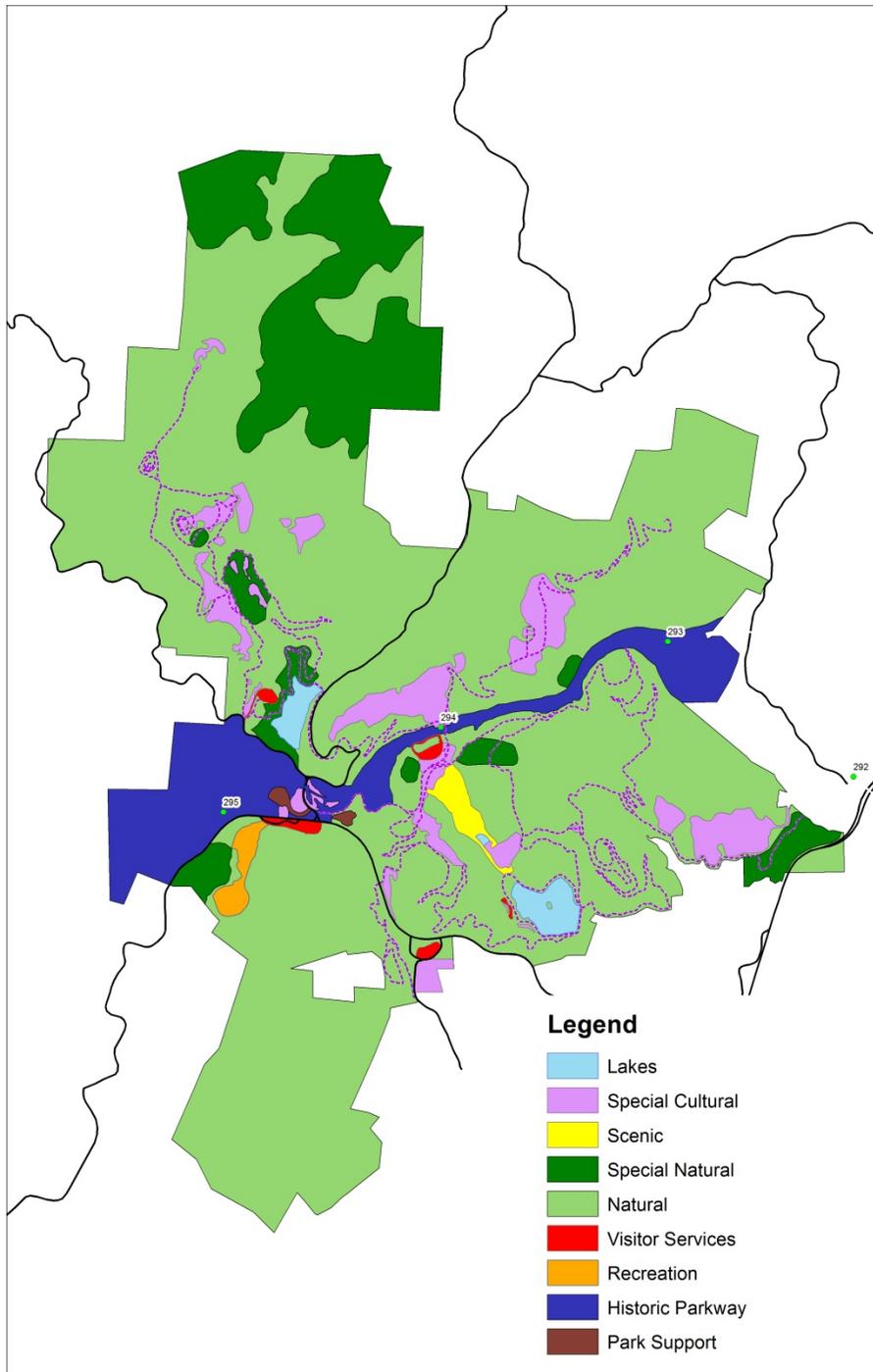
## ***Road Resource Landscape Unit***

### **Trout Lake Road**

This secondary road would be maintained to its deed reserved width.

### **Blue Ridge Parkway**

The section of Parkway right-of-way that bisects the Memorial Park would be managed to respect the estate's cultural landscape resource values.



**Figure 11. Alternative One - Management Zoning Map**

## LAND USE MANAGEMENT AND ZONING

Under Alternative One (Enhance What We Have), about 72% of the park is managed in its current natural state, those land areas zoned as Natural are shown in light green. Another 13% of the park's land base shown in dark green contains Special Natural resources such as old growth forest. Some 6% of the Park's land base contains Special Cultural resource areas shown in purple. Park Support shown in light brown occupies about .2% of the land base. The Historic Parkway zone shown in blue includes about 8 % of the land base. Only .5% of the park is zoned for Recreation highlighted in yellow. Of the 3,644 acres only .4% acres are zoned for Visitor Services. This alternative would continue the current proportion of natural and cultural land use areas (see **Figure 11**).

## VISITOR EXPERIENCE AND USE SEQUENCE

As depicted in **Figure 12**, recreational visitors arriving at the Memorial Park would continue to begin their visit from one of three existing paved parking areas: Flat Top Manor House (1), Bass (2) or Trout (3) Lakes.

Non-recreational visitors accessing the Memorial Park by following Memorial Park location signs along the Parkway would continue to begin their visit at the Flat Top Manor House parking area (1). The Flat Top Manor House (4) would continue to be operated as a visitor information, book sales and craft center with some possible reallocation of space for the various functions including more interpretive exhibits.

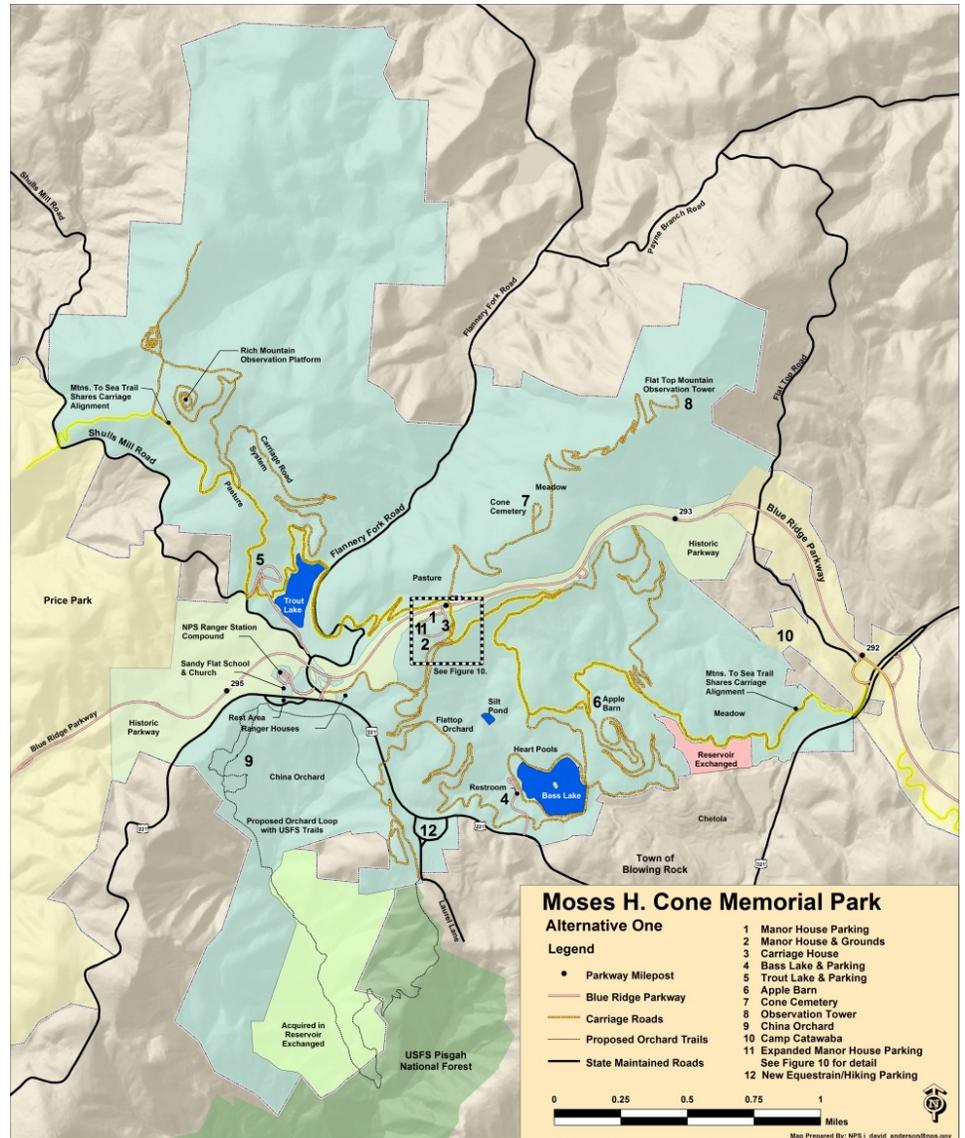
Interpretive ranger-led programs and walks would continue to be staged from the Flat Top Manor House and grounds (4) and possibly expanded to other Park locations-- carriage house (5), Bass Lake (2), the apple barn (6), Flat Top Mountain, and the Cone Cemetery (7) and observation tower (8) on Flat Top Mountain.

The 24 miles of carriage road trails would provide access for hikers, joggers, equestrian use, and carriage rides to the Memorial Park features-Flat Top Manor House (4), carriage house (5), Bass Lake (2), the apple barn (6), the Cone Cemetery (7) and observation tower (8) on Flat Top Mountain. Along the carriage roads at buildings and other sites wayside exhibits and personal service programs would be staged to provide visitors with more in-depth interpretation about the Cones and the estate resources and their way of life.

Horseback riding and private carriage rides would be staged from existing parking at Trout Lake (3). A new horse trailer parking area would be created adjacent to the Blowing Rock Charity Horse Show grounds accessed by Laurel Lane and US 221(12). All of the estate carriage road trails south of the Parkway motor road and those on Flat Top Mountain, Rich Mountain and Deer Park would be open for horseback riding except around most of Bass Lake. Individual joggers, running groups and hikers/walkers would also be allowed to use some of the road trails in accordance with trail use policies and permitting requirements. No mountain biking would be allowed.

The Mountains to Sea Trail would continue to be routed through the estate utilizing existing carriage road trails.

Bouldering in China Orchard would continue (9) and trail consolidation and stabilization would occur. There is also the potential for connections to the U.S. Forest Service trail system in that area. No trail access would be established to Camp Catawba (10) and the buildings would not be open to the public.



**Figure 12. Alternative One - Visitor Experience and Use Sequence**

## **ALTERNATIVE TWO: CULTURAL LANDSCAPE REHABILITATION**

This action alternative provides a park-wide and comprehensive approach for resource and visitor use management. Specific management zones detailing acceptable resource conditions, visitor experience and use levels and appropriate activities and development would be applied park-wide (**Figure 14**).

### **CONCEPT**

Alternative Two's (Cultural Landscape Rehabilitation) focus is on the estate's period of significance from 1899 to 1947. The Memorial Park would be protected, maintained, and rehabilitated as one of the finest Country Place era landscapes in the National Park System, which reflects important ideas of the period in the realm of landscape architectural and architectural aesthetics, scientific agriculture, environmental conservation, and social and economic theory. A much expanded interpretive and visitor use program would focus the public's understanding and recognition of the historic importance of the Cone Estate with its historic structures and designed landscapes. A combination of adaptive use and new construction would be used to provide the necessary infrastructure and facilities to support this concept. This would result in rehabilitation of the Memorial Park to include preservation of extant resources, rehabilitation of the cultural landscape, and interpretation of the cultural landscape, buildings and features found on the estate from 1899 to 1947.

Full implementation of this alternative would require significant additional capital investment and operations increases that are not programmed at this time. Funding this alternative would require substantial funding and volunteer involvement of private and academic sector partnerships including funding donations, grants, in kind services, volunteers, etc.

### **CULTURAL RESOURCE EMPHASIS**

Management of the Memorial Park would go beyond the extant cultural landscapes and historic buildings. An emphasis would be placed on the rehabilitation and interpretation of the cultural landscape, buildings and features of the estate (1899-1947) where feasible. Research and investigation into the physical history of the property would be continued to help fill gaps in understanding and knowledge of the Cone period in support of appropriate resource management.

### **NATURAL RESOURCE EMPHASIS**

Less of the land base would be managed as a natural area zone and more as special cultural zone. A primary objective for resource management would be to protect, maintain, and interpret the historic character of the property to enable the public to understand its significance. Sensitive natural areas would be managed in accordance with NPS policies. Natural resource values would be balanced with preservation and maintenance of the extant cultural landscape features known to have been established by Moses and Bertha Cone.

## **VISITOR EXPERIENCE EMPHASIS**

Visitors would experience the historic period of the Cone Estate through rehabilitation of landscapes and structures according to *Secretary's Standards*. The rehabilitated historic setting would provide an illustrative backdrop within which additional information would be provided about the Country Place era. The designed landscape features established by Moses and Bertha Cone and their efforts to use innovative and progressive technologies, scientific agricultural practices, landscape design, community interface, and philanthropy would be interpreted through pamphlets, wayside exhibits and personnel service programs.

Educational programs, personal services and visitor activities would be supported by utilizing the Flat Top Manor House as a visitor center. The Eastern National bookstore would continue to be located in the Flat Top Manor House. The NPS would not continue to have a craft sales concession contractor located in the Flat Top Manor House or on the estate. The reallocation of space would create more space within the Flat Top Manor House for interpretive exhibits about the house and the estate landscape.

Interpretive wayside exhibits would be installed at several places along the carriage trails including—at all estate structures, Moody House steps, Cone Cemetery, Bass Lake (Heart Pond, boathouse, dam, hydrangea beds, ornamental trees), Rich Mountain, Flat Top Flat Top Manor House - entrance/walk; first viewpoint, apple barn, Orchards (Flat Top, Sawmill Place), Flat Top Observation Tower, Upper Pond, Trout Lake, and the Deer Parks.

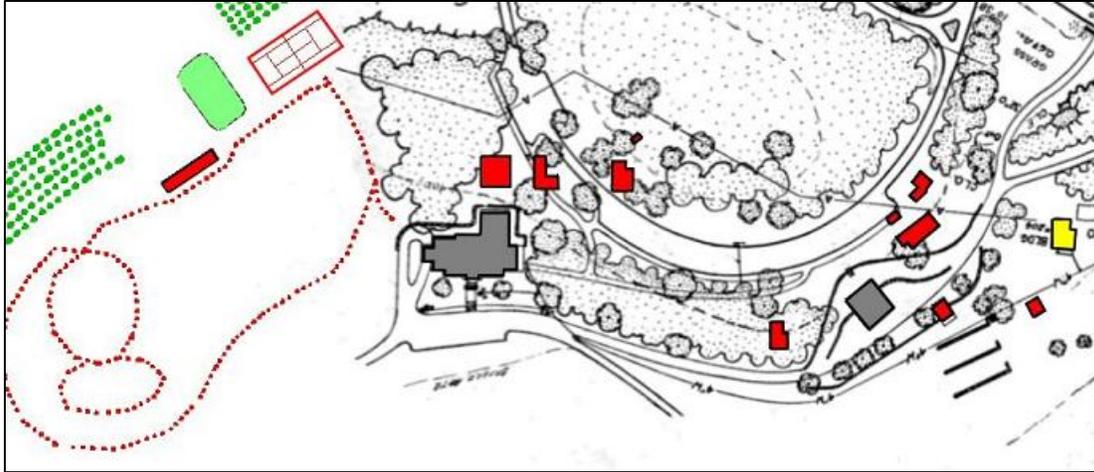
Special events would be managed according to NPS policy for all areas of the park. Building and grounds rehabilitation and construction would be made based upon interpretive and educational needs; special events may be considered in facilities or rehabilitated grounds, however, these must be in accordance with NPS policy.

Recreation would focus on the traditional recreational uses envisioned by the Cones; the exceptions being the allowance of bouldering at China Orchard and public fishing in Bass and Trout Lakes. While bouldering is a non-conforming use in the historical sense, a decision was made to allow the exception in response to overwhelming public support for that recreational use. A new horse trailer parking area would be created adjacent to the Blowing Rock Charity Horse Show grounds accessed by Laurel Lane and US 221.

## **PARK-WIDE PROPOSED ACTIONS**

The current locations of the shrub and tree plantings established by the Cones, including rhododendrons, mountain laurels, and Pee Gee hydrangeas would be identified and an appropriate maintenance plan would be prepared and implemented.

Archeological investigations would be conducted to locate and document the sites of former estate buildings highlighted in red on map below. A priority would be to determine the original site of the servants' quarters and the viability of returning it to that location.



An inventory and assessment of the estate farm roads would be conducted and a plan would be developed for how the farm roads are to be managed and/or used in the future. Planning for vista restoration would be coordinated with the city of Blowing Rock to advocate for protection of historic viewsheds visible from the Memorial Park. Some interpretation may occur to illustrate how contemporary encroachment of residential, urban, and other development has changed key viewsheds through time.

## RESOURCE LANDSCAPE UNIT SPECIFIC PROPOSED ACTIONS

Following is a more detailed discussion of how management of resources and visitors would occur by the resource landscape units. Please see **Appendix B: Resource Landscape Units (RLUs)** for specific descriptions of the RLUs and the specific resources found within each RLU.

### *Historic Building Resource Landscape Units*

#### Flat Top Manor House

The historic core of the Cone Estate in and around the Flat Top Flat Top Manor House would be rehabilitated see **Figure 13**. The craft concession contract would not be renewed and that function would not be located within the estate any longer. The book store function would continue to be located in the Flat Top Manor House. New fire monitoring and suppression system would be installed. The Flat Top Manor House would function as the NPS visitor center and interpreted house museum.

Existing public parking would be removed and a new main parking area for cars, recreation vehicles and buses would be constructed further behind the Flat Top Manor House. An overflow parking area for cars and a horse trailer parking area would be constructed below where the servant quarter is currently located. Two new comfort stations would be constructed, one at each of the parking areas. House tours would continue to demonstrate what the home was like when the Cones resided there. Portions of the surrounding landscape features and structures that were removed by the NPS could be rehabilitated in some form, possibly including the vegetable and flower gardens to the west of the Flat Top Manor House, croquet and tennis courts near the gardens above, laundry, ice house, carbide plant adjacent to and rear of Flat Top Manor House, bowling alley near the vegetable gardens, and the rose arbor, raspberry beds and gardens below the carriage house. Key views seen from and around the Flat Top Manor House would be reestablished and maintained.

The successional growth on the sites of the historic croquet lawn, tennis court, vegetable garden, laundry building, and bowling alley would be cleared and grubbed. The area would be rehabilitated and maintained as an open lawn space. Building foundations, garden and recreation area locations would be marked and interpreted.

The NPS would enter into partnerships with individuals and organizations to expand garden restoration associated with the terraces south of the carriage house and to plant and maintain historically important species, such as roses and raspberries on the terraced gardens and peonies behind the house and in the garden areas. Walks would be established that provide access to the gardens. If archeological investigations reveal the alignments of historic walks those locations would be used to provide access to and through the cultural landscape surrounding the Flat Top Manor House.

Sunset Drive carriage road would be rehabilitated to connect with the carriage house. The carriage road would pass under the main entrance road off of the Parkway to the expanded parking area.

See **Figure 13**. Alternative Two: Cultural Landscape Rehabilitation -Flat Top Manor House RLU Site Development Concept Map for more details.



**Concept Plan Key Notes**

- |  |   |  |  |
|--|---|--|--|
| <ul style="list-style-type: none"> <li>1. Pedestrian access to Sunset Drive</li> <li>2. View to Grandfather Mountain</li> <li>3. Picnic lawn</li> <li>4. Historic vegetable garden location</li> <li>5. Historic Figure "8" trail</li> <li>6. Historic Sunset Drive location</li> <li>7. Historic croquet lawn location</li> <li>8. Historic bowling alley location</li> <li>9. Existing carriage trail to be converted to pedestrian trail</li> <li>10. Equestrian trail</li> <li>11. Historic location of clay tennis courts</li> <li>12. Historic location of peony beds</li> <li>13. RV access restricted beyond this location</li> <li>14. ADA access ramp</li> <li>15. Re established balustrade</li> <li>16. Outdoor use area</li> <li>17. RV parking area</li> <li>18. Visitor parking area</li> </ul> | <ul style="list-style-type: none"> <li>19. Entrance plaza</li> <li>20. Historic laundry facility location (Open shelter for visitor staging)</li> <li>21. Historic Manor House (Visitor center and concession sales area)</li> <li>22. Important view to Bass Lake</li> <li>23. Historic orchard location</li> <li>24. Interpretive kiosk</li> <li>25. Historic servants quarters location (Comfort station)</li> <li>26. Information kiosk</li> <li>27. Existing trees to be removed to reestablish historic views and tree canopy</li> <li>28. Proposed retaining wall</li> <li>29. Historic servants quarters location (Relocated servant quarters)</li> <li>30. Lawn promenade</li> <li>31. Historic water tank location</li> <li>32. Two way access road (Upgrade the existing one way roadway)</li> <li>33. Hilltop park and observation tower</li> <li>34. Historic cottage location (Site delineated and wayside exhibit)</li> <li>35. Historic rose arbor location</li> <li>36. Historic carriage house</li> </ul> | <ul style="list-style-type: none"> <li>37. Existing ADA access ramp</li> <li>38. Historic milk house location (Site delineated and wayside exhibit)</li> <li>39. Historic dairy barn location (Site delineated and wayside exhibit)</li> <li>40. Historic manure shed location (Site delineated and wayside exhibit)</li> <li>41. Historic terraced gardens (Site delineated and wayside exhibit)</li> <li>42. Historic raspberry bed location (Site delineated and wayside exhibit)</li> <li>43. Historic chicken house location (Site delineated and wayside exhibit)</li> <li>44. Comfort station</li> <li>45. Historic carriage trail access to Sunset Drive</li> <li>46. Proposed turn lanes</li> <li>47. Pedestrian underpass</li> <li>48. Stone viaduct</li> <li>49. Servants quarters to be relocated to its original site (See location 29)</li> <li>50. Overflow parking</li> <li>51. Horse trailer parking</li> </ul> | <p><b>Parking Proposed</b></p> <ul style="list-style-type: none"> <li>17. RV Parking Area <ul style="list-style-type: none"> <li>• 8 RV Parking spaces</li> </ul> </li> <li>18. Main Visitor Parking <ul style="list-style-type: none"> <li>• 59 Car spaces</li> <li>• 9 ADA parking spaces</li> </ul> </li> <li>50. Overflow parking area <ul style="list-style-type: none"> <li>• 70 Car parking spaces</li> </ul> </li> <li>51. Horse Trailer Parking <ul style="list-style-type: none"> <li>• 12 Parking spaces</li> </ul> </li> </ul> |
|--|---|--|--|

**Figure 13. Alternative Two - Manor House RLU Site Development Concept Map**

## ***Constructed Water Feature Resource Landscape Units***

### **Bass Lake and Trout Lake**

A fisheries management plan would be prepared to determine the park's goals for stocking the lakes and providing fishing opportunities for visitors.

### **Bass Lake**

Same as Alternative One, but with a more comprehensive approach for re-establishing and conserving key views associated with Bass Lake including restoring the full expanse from the Flat Top Manor House to the lake to maintain visual connectivity and restoration of the historic hydrangea gardens around the lake. Restoring this vista would involve cutting and hauling of up to approximately 30 acres of existing forest. The historic lake shore planting line of maple trees would be maintained and reestablished as necessary. At the intersection of U.S. Route 221 and the Cone Estate gravel entrance road on the south side of Bass Lake the experience of the original historic first view of the Flat Top Manor House from Bass Lake would be reestablished through tree removal.

Bass Lake would be dredged to return the lake to a greater depth to reduce growth of water lilies. As a part of the dredging project the lakeshore banks would be re-contoured to have an informal and irregular sloped form bank managed under grass cover. Existing woody successional growth would be removed. The boathouse foundation would be stabilized.

Parking at Bass Lake would be limited to vehicles without trailers and the current parking capacity maintained; the ban on equestrian use of carriage trail around the lake would continue. There is potential for a future pedestrian connection from Bass Lake to the Flat Top Manor House. Water lilies, which have become overgrown, would be controlled. The rows of sugar maple trees along the margins of Bass Lake Road would be maintained.

Cone-era shrub and tree plantings including rhododendron and hydrangea would be maintained. The locations of Cone-designed shrub plantings would be documented by identifying the species and areas to be maintained or rehabilitated by replacing plantings as needed. Specific design elements, such as the beds of hydrangea on the slopes above Bass Lake would be respected and perpetuated as possible.

### **Trout Lake**

Same as Alternative One, the current entrance road would be closed and reconstructed to its original use as part of the carriage road system. The current exit drive would be constructed for two-way traffic. Access to Trout Lake banks from the parking lot could be improved by clearing existing rhododendrons at several locations to provide dispersed opportunities. Appropriate locations along the bank would be located for visitor access and fishing.

## ***Orchard Resource Landscape Units***

### **Flat Top Orchard**

Same as Alternative One, a partial restoration of the Flat Top Orchard as part of an overall approach to maintaining the designed carriage drive sequence and experience would be implemented. Three locations would be studied and considered for restoration. Delineation of the restoration zones would be based on a seen-area analysis that takes into consideration views afforded from the carriage drives and Flat Top Manor. Areas considered for restoration and interpretation include: 1) the western edge beside Duncan Road; 2) the northeastern corner within the hairpin bend of the Entrance Road; and 3) the central area below the esplanade.

### **Sawmill Place Orchard, Flat Top Orchard and China Orchard**

The locations of trees that constitute rare heritage cultivars would be located and documented. The NPS would encourage partnerships to salvage and conserving the germplasm and genetic resources of rare and unusual heritage apple cultivars.

### **Flat Top Orchard and Sawmill Place Orchard**

Apple growing and production during the Cone's residency would be the focus at Flat Top Orchard and the apple barn in the Saw Mill Orchard. Interpretive and educational themes could center on apple production, historic apple varieties, how insects and wild life co-exist with a working orchard and how use of chemicals in the past effected and continues to effect the environment.

### **Flat Top Orchard**

The limits of the Cone era deer park would be documented and permanent markers would be placed beside the roads edging the former deer park to maintain a record for resource protection and management.

### **Sawmill Place Orchard**

The apple barn and the important history of fruit tree orchards on the property would be interpreted to visitors.

### **China Orchard**

Same as Alternative One. While bouldering is a non-conforming use in the historical sense, a decision was made to allow the exception in response to overwhelming public support for that recreational use. Trail access to bouldering areas would be consolidated through creation of an officially marked trail which would be designed and managed to control resource damage caused by existing social trails. If compaction expands at China Orchard trails and bouldering sites beyond acceptable limits, or vegetation exhibits unacceptable degradation, sections may be closed until the soil and vegetation character could be restored or rejuvenated or the trails may be rerouted to more appropriate locations.

Interpretive trails would be constructed that provide a self-guided experience (signs on site, a brochure, or maps) that informs the visitor of the historic use of the area and how this portion of the estate functioned. History of the area included three apple barns, residence and cable tramways that existed to move apples out of the orchard and barns. Construct or consolidate trails to offer access to the China Orchard, building foundations, and climbing (bouldering) opportunities.

## ***Carriage Drive System Resource Landscape Units***

### **Duncan Road, May View Road, Maze/Stringfellow Road and Wadkins Road**

The surviving carriage drive system established by Moses Cone would be protected, maintained, and rehabilitated. Cone-era shrub plantings of rhododendron would be maintained. The locations of Cone-designed shrub plantings associated with the carriage roads would be documented by identifying the species and areas to be maintained or rehabilitated by replacing plantings as needed. Specific design elements, such as the plantings of rhododendrons in the center of hairpin turns would be respected and perpetuated as possible.

Surviving historic bridges and gates associated with the carriage roads would be protected, rehabilitated and maintained. The dry laid stacked stone retaining walls associated with the carriage drives would be protected, rehabilitated and maintained. Carriage road vista management would be the same as proposed in Alternative One-historic designed vistas would be studied and rehabilitated by clearing trees and shrubs that have grown up in the foreground and obscure views. Maintenance of restored vistas would be

prioritized for inclusion in the Parkway's cyclic vista cutting contract. A maintenance record/repair log that documents all work on the carriage drives, including the location and methods used would be established and maintained. These carriage trails would be reserved for traditional recreational uses—pedestrians (all trails, limits to group size), horses and carriages.

#### **Duncan Road and Maze/Stringfellow Road**

Conifer plantations would be managed to protect their historic resource values. A silvicultural management plan would be prepared to identify a range of options and alternatives for long-term care and stewardship of these resources. The silvicultural management plan would address tree stand replacement and care, including possible alternative species for the Fraser and balsam fir and Canadian and Carolina hemlock that are at risk due to pest infestations, and the potential for Southern pine bark beetle to affect pine stands. Viable alternatives for plantation stand management would address the advantages for natural and cultural resource values.

#### **Wadkins Road**

The Mountains to Sea trail has been routed through the estate and the portion on Wadkins Road would continue to be used and maintained.

### ***Mountain & Pasture Resource Landscape Units***

#### **Flat Top Mountain and Rich Mountain & Deer Park Pastures**

The surviving carriage drive system established by Moses Cone located in these RLUs would be protected, maintained, and rehabilitated including related historic plantings. Carriage trails in these RLUs would be reserved for traditional recreational uses—pedestrians (all trails, limits to group size), horses and carriages.

Pastures and meadows would be restored to their approximate historic sizes. Factors to be considered in determining and prioritizing areas to be cleared include visibility from carriage drives and from designed viewpoints, such as the Flat Top Manor House porch, the summits of Rich and Flat Top mountains, and locations where the carriage drives are designed to afford sweeping or dramatic views at the edges of woodlands or at tightly curved turns. Field investigations would be conducted to determine where and how it would be possible to clear encroaching trees and shrubs. A pasture and meadow rehabilitation and maintenance plan would be developed to address restoration and long-term maintenance.

#### **Flat Top Mountain**

The Cone Cemetery would be protected, and the observation tower preserved.

#### **Rich Mountain & Deer Park Pastures**

The limits of the Cone era deer park would be documented and permanent markers would be placed beside the roads edging the former deer park to maintain a record for resource protection and management. The ridge top part of the Rich Mountain deer park has been used as a pasture through grazing leases since the deer were removed and this practice would continue. The area is now becoming overgrown and it would be included in the pasture management plan to define any rehabilitation actions to be taken.

### ***Un-Named Forest Resource Landscape Units***

#### **Un-Named Forest #1 and Un-Named Forest # 2**

These areas would continue to be managed as they are being managed now.

### ***Road Resource Landscape Units***

#### **Trout Lake Road**

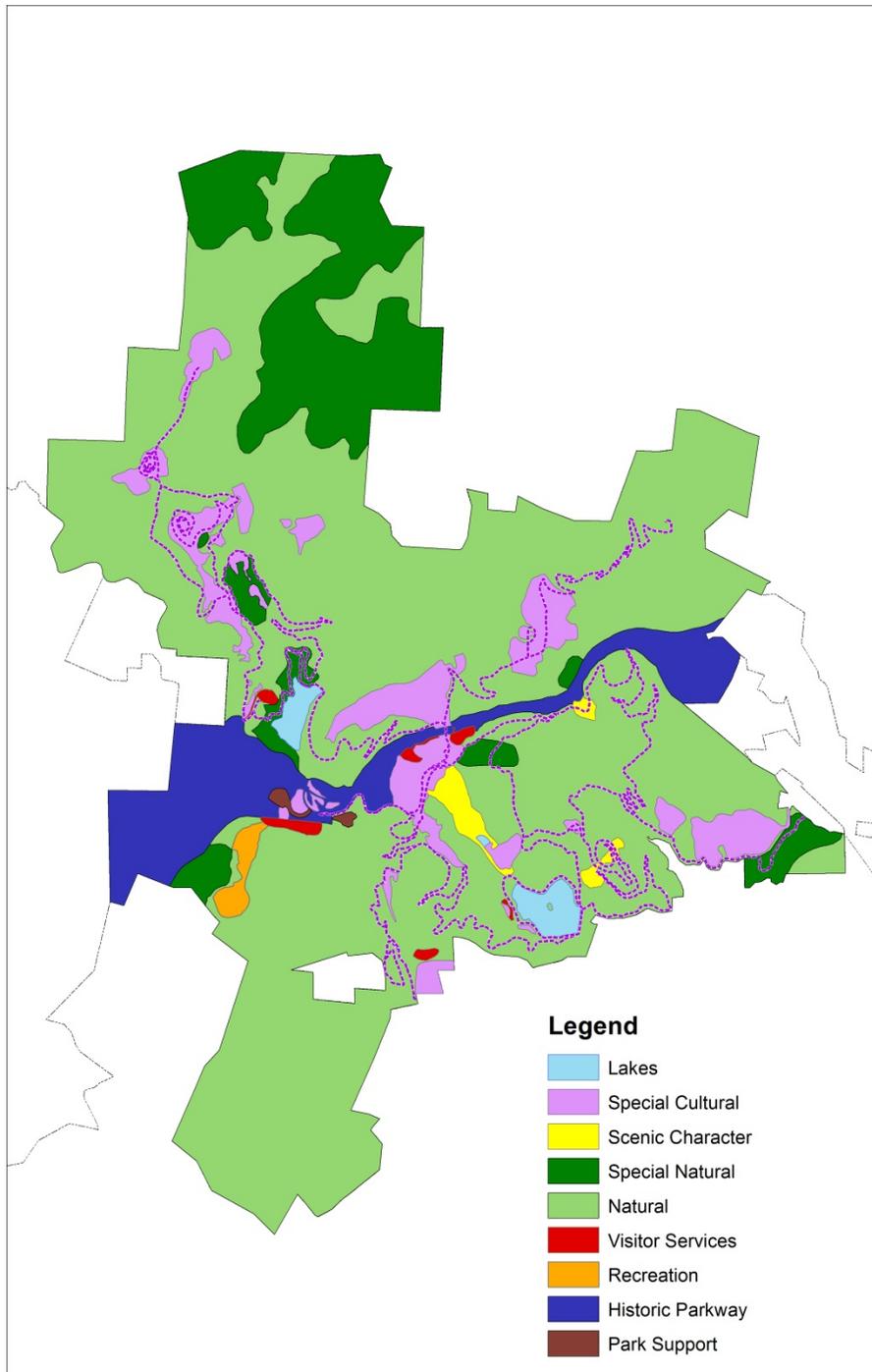
This secondary road would be maintained to its deed reserved width.

#### **Blue Ridge Parkway**

The section of Parkway right-of-way that bisects the Memorial Park would be managed to respect the estate's cultural landscape resource values.

### ***Commercial Services***

There would not be a concession contract for a business opportunity within the Memorial Park.



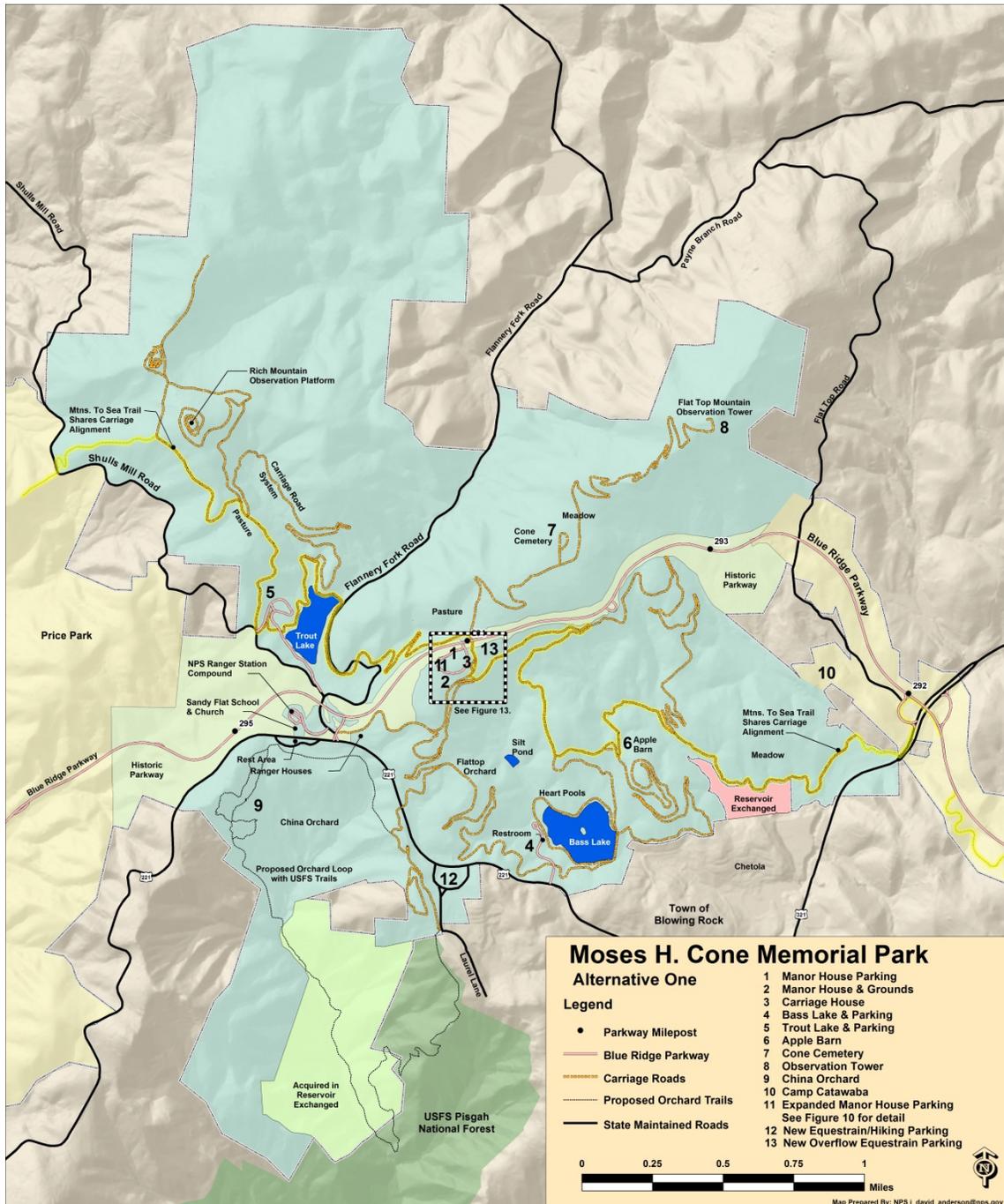
**Figure 14. Alternative Two - Management Zoning Map**

## LAND USE MANAGEMENT AND ZONING

Alternative Two (Cultural Landscape Rehabilitation) increases the land base that would be managed as Special Cultural zones from 6.25% in Alternative One to some 6.9% in this alternative shown in purple. This is necessary to return overgrown pastures back to their more historic open appearance to more actively manage the historic conifer plantations. In Alternative Two, the lands managed as Natural shown in light green would be decreased from 72% of the park under Alternative One to 71% in this alternative. There would be minimal change in the 13% of the park's land base managed as Special Natural resources shown in dark green or the .2% of land used for Park Support shown in brown. The Historic Parkway zone shown in blue would continue to be about 7.7%. While development of new facilities is proposed in this alternative, only .4% of the 3,663 acres are zoned for Visitor Services. Only .5% of park land is zoned as Recreation highlighted in yellow (see **Figure 14**).

## VISITOR EXPERIENCE AND USE SEQUENCE

As depicted in **Figure 15**, recreational visitors arriving at the Memorial Park would continue to begin their visit from one of three locations: Flat Top Manor House (3), Bass (5) or Trout (6) Lakes. For horseback and carriage riders, a new parking area (2) located near the Servant's quarter US 221.



**Figure 15. Alternative Two - Visitor Experience and Use Sequence Map**

Non-recreational visitors accessing the Memorial Park by following Memorial Park location signs along the Parkway would continue to begin their visit at the Flat Top Manor House where two new parking areas would be available **(11)** a new relocated main parking area or **(13)** an overflow car /equestrian parking area. The Flat Top Manor House **(2)** would be converted to a visitor center with visitor information, book sales, more interpretive exhibits and house tours. Visitors would tour the rehabilitated landscape around the Flat Top Manor House to see where the vegetable and flower gardens once were to the west of the Flat Top Manor House. Wayside exhibits would show where the croquet and tennis courts were located near the gardens. Other interpreted sites would include the laundry, ice house, carbide plant adjacent to and rear of Flat Top Manor House, bowling alley near the vegetable gardens, and the rose arbor, raspberry beds and gardens below the carriage house and the dairy barn, chicken house and other farm out buildings. See **Figure 13** for site concept plan.

Interpretive ranger-led programs and walks would continue to be staged from the Flat Top Manor House and grounds **(2)** and expanded to other Memorial Park locations-- carriage house **(3)**, Bass Lake **(4)**, the apple barn **(6)**, the Cone Cemetery **(7)** and the observation tower **(8)** on Flat Top Mountain. The 24 miles of carriage road trails would provide access for hikers, joggers, equestrian use, and carriage rides to the Memorial Park features-Flat Top Manor House **(3)**, carriage house **(4)**, Bass Lake **(5)**, the apple barn **(7)**, the Cone Cemetery **(8)** and observation tower **(9)** on Flat Top Mountain. Along the carriage roads at buildings and other sites wayside exhibits and personal service programs would be staged to provide visitors with more in-depth interpretation about the Cone's Country Era estate and their way of life.

The entire estate carriage road trail system south of the Parkway motor road and those on Flat Top Mountain, Rich Mountain and Deer Park would be open for horseback riding except around most of Bass Lake. Individual joggers, running groups and hikers/walkers would also be allowed to use some of the road trails in accordance with trail use policies and permitting requirements. No mountain biking would be allowed.

The Mountains to Sea Trail would continue to be routed through the estate utilizing existing carriage road trails.

A new horse trailer parking area would be created adjacent to the Blowing Rock Charity Horse Show grounds accessed by Laurel Lane and US 221 **(12)**.

Bouldering in China Orchard would continue **(9)** and trail consolidation and stabilization would occur. There is also the potential for connections to the U.S. Forest Service trail system in that area.

No trail access would be established to Camp Catawba **(10)** and the site and buildings would not be open to the public.

**Figure 16** illustrates the visitor use and interpretive concept for the Flat Top Manor House and surrounding grounds.

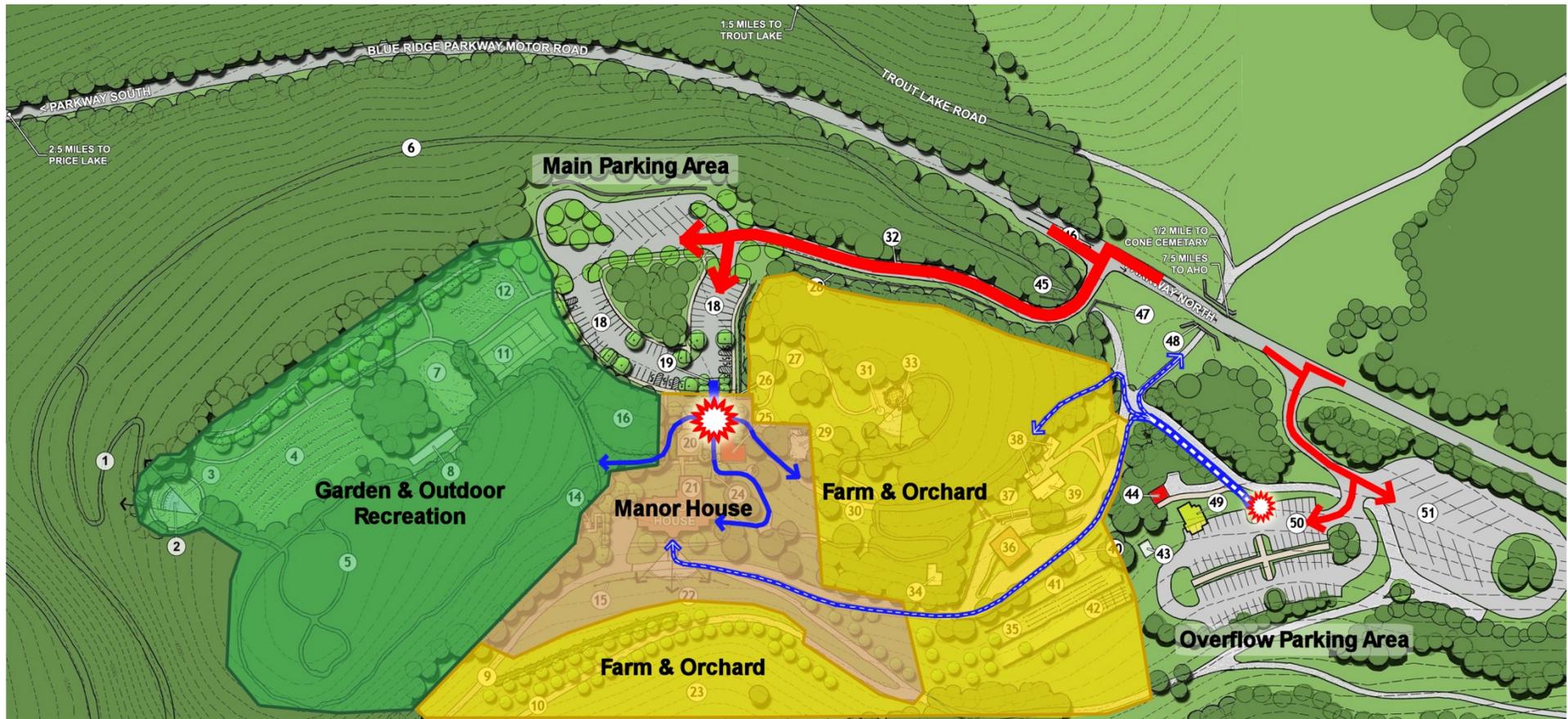


Figure 16. Alternative - Manor House RLU, Visitor Experience and Use Sequence Map

## COMPARISON OF ESTATE-WIDE ZONING

### ACREAGE COMPARISON OF ZONING

The No Action Alternative is not included in this comparison discussion since the Memorial Park currently is not being managed under a zoning system of management prescriptions.

The base acreage for both Alternatives One and Two is 3,644.08 acres which includes the increase in acreage resulting from the NPS/BRP and the Town of Blowing Rock land exchange.

The greatest differences in zone acreage occur among the Natural, Special Cultural and Special Natural zones as shown in **Table 4**. The Natural zone acreage in Alternative Two is less than Alternative One by 70.97 acres because the land base that would be managed as Special Cultural zone increases from 194.80 acres in Alternative One to 260.68 acres in Alternative Two. This minor but important increase would return some overgrown meadow areas back to their more historic size and appearance. Also included in the Special Cultural zone acreage is the carriage trails and the lakes.

The area designated as Special Natural zone for Alternative One encompasses 461.85 acres. Alternative Two Special Natural zone includes 456.07 acres, some 5.78 acres less than Alternative One. This difference between alternatives is a result of zoning wetland areas that lie within pastures and meadows as Special Cultural zone in Alternative Two rather than Special Natural zone as they were proposed for management in Alternative One. The wetland areas would continue to be managed in accordance with NPS regulations and policies however, the overall emphasis for the zone they occur within would be for management as a cultural resource.

Over 20 acres in Alternative One and 30 acres in Alternative Two would be managed as a Scenic Character zone. This zone would partially restore the scenic vista between the Flat Top Manor House and Bass Lake.

Land areas where existing parking areas and new comfort stations, roads and parking areas are proposed are zoned as Visitor Services. Alternative One proposes zoning 14.80 acres as Visitor Services. Alternative Two proposes development of new comfort stations, roads and parking areas and that increases the land area zoned for Visitor Services to 15.73 acres an increase of .93 acres from Alternative One.

The acreage zoned as Historic Parkway, Recreation and Park Support are the same for both Alternatives One and Two.

For Alternatives One and Two, maps with overlaid management zones are included in **Figures 11 and 14**. Accompanying these figures are descriptions of specific management approaches proposed for each zone.

**Table 4. Management Zone Acreage Comparisons**

MANAGEMENT ZONE ACREAGE COMPARISON					
Management Zones	Alternative One		Alternative Two		% of change Alt 1 to Alt 2
	Acreage	% of total	Acreage	% of total	
Base Acreage	3,644.08	100.00	3,644.08	100.00	None
Special Cultural (1)	194.80	5.34	260.68	7.15	+33.8
Special Natural (2)	461.85	12.67	456.07	12.51	-1.25
Natural (3)	2,518.51	69.11	2,447.54	67.16	-2.82
Historic Parkway (4)	280.44	7.70	280.44	7.70	None
Scenic Character (5)	20.30	.56	30.24	.83	+48.97
Visitor Services (6)	14.80	.41	15.73	.43	+6.28
Recreation (7)	17.67	.48	17.67	.48	None
Park Support (8)	5.85	.16	5.85	.16	None
Carriage Trails (9)	90.91	2.49	90.91	2.49	None
Lakes (10)	38.95	1.07	38.95	1.07	None

Notes:

- (1) Special Cultural zone includes pasture/meadow, orchard, garden and lakes land cover areas.
- (2) Special Natural zone includes old growth and wetland land cover areas.
- (3) Natural zone includes forest and conifer plantation land cover areas.
- (4) Historic Parkway zone includes the motor road right-of-way and overlook parking area.
- (5) Scenic Character zone includes some forest and pasture land cover areas.
- (6) Visitor Services zone includes some existing parking areas and proposed new parking visitor use areas.
- (7) Recreation zone includes forest and old growth forest land cover areas.
- (8) Park Support zone includes the existing maintenance and park residential areas.
- (9) Carriage Trails are managed as special cultural management zones. Acreage was determined by multiplying the 24 miles of trails by a right-of-way width of 30'.
- (10) Lake acreage is listed separately but those areas are managed as special cultural management zones.

## MITIGATION MEASURES COMMON TO THE ACTION ALTERNATIVES

For all action alternatives, best management practices and mitigation measures would be used to prevent or minimize potential adverse effects associated with this DAMP. These practices and measures would be incorporated to reduce the magnitude of impacts and ensure that major adverse impacts would not occur. Mitigation measures undertaken during project implementation would include, but would not be limited to, those listed below. The impact analysis in the “Environmental Consequences” section was performed assuming that these best management practices and mitigation measures would be implemented as part of all action alternatives.

## NATURAL RESOURCES

### *Soils*

Existing trails, subject to compaction, erosion and muddiness would be properly maintained by volunteer groups under Memorandum of Agreement according to NPS standards. If trails are not properly managed and maintained by volunteer groups to NPS standards, the NPS may consider closing and eliminating segments of trails. Existing trails may be relocated or surfaced if soil movement and compaction could not be maintained to NPS standards.

If compaction expands at China Orchard trails and bouldering sites beyond acceptable limits, sections may be closed until the soil character could be restored or rejuvenated or the trails may be rerouted to more appropriate locations.

Carriage trail ditch lines and culverts would be routinely maintained to adequately carry standing water from heavy rains away.

Projects that include soil disturbance (construction of visitor parking areas and new comfort stations, new trails) would abide by BLRI “General Erosion and Sediment Control Standards” for management of erosion and sediment. Agricultural parcels would be managed to park standards for vegetation cover.

Contaminated soils already identified or newly discovered would be managed according to Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) guidelines.

Gravel that is not easily washed away, yet meets historic standards, would be used on carriage trails.

### ***Water Resources, including Wetlands***

During construction of any new facilities and trails in and around the streams, erosion control measures would be installed to prevent sedimentation into water resources.

If management of pasture lands, either within the park or from adjacent lands, increases contamination in nearby waters, best management practices would be implemented to resolve.

If management of carriage trails and horse use results in unacceptable levels of fecal contamination in nearby waters, best management practices would be implemented to resolve this problem.

Wetlands would be managed according to NPS policy.

### ***Vegetation***

Rare plants that may be adversely affected by the reestablishment of views, tree removal or other activities may be relocated through seed collection or direct transplant, whichever is determined to be the most successful, and monitored for success.

Disposal of trees that are felled would follow standards established in Superintendents Order #6 – Solid Waste Disposal or may be used for firewood in campgrounds.

Reestablishment of apple orchards would be for education and representation and would not be managed for high-volume production that might require restricted use chemicals.

All new vegetation planted on the estate would be chosen with genetics in mind; where possible all replacement materials would be as close genetically as possible to current stock and may include transplanting local trees from nearby woods; decisions concerning genetics would be made by the park’s resource management staff

A number of tools would be used to manage accumulating woody debris (dropped limbs, fallen trees, leaves) to minimize potential for wildfire hazards to the estate and neighbors.

Lily pads in Bass Lake would be managed when they exceed historic levels, based on fund availability to research these levels and remove. This could include lowering the lake, use of herbicides, and other mechanical methods.

Cultural and natural resource treatment and maintenance methods would be instituted that are environmentally and culturally sensitive and sustainable over the long term.

Areas of ground disturbance, earth grading and compaction, and drainage pattern alteration would be minimized.

### ***Wildlife, Including Neotropical Migratory Birds***

Wherever possible throughout the estate, hazardous downed and dying trees would be felled and left adjacent to the trail unless an extenuating circumstance is present. This action would benefit small mammal, amphibians and reptiles. Extenuating circumstances could include but would not be limited to, aesthetic concerns, increased fire fuels loading, or use of the tree by priority species of wildlife. This decision would be made by NPS personnel.

To protect migratory bird nesting, park staff would cut hazardous trees between August 1 and April 15. If trees need to be cut outside this timeframe, the resource management staff would be consulted. Prior to removal of hazardous trees at other times of the year park employees would inspect the trees to ensure that there is no active nest.

Though not a current issue, deer populations may need to be managed using prevailing best management practices to prevent over-browsing and eating of historic vegetation or rare plants.

To protect the federally listed Northern Long-eared bat, park staff would cut trees outside of the period when young bats are unable to fly (June and July), unless consultation with the U.S. Fish and Wildlife Service provides otherwise.

Beaver would be managed to best address historic resources while protecting the beaver.

## **CULTURAL RESOURCES**

Mitigation measures for the proposed alternatives include, but may not be limited to, the following:

### ***Archeological Resources***

All new construction and ground-disturbing activities, including the grubbing of tree root balls, would require an evaluation to determine if Phase 1 survey of archeological resources is needed prior to disturbance/construction.

If previously unknown archeological resources are discovered during rerouting or rehabilitation of trails or other minor excavation work, the area shall be closed and use halted until the resources are identified, documented, and an appropriate mitigation strategy developed.

## ***Cultural Landscapes***

All work would be carried out in accordance with pertinent laws and regulations, including the stipulations of the 2008 Programmatic Agreement among the National Park Service (U.S. Department of the Interior), the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers, and meet the Secretary of the Interior's Standards for the Treatment of Historic Properties and the Guidelines for the Treatment of Cultural Landscapes

All work would be documented so that there are no questions about what steps were taken. Sufficient study and recordation of landscape features that require modification, repair, or replacement would be undertaken before work is performed, to protect research and interpretive values.

All work would be carried out in compliance with the amended Cultural Landscape Report for this site dated 2013.

Park staff would develop a plan of action to maintain maple trees that line Bass Lake in perpetuity (e.g., seeds may be reared in greenhouse; several new trees may be planted each year, etc.).

Where feasible, structures whose materials have been compromised would be returned to near-historic status (e.g., the current observation tower is metal; if possible, it would be returned to chestnut or other natural material that is more closely related to its original fabric).

Where feasible, historic gardens would use historic varieties and germplasm as close to the original as possible.

Additions of roadways and pathways should generally be designed to blend with the character of the historic landscape in the use of color and material, but clearly represent a contemporary addition. For paths, surface materials that are of a warm-hued color are better suited to historic landscapes. Materials to consider would include crushed brownstone aggregate screenings, or colorized asphalt or concrete for the surfacing of new walks and paths. The design of new additions would also feature the smallest footprint possible to accommodate anticipated uses, and should blend seamlessly with the adjacent landform and topography.

Additions or alterations to the landscape would be designed and situated in such a way that they do not destroy the historic materials, features, and spatial relationships that characterize the cultural landscape. The new additions and alterations to the landscape would be designed and situated in such a way that, if removed in the future, the essential form and integrity of the landscape would be unimpaired.

The introduction of new buildings and structures would be located to facilitate access and interpretation while minimizing adverse impacts on the historic character and features of the landscape.

New construction would be compatible with existing historic resources in materials, size, scale and proportion, and massing. Work would be differentiated from existing resources.

Muted, neutral, earth-tone colors and materials that serve to make new facilities compatible with the historic and natural context would be used for new construction.

The location, design, and construction of new facilities and systems would be subordinate to the surviving cultural and natural landscape. New design and construction would be as visually unobtrusive as possible without sacrificing functionality.

Siting new buildings and structures in any of the primary viewshed areas would be minimized.

### ***Ethnographic Resources***

Cone heirs and the Cone Hospital System in Greensboro would be kept apprised of proposed modifications to this plan and to activities on site.

### ***Historic Structures***

All work would be carried out in accordance with pertinent laws and regulations, including the stipulations of the 2008 Programmatic Agreement among the National Park Service (U.S. Department of the Interior), the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers and meet the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing of Historic Buildings.

All work would be carried out in compliance with the Historic Structures Report for this site dated 1996.

Conjectural reconstruction of missing historic buildings and structures would be avoided.

Bats in buildings and other structural pests would be managed using Integrated Pest Management (IPM) and best management practices for historic structures.

### ***Museum Collections***

All work would be carried out in accordance with DO-24, *Museums Collection Management*, Museum Handbook.

Museum objects would not be used by employees or the public; they would be for display or research purposes only.

### ***Human Remains and Burials***

Dead and dying vegetation around the Cone cemetery would be replaced with similar materials, according to NPS standards.

The cemetery where the Cones are buried would be maintained to highest standards.

If either pre-historic or historic human remains would be located on the estate, NAGPRA and other regulations would be followed.

## **VISITOR USE AND EXPERIENCE, INCLUDING RECREATIONAL AND VISUAL RESOURCES**

Efforts would be made to minimize conflict between different user groups through education and monitoring. If visitor use and experience were adversely impacted by the implementation of the plan, adaptive management strategies would be used to identify appropriate solutions and address those impacts. Strategies may include monitoring, closures, educational efforts, or other measures deemed appropriate to reduce impacts.

Where feasible, overhead power lines and utility lines would be placed underground.

The visual impact of circulation systems would be minimized by using techniques such as establishing vegetative screens, evaluating the potential for any new roadways, parking areas and trails to be screened from key viewpoints, and minimizing the amount of signage, seating, and other small-scale features associated with these access systems in their design.

An implementation plan for site furnishings would be developed that identifies the style and products appropriate for use within the park, distinguishing between design styles that are appropriate for historic areas versus those that are to be used within later developed areas. Site furnishings that are compatible with the character of the park in concept and materials and that are uniform throughout the park would be used.

The number of contemporary small-scale features would be kept to the minimum required for visitor and staff comfort and safety.

Interpretive information would be conveyed to visitors primarily through pamphlets and other materials that limit the establishment of new features within the landscape.

An alternative means for interpretation, such as a visitor center exhibit would be provided to interpret those important features located in areas that could not be made universally accessible.

Special Park Uses would be managed to minimize the interference with visitor activities.

## **HUMAN HEALTH AND SAFETY**

Pesticide applications, if approved, would follow NPS Pesticide Use policies and procedures.

Arsenic contamination of surface and subsurface soils in and around the orchards and in fish at Bass Lake has been detected by Parkway contractors. Levels are such that minimal contact would not result in harm to human health or safety; however, ground disturbance in those areas should be avoided. Signs would be posted in contaminated areas warning staff and visitors of precautions and relevant information. Staff would be trained in appropriate safety procedures for exposure and handling any contaminated materials or working in areas of contamination. Use restrictions are being developed to protect visitors and employees from contaminated soils in and adjoining the historic orchards, however, existing uses such as walking, hiking and apple picking pose no discernible threat to visitors or employees. There are also existing warnings against ingesting fish caught in Bass and Trout Lakes due to lead contamination; additional guidance on fish consumption related to arsenic contamination are forthcoming.

If visitor or employee safety were adversely impacted by the implementation of the plan, adaptive management strategies would be used to identify appropriate solutions to address those impacts.

Regulations stipulated in the Uniform Federal Accessibility Standard (UFAS) and Americans with Disabilities Act Accessibility Guidelines (ADAAG) would be followed for trails and paths when establishing universally accessible circulation. Steep slopes would be avoided, trail widths would meet regulations, and other precautions would be taken.

## **PARK OPERATIONS**

Organized, coordinated trail maintenance and construction would be undertaken through agreement with local trail organizations. This shared maintenance agreement would cut down on maintenance costs and operational costs associated with keeping the trails in satisfactory condition.

Sources of funding for many new projects would be identified beyond the park base operating funds. Partnerships and donated funds would be identified to assist in completion of these projects and offset impacts to park operations.

New construction would be designed taking into consideration BMPs established for the park. In particular, new construction design using green building techniques would be used and technologies such as those described by LEED (Leadership in Energy and Environmental Design), a voluntary, consensus-based national standard for developing sustainable building, would be incorporated.

Life-cycle costing taking into consideration different kinds of materials to assess their long-term wearing and maintenance costs would be taken into consideration. Materials that are non-toxic, durable, long-lived, and low maintenance would be considered.

Proposals to restore or reconstruct missing features would be carefully considered. Prior to undertaking restoration or reconstruction efforts, the financial costs of both the initial effort, as well as the subsequent maintenance costs, the accuracy with which the feature could be reestablished, and the ultimate benefit to be gained from interpretation would be evaluated.

## USER CAPACITY

General management plans for national park system units, including the Blue Ridge Parkway, must address the management of user capacity. Because the Moses Cone DAMP tiers from the Parkway GMP the DAMP's user capacity approach is the same as the approved GMP.

The GMP user capacity approach provides a framework for managing user capacity.

The National Park Service defines user capacity as the type and extent of use that could be accommodated while sustaining the quality of a park unit's resources and visitor experiences consistent with the park unit's purpose.

User capacity management involves establishing desired conditions, monitoring, and taking actions to ensure the park unit's values are protected. The premise is that with any visitor use comes some level of impact that must be accepted; therefore, it is the responsibility of the National Park Service to decide what level of impact is acceptable and what management actions are needed to keep impacts within acceptable limits.

National Park Service staff actively manage the levels, types, and patterns of visitor use to the extent necessary to achieve and maintain desired resource conditions and a quality visitor experience. The monitoring component of this process helps NPS staff evaluate the effectiveness of management actions and provides a basis for informed management of visitor use. The user capacity management process could be summarized by the following major steps:

- Establish desired conditions for resources and visitor experiences (through management zoning), including the types of appropriate recreation opportunities and levels and types of development.
- Identify indicators—measurable variables that are monitored to determine whether desired conditions are being met (e.g., vegetation damage, encounter rates on trails).
- Identify standards (minimum acceptable conditions) for the indicators.
- Monitor indicators to determine trends in conditions, and if management actions are needed.
- Take management actions to maintain or restore desired conditions.

The sheer scope of the Parkway presents many challenges to managing user capacity. Not only does the Parkway extend for 469 miles across two states and 29 counties, but it also includes many major recreation areas and a myriad of entry and exit points used by more than 16 million visitors annually. Given this incredible scope, user capacity management must be strategic through the efficient use of limited staff and funding, targeted focus on areas of most concern along the Parkway, and creative approaches to monitoring and management strategies. The Moses H. Cone Memorial Park as one of the Parkway's recreation areas is one of the targeted areas in which to focus user capacity management.

This DAMP reflects the Parkway's general management framework that provides the fundamental structure for a long-term, comprehensive strategy to manage user capacity. This framework would help guide the strategic use of limited park staff and funding regarding future user capacity planning and management. This management framework includes the following components:

- The eight management zones described earlier in this chapter provide the basis for managing user capacity. Each zone prescribes desired resource conditions, visitor experiences, and recreational opportunities for different areas of the Parkway, such as the Moses H. Cone Memorial Park. The zones also prescribe the types and levels of developments necessary to support these conditions, experiences, and opportunities. This element of the framework is the most important to long-term user capacity management in that it directs the National Park Service on how to best protect resources and visitor experiences while offering a diversity of visitor opportunities.
- Existing and potential visitor-related concerns for each management zone are described, along with identification of priority areas in each zone for managing user capacity. As parkway managers collect more detailed information on visitor-related concerns in those areas, specific indicators and standards would be identified.
- Considerations for selecting potential indicators and standards are included to determine if unacceptable visitor-related impacts are occurring.
- Potential management strategies are outlined that could be implemented to avoid or minimize adverse impacts from visitor use.

This framework is intended to be a starting point to an effort needing further reflection, development and adaptation. Final selection of indicators and standards for monitoring purposes and implementation of management actions that affect use would comply with the National Environmental Policy Act (1969), section 106 of the National Historic Preservation Act, and other laws and NPS management policies as appropriate.

**Table 5** describes the user capacity management framework for the Blue Ridge Parkway applied to the Moses H. Cone Memorial Park. Although the framework is organized by management zones, the approach developed for one zone could be adapted and applied to other zones as needed and appropriate. The ultimate goal of the framework is to provide strategic management guidance that is effective and efficient while maximizing flexibility for managers to maintain the desired resource conditions and visitor experiences of the Parkway and its recreation areas.

**Table 5. User Capacity Management Framework by Management Zone**

	Special Natural Resources	Natural	Scenic Character	Recreation
<b>Potential Visitor Related Concerns</b>	Impacts on rare plant and animal species, sensitive habitats, and ecosystem processes as a result of human-caused vegetation trampling and sensory-based disturbances.	Impacts on vegetation and soils resulting from off-trail use, camping in undesignated areas, or concentrated levels of use in fragile areas.	Impacts on visitors' ability to experience the high-quality scenic landscapes. Impacts on the visitor experience as a result of conflicts between user groups (i.e. horseback riders, and hikers, and groups using multiuse trails).	Impacts on the visitor experience as a result of conflicts between user groups (i.e. horseback riders and hikers).
<b>Priority Areas for Managing User Capacity</b>	Globally ranked plant communities; critical habitats for threatened and endangered species; and state natural heritage areas and conservation sites that are accessible or near visitor-use areas.	Trail systems that are experiencing impacts and/or are not adequately designed to support heavy use or certain types of use.	Trail systems that receive high levels of visitation.	Trail systems that receive high levels of visitation.
<b>Considerations for Potential Indicator Topics</b>	Extent of trampling of select plant species.  Measures of disturbance to certain wildlife species.  Evidence of visitor use would be largely unnoticeable.	Extent and severity of trampling of vegetation cover, soil compaction, and/or erosion.  Number of visitor-created trails and/or campsites.  Trail and/or campsite condition assessments.	Encounter rates between different types of user groups.  Frequency of complaints that are related to visitor-use conflicts and/or crowding.  Visitor evaluations of degree of use conflicts and/or crowding.	Encounter rates between different types of user groups.  Frequency of complaints that are related to visitor-use conflicts and/or crowding.  Visitor evaluations of degree of use conflicts and/or crowding.  Parking use rates and typical duration of parked vehicles at selected trailheads/parking areas.

Visitor Services	Historic Parkway	Special Cultural Resources	Park Support
<p>Impacts on the visitor experience as a result of crowding and conflicts between user groups.</p>	<p>Impacts on the visitor experience while traveling the Parkway as a result of traffic congestion and conflicts among user groups</p> <p>Impacts on visitors' ability to experience the high-quality scenic landscapes of the Parkway as a result of crowding at or near popular vistas and overlooks.</p>	<p>Impacts on historic structures that contribute the national significance of the Parkway, resulting from overuse or inappropriate types of use.</p>	<p>User capacity is not addressed for this zone, because visitor opportunities and services are generally not provided. As a result, visitor use is extremely low.</p> <p>If visitor use poses any future impacts, then indicators and standards would be developed.</p>
<p>Areas of the Parkway that receive the greatest visitation or the highest frequency of complaints.</p>	<p>Parkway stretches that receive the highest traffic volumes or where the greatest visitor conflicts occur, such as near Boone/Blowing Rock.</p> <p>Vistas and overlooks along the parkway that receive the highest levels of use.</p>	<p>Sensitive cultural sites that are accessible to visitors, especially those that receive high levels of use or those that do not have park staff present fulltime.</p>	
<p>Frequency of complaints related to visitor-use conflicts and/or crowding</p> <p>Visitor evaluations of degree of use conflicts and/or crowding</p>	<p>Level of Service along road Segments.</p> <p>Vehicles per viewscape.</p> <p>Frequency of complaints related to traffic volumes and/or use conflicts.</p> <p>Safety incidences, visitor evaluations of traffic congestion and/or use conflicts.</p> <p>People at one time at high-use Overlooks.</p> <p>Portion of time parking is available.</p> <p>Portion of visitors who avoid overlooks due to perceived crowding or lack of parking</p>	<p>Wear on historic structures as a result of visitor use.</p> <p>Incidences of disturbance or vandalism of historic structures.</p> <p>Historic site condition assessments.</p>	

	Special Natural Resources	Natural	Scenic Character	Recreation
<b>Considerations for Developing Potential Standards</b>	Determine minimum levels of trampling and disturbances to avoid interference with factors affecting species viability.	Determine trampling thresholds to maintain plant vigor. Determine an acceptable level of vegetation loss, soil compaction, and/or erosion at camp sites or along select trails.	Determine appropriate levels of user group interaction use considering setting conditions, use patterns, and visitor perceptions of use conflicts and crowding.	Determine appropriate levels of user group interaction considering setting conditions, use patterns, and visitor perceptions of use conflicts and crowding.
<b>Potential Management Strategies</b>	<p>Educate visitors on reducing their impact on the natural environment. Restrict the types or levels of use to certain sensitive areas if standards are exceeded.</p> <p>Consider seasonal closures if impacts are specific to certain times of the year.</p>	<p>Educate visitors on reducing their impact on the natural environment. Consider rerouting trails away from fragile areas, or redesign them to accommodate different types or more use.</p> <p>Consider backcountry permits or other means to manage use levels, patterns and behaviors.</p>	Provide education on trail etiquette. Consider modifications or improvements to the trail design to make it more compatible for visitor use patterns. Consider one-way trails, seasonal-use trails, or trails dedicated to fewer types of activities.	Provide education on trail etiquette. Consider modifications or improvements to the trail design to make it more compatible for multiple uses. Consider one-way trails, seasonal-use trails, or trails dedicated to fewer types of activities.

Visitor Services	Historic Parkway	Special Cultural Resources	Park Support
<p>Determine acceptable levels of conflict and crowding at selected sites considering use patterns and visitor preferences.</p>	<p>Determine minimum levels of traffic volumes for different modes of transportation to maintain free-flowing speeds; where the effects of minor incidents are easily absorbed and encounters with other travelers do not diminish the leisure traveling experience.</p> <p>Determine an acceptable amount of time when parking is at maximum capacity at select overlooks.</p> <p>Determine an acceptable degree of crowding considering visitor use patterns and visitor preferences at select sites.</p>	<p>Determine an acceptable level of damage (if any) to select cultural sites. Consider a range of standards that trigger incrementally more stringent management actions.</p>	
<p>Provide pretrip planning information to visitors about peak periods of use along the parkway. Consider traffic-flow improvements and other redesigns that enhance the visitor experience in developed areas.</p>	<p>Provide pre-trip planning information to visitors about peak periods of use along the Parkway. Restrict commuter traffic on the Parkway, limit access onto the Parkway, establish vehicle size restrictions, or provide new or additional off-parkway parallel bicycle paths.</p> <p>Provide pre-trip planning information to visitors about peak periods of crowding at certain overlooks. Provide real-time information about parking lot conditions.</p> <p>Consider expanding parking or converting RV parking spaces into additional spaces for cars.</p>	<p>Provide education on appropriate behaviors. Use signs and/or barriers to limit and manage contact with cultural resources. Increase park staff presence at cultural sites to avoid further damage.</p> <p>Modify visitor access and circulation or close portions of the site to minimize direct impacts.</p>	

# FUTURE STUDIES AND IMPLEMENTATION PLANS NEEDED

## INTRODUCTION

After completion and approval of this Developed Area Management Plan, other more detailed studies and plans would be needed before certain actions could be implemented. Some of these actions would require additional environmental compliance, public involvement, and consultation. The extent of further public input and environmental analysis would vary depending on the impacts anticipated from a proposed action. Appropriate permits may also be needed for certain actions.

Implementation of these studies and plans would also depend on future funding and staffing levels. The approval of this developed area management plan (DAMP) does not guarantee that the funding needed for implementation would be forthcoming.

The following paragraphs list future studies (including inventories, evaluations, and condition assessments) and plans (including strategies) that would likely be needed to implement the action alternatives. If a particular study or plan is only associated with one of the action alternatives, that is noted in the list. The list is organized by parkway-wide management strategies presented earlier in this chapter.

### ***Park-wide***

#### **User Capacity Implementation Plan**

This user capacity framework included in the DAMP is intended to be a starting point. The DAMP management zones establish desired conditions for resources and visitor experiences in the park, including the types of appropriate recreation opportunities and levels and types of development. The DAMP suggests potential indicators and standards but it does not identify specific indicators or standards to be applied for the management of resources and visitor experiences.

Final selection of indicators and standards for monitoring purposes and implementation of management actions that affect use would be derived from preparing a user capacity implementation plan. The plan would identify indicators—measurable variables that are monitored to determine whether desired conditions are being met (e.g., vegetation damage, encounter rates on trails) and identify standards (minimum acceptable conditions) for the indicators. The implementation plan would provide the means for monitoring indicators to determine trends in conditions, and if management actions are needed.

#### **Shrub Plantings Maintenance Plan**

Alternative One and Two include a project to prepare a shrub plantings maintenance plan to identify an appropriate care regime for the shrub plantings established by the Cones, including rhododendrons, mountain laurels, and Pee Gee hydrangeas. Current locations of these beds would be mapped and the limits of the areas to be maintained would be identified to prevent further expansion.

#### **Archeological**

Both resource management and interpretive programs proposed in Alternative Two require that archeological investigations be conducted to locate and document the sites of former estate buildings. New technologies would be considered in addition to standard NPS Phase 1, 2, and 3 approaches.

### **Farm Roads Plan**

In Alternative Two an inventory and assessment of the estate farm roads would be conducted and a plan would be developed for how the farm roads are to be managed and/or used in the future.

### ***Manor House and Immediate Landscape***

#### **Parking and Landscape Rehabilitation Plan**

Under Alternative Two preparation of construction documents would be required. Landscape rehabilitation plans would be included to address re-contouring the area impacted by removing the existing parking area. Construction plans would include a new main and overflow parking areas for cars, recreation vehicles, buses and horse trailers. Plans would include site layout and details for how portions of the surrounding landscape features and structures that were removed by the NPS would be rehabilitated. Areas to be addressed would include the vegetable and flower gardens to the west of the Flat Top Manor House, croquet and tennis courts near the gardens, laundry, ice house, carbide plant adjacent to and rear of Flat Top Manor House, bowling alley near the vegetable gardens, and the rose arbor, raspberry beds and gardens below the carriage house. Other farm buildings such as the dairy barn and chicken house would be addressed in the plans.

#### **Interpretive Plan**

Prepare an interpretive plan that articulates how the interpretive themes for the Memorial Park and the visitor use concepts proposed in the approved alternative would be implemented through landscape wayside exhibits, exhibits within the Flat Top Manor House, personal services programs, brochures, parks as classroom program and partnership programs.

A plan, if Alternative One were approved, would further define the learning center concept and how it guides a more in-depth interpretive and visitor use program that promotes public understanding and appreciation of *the extended Cone Family*, their estate and the far reaching influence they had in the region and nationally. Cone's role in the manufacture of denim and the Southern textile industry would be interpreted. The plan would detail how park education programs would be conducted both on and off-site with a strong focus on web-based outreach to a global audience.

For Alternative Two, the interpretive plan would detail how existing interpretive programs would be updated to provide additional information about the Country Place era, the designed landscape features established by Moses and Bertha Cone and their efforts to promote conservation, land stewardship, and scientific agriculture, as well as the Southern textile industry and Moses Cone's role in denim manufacture.

The Flat Top Manor House would function as the NPS visitor center and interpreted house museum. The interpretive plan would go into more detail to determine if one or more rooms, if any, would be furnished for interpretive purposes.

#### **Concession Contract**

In Alternative One a craft sales outlet would continue under a concession contract, but would be allocated less space. Upon completion and approval of the DAMP if Alternative One is selected a public solicitation of a prospectus for a new concession contract would occur.

## ***Carriage Drive***

### **Vista Rehabilitation Plan**

Both Alternatives One and Two propose the rehabilitation of historic designed vistas by clearing trees and shrubs that have grown up in the foreground and obscure views. A rehabilitation plan for the historic designed vistas would be developed. Vistas would be located, identified, inventoried, and assessed. Vistas would be assessed with regard to their importance to the carriage drive experience, the feasibility of clearing given the terrain, including the ability to dispose for downed material and the potential to harm natural or cultural and visual resources in the process of clearing. The plan would present a prioritized list for clearing vistas.

### **Roadside Vegetation Maintenance Plan**

In Alternative Two an inventory to document Cone-era tree plantings relating to the design of the carriage drive system would be prepared. An analysis would identify the numbers of surviving and missing trees, their likely original spacing interval, current age, and where replacement plantings are needed. The plan would identify appropriate scientific approaches to replacement techniques.

## ***Orchard***

### **Orchard Partial Restoration Plan**

This Alternative One and Two project would map and assess for restoration three locations where orchard would be visible from the Flat Top Manor House and carriage drives and could be interpreted include: 1) the western edge beside Duncould Road; 2) the northeastern corner within the hairpin bend of the Entrance Road; and 3) the central area below the Esplanade. Recommendations regarding clearing, plantings, and maintaining these restored orchard sections would be included in the plan.

## ***Pastures, Meadows and Deer Parks***

### **Pasture and Meadow Rehabilitation & Maintenance Plan**

As proposed in Alternatives One and Two develop a rehabilitation & maintenance plan to address the threat from invading trees and shrubs and to direct agricultural leasing of the pastures and meadows. Field investigations would determine where and how it would be possible to clear vegetation. Priorities for clearing vegetation would be based upon soils, slope stability and those areas within view of the carriage drives that have been reduced in size by successional vegetation, ability to dispose of materials, and use of trees by rare and endangered species.

### **Deer Park Boundary Marking**

Alternative Two proposes to document the limits of the Cone era deer parks to maintain a record for resource protection. Project would place permanent markers beside the roads edging the two former deer parks in support of resource management and interpretation.

## ***Forest and Conifer Plantations***

### **Silvicultural Management Plan**

Both Alternatives One and Two call for the preparation of a silvicultural management plan to identify a range of options and alternatives for long-term care and stewardship of these resources. The silvicultural management plan would address tree stand replacement and care, including possible alternative species for the Fraser and balsam fir and Canadian and Carolina hemlock that are at risk due to pest infestations,

and the potential for native Southern pine bark beetle to affect pine stands. Viable alternatives for plantation stand management would address the advantages for natural and cultural resource values.

### ***Lake and Pond***

#### **Fisheries Management Plan**

A fisheries management plan is called for in both Alternatives One and Two. The plan would be prepared to determine the park's goals for managing the fishery and providing fishing opportunities for visitors.

## STAFFING AND COST COMPARISON OF THE ALTERNATIVES

National Park Service decision makers and the public must consider an overall picture of the costs and advantages of various alternatives, including the no-action alternative, to make wise planning and management decisions for the Memorial Park. Such consideration could shed light on the cost of the no-action alternative and make possible a more relevant comparison to the action alternatives.

The figures used are estimates for comparison purposes only and are not to be used for budgetary purposes or implementation funding requests. If and when the actions are implemented, actual costs would vary. Specific costs would be determined in subsequent, more detailed planning and design efforts. Presentation of costs in this plan does not guarantee future NPS funding. Project funding would not come all at once; it would likely take many years to secure and may be provided by partners, donations, or other nonfederal sources. Although the Parkway management hopes to secure this funding and would prepare itself accordingly, parkway management may not receive enough funding to achieve all desired conditions within the time frame of the developed area management plan (the next 20+ years).

The estimates provided in this section include annual operating costs, staffing levels, one-time facility and non-facility costs, and other costs. A definition of each of these types of costs follows:

- **Annual Operating Costs** are the total costs per year for maintenance and operations associated with each alternative, including utilities, supplies, staff salaries and benefits, leasing, and other materials. Cost and staffing estimates assume that the alternative is fully implemented as described.
- **Staffing** is the total number of person-years of staff required to maintain the assets of the park at an acceptable level, provide visitor services, protect resources, and generally support the park's operations. The full-time equivalency (FTE) number indicates NPS staffing levels, not volunteer positions or positions funded by partners. Full-time equivalency salaries and benefits are included in the annual operating costs.
- **One-time Facility Costs** include those for the design, construction, rehabilitation, upgrades or adaptive reuse of visitor centers, campgrounds, picnic areas, roads, parking areas, administrative facilities, comfort stations, educational facilities, maintenance facilities, trails, and other visitor facilities.
- **One-time Non-facility Costs** include actions for the preservation of cultural or natural resources not related to facilities, the development of visitor use or management tools, and other park management activities that would require substantial funding above annual operating costs.
- **Other Costs** are identified separately for projects that are wholly or partially funded from other sources.

Staffing and annual operating cost estimates for the action alternatives are calculated by taking the staffing and annual operating costs under the no-action alternative and adding additional staffing and annual operating costs associated with their implementation.

**Table 6** provides cost estimates and staffing (FTE) levels for implementing the three alternatives. Please note that all costs in this section are rounded to the nearest thousand dollars.

**Table 6. Cost Estimates and Staffing for Full Implementation of the Alternatives**

	ALTERNATIVES		
	No ACTION	ONE	TWO
<b>STAFFING (FTE)</b>	7.29	8.93	9.92
<b>ANNUAL OPERATING COST</b>	\$483,144.00	\$584,572.00	\$637,434.00
<b>ONE-TIME FACILITY COST</b>	0	\$644,084.00	\$5,425,517.00
<b>ONE-TIME NON-FACILITY COST</b>	\$100,000	\$759,564	\$851,979.00
<b>OTHER COST</b>	0	0	0

**ANNUAL OPERATIONS**

Annual operations are shown in **Table 7** for the action Alternatives One and Two. Costs associated with each of the proposed activities required to implement the alternatives are included. There is not a column for the No Action Alternative since none of these actions would be implemented under that alternative.

**Table 7. Estimated Annual Operating Costs to Implement the Alternatives**

<b>DAMP Proposed Management Actions and proposals to be quantified.</b>	<b>Alternative One</b>	<b>Alternative Two</b>
<b>Park-wide</b> 1. Maintain shrub plantings established by the Cones, including rhododendrons, mountain laurels, and Pee Gee hydrangeas.		\$15,894.00
<b>Park-wide</b> 2. Monitor about 20 sites of former estate buildings		\$395.00
<b>Park-wide</b> 3. Manage farm roads.		\$1,340.00
<b>Flat Top Manor House and Immediate Landscape</b> 6. Manage concession contract	\$3,080.00	
<b>Flat Top Manor House and Immediate Landscape</b> 6A. Operate bookstore function 6C. Provide visitor information and orientation.	\$6,237.00	\$15,762.00
<b>Flat Top Manor House and Immediate Landscape</b> 6B. Provide second floor tours	\$6,237.00	\$10,416.00
<b>Flat Top Manor House and Immediate Landscape</b> 6D. Provide on-site programs and tours throughout the landscape gardens and farm areas being interpreted near the Flat Top Manor House	\$12,222.00	\$20,937.00
<b>Carriage Drive</b> 7. Maintain historic designed vistas Coordinate vista clearing with Town of Blowing Rock	\$1,613.00	\$1,613.00
<b>Carriage Drive</b> 8. Document Cone-era tree plantings relating to the design of the carriage drive system.		\$15,894.00
<b>Orchard</b> 9. Maintain by clearing, planting and pruning restored orchard sections.	\$34,274.00	\$34,274.00

<b>Pastures and Meadows</b> 10. Restore and maintain the threat from invading trees and shrubs and direct agricultural leases of the pastures and meadows.	\$2,030.00	\$2,030.00
<b>Forest and Conifer Plantations</b> 12. Implement the silvicultural management plan Note: Includes Cone Cemetery and hemlock hedge row.	\$24,290.00	\$24,290.00
<b>Lakes</b> 13. Implement fish management plan for stocking the lakes and providing fishing opportunities for visitors	\$1,832.00	\$1,832.00
<b>China Orchard</b> 15. Monitor bouldering trails and sites for compaction or unacceptable degradation.	\$3,520.00	\$3,520.00
<b>Parkwide</b> 16. Implement the <u>Visitor Use Management Plan</u> by monitoring visitor use	\$6,093.00	\$6,093.00
	<b>Alternative One</b>	<b>Alternative Two</b>
<b>Subtotal</b>	\$101,428.00	\$154,290.00
<b>Current Operating Costs Subtotal</b>	\$483,144.00	\$483,144.00
<b>Annual Operations Costs Total</b>	\$584,572.00	\$637,434.00

## STAFFING (FTE)

Staffing levels under the no-action alternative presented in **Table 8** are the actual number of positions funded in fiscal year 2012 (FY12).

**Table 8** also shows the total number of additional staff above the FY12 funded staffing levels necessary to implement the management strategies described under Alternatives One and Two. This allows for direct comparison of staffing levels that would be needed for the action alternatives and those needed to continue current management under the no-action alternative. The increase in annual operating cost above that under Alternative One is solely a result of the increased number of staff proposed to fully implement Alternative Two.

Volunteers and partners would continue to be key contributors to NPS operations under all of the alternatives. The Parkway relies heavily on volunteers and Student Conservation Association interns to complete park projects and provide day-to-day park operations support. In 2012, the Memorial Park had 6 volunteers dedicated 2 hours per week to visitor center operations during the months of June through October. This equals to 240 volunteer hours spent in the visitor center.

Staffing under all alternatives is described below. The Interpretation and Education, the Resource Management and Science and the Maintenance and Engineering Divisions are discussed in more detail because of the number of additional staff that would be needed in these divisions to fully implement either Alternative One or Two.

**Table 8. Estimated Staffing Levels to Implement the Alternatives**

	No Action Alternative	Alternative One		Alternative Two	
	FY 12 ONPS Funded Positions	New FTEs	Total FTEs	New FTEs	Total FTEs
<b>Total</b>	7.29	1.64	8.93	2.63	9.92
<b>Superintendent's Office</b>	0	0	0	0	0
<b>Administration and Concessions</b>	.28	0	.28	.04	.32
<b>Maintenance and Engineering</b>	4.2	.8	5	1.2	5.4
<b>Interpretation and Education</b>	1.13	.54	1.67	1.03	2.16
<b>Resource Mgmt. and Science</b>	.64	.23	.87	.26	.9
<b>Planning, Lands and Compliance</b>	.12	.03	.15	.05	.17
<b>Law Enforcement, Safety &amp; ES</b>	.92	.04	.96	.07	.99

No Action Alternative. The NPS staffing level under the no-action alternative would continue to be 7.29 funded full-time positions in order to carry out routine operations of the Memorial Park. The Interpretation and Education Division is the only park division that relies on ONPS base-funded seasonal positions to carry out its program from year to year. However, for consistent comparison purposes, seasonal FTE and permanent FTE are combined to provide the overall increase in staffing required to implement an action alternative.

Alternative One - The NPS staffing level necessary to implement Alternative One would be the equivalent of 8.93 full-time staff members—1.64 additional FTEs compared to the total number of staff funded under the no-action alternative.

Alternative Two - The Interpretation and Education Division would require 2.16 additional staff in order to expand visitor services at the Flat Top Manor House and its immediate landscape and other key locations. This includes expanding visitor services from a six-month season to a nine-month season. Since seasonal staff could not legally work more than 1,030 hours in a year, this extension means that seasonal staff would have to be converted to permanent. Staff increases in the Interpretation and Education Division would also improve information and orientation services.

Almost a full FTE of additional staff would be needed in the Resource Management and Science Division in order to implement the cultural and natural resource protection components of Alternative Two. As a major element of this alternative's concept, additional cultural and natural staff time would allow a more comprehensive approach to managing the historic district's cultural landscape and historic structures.

Some 5.4 FTE of additional maintenance and engineering (M&E) staff are needed to assist with the rehabilitation and maintenance of roadside, vista and landscape plantings and forest vegetation.

Additional M&E staff would be needed for daily and cyclic maintenance of additional comfort stations and increased visitation.

## ONE-TIME FACILITY COSTS

Overall one-time facility costs are included in **Table 9**. It is important to note that deferred maintenance costs are not included because they would be the same for all of the alternatives-No Action and One and Two. Alternative One has only one new facility proposed and that is an expansion of the existing parking area behind the Flat Top Manor House.

Alternative Two proposes a major rehabilitation of the cultural landscape within the immediate vicinity of the Flat Top Manor House. That would involve removing the existing parking area behind the Flat Top Manor House. That area would be re-contoured and several farm structures sites would be marked and interpreted. The garden area would be rehabilitated and interpreted. New parking areas and comfort stations would be constructed. Proposed facilities and their associated costs are shown in **Table 9**.

**Table 9. Estimated One-Time Facility Costs to Implement the Alternatives**

DAMP Proposed Management Actions and proposals to be quantified.	Alternative One	Alternative Two
<b>Flat Top Manor House and Immediate Landscape</b>		
1. <b>Construction</b> for expanding existing parking for visitors and employees in and around the Flat Top Flat Top Manor House		
• New expanded parking area for cars, recreation vehicles, buses and roads	578,903.00	
• New employee parking area	65,181.00	
<b>TOTAL</b>	<b>\$644,084.00</b>	
<b>Flat Top Manor House and Immediate Landscape</b>		
1. <b>Construction</b> for rehabilitation of the historic core of the Cone Estate in and around the Flat Top Flat Top Manor House for resource management and interpretive purposes.		
• <b>Landscape rehabilitation</b> /re-contouring the area impacted by removing the existing parking area.		891,300.00
• <b>Landscape rehabilitation - vicinity of Flat Top Manor House &amp; gardens</b> Site layout and details for how portions of the surrounding landscape features and structures that were removed by the NPS would be rehabilitated including the vegetable and flower gardens to the west of the Flat Top Manor House, croquet and tennis courts near the gardens, laundry, ice house, carbide plant adjacent to and rear of Flat Top Manor House, bowling alley near the vegetable gardens, and the rose arbor, raspberry beds and gardens below the carriage house and other farm buildings such as the dairy barn and chicken house .		1,239,781.00
• <b>New main parking area</b> for cars, recreation vehicles, buses and entrance road		1,294,824.00
• <b>New overflow parking areas</b> for cars.		409,481.00
• <b>New parking area</b> for recreation vehicles, buses and horse trailers (includes entrance road)		640,375.00
• <b>Two new comfort stations</b> (640 sf each)		302,400.00
• <b>Septic system, lines and drain field</b> for both comfort station		531,494.00
• <b>Water and Electric service</b> to main parking area and overflow parking area comfort stations		115,862.00
<b>TOTAL</b>		<b>5,425,517.00</b>

## ONE-TIME NON-FACILITY COSTS

One-time non-facility costs included in Alternatives One and Two are shown in **Table 10**.

**Table 10: Estimated One-Time non-Facility Costs to Implement the Alternatives**

<b>DAMP Proposed Management Actions and proposals to be quantified.</b>	<b>Alternative One</b>	<b>Alternative Two</b>
<b>Park-wide</b> 1. Identify an appropriate care regime for the shrub plantings established by the Cones, including rhododendrons, mountain laurels, and Pee Gee hydrangeas.		\$87,050.00
<b>Park-wide</b> 3. Determine how the farm roads are to be managed and/or used in the future		\$10,402.00
<b>Flat Top Manor House and Immediate Landscape</b> 4. & 5. Define how the interpretive themes for the Memorial Park and the visitor use concepts proposed in <u>Alternative One</u> .	\$63,261.00	\$63,261.00
<b>Flat Top Manor House and Immediate Landscape</b> 6. Upon completion and approval of the DAMP if Alternative One is selected a public solicitation of a prospectus for a new concession contract would occur.	\$100,000.00	
<b>Carriage Drive</b> 7. Both Alternatives One and Two propose the rehabilitation of historic designed vistas	\$67,860.00	\$67,860.00
<b>Carriage Drive</b> 8. Document Cone-era tree plantings relating to the design of the carriage drive system.	\$84,222.00	\$84,222.00
<b>Orchard</b> 9. Both Alternatives One and Two propose the partial rehabilitation of historic Flat Top orchard.	\$46,231.00	\$46,231.00
<b>Pastures and Meadows</b> 10. Both Alternatives One and Two propose to address the threat from invading trees and shrubs and to direct agricultural leasing of the pastures and meadows.	\$49,409.00	\$49,409.00
<b>Deer Parks</b> 11. Document the limits of the Cone era deer parks		\$30,595.00
<b>Forest and Conifer Plantations</b> 12. Both Alternatives One and Two propose to identify a range of options and alternatives for long-term care and stewardship of these resources. Note: Includes Cone Cemetery and hemlock hedge row.	\$83,878.00	\$83,878.00
<b>Lakes</b> 13. Both Alternatives One and Two propose to determine the park's goals for stocking the lakes and providing fishing opportunities for visitors.	\$5,724.00	\$5,724.00
<b>Sawmill Place Orchard, Flat Top Orchard and China Orchard</b> 14A. The historical boundaries of orchards would be marked to demarcate edges of the orchards.	\$57,368.00	\$57,368.00
<b>Sawmill Place Orchard, Flat Top Orchard and China Orchard</b> 14B. The locations of trees that constitute rare heritage cultivars would be located and documented. The NPS would encourage partnerships to salvage and conserving the germplasm and genetic resources of rare and unusual heritage apple cultivars.	\$14,985.00	\$14,985.00
<b>China Orchard</b> 15. Prepare an interpretive wayside plan for self guided interpretive trails.		\$64,368.00
<b>Parkwide</b> 16. <u>Visitor Use Management Plan</u> The plan would identify indicators—measurable variables that are monitored to determine whether desired conditions are being met (e.g., vegetation damage, encounter rates on trails) and identify standards (minimum acceptable conditions) for the indicators. The implementation plan would provide the means for monitoring indicators to determine trends in conditions, and if management actions are needed.	\$186,626.00	\$186,626.00
	<b>Alternative One</b>	<b>Alternative Two</b>
<b>One-Time Non-Facility Costs TOTAL</b>	\$759,564.00	\$851,979.00

## ENVIRONMENTALLY PREFERRED ALTERNATIVE

In accordance with DO-12, the NPS is required to identify the “environmentally preferred alternative” in all environmental documents, including EAs. The environmentally preferred alternative is determined by applying the criteria suggested in NEPA, which is guided by the CEQ. As stated in Section 2.7 (D) of the NPS DO-12 Handbook, “The environmentally preferred alternative is the alternative that would best promote the national environmental policy expressed in NEPA (Section 101(b)).” This environmental policy is stated in six goal statements, which include:

1. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
2. Assure 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 to health and 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 which supports diversity and variety of individual choice;
5. Achieve a balance between population and resource use which would permit high standards of living and a wide sharing of life’s amenities; and
6. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources (NEPA, 42 USC 4321-4347).

In sum, the environmentally preferred alternative is the alternative that, not only results in the least damage to the biological and physical environment, but also that best protects, preserves, and enhances historic, cultural, and natural resources.

As evaluated against the CEQ regulations, Alternative One is the Environmentally Preferred Alternative.

The No Action Alternative and Alternative One both offer benefits in the areas of conservation, restoration, and interpretation and therefore, these alternatives are consistent with fulfilling the criteria listed under Section 101 of NEPA. The No Action Alternative would have little effect on the biological and physical environment but would have an adverse effect on cultural resources. This alternative would not uphold the NPS mandate to preserve the historic, cultural, and natural aspects of the Park in a manner that leaves these resources unimpaired, while maintaining safe visitor use standards.

It has been determined that Alternative Two would have little effect on the biological and physical environment but would have an adverse effect on concessions and commercial services. The removal of all concessions in the Flat Top Manor House or on the estate could also have potential impacts to local and regional economy and businesses. In addition, full implementation of this alternative would require significant additional capital investment and operations increases that are not programmed at this time.

The Environmentally Preferred Alternative is Alternative One because it surpasses the No Action Alternative and Alternative Two in realizing the full range of national environmental policy goals as stated in §101 of NEPA. A park-wide and comprehensive approach for resource and visitor use management would provide visitors with an in-depth interpretive experience; reduce or eliminate vehicle congestion and subsequent accidents by expanding parking in the area behind the Flat Top Manor House; and provide clear management strategies for maintaining the overall integrity of the cultural landscape and resources. In conclusion, Alternative One provides the highest level of protection of natural and cultural resources while providing for a safe visitor experience. Selecting the environmentally preferred alternative need not be the same as “preferred alternative” for implementation. However, based on the

analysis in this EA, Alternative One, as well as being the preferred alternative, is also in this case the environmentally preferred alternative. This determination is made not only due to the improvements and upgrades that would resolve the natural and cultural resource and safety impacts discussed above, but also due to the adoption of specific management zones detailing acceptable resource conditions, visitor experience and use levels and appropriate activities and development.

## COMPARISON OF MANAGEMENT STRATEGIES BY ALTERNATIVES

Table 11 provides a comparison of Memorial Park management strategies by alternative. The table is organized to describe the effect of each alternative on several management topics.

Table 11. Summary Comparison of the Alternatives

No Action Alternative (Current Conditions)	Alternative One-NPS Preferred (Enhance What We Have)	Alternative Two (Cultural Landscape Rehabilitation)
<b><i>Actions Common to All Alternatives</i></b>		
<p><b><u>Flat Top Manor House</u></b> - Window treatments would be installed in the manor house to protect integrity of interior floors and other materials original to the house that are currently deteriorating due to light exposure. An integrated pest management (IPM) plan will be created and implemented. A fire suppression system and HVAC system would be installed in the Flat Top Manor House in all alternatives.</p> <p><b><u>Wadkins Road</u></b> - Blowing Rock Reservoir Land Exchange-The Town of Blowing Rock and the National Park Service exchanged lands in order to expand the Town of Blowing Rock’s reservoir, per congressional legislation. The lands given to the NPS (China Orchard tract) would be managed as part of the Moses Cone Estate and would provide passive recreational opportunities, including pedestrian trails.</p> <p><b><u>Trout Lake Road, Wadkins Road</u></b> - The Mountains-to-Sea Trail has been routed through the estate using existing carriage road trails. The trail would remain where currently routed. Note: A portion of the trail was newly constructed on the backside of Rich Mountain where it does meet carriage roads.</p> <p><b><u>Camp Catawba</u></b> - Camp Catawba has been determined ineligible for inclusion in the National Register of Historic Places; the property was deemed not nationally significant because it lacked historic integrity. This determination was received on May 7, 2009 from the North Carolina State Historic Preservation Office. Camp Catawba would be surveyed and recorded by the Historic American Building Survey/Historic American Engineering Record of the National Park Service and then managed through benign neglect. The buildings have been made secure from entry by visitors.</p> <p><b><u>Equestrian parking adjacent to Laurel Lane and 221</u></b> - New horse trailer parking area would be created adjacent to the Blowing Rock Charity Horse Show grounds accessed by Laurel Lane and US 221. The location of this parking is dependent on the outcome of the land exchange which is under discussion; since there are several possible layouts no site specific information or cost has been identified.</p>		

<b>Park-Wide</b>		
<b>No Action Alternative (Current Conditions)</b>	<b>Alternative One-NPS Preferred (Enhance What We Have)</b>	<b>Alternative Two (Cultural Landscape Rehabilitation)</b>
		The current locations of the shrub plantings established by the Cones, including rhododendrons, mountain laurels, and Pee Gee hydrangeas would be identified and an appropriate maintenance plan would be prepared and implemented
		Former estate buildings have been located through archeological investigations. A priority would be to determine the original site of the servants' quarters and the viability of returning it to that location.
		An inventory and assessment of the estate farm roads would be conducted and a plan would be developed for how the farm roads are to be managed and/or used in the future.
		Planning for vista restoration would be coordinated with the city of Blowing Rock to advocate for protection of historic viewsheds visible from the Memorial Park.
<b>Historic Building Resource Landscape Units - Flat Top Manor House</b>		
<b>No Action Alternative (Current Conditions)</b>	<b>Alternative One-NPS Preferred (Enhance What We Have)</b>	<b>Alternative Two (Cultural Landscape Rehabilitation)</b>
Current craft sales and visitor contact/book sales functions and levels of service would continue as long as funding is available to do so.	A craft sales outlet would continue under a concession contract, but would be allocated less space. Upon completion and approval of the DAMP if Alternative One is selected a public solicitation of a prospectus for a new concession contract would occur. The reallocation of space	The craft concession contract would not be renewed and that function would not be located within the estate any longer.  The book store function would continue to be located in the Flat Top Manor House.

	<p>would create more space within the Flat Top Manor House for interpretive exhibits - possibly about the influence the Cones had in the region and nationally and family and friends who stayed there.</p> <p>The Eastern National bookstore would continue to be located in the Flat Top Manor House.</p> <p>The NPS would continue to provide house tours of the second floor but additional rooms on the first floor would be added.</p>	<p>The historic core of the Cone estate in and around the Flat Top Manor House would be rehabilitated. New fire monitoring and suppression system would be installed.</p> <p>The Flat Top Manor House would function as the NPS visitor center and interpreted house museum. The interpretive plan would go into more detail to determine if one or more rooms, if any, would be furnished for interpretive purposes.</p> <p>Existing public parking would be removed and a new main parking area for cars, recreation vehicles and buses would be constructed further behind the Flat Top Manor House. An overflow parking</p>
		<p>An area for cars and a horse trailer parking area would be constructed below where the servant quarter is currently located.</p> <p>Two new comfort stations would be constructed, one at each of the parking areas.</p> <p>House tours would continue to demonstrate what the home was like when the Cones resided there.</p> <p>Portions of the surrounding landscape features and structures that were removed by the NPS could be rehabilitated in some form, possibly including the vegetable and flower gardens to the west of the Flat Top Manor House, croquet and tennis courts near the gardens above, laundry, ice house, carbide plant adjacent to and rear of Flat Top Manor House, bowling alley near the vegetable gardens, and the rose arbor, raspberry beds and gardens below the carriage house. Key views seen</p>

		<p>from and around the Flat Top Manor House would be reestablished and maintained.</p> <p>The successional growth on the sites of the historic croquet lawn, tennis court, vegetable garden, laundry building, and bowling alley would be cleared and grubbed. The area would be rehabilitated and maintained as an open lawn space. Building foundations, garden and recreation area locations would be marked and interpreted.</p> <p>The NPS would enter into partnerships with individuals and organizations to expand garden restoration associated with the terraces south of the carriage house and to plant and maintain historically important species, such as roses and raspberries on the terraced gardens and peonies behind the house and in the garden areas. Walks would be established that provide access to the gardens. If archeological investigations reveal the alignments of historic walks those locations would be used to provide access to and through the cultural landscape surrounding the Flat Top Manor House.</p> <p>Sunset carriage road would be rehabilitated to connect with the carriage house. The carriage road would pass under the main entrance road off of the Parkway to the expanded parking area.</p>
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**Constructed Water Feature Resource Landscape Units - Bass Lake and Trout Lake**

<p><b>No Action Alternative (Current Conditions)</b></p>	<p><b>Alternative One-NPS Preferred (Enhance What We Have)</b></p>	<p><b>Alternative Two (Cultural Landscape Rehabilitation)</b></p>
<p><b>Bass Lake</b> – Continue to operate and maintain at current size and functions</p>	<p><b>Bass Lake</b> – Same as No Action Alternative for current size and function. New pedestrian trail connection from Bass Lake to the Flat Top Manor House.</p> <p>The area between Flat Top Manor House and Silt Pond would be cleared of encroaching white pine and replanted with native dogwood or red bud to replicate the historic use as an orchard..</p> <p>Water lilies would be controlled.</p> <p>The rows of sugar maple trees along the margins of Bass Lake road trail would be maintained (currently maple seedlings in the woods are being transplanted in between trees).</p> <p>Bass Lake would be dredged to return the lake to a greater depth to reduce growth of water lilies. As a part of the dredging project the lakeshore banks would be re-contoured to have an informal and irregular sloped form bank managed under grass cover. Existing woody successional growth would be removed. The boathouse foundation would be stabilized.</p> <p>If dredging is not possible, the lake would be drained occasionally to kill the roots of water lilies, thus reducing their number.</p>	<p><b>Bass Lake</b> – Same as No Action Alternative and Alternative One for current size and function. Same as Alternative One, new pedestrian trail connection from Bass Lake to the Flat Top Manor House.</p> <p>Same as Alternative One, but with a broader width at the Flat Top Manor House increasing the area which would be restored with flowering species and replicating the historic orchard.</p> <p>The historic hydrangea gardens around the lake would be restored and the historic lake shore planting line of sugar maple trees would be maintained and reestablished as necessary.</p> <p>Same as Alternative One, for lake dredging.</p> <p>At the intersection of U.S. Route 221 and the Cone estate gravel entrance road on the south side of Bass Lake the experience of the original historic first view of the Flat Top Manor House from Bass Lake would be reestablished through tree removal.</p> <p>Water lilies, which have become overgrown, would be controlled. The rows of sugar maple trees along the margins of Bass Lake Road would be maintained.</p> <p>Cone-era shrub plantings of rhododendron and hydrangea would be maintained. The locations of Cone-designed shrub plantings would be</p>

		documented by identifying the species and areas to be maintained or rehabilitated by replacing plantings as needed. Specific design elements, such as the beds of hydrangea on the slopes above Bass Lake would be respected and perpetuated as possible.
<b>Trout Lake</b> – Continue to operate and maintain at current size and functions	<b>Trout Lake</b> – The current entrance road would be closed and reconstructed to its original use as part of the carriage road system. The current exit drive would be constructed for two-way traffic. Access to Trout Lake banks from the parking lot would be improved by thinning existing rhododendrons. Appropriate locations along the bank would be located for visitor access and fishing.	<b>Trout Lake</b> - Same as Alternative One, the current entrance road would be closed and reconstructed to original use as part of the carriage road system. The current exit drive would be constructed for two-way traffic. Access to Trout Lake banks from the parking lot would be improved by thinning existing rhododendrons. Appropriate locations along the bank would be located for visitor access and fishing.
	<b>Bass Lake and Trout Lake</b> – A fisheries management plan would be prepared to determine the park’s goals for managing the lakes and providing fishing opportunities for visitors.	Same as Alternative One
<b>Orchard Resource Landscape Units - Sawmill Place Orchard, Flat Top Orchard, and China Orchard</b>		
<b>No Action Alternative (Current Conditions)</b>	<b>Alternative One-NPS Preferred (Enhance What We Have)</b>	<b>Alternative Two (Cultural Landscape Rehabilitation)</b>
<b>Sawmill Place Orchard, Flat Top Orchard and China Orchard</b> – The three orchard areas would continue to be released from management.	<b>Sawmill Place Orchard and China Orchard</b> - These orchard areas would continue to be released from management, but they would be included in a further search for rare apple cultivars. The historical boundaries would be marked to demarcate the edges of the orchard	<b>Sawmill Place Orchard, Flat Top Orchard and China Orchard</b> - The locations of trees that constitute rare heritage cultivars would be located and documented. The NPS would encourage partnerships to salvage and conserving the germplasm and genetic resources of rare and unusual heritage apple cultivars.
	<b>Flat Top Orchard</b> - A partial restoration of the Flat Top Orchard as part of an overall approach maintaining the designed carriage drive sequence	<b>Flat Top Orchard</b> – Same as Alternative One

	and experience would be implemented.	
<b>China Orchard</b> - Bouldering would be maintained but with no improvements to trails. NPS would continue to work with NCDOT to maintain the rest area parking and comfort station. If compaction expands at China Orchard trails and bouldering sites beyond acceptable limits, or vegetation exhibits unacceptable degradation, sections may be closed until the soil and vegetation character could be restored or rejuvenated or the trails may be rerouted to more appropriate locations.	<b>China Orchard</b> – Same as No Action Alternative for managing bouldering and working with NCDOT. Trail access to bouldering areas would be through an officially marked trail which would be designed and managed to control resource damage caused by existing social trails and to reduce potential harm to users from residual pesticides that occur in the soil.	<b>China Orchard</b> - Same as No Action Alternative and Alternative One. Interpretive trails Would be constructed that provide a self-guided experience (signs on site, a brochure, or maps) that informs the visitor of the historic use of the area and how this portion of the estate functioned.
<b><i>Carriage Drive System Resource Landscape Units - Duncan Road, May View Road, Maze/Stringfellow Road and Wadkins Road</i></b>		
<b>No Action Alternative (Current Conditions)</b>	<b>Alternative One-NPS Preferred (Enhance What We Have)</b>	<b>Alternative Two (Cultural Landscape Rehabilitation)</b>
Carriage road trails would be reserved for traditional recreational uses—pedestrians (all trails, limits to group size), horses (all but Bass Lake trail), and carriages--and preserved to their historic design intent. No new trails would be constructed and use of bikes on unpaved roads or trails would not be allowed.	Same as No Action Alternative - These carriage road trails would be reserved for traditional recreational uses.  The surviving carriage drive system established by Moses Cone would be protected and maintained, including related historic plantings.  The dry laid stacked stone retaining walls associated with the carriage drives would be retained and maintained.  Historic designed vistas that pertain to the carriage roads would be located, identified inventoried, evaluated and rehabilitated.	Same as No Action Alternative and Alternative One - These carriage road trails would be reserved for traditional recreational uses.  The surviving carriage drive system established by Moses Cone would be protected, maintained, and rehabilitated.  The locations of Cone-designed shrub plantings associated with the carriage roads would be documented by identifying the species and areas to be maintained or rehabilitated by replacing plantings as needed.  Surviving historic bridges and gates associated with the carriage roads would be protected,

		<p>rehabilitated and maintained.</p> <p>The dry laid stacked stone retaining walls associated with the carriage drives would be protected, rehabilitated and maintained.</p> <p>Same as Alternative One-historic designed vistas would be studied and rehabilitated.</p>
<p><b><u>Duncan Road and Maze/Stringfellow Road -</u></b> Conifer plantations would continue to be released from management other than hazard trees being removed.</p>	<p><b><u>Duncan Road and Maze/Stringfellow Road -</u></b> Conifer plantations would be managed to protect their historic resource values. A silvicultural management plan would be prepared. Viable alternatives for plantation stand management would address the advantages for natural and cultural resource values. Native pests would be managed to a lesser degree than non-native pests.</p>	<p><b><u>Duncan Road and Maze/Stringfellow Road -</u></b> Same as Alternative One- Conifer plantations would be managed to protect their historic resource values and a silvicultural management plan would be prepared.</p>
<p><b><u>May View Road--</u></b> The NPS would construct an NPS horse trailer parking area to eliminate horse trailer parking on US 221. Parking would be adjacent to the Blowing Rock Charity Horse Show grounds accessed by Laurel Lane and US 221.</p>	<p><b><u>May View Road--</u></b> The NPS would construct an NPS horse trailer parking area to eliminate horse trailer parking on US 221. Parking would be adjacent to the Blowing Rock Charity Horse Show grounds accessed by Laurel Lane and US 221.</p>	<p><b><u>May View Road--</u></b> The NPS would construct an NPS horse trailer parking area to eliminate horse trailer parking on US 221. Parking would be adjacent to the Blowing Rock Charity Horse Show grounds accessed by Laurel Lane and US 221.</p>

**Mountain & Pasture Resource Landscape Units - Flat Top Mountain and Rich Mountain & Deer Park Pastures**

<p><b>No Action Alternative (Current Conditions)</b></p>	<p><b>Alternative One-NPS Preferred (Enhance What We Have)</b></p>	<p><b>Alternative Two (Cultural Landscape Rehabilitation)</b></p>
	<p><b><u>Flat Top Mountain and Rich Mountain and Deer Park Pasture</u></b> - A rehabilitation and maintenance plan would be developed for the pastures to address the threat from invading trees and shrubs and to direct agricultural leasing of the pastures and meadows. This plan would use best management practices and traditional practices for management.</p>	<p><b><u>Flat Top Mountain and Rich Mountain and Deer Park Pasture</u></b> - The surviving carriage drive system established by Moses Cone located in these RLUs would be protected, maintained, and rehabilitated including related historic plantings. Carriage trails in these RLUs would be reserved for traditional recreational uses—pedestrians (all trails, limits to group size), horses and carriages.</p> <p>Pastures and meadows would be restored to their approximate historic sizes. Field investigations would be conducted to determine where and how it would be possible to clear encroaching trees and shrubs. A pasture and meadow rehabilitation and maintenance plan would be developed to address restoration and long-term maintenance. This plan would use best management practices and traditional practices for management.</p>
<p><b><u>Flat Top Mountain</u></b> – The carriage road trails would be reserved for traditional equestrian and pedestrian use.</p> <p>The Cone Cemetery would be protected, and the observation tower preserved.</p> <p>Areas around the road trail would remain in their present natural or agricultural character.</p>	<p><b><u>Flat Top Mountain</u></b> – – Same as No Action Alternative. The carriage road trails would be reserved for traditional equestrian and pedestrian use.</p> <p>The present pattern of pastures and meadows would be maintained at their current size especially those pastures and meadows located along carriage road trails.</p>	<p><b><u>Flat Top Mountain</u></b> – - The Cone Cemetery would be protected, and the observation tower preserved.</p>

<p><b>Rich Mountain &amp; Deer Park Pastures</b> - The existing Rich Mountain carriage road trails would be dedicated to the traditional use of equestrians and hikers. The open pasture areas would remain meadows of similar size to the historic design intent, but may require fencing or other appropriate method to isolate cattle grazing from trail users.</p>	<p><b>Rich Mountain &amp; Deer Park Pastures</b> -The present pattern of pastures and meadows would be maintained at their current size especially those pastures and meadows located along carriage roads.</p> <p>The ridge top part of the Rich Mountain has been used as a pasture and this practice would continue. The area is now becoming overgrown and it would be included in the pasture rehabilitation and maintenance plan.</p>	<p><b>Rich Mountain &amp; Deer Park Pastures</b> -The limits of the Cone era deer parks would be documented and permanent markers would be placed beside the roads edging the two former deer parks to maintain a record for resource protection and management. The ridge top part of the Rich Mountain has been used as a pasture through grazing leases since the deer were removed and this practice would continue. The area is now becoming overgrown and it would be included in the pasture management plan to define any rehabilitation actions to be taken.</p>
<p><b><i>Un-Named Forest Resource Landscape Units - Un-Named Forest #1 and Un-Named Forest # 2</i></b></p>		
<p><b>No Action Alternative (Current Conditions)</b></p>	<p><b>Alternative One-NPS Preferred (Enhance What We Have)</b></p>	<p><b>Alternative Two (Cultural Landscape Rehabilitation)</b></p>
<p>These areas would continue to be managed as they are being managed now.</p>	<p>Same as No Action Alternative</p>	<p>Same as No Action Alternative and Alternative One</p>
<p><b><i>Road Resource Landscape Unit - Trout Lake Road and Blue Ridge Parkway Continued</i></b></p>		
<p><b>No Action Alternative (Current Conditions)</b></p>	<p><b>Alternative One-NPS Preferred (Enhance What We Have)</b></p>	<p><b>Alternative Two (Cultural Landscape Rehabilitation)</b></p>
<p><b>Trout Lake Road</b> – This secondary road would be maintained to its deed reserved width.</p> <p><b>Blue Ridge Parkway</b> – The section of Parkway right-of-way that bisects the Memorial Park would be managed to respect the estate’s cultural landscape resource values.</p>	<p>Same as No Action Alternative</p>	<p>Same as No Action Alternative and Alternative One</p>

## SUMMARY OF THE IMPACTS OF THE ALTERNATIVES

The terms used to define the magnitude or intensity of the effects are described in **Table 12**. **Table 12** presents a summary comparison of the potential effects resulting from the three alternatives. Potential effects are provided according to environmental impact topic. The *Environmental Consequences* section of this EA contains a detailed discussion of these potential impacts by resource topic.

**Table 12: Impact Topic Threshold Definitions**

Negligible	Minor	Moderate	Major	Duration
<b>SOILS</b>				
Soils would not be affected or the effects on soils would be below or at levels of detection. Any effects on soil productivity or fertility would be slight and would return to normal shortly after completion of project activities.	The effects on soils would be detectable, but effects on soil productivity or fertility would be small. If mitigation was needed to offset adverse effects, it would be relatively simple to implement and would likely be successful.	The effect on soil productivity or fertility would be readily apparent and would result in a change to the soil character over a relatively wide area. Mitigation measures would be necessary to offset adverse effects and likely be successful.	The effect on soil productivity or fertility would be readily apparent and would substantially change the character of the soils over a large area in and out of the park. Mitigation measures to offset adverse effects would be needed, and their success would not be assured.	Short-term – Following completion of the project, recovery would take less than a year.  Long-term – Following completion of the project, recovery would take more than a year.

Negligible	Minor	Moderate	Major	Duration
<b>WATER RESOURCES, INCLUDING WETLANDS</b>				
<p>Impacts would not be detectable. Water quality parameters would be well below all water quality standards for the designated use of the water. No vegetation or wildlife effects associated with altered water quality would be evident. Action would cause no change in wetland area or function. Wetlands would not be affected or effects would be below or at the lower levels of detection.</p>	<p>Impacts would be measurable, but water quality parameters would be well within all water quality standards for the designated use. State water quality and anti-degradation policy would not be violated. Changes in vegetation or wildlife use and health associated with water quality would be slight but measurable. Action would cause no change in wetland area and function. The action would affect a few individuals of plant or wildlife species within an existing wetland or riparian area. The change would require considerable scientific effort to measure and have barely perceptible consequences to wetland or riparian habitat function.</p>	<p>Changes in water quality would be measurable and readily apparent, but water quality parameters would be within all water quality standards for the designated use. State water quality and antidegradation policy would not be violated. Changes in vegetation and/or wildlife use and health associated with water quality would be measurable and readily apparent. Action would change an existing wetland area or function, but the impact could be mitigated by the creation of artificial wetlands. The action would have a measurable effect on plant or wildlife species within an existing wetland or riparian area, but all species would remain indefinitely viable within the park. Mitigation would be necessary to offset adverse effects, and would likely be successful.</p>	<p>Changes in water quality would be readily measurable, and some parameters would periodically be approached, equaled, or exceeded. State water quality regulations and antidegradation policy may be violated. Changes in vegetation and/or wildlife use and health associated with water quality would be measurable and readily apparent, even to a casual observer. Action would have drastic and permanent consequences for an existing wetland area or function which could not be certainly mitigated. Wetland and riparian species dynamics would be upset, and species would be at risk of extirpation from the park. Effects to wetlands would be observable over a relatively large area (regional scale) and would be long-term. The character of the wetland would be changed and functions provided by wet-land would be substantially changed. Extensive mitigation measures would be necessary and their success would not be assured</p>	<p>Short-term – Following implementation activities, recovery would take less than one year.</p> <p>Long-term – Following implementation activities, recovery would take longer than one year.</p>

Negligible	Minor	Moderate	Major	Duration
<b>VEGETATION – NATIVE PLANT COMMUNITIES</b>				
<p>Individual native plants may occasionally be affected, but measurable or perceptible changes in plant community size, integrity, or continuity would not occur.</p>	<p>Effects to native plants would be measurable or perceptible, but would be localized within a small area. The viability of the plant community would not be affected and the community, if left alone, would recover quickly.</p>	<p>A change would occur to the native community over a relatively large area that would be readily measurable in terms of abundance, distribution, quantity, or quality. Mitigation measures to offset/minimize adverse effects would be necessary and would likely be successful.</p>	<p>Effects to native communities would be readily apparent, and would substantially change vegetative community types over a large area, inside and outside the park. Extensive mitigation would be necessary to offset adverse effects and success would not be guaranteed.</p>	<p>Short-term – Recovers in one to three years or less.  Long-term – Takes more than three years to recover.</p>

Negligible	Minor	Moderate	Major	Duration
<b>WILDLIFE, INCLUDING NEOTROPICAL MIGRATORY BIRDS</b>				
<p>Wildlife and their habitats would not be affected or the effects would be at or below the level of detection and would not be measurable or of perceptible consequence to wildlife populations. Impacts would be well within the range of natural fluctuations.</p>	<p>Effects on wildlife or habitats would be measurable or perceptible, but localized within a small area. While the mortality of individual animals might occur, the viability of wildlife populations would not be affected and the community, if left alone, would recover. Impacts would not be expected to be outside the natural range of variability and would not be expected to have any long-term effects on native species, their habitats, or the natural processes sustaining them. Sufficient habitat would remain functional to maintain viability of all species.</p>	<p>A change in wildlife populations or habitats would occur over a relatively large area. The change would be readily measurable in terms of abundance, distribution, quantity, or quality of population. Effects would be readily detectable, long-term, and with consequences at the population level. The change would be readily measurable in terms of abundance, distribution, quantity, or quality of population. Mortality or interference with activities necessary for survival could be expected on occasional basis, but not expected to threaten the continued existence of the species in the park unit. Impacts could be outside natural range of variability for short periods of time. Sufficient habitat would remain functional to maintain variability of all native wildlife species. Mitigations would be necessary to offset adverse effects, and would likely be successful.</p>	<p>Effects on wildlife populations or habitats would be readily apparent and would substantially change wildlife populations over a large area in and out of the park. Impacts would be expected to be outside the natural range of variability for long periods of time or to be permanent. Loss of habitat may affect the viability of at least some native species. Extensive mitigation would be needed to offset adverse effects, and the success of mitigation measures could not be assured.</p>	<p>Short-term – Recovers in one to three years or less.  Long-term – Takes more than three years to recover.</p>

Negligible	Minor	Moderate	Major	Duration
<b>CULTURAL AND HISTORICAL RESOURCES</b>				
<p>The effect is at the lowest levels of detection– barely perceptible and not measurable. For purposes of Section 106, the determination of effect would be no adverse effect.</p>	<p>Adverse impact – disturbance of an archeological site(s) results in little, if any, loss of integrity; impact would alter a feature(s) of a structure or building, alter a pattern(s) or feature(s) of the cultural landscape, or alter access to an ethnographic resource but would not diminish the overall integrity of the resource or landscape; would affect the integrity of few items in the museum collection but would not degrade the usefulness of the collection for future research and interpretation. For purposes of Section 106, there would be no adverse effect.</p> <p>Beneficial impact – maintenance and preservation of an archeological site(s); stabilization/ preservation of features of a structure or buildings in accordance with the <i>Secretary of the Interior’s Standards for the Treatment of Historic</i></p>	<p>Adverse impact – disturbance of an archeological site(s) results in loss of integrity; impact would alter a feature(s) of the structure or building, alter a pattern(s) or feature(s) of the cultural landscape, or destroy access to or alter features or landscapes of an ethnographic resource, diminishing the overall integrity of the resource or landscape; would affect the integrity of many items in the museum collection and diminish the usefulness of the collection for future research and interpretation. For purposes of Section 106, the determination of effect would be adverse effect. A memorandum of agreement is executed among the National Park Service and applicable state or tribal historic preservation officer and, if necessary, the Advisory Council on Historic Preservation in accordance with 36 CFR 800.6(b). The mitigative</p>	<p>Adverse impact – disturbance of an archeological site(s) results in loss of integrity; impact would alter a feature(s) of the structure or building, alter a pattern(s) or feature(s) of the cultural landscape, or destroy access to or alter features or landscapes of an ethnographic resource, diminishing the overall integrity of the resource or landscape; would affect the integrity of most items in the museum collection and destroy the usefulness of the collection for future research and interpretation. For purposes of Section 106, the determination of effect would be adverse effect.</p> <p>The National Park Service and applicable state or tribal historic preservation officer are unable to negotiate and execute a memorandum of agreement in accordance with 36 CFR 800.6(b).</p>	<p>Short-term – Effects on the natural elements of a cultural landscape may be comparatively short-term (less than a year) until new vegetation grows or historic plantings are restored.</p> <p>Few impacts to museum collections would be short term. An example of short term would be the collection packed and stored (and perhaps moved) while the repository is remodeled or a new one constructed.</p> <p>Long-term – Because most cultural resources are non-renewable, any effects on archeological, historic, or ethnographic resources would be long-term. Effects on the cultural landscape would persist for more than a year.</p> <p>Any damage to any artifacts would be permanent.</p>

Negligible	Minor	Moderate	Major	Duration
<b>CULTURAL AND HISTORICAL RESOURCES Continued</b>				
	<p><i>Properties</i>; preservation of landscape patterns and features in accordance with the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscape</i>; re-establishment of access routes to ethnographic resources; stabilize the current condition of the collection or its constituent components to minimize degradation. For purposes of Section 106, the determination of effect would be no adverse effect.</p>	<p>Measures identified in the MOA reduce the intensity of impact from major to moderate.</p> <p>Beneficial impact – stabilization of an archeological site(s); rehabilitation of a structure or building in accordance with the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties</i>; rehabilitation of a landscape or its patterns and features in accordance with the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes</i>; improve the condition of the collection or its constituent parts from the threat of degradation.</p> <p>For purposes of Section 106, the determination of effect would be no adverse effect.</p>	<p>Beneficial impact – active intervention to preserve an archeological site(s); restoration of a structure or building in accordance with the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties</i>; restoration of a landscape or its patterns and features in accordance with the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes</i>; secure the condition of the collection as a whole or its constituent components from the threat of further degradation. For purposes of Section 106, the determination of effect would be no adverse effect.</p>	

# CHAPTER 3: AFFECTED ENVIRONMENT

## INTRODUCTION

### FLAT TOP MANOR HOUSE

In accordance with CEQ regulations (40 CFR 1502.15), this section describes the characteristics of the existing environmental components previously identified as impact topics potentially subject to effects from implementing the proposed action or alternatives. The affected environment descriptions provide the baseline site information to be analyzed further for potential impacts. This approach allows for a standardized comparison between alternatives based on the most relevant issues.

Moses H. Cone Memorial Park occupies 3,516 acres (1,423 ha) from the top of Flat Top Mountain at 4,558 feet (1,298 m) above sea level down to 2,546 feet (776 m) on a tributary of China Creek. About 90% of the park is covered in trees with another 8% in open fields (Firth 1993). The woods include both old-growth and second-growth forests, pine plantations, and early successional forests occupying abandoned fields. Open fields are leased out to local farmers for cattle pastures and hay production. Landscaping around buildings, lakes and carriage roads includes both native vegetation and non-native plantings and were used to enhance the natural environment. Several streams, draining into the New, Catawba and Watauga Rivers, originate in the park and there are six impoundments: Bass Lake, Trout Lake, Upper Pond, Heart Pond, Cascade Pool and the Blowing Rock Reservoir. More than 400 plant species, about 100 bird species, 14 amphibians and numerous other animals have been found on the estate during surveys, including several plants and animals that are on North Carolina's rare species list.

While Mr. Cone developed much of the property, including overseeing the creation of a working estate with more than 24 miles (40 km) of carriage roads and 180 acres (73 ha) of apple orchards, he also valued the estate's natural features. The Historic Resource Study (Buxton 1987) states that the "Cones were naturalists before the term became popular and they worked to preserve and enrich their land." This included creating two deer parks, prohibiting hunting and fishing except under very limited circumstances, not allowing wildflowers to be picked and severe limitations on cutting live trees. In 1907 Mr. Cone wrote an article in the *Watauga Democrat* advocating for the creation of an Appalachian Forest Reserve and stated that he would be willing to donate his entire estate toward this venture (Cone 1907).

## NATURAL RESOURCES

### SOILS

Much of Cone Park is composed of very rocky or stony soils with few areas having slopes less than 25%. Porters loam and Unaka-Porters complex make up most of the mountain tops and upper slopes with Dellwood and Saunook loams along the streams. Firth (1993) notes, "The soils on the estate were acidic and generally of little agricultural value."

There are no soils considered as Prime Farmlands on the Cone Estate. Saunook loam at 8-15% slopes is classified as Farmland of Statewide Importance. Dellwood, Porters loam, the remaining Saunook loam, and Saunook-Kikwasi complex are all classified as Farmland of Local Importance. The existing agricultural fields are generally found in areas with Porters loam or Unaka-Porters complex soils and slopes of less than 25%. Apple orchards were also typically located on Unaka-Porters complex soils but

some of these sites have steep slopes, especially in China Orchard. Here slopes exceeded 30% with some areas approaching 100%, requiring a cable tramway to haul apples up from the lower portions of the orchard (Firth 1993). (see **Table 13**).

**Table 13. Soils Classifications in the Moses H. Cone Memorial Park**

Soil Name	Description	Slopes	Land Capability Classifications	Farmland Classification
AcD – Ashe-Chestnut Complex	very rocky	15-30%	6e	Not prime farmland
AcE – Ashe-Chestnut Complex	very rocky	30-50%	7e	Not prime farmland
AcF – Ashe-Chestnut Complex	very rocky	50-95%	7e	Not prime farmland
BuD - Burton-Craggey-Rock outcrop complex	windswept	15-30%	7s, 8s	Not prime farmland
BuF - Burton-Craggey-Rock outcrop complex	windswept	30-95%	7s, 8s	Not prime farmland
CsC - Cullasaja very cobbly loam	very stony	8-15%	7s	Not prime farmland
CsD - Cullasaja very cobbly loam	very stony	15-30%	7d	Not prime farmland
CsE - Cullasaja very cobbly loam	very stony	30-50%	7s	Not prime farmland
CtC - Cullasaja very cobbly loam	extremely bouldery	8-15%	7s	Not prime farmland
CtD - Cullasaja very cobbly loam	extremely bouldery	15-30%	7s	Not prime farmland
CtE - Cullasaja very cobbly loam	extremely bouldery	30-50%	7s	Not prime farmland
DeB – Dellwood cobbly sandy loam	Occasionally flooded	1-5%	3s	Farmland of local importance. 5% hydric.
NkA – Nikwasi loam	Frequently flooded	0-3%	4w, 6w	Not prime farmland. 80% hydric.
PuC - Porters loam	stony	8-15%	3e	Farmland of local importance
PuD - Porters loam	stony	15-30%	4e	Farmland of local importance
PuE - Porters loam	stony	30-50%	6e	Not prime farmland
SnC - Saunook loam		8-15%	3e	Farmland of statewide importance
SnD - Saunook loam		15-30%	4e	Farmland of local importance
SoC - Saunook loam	very stony	8-15%	4s	Farmland of local importance

Soil Name	Description	Slopes	Land Capability Classifications	Farmland Classification
SoD - Saunook loam	very stony	15-30%	4s	Farmland of local importance
SoE - Saunook loam	very stony	30-50%	6s	Not prime farmland
SwC - Saunook-Nikwasi complex		2-15%	3e, 6w	Farmland of local importance. 30% hydric.
UkC - Unaka-Porters complex	very rocky	8-15%	4e	Not prime farmland
UkD - Porters-Unaka complex	very rocky	15-30%	6e	Not prime farmland
UkE - Porters-Unaka complex	very rocky	30-50%	7e	Not prime farmland
UkF - Porters-Unaka complex	very rocky	50-95%	7e	Not prime farmland
UnF - Unaka-Rock outcrop complex		50-95%	7e, 8s	Not prime farmland
<p>Capability Classes: Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both. Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both. Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat. Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat. Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.</p> <p>Capability Subclasses: <i>e</i> shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; <i>w</i> shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness could be partly corrected by artificial drainage); <i>s</i> shows that the soil is limited mainly because it is shallow, droughty, or stony</p> <p>Information from the Web Soil Survey - <a href="http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx">http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx</a></p>				

Soil sampling in 2001 revealed several areas in the Cone apple orchards with lead and arsenic contamination, probably from past pesticide and herbicide applications during the Cone period. Additional testing at other locations in the orchards has shown that there is widespread contamination that, while overall a relatively low level, is spread throughout the historic orchards. Sampling of ground and surface water, sediments in the lakes, and in areas outside the orchards have not shown additional contamination above threshold levels. Land use restrictions would be established within the historic orchard boundaries to ensure that areas with elevated lead and arsenic levels are not disturbed, if required by Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

## WATER RELATED RESOURCES

Cone Park is fortunate to be located on high grounds with very little development on slopes overlooking the Park. Because of this, very few of the Park's water resources are impacted by activities that are not controlled directly by the National Park Service. In addition there is abundant rainfall in the Park

allowing many seeps and springs to be found here. Nearby Blowing Rock receives an average of 65 inches (1.6 m) of precipitation annually and this is spread fairly evenly throughout the year, with 4.4 inches (11.2 cm) in December and January and up to 6.1 (15.5 cm) inches in March and April. The remaining months all receive about 5 inches (12.7 cm) of precipitation on average.

Cone Park contains numerous seeps and headwaters, which flow into several miles of first and second order streams, with short sections of third order streams as well. Generally these streams have high water quality since their watersheds are entirely within the park and most of the land is undeveloped and forested. While most of the streams are in the New River watershed (Flannery Fork, Winkler Creek, Penley Branch, Flat Top Branch, Stringfellow Branch) smaller areas of the estate drain into the Watauga River (Sims Creek, Cannon Branch) and the Catawba River (China Creek, Long Branch) basins.

All streams in Cone Park that are classified by NC Department of Environment and Natural Resources (DENR), Division of Water Quality are listed in **Table 14**. There are no 303d waters in Cone Park. No park water is listed by NC Wildlife Resources Commission as Designated Public Mountain Trout Waters, though this is being re-evaluated.

Only one wetland on the Cone Estate has been identified during Parkway-wide surveys, though there are likely other small wetlands that have not been located and mapped. Additionally, wetlands may have been covered when various sites were flooded to create the lakes and ponds on the property. All wetlands in the southern Appalachians have a G1, G2, or G3 global rarity ranking making them significantly rare resources.

The Cones built two lakes and four ponds on the estate. Bass Lake, was constructed prior to 1909. Covering 21 acres (8.5 ha) and up to 30 feet (9 m) deep, it is the largest of the impoundments and served as a focal point for visitors to the Flat Top Manor House. White water lilies (*Nymphaea odorata*) were planted in the shallows and the lake was stocked with bass (Hollers 1975), a practice that was continued by the National Park Service until about 1990. While fishing was not allowed for the public, Mrs. Cone did send employees down to Bass Lake about once a month to catch fish for dinner (Hollers 1975). The Bass Lake dam was totally rebuilt in 1935 – 1936 (Isenhour 2005a) and was drained again from 1989 until 1991 to allow additional repairs to the dam (Hape 1991).

Above Bass Lake there is a small heart-shaped, stone-walled pond that was stocked with trout and above that is Upper Pond (also known as Silt Pond), which caught sediment from the apple orchards (Firth 1993). Heart Pond is the only impoundment not created during Mr. Cone's life. Bass Lake waters flow out into Stringfellow Branch, then into Chetola Lake a short distance downstream and then into the South Fork of the New River.

Trout Lake, located on Flannery Fork, is about 15 acres (6 ha) and up to 23 feet (7 m) deep. Mr. Cone regularly stocked Trout Lake with up to 8,000 rainbow trout (Noblitt 1996). The dam failed during a storm in July 1916 and the lake remained drained, with a part of the lake bed used by Mrs. Cone as a hayfield (Isenhour 1997), until the dam was rebuilt by the National Park Service in 1952. The NPS resumed stocking the lake with trout, creating a self-reproducing fishery until the late 1990's. At some point largemouth bass were introduced into the lake without NPS concurrence and presently the lake contains largemouth bass with only a few trout remaining. Along the carriage road above Trout Lake is Cascade Pool, a small rock-lined pond.

There is also a reservoir located on Flat Top Branch and used by the Town of Blowing Rock as its principal water source. The USA completed an exchange of lands and interests in land with the town of Blowing Rock. The proposed exchange added 198 acres of undeveloped mountain land to the Blue Ridge Parkway boundary in the vicinity of the China Creek area adjoining the Moses H. Cone Estate. In

exchange, the USA conveyed to the town of Blowing Rock 20 acres of land located within the Cone estate boundary on Flat Top Branch along with 8 easements for water and sewer. The 20 acre tract of land includes a water reservoir that will provide town residents with a sustainable source of drinking water.

The land is sufficient for reservoir enlargement to meet North Carolina municipal water guidelines. Prior to her death, Bertha Cone, having retained life estate rights in Flat Top Manor and the surrounding estate, granted the town a limited right to draw water from two branches on Flat Top Mountain. That right terminated at her death.

None of the waters in Cone Park is classified by NC Wildlife Resources Commission under their fishing regulations. The Blue Ridge Parkway’s compendium requires a NC or VA fishing license and establishes a 7”, four trout creel limit for both Bass Lake and Trout Lake, and state regulations are applied to bass and bluegill fishing. Heart Pond is closed to fishing. There are no other fishing regulations for any other waters in Cone Park.

**Table 14. NC Department of Environment and Natural Resources (DENR) Division of Water Quality Stream Classification Descriptions**

<b>stream</b>	<b>Classification</b>
Flat Top Branch – Above Blowing Rock Reservoir	WS-II, Tr, HQW, CA
Flat Top Branch – Below Blowing Rock Reservoir	WS – IV, Tr
Penley Branch	WS-IV
Winkler Creek	WS-II, Tr, HQW
Flannery Fork and Trout Lake	WS-II, B, Tr, HQW
Stringfellow Branch	WS-IV
China Creek	C, Tr
Long Branch	C
Sims Creek	C, Tr, ORW
Cannon Branch	C, ORW
WS-II – Water Supply II, Undeveloped; WS-IV – Water Supply, Highly Developed; Tr – Trout Waters; ORW – Outstanding Resource Water; HQW – High Quality Waters; CA – Critical Area; B Primary Recreation, Fresh Water. Classification definitions can be found at <a href="http://h2o.enr.state.nc.us/csu/swc.html">http://h2o.enr.state.nc.us/csu/swc.html</a>	

## VEGETATION

When the Cones bought up the 35 tracts that made up their estate about 75% of the property, excluding the orchards, was forested; approximately 90% is forested today. Most of the forests had been cutover, though large-scale clearcut logging was not common in this area of North Carolina until the 1910’s and 20’s (Firth 1993). Small areas of old-growth forest still exist north of Rich Mountain, around Trout Lake and along Flannery Fork Branch. Many pastures and fields had already been cleared by previous landowners and the Cones improved some of these fields and cleared additional acreage for their apple orchards.

Ridges on the estate are typically dominated by a variety of oaks, including northern red oak (*Quercus rubra*), black oak (*Q. velutina*), chestnut oak (*Q. prinus*) and white oak (*Q. alba*). As you go downslope

there is more diversity with an increasing amount of hickories. Coves contain tulip poplar (*Liriodendron tulipifera*), red maple (*Acer rubrum*) and hemlocks (*Tsuga canadensis* and *T. caroliniana*). Communities in Cone Park identified by the NC Natural Heritage Program as significant include Rich Cove Forest, Acidic Cove Forest, Northern Hardwood Forest (Typic Subtype) and Canada Hemlock Forest.

In addition to creating about 180 acres (73 ha) of apple orchards on the estate and maintaining fields and pastures, the Cones also actively modified the estate's vegetation with widespread landscaping. Thousands of rhododendrons, tulip poplars, Fraser firs, and hemlocks were set out along the carriage roads. The Bass Lake area received hydrangea beds, spruce trees, red maples lining the road and water lilies in the lake. While there was little landscaping at the Manor House, nearby the Cones had a rose arbor, vegetable and flower gardens and raspberry beds (Firth 1993). Pine plantations were established above Bass Lake and a balsam grove was planted at the cemetery (Firth 1993).

The Cones were protective of the plants on the estate and prohibited guests from picking wildflowers (Noblitt 1996) and generally restricted tree cutting except for firewood and some small-scale logging (Firth 1993). Ted Pease, former BRP Landscape Architect, has said that fire wood came from dead trees and that when one dead tree was cut down a seedling would be planted next to the cut stump (Pease, 1975). American chestnuts (*Castanea dentata*) on the estate were lost to an introduced fungus during the 1920's and these trees provided much of the firewood for the estate for many years (Noblitt 1996, Moody 1997).

There are currently 85 known rare plants that occur on Blue Ridge Parkway lands. Five species are federally listed, they are: *Gymnoderma lineare* (rock gnome lichen) (US, Endangered, NC Threatened), *Geum radiatum* (mountain avens) (US Endangered, NC Endangered), *Liatris helleri* (Heller's blazingstar) (US Threatened, NC Threatened), *Helonias bullata* (swamp pink) (US Threatened, NC Threatened), and *Isotria medeoloides* (small whorled pogonia) (US Threatened, NC Endangered). In addition, 8 species are listed as Federal Species of Concern: *Calamagrostis cainii* (Cain's reed grass) (NC Endangered), *Cardamine clematitidis* (mountain bittercress) (NC Significantly Rare), *Chelone cuthbertii* (Cuthbert's turtlehead) (NC Significantly Rare), *Delphinium exaltatum* (tall larkspur) (NC Endangered), *Geum geniculatum* (bent avens) (NC Threatened), *Lilium grayi* (Gray's lily) (NC Threatened), *Silene ovata* (mountain catchfly) (NC Significantly Rare), and *Euphorbia purpurea* (glade spurge) (NC Significantly Rare). Only Gray's lily is known near Cone Park.

Gray's Lily (*Lilium grayi*) is a perennial herb of non-alluvial wetlands in the southern Appalachians of North Carolina, Virginia, and Tennessee. Along the Blue Ridge Parkway, most sites are open fields (in this area, there are 2 forested areas). Populations are also found along the Parkway edge itself. In forests, as succession proceeds, light levels to understory plants probably decline. For *Lilium grayi*, canopy thinning is a potentially valuable management activity which may encourage more vigorous growth and flowering.

Only two rare plant communities are located on the Moses Cone Estate:

*Swamp Forest-Bog Complex Typic Type:* This palustrine forest has a closed or open canopy and an open to dense shrub layer, interspersed with small *Sphagnum*-herb dominated depressions. These forests are found throughout the Southern Blue Ridge, and in the Cumberland Mountains and Cumberland Plateau, at elevations below 4,000 feet (1200 m), in poorly drained bottomlands, generally with visible microtopography of ridges and sloughs or depressions. It often occurs near streams and is undoubtedly occasionally flooded. The canopy is composed of various mixtures of evergreen and deciduous species, often dominated by *Tsuga canadensis* and *Acer rubrum*, and less often by *Liriodendron tulipifera*, *Nyssa sylvatica*, *Pinus strobus*, or *Pinus rigida*. The dominant shrubs are usually *Rhododendron maximum*, *Kalmia latifolia*, and *Leucothoe fontanesiana*, but other shrubs include *Salix nigra*, *Alnus serrulata*, *Ilex*

*montana*, *Cornus amomum*, *Viburnum nudum* var. *cassinoides*, and *Toxicodendron vernix*. Herbs in *Sphagnum*-herb dominated openings include *Solidago patula* var. *patula*, *Symphyotrichum puniceum* (= *Aster puniceus*), *Dalibarda repens*, *Osmunda cinnamomea*, *Carex folliculata*, *Carex gynandra*, *Carex scabrata*, *Carex leptalea*, *Carex stricta*, *Sarracenia purpurea*, *Sagittaria latifolia* (= var. *pubescens*), and *Leersia virginica*. Herbs in the forested areas include *Glyceria melicaria*, *Lycopodium obscurum*, *Onoclea sensibilis*, *Maianthemum canadense*, *Thelypteris noveboracensis*, and *Osmunda regalis* var. *spectabilis*.

*Southern Appalachian Bog Northern Type*: This wetland community is dominated by shrubs, occurring over graminoids, forbs, and *Sphagnum* spp. It has a strong component of species of northern phytogeography occurring in combination with species endemic to the southern Appalachians, and in association with felsic gneisses or schists and acidic, nutrient-poor seepage. Shrub cover ranges from 25-100%, and trees may be scattered throughout or dominate in patches or on the edges. *Ilex verticillata*, *Salix sericea*, *Spiraea alba*, and *Spiraea tomentosa* are often dominant, occurring with *Alnus serrulata*, *Rosa palustris*, *Photinia pyrifolia* (= *Aronia arbutifolia*), *Photinia melanocarpa* (= *Aronia melanocarpa*), *Rhododendron maximum*, *Rhododendron viscosum*, *Rhododendron catawbiense*, *Kalmia latifolia*, *Kalmia carolina*, *Hypericum densiflorum*, *Lyonia ligustrina* var. *ligustrina*, and *Menziesia pilosa*. Typical tree species are *Pinus strobus*, *Tsuga canadensis*, *Pinus rigida*, and *Picea rubens*. Herbaceous cover may be sparse to dense and typically includes *Carex atlantica*, *Carex intumescens*, *Carex folliculata*, *Schoenoplectus* spp. (= *Scirpus* spp.), and *Osmunda cinnamomea*. *Sphagnum* spp. include *Sphagnum palustre*, *Sphagnum affine* (= *Sphagnum imbricatum*), *Sphagnum bartlettianum*, *Sphagnum recurvum*, and, rarely, northern disjuncts such as *Sphagnum fallax*. Other characteristic species include *Poa paludigena*, *Lilium grayi*, *Platanthera grandiflora*, *Melanthium virginicum*, *Stenanthium gramineum* var. *robustum*, *Arethusa bulbosa*, *Calopogon tuberosus*, *Chelone cuthbertii*, *Thelypteris simulata*, *Carex trisperma*, *Rhizomnium appalachianum*, *Polytrichum commune*, *Aulacomnium palustre*, and *Bazzania trilobata*. This community can occur on flat areas in valley bottoms, on portions where wet conditions are maintained hydrologically by rainwater and a high water table rather than by flooding, or in the upper portions of stream watersheds, on slight slopes, hydrologically maintained by very nutrient-poor to fairly nutrient-rich seepage. This community occurs at elevations from 3,000-4,200 feet (900-1,250 m) in the northern part of its range and, in the southern part of the range, at elevations from 3,300-5,800 feet (1,000-1,800 m).

There are five North Carolina State Natural Heritage Areas located on the Moses Cone Estate or nearby:

*Moses Cone Park – Flat Top Mountain Natural Area*: The site is significant for good quality examples of Northern Hardwood Forest and Rich Cove Forest communities and the presence of the State Threatened/Special Concern Gray's lily (*Lilium grayi*). Good examples of the Rich Cove Forest community are present on lower and middle slopes, generally at elevations less than 4,000 feet (1,200 m). These forests are dominated by a diverse mixture of hardwoods such as red oak (*Quercus rubra*), white oak (*Quercus alba*), sugar maple (*Acer saccharum*), and red maple (*Acer rubrum*), basswood (*Tilia heterophylla*), sweet birch (*Betula lenta*), cucumber-tree (*Magnolia acuminata*), black cherry (*Prunus serotina*), and white ash (*Fraxinus americana*). The understory is sparse beneath the dense canopy, with little rhododendron. Numerous species of herbs and ferns form a fairly dense herb layer on the deep, moist, rich soils of these forests. A moderate population of the rare Gray's lily (*Lilium grayi*) occurs above the Blue Ridge Parkway in this community. Areas above 4,000 feet (1,200 m) support good quality examples of the Northern Hardwood Forest community, which is dominated by sugar maple, yellow birch (*Betula alleghaniensis*), red oak, American beech (*Fagus grandifolia*), sweet birch, and white ash. Understory species typical of this northern community are present, such as striped maple (*Acer pensylvanicum*), mountain holly (*Ilex montana*), and shrubs such as Catawba rhododendron (*Rhododendron catawbiense*), minniebush (*Menziesia pilosa*), and witch-hobble (*Viburnum lantanoides*). A fairly dense collection of herbs, sedges, and ferns of cool, moist climates are present.

*Moses Cone Park – Rich Mountain Natural Area:* The site contains fairly good examples of Rich Cove Forest and Acidic Cove Forest community types. Open slopes and ridgetop areas support Rich Cove Forest dominated by red oak (*Quercus rubra*), sugar maple (*Acer saccharum*), sweet birch (*Betula lenta*), red maple (*Acer rubrum*), white ash (*Fraxinus americana*), cucumber-tree (*Magnolia acuminata*), and yellow buckeye (*Aesculus flava*). As is typical of this community, shrubs are sparse but herbs and ferns characteristic of moist coves are abundant. Herbaceous plants include Blue Ridge white heartleaf aster (*Aster chlorolepis*), wood-nettle (*Laportea canadensis*), jewelweed (*Impatiens* sp.), false Solomon's-seal (*Maianthemum racemosum*), Appalachian bunchflower (*Melanthium parviflorum*), starry campion (*Silene stellata*), marginal wood-fern (*Dryopteris marginalis*), Christmas fern (*Polystichum acrostichoides*), fancy fern (*Dryopteris intermedia*), whorled wood aster (*Aster acuminatus*), blackbead lily (*Clintonia umbellulata*), black cohosh (*Cimicifuga racemosa*), black snakeroot (*Ageratina altissima*), cinnamon fern (*Osmunda cinnamomea*), blue cohosh (*Caulophyllum thalictroides*), sedges (*Carex* spp.), indian cucumber-root (*Medeola virginiana*), nodding mandarin (*Prosartes lanuginosa*), and others.

*Julian Price Park Wetlands Natural Area.* This site contains numerous high quality examples of the rare Southern Appalachian Bog community type. Beaver activities are impacting certain portions of these bogs, but these activities may be a natural disturbance regime that maintains open wetland habitat. Some sites have been impacted by ditching.

*Sims Creek Old Growth Forest Natural Area:* The site contains a moderately-sized, excellent quality example of an old-growth Canada Hemlock Forest, though the hemlock component is presently threatened by Hemlock Woolly Adelgid (*Adelges tsugae*). Few such forests are documented in the northern mountains region. The canopy is dominated by Canada hemlock (*Tsuga canadensis*) with diameters in the 24-36 inch (61 – 91 cm) range. Very mature red maples (*Acer rubrum*), yellow birches (*Betula alleghaniensis*), sweet birches (*Betula lenta*), and other hardwoods are subdominant with many to 24 inches (61 cm) in diameter. A dense layer of great rhododendron (*Rhododendron maximum*) occupies many areas, and several herbs typical of moist coves are present, including roundleaf violet (*Viola rotundifolia*), galax (*Galax urceolata*), Christmas fern (*Polystichum acrostichoides*), trillium (*Trillium* sp.), jack-in-the-pulpit (*Arisaema triphyllum*), New York fern (*Thelypteris noveboracensis*), and yellow jewelweed (*Impatiens pallida*).

*Boone Fork Aquatic Habitat Natural Area:* Boone Fork Bog contains a good example of a Southern Appalachian Bog in the bed of a former natural lake. It contains open herb zones with cottongrass bulrush (*Scirpus cyperinus*), woodland bulrush (*Scirpus expansus*), lamp rush (*Juncus effuses*), weak rush (*Juncus debilis*), the uncommon crested woodfern (*Dryopteris cristata*), mountain fringed sedge (*Carex gynandra*), prickly bog sedge (*Carex atlantica*), and the sedge *Carex lurida*, as well as sphagnum moss (*Sphagnum* sp.). Shrub dominated areas support willows (*Salix* sp.), great rhododendron (*Rhododendron maximum*), and other wetland shrubs.

## **WILDLIFE, INCLUDING NEOTROPICAL MIGRATORY BIRDS**

Moses H. Cone Memorial Park, a 3,516 acre (1,423 ha) refuge in a rapidly developing county, provides habitat to a wide variety of wildlife species. While most of these are common animals easily seen by park visitors, such as white-tailed deer (*Odocoileus virginianus*), woodchuck (*Marmota monax*), and wild turkey (*Meleagris gallopavo*), others are on North Carolina's rare species lists. Overall the varied habitats in the park provide homes to a wide diversity of animals with at least 97 species of birds, 40 butterflies, and 16 amphibians recorded.

The Cone Estate has been a haven for wildlife since the days of Moses and Bertha Cone. Mr. Cone “had a special fondness for animals in their natural habitat and none of his employees was allowed to kill or frighten them. It has been suggested that to kill even one squirrel meant dismissal from employment on the estate.” (Buxton 1987). Ruby Walters (1975) said the wild animals on the estate “were protected” and that neither hunting nor fishing were allowed. Carl Hollers said that hunting “was strictly against the rules” but hinted that hunting for rabbits and squirrels might take place in the winter when Mrs. Cone was in Baltimore (Hollers 1975). Moody (1997) also said he trapped muskrats without Mrs. Cone’s knowledge.

Not all animals were appreciated by the Cones however. Buxton (1987) reports that rabbits were trapped to prevent them from chewing apple seedlings, hunters were allowed to kill foxes and workers in China Orchard “usually dispatched any [Timber] rattler that showed itself.” Supervisor Arthur Moody was told by Mrs. Cone to kill red squirrels at Bass Lake after she noticed the damage they were causing to the bark of maple trees that bordered the carriage road there (Moody 1997).

While the Cones lived here many native species populations had already been extirpated or had plummeted to critically low numbers and were in danger of disappearing. Isenhour reports that there were no deer in the area when the Cones created the two Deer Parks (Isenhour 2005b), one consisting of a 15-acre (6 ha) enclosure above Bass Lake with about twenty deer and another 200-acre (80 ha) park on Rich Mountain above Trout Lake. These deer were imported from Pennsylvania and Long Island. Deer numbers have now rebounded so well that they are becoming an increasing hazard to drivers on the Parkway and to the park’s historic and natural vegetation. Beavers, which had been trapped out of this area by the late 19<sup>th</sup> century, have re-established themselves and now occupy Cone Park lakes and ponds. They also are becoming increasingly common in the area and occasionally cause damage by cutting landscape plantings or flooding park facilities.

Three federally-listed animal species are known to occur within the boundaries of the Blue Ridge Parkway, though only one of these is known to occur near Cone Park. The three listed species are: Carolina northern flying squirrel (*Glaucomys sabrinus coloratus*) (US, NC Endangered); bog turtle (*Glyptemys muhlenbergii*) (US, NC Threatened); and Virginia big-eared bat (*Corynorhinus townsendii virginianus*) (US, NC Endangered), with bog turtles being the only one to have been found near Cone Park. Four other species, Indiana bat (*Myotis sodalis*) (US, NC Endangered), gray bat (*Myotis grisescens*) (US, NC Endangered), eastern cougar (*Felis concolor couguar*) (US, NC Endangered), and spruce-fir moss spider (*Microhexura montivaga*) have not been found on the Parkway and are unlikely to occur in Cone Park. Each of these species will be discussed separately below.

Bald Eagle (*Haliaeetus leucocephalus*) (US Threatened but proposed for delisting, NC Threatened) and Kirtland’s Warbler (*Dendroica kirtlandii*) (US Endangered) migrate across the Parkway but do not use Parkway lands enough to be impacted. They have not been reported from Cone Park.

Bog Turtle (*Glyptemys muhlenbergii*): Bog turtles are considered to be the rarest freshwater turtle in North America and are currently listed as endangered in nearly every state within its range, including North Carolina. Northern bog turtle populations (*i.e.*, from Maryland north) are currently classified as Threatened under the Endangered Species Act (ESA). For the purpose of regulating illegal commercial collection, southern bog turtle populations (from Virginia south) are also classified as Threatened under the ESA due to similarity of appearance to the northern populations (USFWS, 1997).

Bog turtles are closely associated with sphagnaceous bogs, marshy meadows and pastures characterized by small, shallow streams or trickles with soft bottoms and by various sedges and other aquatic and semi-aquatic plants (Palmer and Braswell, 1995). Most of the known localities are disjunct with small, isolated populations. Because of their local occurrence and highly specific habitat requirements, in places often

drained or otherwise altered adversely by humans, many populations of bog turtles are threatened with extirpation.

Bog turtle populations are believed to be declining throughout their range (Carter, 1997; USFWS, 1997). This population decline is believed to be partly due to illegal collection for the pet trade, but primarily because of loss of habitat through ditching, draining and filling in of wetlands for development and agriculture (Mitchell, 1994). However, other factors including the species' low reproductive rates, isolation of individual populations, predation, flooding of habitat by beavers, mortality due to vehicles, livestock grazing, and pollution may also be contributing to the bog turtle's decline (USFWS, 1997).

Consequently, wetlands along the Blue Ridge Parkway are important for the protection of bog turtles, offering one of the last refuges where both the bog turtle and its habitat are protected. Wetlands along the Blue Ridge Parkway, including on the Cone Estate, however, are not pristine and many have been impacted by past agricultural activities and development. Inappropriate development around these sites could degrade them and may make them unsuitable for bog turtles.

Carolina Northern Flying Squirrel (*Glaucomys sabrinus coloratus*): The Carolina northern flying squirrel was federally listed as endangered in 1985. They are nocturnal and are primarily found in moist boreal habitats, especially northern hardwood and spruce-fir forests with down and standing snags. Their habitat is limited to above 4,000 feet (1,220 m) on north-aspect slopes and above 4,500 feet (1,370 m) otherwise. In Cone Park this is limited to just two small patches of land with only about 5 acres (2 ha) above 4,500 feet (1,370 m) and less than 100 acres (40 ha) on north slopes above 4,000 feet (1,220 m) with much of this being pasture land. While southern flying squirrels (*Glaucomys volans*) are common on the estate, no northern flying squirrel has been found in or near Cone Park.

Virginia Big-Eared Bat (*Corynorhinus townsendii*): Virginia big-eared bats are a federally-listed endangered species. They have been found both roosting and hibernating within several miles of Cone Park but have not been found in the Park or on lands adjacent to the Park. These bats live year round in caves or abandoned mines, though their winter and summer roosts may differ. Usually found in mountainous regions above 1,500 feet (460 m), the caves are in oak/hickory forests or where beech, maple or hemlock trees dominate. Typically they do not live in buildings as many other bat species do. Since there are no caves or similar structures in Cone Park it is very unlikely that they would be found here.

Indiana Bat (*Myotis sodalis*): Indiana bat is an endangered species that occurs throughout much of the eastern United States. During the winter they hibernate in large groups in caves and mines. With only seven locations identified Indiana bats are highly vulnerable to disturbances, habitat change or environmental contaminants at this time. In the spring the bats migrate north and form nesting colonies, roosting under the loose bark of dead, large-diameter trees between mid-April through mid-August. The diet of Indiana bats is largely nocturnal insects. No Indiana bat has been found near Cone Park.

Gray Bat (*Myotis grisescens*): Gray bats use caves in both summer and winter. They forage for insects over lakes and streams. This endangered species has never been observed near Cone Park.

Eastern cougar (*Felis concolor cougar*): Parkway employees and other land management agencies continue to receive occasional reports of cougar sightings. While many of these reports likely involve bobcats, dogs or other large animals, some come from people who are familiar enough with large mammals to be considered credible sources. Many biologists have assumed that even if these were valid reports of cougars that they were of large cats that were raised as pets and were released into the wild as the owner realized the work and difficulty in keeping an animal of this size. The assumption has also

been that even if there were cougars living in the Southern Appalachians they are not a reproducing population. No physical evidence, such as a carcass or fur, has been produced from North Carolina.

Spruce-fir Moss Spider (*Microhexura montivaga*) (US Endangered) is found in damp moss mats on rock outcrops and boulders in well shaded situations within spruce-fir forests. They have been found in spruce-fir forests nearby but several surveys have been conducted on Parkway lands and they have not been located here. These animals are dependent on spruce-fir forests, which are not found on the Cone Estate.

Species on the North Carolina threatened and endangered lists that have been observed in or near Cone Park include: Savannah sparrow (*Passerculus sandwichensis*) (Significantly Rare (SR)), alder flycatcher (*Empidonax alnorum*) (SR), and Balsam globe (*Mesodon andrewsae*) (SR). Species of Concern (SC) and animals on the state's Watch List include: Southern Appalachian red crossbill (*Loxia curvirostra* pop 1) (US FSC, NC SC), vesper sparrow (*Pooecetes gramineus*) (SC), Cooper's hawk (*Accipiter cooperii*) (W2), Appalachian yellow-bellied sapsucker (*Spyhrapicus varius appalachiensis*) (US FSC, NC SC), timber rattlesnake (*Crotalus horridus*) (SC), Diana fritillary (*Speyeria diana*) (US FSC, NC W2), Indian skipper (*Hesperia sassacus*) (W2) and southern bog lemming (*Synaptomys cooperi stonei*) (W2).

## MIGRATORY BIRDS

Executive Order 13186 directs each Federal agency taking actions having or likely to have a negative impact on migratory bird populations to work with the U.S. Fish and Wildlife Service to develop an agreement to conserve those birds. The Memorandum of Understanding (MOU) (dated April 2010) between the NPS and the U. S. Fish and Wildlife Service (USFWS) meets the requirements under section 3 of Executive Order 13186 concerning the responsibilities of Federal agencies to protect migratory birds. This MOU promotes the conservation of migratory birds from any action having or likely to have a negative impact on migratory bird populations. In addition to avoiding or minimizing impacts to migratory bird populations, agencies are expected to take reasonable steps that include restoring and enhancing habitat, preventing or abating pollution affecting birds, and incorporating migratory bird conservation into agency planning processes whenever possible.

Waves of migratory songbirds travel along the Blue Ridge Parkway during the spring and fall migrations and over 150 species have been identified as breeding here during the summer months. Cone Park bird lists include about 100 species. While many of these are migrants just passing through, including at times large numbers of waterfowl that use the park's lakes, most are resident birds that nest in the Cone woods and fields. These nesting birds take advantage of the various vegetation communities found on the estate and breeding birds can be found in virtually all habitats.

Mrs. Cone and her sisters, Sophia and Clementine Lindau, were avid bird-watchers, with Mrs. Cone one of the first Life Members of the North Carolina Bird Club (now the Carolina Bird Club) (Anonymous 1947). In 1941 both she and Sophia became members of the Blowing Rock Bird Club which had as one of its objectives "to learn to identify by appearance, by song and calls, as many as possible of our local birds." (Anonymous 1941).

Despite much land-clearing by the Cones for roads and buildings, and many acres used for agricultural activities, they also set aside large tracts of land on the estate as natural areas and these now provide habitat for migrating birds. The NPS has continued to adjust management practices in these areas, such as not cutting cavity trees during nesting season, for the benefit of wildlife. Agricultural areas are also

being studied by park biologists for possible restoration of wildlife habitat as they were during the Cone years.

The National Audubon Society has established a program to identify Important Bird Areas (IBA) that identify and protect sites important to birdlife and other biodiversity. The nearby section of the Blue Ridge Parkway along Grandfather Mountain has been included in this program and there is thought of extending the IBA to include Cone Park (Pers. comm. Curtis Smalling). Cone Park has been included in the NC Birding Trail – Mountain Trail Guide that was published in 2009.

## **CULTURAL RESOURCES**

### **BACKGROUND INFORMATION ON HISTORIC PROPERTIES**

As defined in the National Historic Preservation Act and its implementing regulations in *36 Code of Federal Regulations* (CFR) 800, historic properties are those buildings, sites, districts, artifacts, and remains that are related to culturally important places and events, and that are listed in or eligible for inclusion in the National Register of Historic Places.

The significance of historic properties is assessed by the property's ability to meet the following four criteria for inclusion in the National Register of Historic Places (36CFR60.4):

- Association with events that made a substantial contribution to the patterns of our history;
- Association with the lives of persons important in our past;
- Sites that embody characteristics of a type, period, or methods of construction or that represent the work of a master, possess high artistic value, or represent a distinguishable entity; or
- Have yielded or may be likely to yield, information important to prehistory or history.

Properties may be eligible for the National Register of Historic Places for contribution at the national, state, or local level. In order for a structure to be listed in the National Register of Historic Places, it must possess historic integrity of those features necessary to convey its significance, such as location, designs, setting, workmanship, materials, feeling, and association in accordance with National Register guidelines (National Park Service, 2002b).

### **OVERVIEW OF CULTURAL RESOURCES**

The National Park Service defines five categories of cultural resources: 1) archeological resources; 2) historic structures; 3) cultural landscapes; 4) ethnographic resources; and 5) museum collections (National Park Service, 1998). All of these types of cultural resources would be evaluated in this environmental assessment as they relate to the area of potential affect. The project area for the DAMP includes three alternatives: a no action alternative and two alternatives each at the Memorial Park.

Many of the structures cross roads or streams diagonally to preserve the curved path of the roadway (Historic American Engineering Record, 1997). At present, a proposed National Historic Landmark District nomination is being prepared.

## ARCHEOLOGICAL RESOURCES

*Previous Investigations.* The National Park Service has conducted archaeological surveys in the proposed project area (see **Table 15**). Although there are three distinct alternatives, they occupy only the same locations.

**Table 15. Archeological Sites and Survey Status by Project Area**

ALTERNATIVE	Archaeological Survey Status	National Register of Historic Places-Eligible Archaeological Sites	Reference
<i>No Action</i>	N/A	N/A	N/A
<i>One (Use What We Have)</i>	Complete or Systematic subsurface survey required?	None or Unknown?	
<i>Two(Rehabilitation)</i>	Complete or Systematic subsurface survey required?	None or Unknown?	

## CULTURAL LANDSCAPES

The Cultural Landscape Report prepared in 1993 and updated in 2013, subdivides the 3,500 acre estate into six components: carriage roads; orchards; pastures and meadows; forests, deer parks and plantations; lakes and ponds; and buildings and gardens (p. 19). These same components will be used to describe historic and current conditions and is the source of information provided in this section.

### ***Carriage Roads***

More than 24 miles of the original 27 miles of carriage road designed by Moses H. Cone remain intact within the park. They traverse all the landscape units except China Orchard and Un-named Forest. Designed with horizontal and vertical alignments that made them distinct from other rural roads, the carriage roads are a primary feature of the historic landscape. Gradients rarely exceed 5 percent and curves are very tight with an outside radius rarely exceeding twenty feet. The original carriage road widths varied between 12 and 15 feet wide from center of ditch line to center of ditch line; road surfaces were earthen, except the entrance road at Sandy Flat that was macadam (stone); and roads were cambered and drained into unlined side gutters. All roads have received gravel overlay; the entrance road at Sandy Flat has been paved; and roads are no longer cambered. Wooden and stone gutters transferred water to outer slopes, though all appear to have been replaced with 12-inch earthenware pipes with stone headwalls and capping (p. 24). Though the exact order of construction is unknown, all carriage roads

were believed to have been constructed by 1905 (p. 23). No roads were constructed after Cone's death in 1908.

Several sections of carriage roads have been relocated because of public road construction, including the Parkway motor road itself, U.S. Route 221 and Flannery Fork may have been part of the carriage road system. Wrought iron gates were installed and still exist at the two primary carriage road entrances (Sandy Flat and Bass Lake). Two of three bridges on the carriage roads had wooden decks (Bass Lake and Trout Lake) which no longer exist and the May View Road Bridge was made of stone, though details are unknown, since the bridge was removed as U.S. Route 221 was upgraded. The tower at the summit of Flat Top, originally made of chestnut, has been reconstructed of steel. Though not designed to the same standards, farm and orchard roads were used on the estate to carry out day to day work. Remnants of many of these roadbeds are still visible in the landscape.

An important feature of the carriage roads are the plantings of primarily native shrubs, vines and trees that began as early as 1900 and continued on a large scale for at least seven years. Roadside plantings included maples along Bass Lake entrance (non-native from New Hampshire) and around the lake, rhododendron in curves of the roads, hemlock hedge along the old Yonahlossee turnpike (remnants still remain of the hedge), tulip poplar, Fraser fir, ash, and hydrangea. Specific details of plantings, with the exception of the orchards and those already mentioned, are not clearly articulated in background materials.

### ***Orchards***

Though Flat Top, China and Sawmill Place Orchards (located in resource landscape units Flat Top Orchard, China Orchard, and Sawmill Place Orchard) were located on southern slopes below 4,000 feet, a suitable climate for apple orchards, their steep slopes (in excess of 30%) made commercial orchard management operations difficult. Seventy five varieties of apples were known to be planted by the Cones with sixteen cultivars occupying most of the orchard lands. Not successful in the long-term, plums, pears, peaches, cherries, nectarines, chestnuts, and hickories were also planted. Pruning and pest control were important tasks in the orchards. A small family orchard was planted in a corner of Flat Top and China orchards. Grass was generally retained between the straight rows of trees and cleared forest tree stumps were pulled up and burned. Remnants of the orchards are still on site and the boundaries of each can generally be observed. Insect and diseases were controlled by sprays typical of the times and lead and arsenic still found in the soils in all of the orchards. Only one (Saw Mill) of five barns used to store apples still remains.

### ***Pastures and Meadows***

Most of the fields on the estate had been cleared prior to Moses Cone acquiring the land, so the exact size of the original pastures and meadows is not known, but would have been somewhat greater than 500 acres. Flat Top Meadow, the only open field that produced hay, is the closest to its historic size (located in Flat Top Mountain resource landscape unit). The remaining fields (located in Rich Mountain Pastures resource landscape unit) were used for pasture or row crops (corn, cabbage, and oats), especially those on Rich Mountain, and are currently much smaller than their historic size due to succession through limited management on steep slopes. Sheep, dairy cows and beef cattle predominated, but chickens, ducks, oxen and horses were also known. The dairy remained in existence until the early 1940's when Mrs. Cone decided to close it because of a shortage of labor due to the war. [Cone Historic Resource Study page 9] Fences were installed in pasture land and were constructed of five strands of barbed wire between locust or chestnut posts.

### ***Forests, Deer Parks, and Plantations***

Not including the 200 acres (81 ha) of orchard, seventy-five percent of the original estate was likely covered with trees. Two deer parks, one on Rich Mountain (see Rich Mountain and Deer Park Pastures RLU) and the other at Flat Top (Flat Top Orchard RLU), were enclosed under tree cover. Valued for their beauty and enhanced by tree plantings, the forests were a source of firewood for Flat Top Manor wood burning stoves and for estate family heating and cooking. The timber was also used for minor repair projects. A seedling was replanted whenever a tree was removed. A ninety-four acre coniferous plantation was planted around Bass Lake at different times.

### ***Lakes and Ponds***

Five ponds/lakes were built by the Cones on the estate. Bass Lake, located at the toe of the slopes below Flat Top Manor House and near the lower entrance, is 21 acres (8.5 ha). Just above it are two ponds: Heart Pond consisting of two pools in the shape of a heart, and just above it the smaller Silt Pond (see Bass Lake resource landscape unit). At the foot of Rich Mountain along Flannery Fork is 15-acre (6 ha) Trout Lake. The small pool above Trout Lake called Cascade Pool is still there. It was surrounded by a stone wall and flowed under the Rich Mountain Carriage Road by a cascade of cut stone. It was completed by 1909. The dam for Bass Lake dam was under construction in 1900 and Trout Lake dam was completed in 1903. Only Bass Lake is known to have had water lilies. Both Trout and Bass Lakes were stocked with fish, trout and bass respectively. Heart Pond was also stocked with trout for viewing pleasure and dining. Though fish were caught for family meals, the public was forbidden from fishing in the impoundments. A boat house was constructed on Bass Lake, but boating and swimming were not permitted for the public.

### ***Gardens***

The estate had two gardens, both near Flat Top Manor House (within Flat Top Manor House resource landscape unit). Both were more than two acres in size. One garden that contains the Figure 8 trail was first a nursery and then became a flower, fruit, and vegetable garden. It was screened from the Flat Top Manor House by rhododendron and white pines. The other garden was located below the carriage house. It was a terraced fruit and vegetable garden and later flowers were introduced. An iron pergola is still present in the garden as is some climbing rose. Buildings will be discussed under Historic Structures and Properties.

## **ETHNOGRAPHIC RESOURCES**

When Bertha Cone died in 1947, under an indenture executed on May 30, 1911, the estate was transferred to The Moses H. Cone Memorial Hospital in Greensboro. The Hospital was to manage the estate according to the conditions of the trust or the lands would be forfeited to the heirs of Moses H. Cone. Bertha's Will also provided that the House be closed and that the remainder of the estate be maintained through a \$10,000 year allowance. A declaratory judgment from the North Carolina Supreme Court allowed the estate to be given to the USA on January 21, 1949, as a public park and recreational area in accordance with the original trust indenture. Since the forfeiture clause is part of the current trust indenture, both the heirs to Moses H. Cone and The Moses H. Cone Memorial Hospital in Greensboro are considered ethnographic resources for this property and thus have been and will continue to be consulted as this project progresses.

## **HISTORIC STRUCTURES AND PROPERTIES**

There are five historic buildings that were constructed at the beginning of the century that are within the boundaries proposed for this project: Flat Top Manor House (1899), Carriage House, Servants' Quarters, Apple Barn, and Old School House/Sandy Flat Baptist Church.

### ***Flat Top Manor House***

The home of Moses and Bertha Cone was situated in almost the center of the estate on the slopes of Flat Top Mountain. Consisting of 23 rooms, including 6 bedrooms, 4 full baths, a large wrap-around porch, a telephone system and acetylene gas lighting, the 13,795 square foot house was constructed in 1899 and 1900. A small lawn existed in front of the house. The kitchen was expanded by 10 feet in 1913 and a large balustrade fence added in front of the Flat Top Manor House in 1909.

According to the Cultural Landscape Report (1993, p. 17), the "Flat Top Manor House is an example of the Beaux Arts approach to design utilizing both Classical and Colonial Revival elements. Its symmetrical arrangement of features, classical columned porch, semi-circular portico, roofs bedecked with balustrades and Palladian window all derive from the Columbian Exposition. Flat Top Manor House, with its wrap-around porch and rambling hip roof, marks the transition when the picturesque Victorian form gave way to the symmetry and balance of Classical design." As a country estate, it is known as a "manor."

Moses H. Cone Memorial Park was listed in the National Register of Historic Places in 2013 with a period of significance determined to be between 1899 and 1947. Bertha's managed the lands after Moses' death in 1908 until her death in 1947 in much the same way as Moses envisioned. She used the latest scientific methods of farming, created Flat Top Dairy, the first Grade A Dairy in Watauga County, and managed three commercial apple orchards. She maintained the carriage roads in excellent condition. And she provided housing, gardens, and grazing rights for tenant, and built a school to educate the tenant's children (see Old School House below).

A number of buildings behind the house were removed after NPS ownership of the property, including a carbide plant, a laundry house, an ice house, male and female servants' quarters, and a bowling alley. Eleven of the thirty-five employee houses scattered throughout the estate were there when Moses Cone purchased the lands. The remaining homes that he built were simple frame structures of varying shapes and sizes. Employees were allowed to develop one-acre gardens and had use of a barn on the estate.

### ***Carriage House***

The carriage house is located north of Flat Top Manor House but cannot be seen directly (within Flat Top Manor House resource landscape unit). It is a three-story building, with stables on the first floor, equipment storage (carriage, pesticide sprayer) on the second, and additional storage for hay or other uses on the top floor. This building has been retrofitted with restrooms and serves as the only restrooms currently available to the public for this site.

### ***Male Servants' Quarters***

Just north of the carriage house lies one of the servant's quarters (within Flat Top Manor House resource landscape unit). It was moved from its original location behind Flat Top Manor House and now serves as a ranger residence.

## ***Apple Barn***

Located within the Sawmill Place Orchard resource landscape unit, the Sawmill Place apple barn was built by Bertha Cone in 1913. It is still standing and provides storage for a number of items, including an apple press. The barn is located on Stringfellow Carriage Road, somewhat removed from Flat Top Manor House, Carriage House and the Servants' Quarters. The building has become a collecting place for a number of objects, including an old apple press. Some of the materials stored in the building are historic, most are not. An inventory of materials is needed.

## ***Sandy Flat School House/Sandy Flat Missionary Baptist Church***

Located just north east of the Sandy Flat Maintenance Area in the Blue Ridge Parkway resource landscape unit, the Old School House/Church building is separated from the primary estate by an access road between Highway 221 and the Parkway, but is part of the proposed project. The three-room school house was built by Moses and Bertha Cone in 1904. It consisted of two classrooms and one assembly room. Unlike the other schools in the area, the classrooms had desks with steel legs that were bolted to the floor. The children on the estate were required to attend the school. The Cones provided books, paid for instructors, and established school terms that were two months longer than other public schools. Thirty to forty students attended until the public schools consolidated in 1927. Beginning February 12, 1928, Bertha Cone permitted the building's use until it was no longer needed to Sandy Flat Missionary Baptist Church. It is still in use as a church today.

## **MUSEUM COLLECTION**

The parks museum collection contains original materials from the Moses Cone Estate. Because of lack of storage space in the parks museum storage facility, there are Museum collection objects stored in Flat Top Manor House, the Carriage House, and the Apple Barn. Some materials, primarily archival, are stored in the Parkway's museum collections storage facility in Asheville, and archival materials are maintained by the park's archeological center in Tallahassee, Florida.

The Cone's original pool table, donated by a Cone descendant is stored in the basement of Flat Top Manor House. The basement flooded during a recent hurricane and the artifact was extensively damaged. Architectural elements such as bathroom fixtures, tiles and window frames, chandeliers, and other cataloged objects are stored in one room of the attic. The Flat Top Manor House currently has an intrusion and fire alarm system but no fire suppression system or HVAC system. While the park has not procured any of the original period furnishings from Flat Top Manor House, there are local families who still have some of the original pieces. A Historic Furnishings Report was completed in 2012 but no plan has been approved for furnishing the house.

The Carriage House storage area, which has a viewing area for visitors, contains two carriages that were purchased by the concessionaire during the time period when carriage rides were offered to the public. Although these vehicles are period pieces, they have no association to the Cone family. In addition, there is a single surrey which may have Cone association. The 1993 Cultural Landscape Report states that the Carriage House holds two of Bertha Cone's surreys, only one surrey currently exists and no documentation has been found to associate the surrey with the Cone family. It is in poor condition but does retain its historic fabric. Also in the Carriage House is a horse drawn apple sprayer, acquired by the park, which has firm association with the Cone family's orchard operation. Fairly extensive conservation treatment would be necessary to return both objects to an appearance approaching that which it had while

in use. The Carriage House exterior doors are kept closed but are not sealed. The building has a persistent rodent infestation and carriage and apple sprayer are exposed to the outside environment. The building does not have fire suppression or security systems.

The Apple Barn currently houses equipment that was used in the packing of apples and production of cider as well as architectural elements from the Flat Top Manor House. Bats and rodents have taken up residence in some parts of the structure and their droppings cover the objects.

Archival collections for the Moses H. Cone Memorial Park are located at the Parkway's Museum Collections Storage Facility in Asheville. When the Parkway acquired the estate in 1949 the Moses Cone Hospital donated a collection of original materials that are cataloged. The Moses H. Cone Papers (catalog # BLRI-7988) represent business records from the operation of the farm and orchard as well as some personal business records of Bertha Cone. They document the daily activities of managing an apple orchard and farm in turn of the century Appalachia. The records are dated 1898-1947 and total 23.5 linear feet. Blue Ridge Parkway management records relating to Moses H. Cone the Cone Estate are also located in the parks archives collection. Objects located in the museum collections storage facility are two trunks belonging to Moses and Bertha Cone, a billiard cue and billiard balls and an apple sign from the Apple Barn. Archeological objects recovered by site surveys from the Moses Cone Estate and the associated records are in the collection. The collections are stored at the NPS Southeast Archeological Center in Tallahassee, Florida.

## **HUMAN REMAINS AND BURIALS**

Moses Cone died in 1908 and was buried on the edges of Flat Top Meadow. Formalized by Bertha, the cemetery has a bronze fence and the outer area is lined with Fraser fir trees that are beginning to die out. Bertha's ashes were buried in the cemetery in 1948 as were her two sisters Clementine and Sophie Lindau. The cemetery is regularly mowed and maintained to the standards established by Bertha. One of the Colt Children is rumored to be buried on Rich Mountain.

## **SOCIOECONOMICS**

The affected socioeconomic environment for the Moses Cone DAMP is defined as local communities in the area, including the Town of Boone, NC (approximately 9 miles, 15 k, away) and the Town of Blowing Rock, NC (approximately 2 miles, 3km, away) and the Counties of Watauga and Caldwell, all of which may be economically impacted or see quality of life impacts from the alternatives. The affected socioeconomic environment for this EA encompasses these localities and counties, as well as residents and businesses in these areas.

Traditionally, Caldwell County's population has increased at a slower rate than the surrounding counties and the State of North Carolina. However, Caldwell County's population grew 4.4 percent (67,746 to 70,709) from 1980 to 1990; between 1990 and 2000, the County experienced a 9.5 percent growth in population (70,709 to 77,415). The population is expected to increase to 86,577 by 2020, a 15.1 percent growth rate (NC DOT 2006).

Watauga County's population grew by 16.7 percent from 1980 to 1990 (31,666 to 36,952); a 15.5 percent increase in population was experienced for the period 1990 to 2000 (36,952 to 42,695).

The population is expected to increase 8.8 percent over the next 20 years (42,695 to 51,567). The permanent population of the Town of Blowing Rock has not changed substantially since 1980. It was

1,423 in June 2000. The census population figures do not represent the seasonal/part-year residents. Blowing Rock's population rises to about 10,000 persons in the summer months, as estimated by Blowing Rock town planners (NC DOT 2006).

## **VISITOR USE AND EXPERIENCE, INCLUDING RECREATIONAL AND VISUAL RESOURCES**

### **PUBLIC ROADS**

Several public roads occur within the project area. The estate is bisected by the Blue Ridge Parkway itself (Blue Ridge Parkway landscape unit) and is bounded on the southwestern side by U.S. Route 221 (China Orchard, May View Road, Bass Lake, The Maze, and Wadkins Road landscape units). Shulls Mill Road follows the boundary on the western side (Trout Lake and Rich Mountain Pastures RLUs), and Flannery Fork Road bisects the Trout Lake Road landscape unit.

### **LANDSCAPE COMPONENTS**

The components of the landscape that can be enjoyed by visitors are the carriage roads, orchards; pastures and meadows, forests; lakes and ponds; and buildings and remnant gardens. These are described in the cultural landscape section and will not be redescribed here. During the historic Cone time, the carriage roads were open to the public. Walking and riding horses was acceptable, but motorized vehicles were forbidden.

According to the Cultural Landscape Report, each of the carriage roads was dotted with vantage points that were carefully planned. Some provided views to distant points of interest outside the park, others to meadows filtered by foreground views, and only two viewpoints were developed to see Flat Top Manor House itself. The summit of Flat Top has a viewing tower where a 360 degree view can be enjoyed and Rich Mountain has a view framed by trees so that several prominent ridges can be seen.

### **RECREATIONAL USE**

#### ***Walking, Jogging, and Equestrian Use:***

More than 20 of the original 24 miles of carriage roads on the estate are still in existence and they traverse the property. These are currently open to hiking and equestrian use but closed to bicycle use. Bicycle use is not proposed in this plan.

#### ***House Tours***

The Flat Top Manor House is currently open to guided tours, including the upstairs of the house, from spring through fall.

#### ***Fishing***

Trout Lake and Bass Lake are designated as Wild Trout Water, a designation for streams and lakes that sustain wild trout are not hatchery supported. A variety of regulations apply depending on the site. No boating is allowed on the lakes.

#### ***Bouldering***

Rock formations near China Orchard are recognized as regional and national climbing resources.

### ***Picnicking and Enjoying the Grounds***

Many visitors come to simply enjoy the beautiful grounds and scenery of the Moses Cone Estate.

### ***Bird-watching***

Cone Park is included in the NC Birding Trail with Bass Lake and Trout Lake well known as significant sites for migrating and resident birds.

## **HUMAN HEALTH AND SAFETY**

Ensuring the public health and safety of visitors and employees is a primary concern of the NPS. While park employees strive to make the Cone Estate a safe place to visit, as with most historic sites there are often structural or landscape features that may not conform to modern standards. Each year several visitors to the park need medical assistance from rangers, typically for injuries due to falls.

The Flat Top Manor House was built in the 1890's when safety standards were laxer than they are now. Many steps have steep risers or small treads, railings might not be high enough and surfaces are often uneven. Ranger-led tours have given visitors access to the upper floors of the building and has increased the risks or injury to slips and falls.

Carriage roads have been open to visitors since the days when the Cones lived in the Flat Top Manor House. Conflicts between horseback riders, joggers, and dog-walkers have resulted in occasional injuries. Additionally, each year a few visitors manage to get lost on the carriage roads and need assistance with being returned to friends and family. Rapid changes in weather can expose hikers to severe downpours, high winds, significant drops in temperature and lightning strikes.

Arsenic contamination of surface and subsurface soils in and around the orchards and in fish at Bass Lake has been detected by Parkway contractors. Levels are such that minimal contact would not result in harm to adults, but could harm a child; however, ground disturbance in those areas should be avoided. Signs would be posted in contaminated areas warning staff and visitors of precautions and relevant information. Staff would be trained in appropriate safety procedures for exposure and handling any contaminated materials or working in areas of contamination. Use restrictions are being developed to protect visitors and employees from contaminated soils in and adjoining the historic orchards, however, existing uses such as walking, hiking and apple picking pose no discernible threat to visitors or employees. There are also existing warnings against ingesting fish caught in Bass and Trout Lakes due to lead contamination; additional guidance on fish consumption related to arsenic contamination are forthcoming.

Vegetation management can also expose visitors and employees to some risks. Each year about 50 hazard trees are cut, and many more limbs are pruned, along park carriage roads or around structures. Herbicide spraying at Bass Lake and other sites to control non-native vegetation can pose a hazard to the health and safety of park employees applying the chemicals and to visitors nearby. The NPS encourages visitors to be aware of park operations when coming into the area, and advises them when situations are, or have the potential to be, dangerous. Precautions are taken to notify park staff and visitors when hazard trees are being cut and herbicide spraying is in progress.

There currently is no fire suppression system in the Flat Top Manor House and structural engineering determinations need to be made on the soundness of the structure to allow visitor access.

## PARK OPERATIONS

Currently 574 acres of the estate are maintained and managed through the park's agricultural leasing program. *Special Use Permits* are issued for 5-year periods to maintain cattle and associated fencelines or hay fields. Currently, there are 23 Special Use Permits issued to 13 farmers who maintain 432 acres in pasture (cattle and horses), 99 acres in hay and 42 acres of mixed use pasture and hay. An additional 1.3 acres is maintained as a wildflower meadow at milepost 292.6 (**Figure 1**). Agricultural Leases on the Cone Estate range in size from less than one acre to more than 100 acres. Where possible, current agricultural use tries to mimic the original use by the Cones. For instance, the Flat Top Meadows near the Cone Cemetery was the only field on the estate used exclusively as a meadow (Firth 1993) and it is currently being maintained as a hay field. All of the other fields on the estate were used primarily for livestock grazing, though haying did occur occasionally, with the exception of the lease in what was Flat Top Orchard. During most of the Cone period cattle were kept out of the orchards and it was only when the NPS took over management of the estate that the orchard was fenced and cattle were introduced to these fields. Current practices need to be reviewed for historic integrity prior to reissuance of permits.

As described in the *Staffing* section below, there are currently no FTE assigned specifically to the Moses Cone Estate so any new proposals would have an impact on park operations. For example, construction of new visitor center, trails, restoration of gardens, and hedges, restoration of historic buildings and other landscape features would create a long-term increase in maintenance cost in dollars and staff time as those assets must be maintained and repaired. Increased use and interpretation of the house would require additional interpretive services as well as janitorial services to maintain the home in good condition. Increased use of trails and carriage roads use has the potential to contribute to a need for enhanced enforcement and education activities, and potential human health and safety issues both of which would require additional enforcement staff time and cost. Curatorial staff time and resources would significantly increase if historic furnishings are returned to historic buildings; increased interpretation occurs; previously removed buildings are restored; environmental monitoring and pest monitoring and management would be required, increasing costs to purchase and maintain equipment and staff time to monitor. The building currently does not have security or fire suppression systems, which need to be installed per the Access and Security plan at significant cost. Increased education and interpretation would result in increased operational costs and management for that division. Research and development for waysides would increase staff time as would purchase of the exhibits themselves. Maintenance of apple orchards and other gardens and vegetation, as well as managing forest pests would also lead to increased organizational costs.

Additional staff would need to be hired and additional staff time would be required to coordinate volunteer and partnerships opportunities, and to increase the number of agricultural parcels to be leased on the estate, or to move, relocate or rehabilitate fence lines.

## PARK ORGANIZATION

Park operations and management of the Parkway, a unique resource of 469 linear miles, has been broken down into four districts with staff offices and a staff management team assigned to each. The four management districts are the Ridge, Plateau, Highlands, and Pisgah. The Moses Cone Estate is in the Highlands District of the Blue Ridge Parkway.

The Parkway is administered by a superintendent with headquarters in Asheville, North Carolina. Management of the Parkway is organized into the following divisions: Office of the Superintendent, Law Enforcement, Security and Emergency Services, Interpretation and Education, Resource Management and Science, Administration, and Maintenance and Engineering.

Day to day management of the Moses Cone Estate is the primary responsibility of the district management team with support from park headquarters management.

## **PARK STAFFING**

Rehabilitation of existing authorized and unauthorized trails, maintenance of carriage roads, and maintenance of Flat Top Manor House already uses a total of 4.2 funded positions. In addition, 1.13 funded interpretive rangers, .64 funded resource staff, and .92 funded law enforcement rangers include Moses Cone in their duties (See **Table 8**, page 103 for full staffing description).

## **PARK OPERATIONS ACTIVITIES**

The Parkway is a very complex entity and management is organized into the following divisions and program areas. All of these divisions and program areas are involved in management of the Moses Cone Estate.

### ***Office of the Superintendent***

#### Public Information & Partnerships

The Parkway relies on the strength of its External Affairs and Partnerships programs to develop and preserve strong relationships with the public. External Affairs accomplishes this function by keeping the public and key stakeholders informed about current park events and issues, maintaining contacts with media, replying to visitor concerns, and cooperating with the local travel and tourism industry. Adjacent communities work closely with the Parkway to contribute support through partnership work.

#### Planning

Within the park, planning, landscape architect and environmental protection staff work with other division staff to prepare management documents that shape both park-wide and site-specific plans for resource protection and visitor use, facility and site development and construction, resource preservation, and land protection.

### ***Law Enforcement Security and Emergency Services (LESES)***

This program includes visitor safety, emergency services, search and rescue, and wildland fire suppression. Current staffing of 26 FTEs parkway-wide are used to provide for law enforcement and resource protection. A large portion of law enforcement staff time is spent in patrolling the Parkway road. Resource protection efforts include addressing issues such as illegal plant harvesting of species such as ginseng, black cohosh, and galax, and wildlife-visitor interactions.

#### Dispatch

In addition, LESES staff dispatch and radio technicians provide support dispatch services parkwide for law enforcement and emergency services.

### **Fee Management**

LESES staff are also responsible for fee collection and management. There are no entrance fees for traveling the Parkway. The only fees collected along the Parkway pertain to the designated camping areas. Fee management is responsible for the collection and accounting of all fees.

### ***Interpretation and Education Division***

The Interpretation and Education Division is responsible for educating and instilling in visitors an understanding, appreciation, and enjoyment of the significance of the Parkway and to ensure the protection and enjoyment of park resources. This includes educating visitors, stakeholders, and the general public about parkway resources, including the natural and culture resources of the Appalachian mountain region; scenic values; scientific opportunities; and the role of the Parkway in local, regional, and national contexts.

Personal services include staffing of the various visitor contact stations, ranger- and volunteer-led walks, talks and evening programs, demonstrations and special events and informal contacts with visitors. This division is also responsible for supervision of publications and other materials available at bookstores and sales outlets, exhibits and audiovisual media, and website and electronic media.

### ***Resource Management and Science Division***

Resource management encompasses all activities related to the management, preservation and protection of the park's cultural and natural resources. Activities include research, restoration efforts, species-specific management programs, wildland fire management, historic structures and site protection, and resource education and information sharing activities. Cultural resource staff manages programs areas including prehistoric and historic archeological sites, cultural landscapes, historic structures and sites, ethnographic resources, park museum collection and archives. Park biologists and wildlife specialists manage natural resource program areas, including rare species and plant communities, exotic plants, large game management, exotic animal species, water resources, soil and geologic resources, hazard and pest management, prescribed burns, encroachment and geographic information systems (GIS). All park permitting activities are coordinated in this branch/division. Resource management specialists support park compliance activities by conducting field inventory and survey work and preparing sections of documents.

### **Lands and Compliance**

Land realty staff work with the NPS land office and private land trust partners to acquire interests in land to protect scenic, natural and cultural resources, eliminate private at-grade access roads and to eliminate boundary management issues. Also deed reservation matters are addressed by realty specialist and landscape architect staff. Compliance for all park activities is managed through the Planning Environmental and Public Comment (PEPC) program in this branch/division.

### ***Administration Division***

The Administration Division at the Parkway is responsible for ensuring that park operations are consistent with the NPS mission and goals. General administrative duties such as human resources, budget, information technology support, and procurement are handled by this division. Staff in this functional area are responsible for formulating a long-term strategic vision and communicating this to stakeholders. Management of these functions is particularly complex for the Parkway.

### Concessions

The concessions program on the Parkway is carried out by the office of Concessions which reports to the Administration Division. The office is comprised of two concessions management specialists and is at the Parkway headquarters in Asheville, North Carolina.

There are six concessions providing services for the Parkway. Under a concessions contract, the Southern Highland Craft Guild manages 3,115 square feet of the first floor of the Flat Top Manor House as a craft center. The kitchen is used as an employee room, the butler's pantry and storage room off the kitchen as storage area, and two small rooms, one off the kitchen and one off the hallway, as offices. The Guild maintains a contract with a local cleaning service to conduct a pre-opening extensive cleaning of the first floor. The Guild craft sales season begins March 15 extends to November 30. The Guild operates the Parkway Craft Center at the Moses Cone Estate. The Guild educates Parkway visitors about Appalachian craft traditions through a variety of demonstrations, festivals, exhibits, and programs.

### ***Maintenance and Engineering Division***

The Maintenance and Engineering Division includes all activities required to manage and operate the daily maintenance of the Parkway. The Maintenance and Engineering Division provides for care and maintenance of campgrounds, buildings, grounds, roads, trails, transportation systems, and utilities. In addition, it takes care of all its related management and administrative support. Almost half of the Parkway's annual budget is devoted to maintenance activities.

### Roads Maintenance

Road operations involve the regular management of roads, bridges, tunnels, and signage by activities such as line striping, minor structural repairs of tunnels, clearing rock fall from the road surface, and snow removal. This program excludes large repairs and improvements such as chip sealing and repaving. The majority of road maintenance work at the Parkway is managed and contracted out by the Federal Highway Administration. The amount of road work provided by the Federal Highway Administration varies yearly.

### Transportation Systems and Fleet Operations

This program provides vehicles for personnel as they perform official park work. The Parkway fleet consists of approximately 300 vehicles that are used to travel close to 1.5 million miles annually.

### Grounds Maintenance

Grounds maintenance is the most labor intensive program at the Parkway, using approximately 68,000 person hours, or 33.6 FTEs, annually. Mowing and maintaining the Parkway requires a large investment in time and money by the division. There are 5,750 acres of grasslands along the Parkway that are regularly maintained. Because the Parkway is a designed landscape and must be kept up to design specifications, the challenge of keeping grassy areas manicured is formidable. High-intensity areas including roadsides are mowed on a 7- to 10-day cycle from March to October. Open field areas are maintained once a year during either October or November. Most maintenance staff are involved in mowing operations during the summer months. Hazardous tree removal is another consideration for grounds maintenance operations. Tree maintenance is ongoing work necessary to keep the roadway and trails open; the majority of the work is accomplished in the winter and early spring months after seasonal storms.

### Utility Operations

Utility Operations is responsible for monitoring systems for water, sewer, electric, heating and cooling. The Parkway currently maintains 45 individual potable water treatment systems, 94 wastewater treatment units, and 118 HVAC systems. There are also three solar power units, two of which support visitor services areas.

### Trails Maintenance

The Trails Maintenance program primarily involves the repair, rehabilitation and cyclic maintenance of front and backcountry trails in the park. This includes work on retaining walls, signs, and trail surfaces to insure visitor safety and to protect parkway resources.

Moses H. Cone Memorial Park trails follow carriage roads laid out around the turn of the twentieth century.

### Park Roads

In addition to the main parkway of 469 miles, the Parkway also maintains 17 miles of paved roads and 67 miles of unpaved roads. The maintenance of these ancillary assets is essential to the operations of the Parkway. They provide access to the Parkway road and to other facilities along the Parkway.

## **PARTNERSHIPS**

Implementation of this plan will be beyond the scope of NPS capability given existing conditions, staffing, and budgetary constraints for the foreseeable future. Implementation of this plan would require additional capital investment and operational increases that are not programmed at this time and will likely not be forthcoming. Therefore funding for implementation of this plan will require private/public partnerships through donations, grants, in-kind services, volunteers, and other solutions.

The Blue Ridge Parkway Foundation (the Foundation), a fundraising partner of the Blue Ridge Parkway, helps ensure that the Parkway land, wildlife and visitors can survive and thrive. They work with the National Park Service to provide funds that educate visitors of all ages, help protect the park's natural, historical and cultural resources and maintain visitor facilities on the Parkway. Since 1997, The Foundation has provided more than \$3.4 million in private support for projects and programs for the Blue Ridge Parkway.

The Foundation has been instrumental in raising funds to complete projects at the Moses Cone Estate, the Bass Lake Comfort Station for example. They continue to have an interest in the estate and have committed to fundraising to assist with implementation of the plan

## **TRANSPORTATION**

### **VEHICULAR ACCESS**

Moses H. Cone Memorial Park is located towards the southern end of the Blue Ridge Parkway's Highlands management district in North Carolina. The Highlands District includes the segment of Parkway from MP 217 to MP 300. This segment extends 83 miles from the Virginia/North Carolina state line to the Julian Price Memorial Park. The primary parkway accesses in the Boone/Blowing Rock area are as follows:

- US 421 (MP 276.3) provides access to Wilkesboro and Winston-Salem to the east and the town of Boone to the west.
- US 221 runs parallel to the Parkway and has several access points in this area, including at MP 292.0 near the town of Blowing Rock.

The Parkway is open year around, but certain sections of the Parkway are often closed in the winter due to hazardous snow and ice conditions. The Parkway is generally not plowed in the winter; however, sections of the Parkway south of Boone/Blowing Rock between US 321 at MP 305 and the Memorial Park access at MP 294 are plowed and kept open year around. In the Boone/Blowing Rock area, gates are located at MP 305(US 321), MP 299 (Holloway Mountain Road), MP 296.5 (Price Park Picnic Area), MP 296.4 (Price Park), MP 294.5 (Sandy Flat), MP 288 (Aho Road), MP 285.5 (Bamboo Road).

### **TRAFFIC VOLUMES**

Since the Blue Ridge Parkway has no entrance gates or fees, the Blue Ridge Parkway staff counts traffic volumes entering the Parkway as the primary means to quantify visitation. Since at least 1970, traffic entering the Parkway has been counted on access ramps. Currently traffic entering the Parkway are counted at 15 locations and volumes at the other locations are estimated using regression formulas, which are based on past collected data. To update traffic count data a comprehensive data collection program was initiated in August of 2002. Data from that study indicates that the highest traffic volumes were in the Highlands segment, which includes the Boone / Blowing Rock area where there are many summer festivals. The average peak season traffic volume along the 83 miles of parkway in the Highlands District is 2,760 on weekdays and 3,690 on weekends.

There are concerns that increases in commuter traffic are having adverse impacts on recreational visitors who travel the Parkway. Non-recreational local and commuter traffic has different characteristics than parkway recreational traffic. The local drivers are more familiar with the portions of the Parkway that they travel on a regular basis and generally have a desire to travel faster and for shorter distances along the Parkway (NPS 2008). Travel patterns where non-recreational traffic travels along the Parkway for short stretches can cause conflicts at both the entering and exiting intersections. Although recreational travelers resent congested areas where local road connections are used, some tourists enjoy the ability to exit the Parkway frequently for services and many local businesses count on parkway recreational travelers for income (NPS 2008).

The Parkway-wide average vehicle occupancy rate is 2.1 persons per vehicle on weekdays and 2.3 on weekends. The average vehicle occupancy varies from segment to segment. The vehicle occupancy rate for the Highlands District is 2.0. Along the Parkway it has been found that the average vehicle occupancy for outdoor recreation types of trips is about 2.5 and that the average vehicle occupancy for commuting

trips is about 1.1, with values for other non-recreation purposes, such as personal business, shopping / dining and transporting others, being somewhat higher.

The roadside survey at MP 236 in the Highlands District recorded that the top five trip purposes for this section of Parkway were the following:

- 80% Outdoor Recreation
- 08% Commuter
- 03% Travel for Work
- 07% Personal Business
- 02% Shopping/Dining

## **LEVEL OF SERVICE**

The level of service (LOS) for an intersection is defined by the Highway Capacity Manual (TRB 2000) as a measure of the ability of an intersection or roadway segment to accommodate traffic volumes. LOS values range from A, which indicates free-flow conditions with minimal delay, to LOS F, which indicates congested conditions with extremely long delays. The existing levels of service for the Highlands District were Level B both on the Parkway during an average peak season weekday or weekend.

## **TRAFFIC MIX**

Traffic mix, also known as vehicle classification, refers to the amount of different types of vehicles traveling along the Parkway, including bicycles, motorcycles, standard automobiles, and recreational vehicles (RVs). In the Highland District the mix for peak season weekdays and weekends were as follows:

- Weekday-Cars 82%, RVs 17%, Bike/Motorcycle 1%
- Weekend- Cars 82%, RVs 16%, Bike/Motorcycle 2%

## **ACCIDENT RATES**

The accident analysis showed relatively few accidents that are considered correctable with geometric design modifications. Most accidents can be attributed to deer, traffic congestion or involve motorcycles. Between 2000 and 2004 there were a total of 62 accidents investigated. The accidents resulted in two fatalities, 12 injuries and 48 with property damage only.

## **PARKING CONDITIONS**

Parking conditions refer to the balance between parking supply and demand during peak visitation periods. There are three designated parking areas within the Memorial Park where visitors have direct access to park carriage road trails, lakes and historic structures. During peak season all three parking locations at the Flat Top Manor House, Bass Lake and Trout Lake are over capacity and visitors park their vehicles in unauthorized areas. Parking on road shoulders and open areas creates traffic congestion and unsafe entering and exiting of vehicles, unsafe vehicle cross traffic turning movements and blocking of road travel lanes. Using the ratio of the weekend and weekday volumes, the weekend occupancy

percentages were estimated. One of the highest occupancy rates in the Parkway was at the Memorial Park at MP 294.0 with the rate 120% occupancy.

## **CONCESSIONS AND COMMERCIAL SERVICES**

Commercial service is a general term that is used by the National Park Service to encompass any service or facility use in the park that involves the exchange of money. The National Park Service generally does not operate the businesses located within the Park boundaries, but contracts the operation of the business to a commercial operation. The two main types of authorizations to conduct commercial business are concession contracts and commercial use authorizations. Commercial services at the Parkway are administered by personnel located at the headquarters in Asheville, North Carolina. The Parkway staff administers concessions contracts and issues commercial use authorizations.

The Blue Ridge Parkway has a number of concession operations which provide services determined to be “Necessary and Appropriate” at various locations along the Parkway. The concessions at the Memorial Park include the Parkway Craft Center (Concession Contract) – Gift/Craft Shop, Craft Demonstrations located in the first floor of the Flat Top Manor House at Milepost 294.

# CHAPTER 4: ENVIRONMENTAL CONSEQUENCES

## INTRODUCTION

The National Environmental Policy Act (NEPA) requires that environmental documents disclose the environmental impacts of the proposed federal action, reasonable alternatives to that action, and any adverse environmental effects that cannot be avoided should the proposed action be implemented. This section analyzes the environmental impacts of the three alternatives for the management of the Moses H. Cone Memorial Park on natural resources, cultural resources, socioeconomics, visitor use and experience, including recreational and visual resources, human health and safety, park operations, transportation, and concessions and commercial services. This analysis provides the basis for comparing the effects of the three alternatives. The intensity and duration of the impacts, mitigation measures and cumulative impacts were assessed in considering the impacts.

Because of the general, conceptual nature of some of the actions described in the alternatives, the impacts of these actions are analyzed in general qualitative terms. If and when site-specific developments or other actions are proposed for implementation subsequent to this developed area management plan, appropriate detailed environmental and cultural compliance documentation would be prepared in accordance with National Environmental Policy Act and National Historic Preservation Act requirements.

## METHODOLOGY

### GENERAL EVALUATION METHODOLOGY

Overall, the National Park Service based the impact analyses and conclusions in this document on the review of existing literature, Blue Ridge Parkway studies, information provided by experts within the National Park Service and other agencies, professional judgments and park staff insights, interested parties, and public input. For each impact topic, the analysis includes an evaluation of effects.

The impact analyses involved the following steps:

- Identify the area that could be affected.

- Compare the area of potential effect with the resources that are present.

- Identify the intensity (negligible, minor, moderate, or major), context (local, park-wide, regional), duration (short- or long-term), and type (direct or indirect) of effect, both as a result of this action and from a cumulative effects perspective. Identify whether effects would be beneficial or adverse.

The criteria used to define the intensity and duration of impacts associated with the analyses were presented in **Table 12**. Impact analyses include implementation of mitigation measures taken to protect resources. Many of these measures were included in the “Mitigation Measures” section.

## GENERAL DEFINITIONS

Potential impacts are described in terms of type (beneficial or adverse), context, intensity (negligible, minor, moderate, major), duration (short- or long-term), and cumulative impacts. The following general definitions were used to evaluate the context, intensity, duration, and cumulative nature of impacts associated with project alternatives. NPS policy also requires that "impairment" of resources be evaluated in all environmental documents.

### *Context of Impact*

Context is the setting within which an impact is analyzed, such as local, park-wide, or regional. CEQ requires that impact analysis include discussions of context. Localized impacts are those that affect the resource area only on the project site or its immediate surroundings, and would not extend park-wide or into the region.

### *Intensity and Duration of Impact*

These terms are defined in the Impact Topic Threshold Definition Table (**Table 12**), and are consistent with the regulations of the Council on Environmental Quality (1978) that implement the National Environmental Policy Act. These impact analyses also are intended to comply with the requirements of Section 106 of the National Historic Preservation Act.

### *Direct and Indirect Impacts*

Direct effects are impacts caused by the alternative(s) at the same time and in the same location as the action. Indirect effects are impacts caused by the alternative(s) that occur later in time or farther in distance than the action, but still reasonably foreseeable. An indirect impact could occur because of a change to another resource or impact topic.

## CULTURAL RESOURCE ANALYSIS METHODS

Impacts to cultural resources are described in terms of type (beneficial or adverse), context (site-specific, local, or even regional), duration (short-term, long-term, or permanent), and intensity (negligible, minor, moderate, or major). Definitions of intensity (negligible, minor, moderate, or major) vary by impact topic (*see Table 12*). In accordance with the Advisory Council on Historic Preservation's regulations implementing Section 106 of the National Historic Preservation Act (36 CFR Part 800, Protection of Historic Properties), impacts on cultural resources were identified and evaluated by:

Determining the area of potential effects;

Identifying cultural resources present in the area of potential effects that are either listed in or eligible to be listed in the National Register of Historic Places (National Register of Historic Places);

Applying the criteria of adverse effect to affected cultural resources either listed in or eligible to be listed in the National Register of Historic Places; and

Considering ways to avoid, minimize, or mitigate adverse effects.

Under the Advisory Council on Historic Preservation's regulations, a determination of either adverse effect or no adverse effect must also be made for affected cultural resources. An adverse effect occurs whenever an impact alters, directly or indirectly, any characteristic of a cultural resource that qualifies it for inclusion in the National Register of Historic Places. For example, this could include diminishing the integrity of the resource's location, design, setting, materials, workmanship, feeling, or association. Adverse effects also include reasonably foreseeable effects caused by the alternative that would occur later in time, be farther removed in distance, or be cumulative (36 CFR Part 800.5, Assessment of Adverse Effects). A determination of no adverse effect means there is an effect, but the effect would not diminish in any way the characteristics of the cultural resource that qualify it for inclusion in the National Register of Historic Places.

## **CUMULATIVE EFFECTS ANALYSIS METHOD**

CEQ regulations (40 CFR 1508.7) require the assessment of cumulative impacts in the decision-making process for Federal projects. A cumulative impact is an impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of which agency (Federal or non-Federal), organization, or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time.

Cumulative impacts are considered for all alternatives and are presented at the end of each impact topic discussion analysis. To determine potential cumulative impacts, projects in the vicinity of the proposed project site were identified. Potential projects identified as cumulative actions included any planning or development activity that was currently being implemented or that would be implemented in the reasonably foreseeable future.

These cumulative actions are evaluated in the cumulative impact analysis in conjunction with the impacts of each alternative to determine if they would have any additive effects on natural resources, cultural resources, or visitor use. Because some of these cumulative actions are in the early planning stages, the evaluation of cumulative effects was based on a general description of the project. Known past, current and reasonably foreseeable future projects and actions in the vicinity of the project area are described below.

## **NATURAL RESOURCES**

### **SOILS**

#### ***No Action Alternative (Continue Current Management)***

##### **Impacts Analysis**

The No Action Alternative would continue the currently occurring activities on the estate and the soils would generally continue to be stable with little or no erosion. No new construction that would disturb the soil is planned and continued maintenance of existing facilities and on-going agricultural activities would cause little impact to the site.

The contaminated soils in the historic orchards would continue to be monitored by park management and no disturbance should occur in these areas under this Alternative. While no attempt would be made to clean-up the contaminated soils there has been no indication that the lead and arsenic are migrating so it is unlikely that new areas would be impacted. Land use restrictions would prohibit soil disturbing activities unless mitigating measures are taken to ensure the protection of park resources, employees and visitors. The roots of trees that are removed because they are hazards are left in place to hold the soil. Restoration of the carriage road at Trout Lake would require replanting or mulch to mitigate soil exposure.

### **Cumulative Impacts**

Until a recent downturn in the local economy forested and agricultural lands in Blowing Rock and the surrounding area were being quickly developed as summer and year-round residences were built on these lands. During heavy rains many creeks turned brown as large amounts of silt were washed into them from these building sites. In addition continued agricultural activities, road improvements and logging resulted in erosion over large areas. Even with the depressed economy and decreased development pressures, the impacts to local soils continue and this would continue to overwhelm any impact that might come from Cone Park under the No Action Alternative.

### **Conclusion**

Soils on the estate would not be disturbed under this Alternative except in very small areas. Vegetative cover would remain in place and provide protection for the soil underneath. Because of the low amount of disturbance that would occur, impacts would be negligible, short-term and neutral.

## ***Alternative One (Enhance What We Have)***

### **Impacts Analysis**

This Alternative would maintain the most intact parts of the estate with only limited additional development. Restoration of the full expanse of the view between the Manor House and Bass Lake may occur under this alternative but stumps and roots would be left in place to minimize soil disturbance and dogwood or redbud planted to provide long term soil stabilization, mimic apple tree character and provide an over story to limit establishment of evasive species. Some disturbance would still occur while trees are being cut and during the removal of cut material from the site. All of this work would be in the Flat Top Orchard where soils contaminated with arsenic, and to a lesser extent with lead, occur. Steps would need to be taken to ensure the safety of park employees and visitors during this work and to minimize the amount of airborne dust created. A new parking area for the Manor House would result in temporary soil disturbance during construction and may increase water run-off leading to increased risk of erosion where it drains, though this could easily be mitigated. Creation of an official trail system in China Orchard could reduce erosion in this area as it would replace the unofficial trails that are poorly designed and are not maintained. Rerouting entering and exiting traffic at Trout Lake would create temporary soil disturbance and the replacement of a paved road with a dirt/gravel carriage road could lead to more materials being washed into the lake. Hazardous trees would be managed the same as the No Action alternative.

### **Cumulative Impacts**

Cumulative Impacts would be the same as under the No Action Alternative.

### **Conclusion**

Overall the impacts from work that is proposed for the estate are minimal, would be spread out over several years and could easily be minimized through best management practices. Revegetation or site stabilization that may be necessary should occur quickly after the work is done. Any soil disturbance

would require appropriate erosion controls and soil stabilization so adverse impacts should be minor and short-term.

### ***Alternative Two (Cultural Landscape Rehabilitation )***

#### **Impacts Analysis**

Alternative Two would result in the most disturbances of soil in the park by any of the alternatives, though the total area being disturbed would still be a very small part of the 3,000-acre entire estate, and virtually all of the area being impacted would be stabilized with vegetation or covered by a building or asphalt. The only area where soil would be disturbed and left uncovered would be new trails and these would have water bars or other necessary features to minimize erosion. New visitor and employee facilities, along with an enlarged parking lot, would increase runoff due to the impervious surface, but this could be handled through the placement of culverts, drainage ditches, storm water retention devices, and similar structures that would prevent erosion where the water is directed. Vegetation would be cleared to restore views, meadows and other landscape features but soil disturbance should be limited. Stumps and roots would need to be removed from areas where meadows are restored and this would expose these sites to possible erosion until vegetation could be re-established. Trees and other woody vegetation would be cut to restore vistas but in few cases would the stumps need to be removed.

Restoration of the full expanse of the view between the Manor House and Bass Lake may occur under this alternative but stumps and roots would be left in place to minimize soil disturbance however dogwood or redbud will be planted to provide long term soil stabilization, mimic apple tree character and provide an over story to limit establishment of evasive species. There may be more trees cut under this Alternative than under Alternative One and so there would be some disturbance of the soil while trees are being cut and during the removal of cut woody material from the site. All of this work would be in the Flat Top Orchard where soils contaminated with arsenic, and to a lesser extent with lead, occur. Steps would need to be taken to ensure the safety of park employees and visitors during this work and to minimize the amount of airborne dust created. Trees that would be removed to return agricultural lands to their original would likely be grubbed to make it useable. Best management practices would be used in these areas to stabilize soils. Hazard trees would be managed the same as the No Action alternative.

#### **Cumulative Impacts**

Cumulative impacts would be the same as in the No Action Alternative.

#### **Conclusion**

While soil disturbance would be greatest under Alternative Two it should result in only minimal short-term erosion and should not result in long-term impacts. Silt fences, erosion matting or similar materials would be used to protect construction sites and prevent soil from being washed off-site. Disturbed areas would be revegetated or paved, either of which would prevent the erosion of exposed soils over the long-term. Restored meadows have a chance of eroding until a grass cover is established. Overall impacts to soil are adverse but would be minor and short-term.

## **WATER RESOURCES, INCLUDING WETLANDS**

### ***No Action Alternative (Continue Current Management)***

#### **Impacts Analysis**

None of the water resources in Cone Park would be altered by the No Action Alternative. All of the ponds are filled and the dams would continue to be maintained and monitored for leaking or other damage. The Blowing Rock Reservoir could be expanded now that the land exchange with the Town has occurred. This would result in a larger pond but except for the flooding of a short section of Flannery Fork where it enters the reservoir there would be no impact to water resources. Small wetlands around Bass and Trout Lakes would not be significantly impacted by any activities in this Alternative, though cattle grazing might have a minor impact at Upper Pond and Bass Lake. Some creeks that cross carriage roads would be minimally degraded from run-off of horse manure and gravel.

#### **Cumulative Impacts**

While there are no 303d waters surrounding Cone Park there are impacts to many local water resources from development, logging and agricultural activities. Increasing amounts of impervious surfaces would increase run-off and water flow in local streams. Despite this the water quality in park waters is generally good and streams leaving the estate provide more high-quality waters to the flow. Forests and agricultural fields on the estate would reduce run-off and would help with the replenishment of ground water. Wetlands in the surrounding area have been lost to development and agricultural activities, which makes the wetlands in the Park that much more important.

#### **Conclusion**

Park waters would have negligible impacts from this Alternative. What adverse impacts that do occur would be project specific and would be short-term, generally concluding when the project is completed. Despite possible problems with horse manure and gravel from the carriage roads the overall impacts to water resources and wetlands are beneficial and long-term due to the protection of watersheds from additional development or other activities. Adverse impacts from an enlarged Blowing Rock reservoir would also be minor but would be long-term.

### ***Alternative One (Enhance What We Have)***

#### **Direct/Indirect Impacts**

Impacts would be the same as under the No Action Alternative. A few new trails are planned to be built in China Orchard, and the bouldering trail would be improved, which could result in a small, temporary increase in sedimentation being washed into creeks. Depending on how Bass Lake is dredged under Alt we could lose the small, but very nice wetland in the NW corner of the lake, which would be a moderate long-term beneficial impact. Once work is completed sedimentation should be minimal, and around the boulders might actually be reduced.

Restoring the entrance road at Trout Lake to a carriage road may increase sediments being washed in to the lake during construction and the replacement of a paved road with a dirt/gravel carriage road could lead to a continuing problem with small amounts of gravel or other materials being washed into the lake. The Blowing Rock Reservoir would be enlarged under this Alternative with the same impacts as mentioned in the No Action Alternative.

Restoring the view between the Manor House and Bass Lake would result in at least partial clearing of up to 40 acres (16 ha), to fully restore the view and reflect the historic land use of Flat Top Orchard.

Replacing encroaching white pine species with native dogwood or redbud would will stabilize the soils to improve water quality and reduce sediment runoff, provide spring flowering and better replicate the historic use of an orchard without an undue commitment to manage fruit species, and provide an over story to control evasive plant establishment. Removing just the tallest trees that block the view, while leaving stumps of the cut trees, understory trees and ground vegetation, could reduce the impact but would not mimic the historic character of an orchard and will commit the park to an annual maintenance regime to maintain the view as the pines remaining mature. Clearing of the existing trees would result in a minor short-term negative impact to the water quality of Silt Pont due to sediment runoff of the cleared area. Replanting of trees with the same characteristics as fruiting varieties in that same area would, however, result in a minor long-term beneficial impact to water resources.

### **Cumulative Impacts**

Cumulative impacts under this alternative are the same as in the No Action Alternative with the addition of the water quality benefit mentioned above.

### **Conclusion**

None of the activities planned under Alternative One would have significant impacts on the park's water resources. Adverse impacts would be minor and short-term with impacts lasting only a short-time after any construction activities end.

## ***Alternative Two (Cultural Landscape Rehabilitation)***

### **Impacts Analysis**

The major potential impact to water resources for Alternative Two is from runoff during construction of the visitor and employee facility, Trout Lake entrance road, redesigned parking lots and trails. With the exception of a very small increase in runoff from new development around the Manor House all of these impacts should only be temporary. The Blowing Rock Reservoir would be enlarged under this Alternative with the same impacts as mentioned in the No Action Alternative. Depending on how Bass Lake is dredged under Alt we could lose the small, but very nice wetland in the NW corner of the lake, which would be a moderate long-term impact. The reintroduction of sheep and cattle as part of the restoration of overgrown meadows would increase the chance of contamination of local streams downhill of these sites. New visitor facilities and recreational opportunities would encourage more people to visit the park and the need for greater withdrawal of groundwater to accommodate them, though it is unlikely that this would have any significant impact on overall supply.

### **Cumulative Impacts**

With the exception of increased park visitation that may require a very small increase in tourism development in Blowing Rock and the surrounding area, cumulative impacts under this alternative are the same as in the No Action Alternative.

### **Conclusion**

There would be some adverse impacts from this alternative but they should generally be minor and short-term. Adverse impacts from an enlarged Blowing Rock reservoir and additional impervious surfaces would also be minor but would be long-term.

## **VEGETATION**

### ***No Action Alternative (Continue Current Management)***

#### **Impacts Analysis**

During the historic period approximately 75% of the estate, excluding the orchards, was forested. Presently about 90% is tree covered with another 8% in fields (Firth 1993). On-going maintenance activities would continue to remove hazard trees and overhanging limbs along the carriage roads and other developed areas, but large-scale plant removal or conversion would not occur under this Alternative. Agricultural activities would continue on existing fields but no historic fields would be restored. Non-native plants would still be removed as necessary and rare species would be protected from park activities. Hemlocks would continue to be managed for adelgids and forested areas for other invasive pests.

#### **Cumulative Impacts**

Forested areas around the park are still being lost to home and business construction but this is partially counteracted by abandoned agricultural fields that are being allowed to grow up into forests. Agricultural lands are also being converted to residential and business development and modern farming practices on these lands are resulting in more homogenous plant communities than would have existed during the Cone period. Non-native plants are continuing to be used as ornamental landscaping on neighboring lands and often these species are invasive and spread into native forests.

#### **Conclusion**

Under the No Action Alternative Cone Park would continue to provide a large tract of relatively undeveloped land made up of native vegetation, including areas with old growth communities. In spite of the historic estate with its buildings, roads and orchards, this Alternative would preserve most of the park as woodlands, with much of the remaining lands in agricultural fields. Maintaining the existing developed areas would keep about 90% in woods and 8% in fields which would have an overall moderate, long-term beneficial impact on the park's vegetation. While the remaining buildings, lakes, and roads have a negative effect on the vegetation it is minor overall, though the effects are long-term.

### ***Alternative One (Enhance What We Have)***

#### **Impacts Analysis**

During the historic period approximately 75% of the estate, excluding the orchards, was forested. Presently about 90% is tree covered with another 8% in fields (Firth 1993). Under Alternative One the percentage of forested lands would decrease slightly, with some of the lands remaining as forest being maintained as more of an early-successional forest.

Several view portals along the carriage roads will also be opened to restore and maintain historic views. Trail construction in China Orchard would lead to additional areas and the unofficial trail to the bouldering sites would be improved and maintained as necessary, all of which may result in the loss of a few trees and other vegetation. Rerouting the entrance and exit to the Trout Lake parking lot would, over time, prevent the loss of several old trees along the entrance road that are persistently damaged by vehicles and horse trailers. Parking lot enlargement at the Manor House may result in the loss of a patch of second-growth woods depending on exactly what area is selected for the expansion.

Smaller scale actions would include clearing of rhododendron at Trout Lake, management of water lilies, restoration of sugar maple, partial restoration of orchards, conifer plantations, and expanding the edges of agricultural fields at the manor house. That could impact approximately 8 – 15 acres. Actions if

completed utilizing best management practices would have a negligible, long-term impact and a positive long-term effect in restoration of the historic landscape.

Hazard trees, non-native plants and other agricultural lands would be managed the same as the No Action Alternative.

### **Cumulative Impacts**

Cumulative Impacts are the same as in the No Action Alternative. Forested areas around the park are still being lost to home and business construction but this is partially counteracted by abandoned agricultural fields that are being allowed to grow up into forests. Agricultural lands are also being converted to residential and business development and modern farming practices on these lands are resulting in more homogenous plant communities than would have existed during the Cone period. Non-native plants are continuing to be used as ornamental landscaping on neighboring lands and often these species are invasive and spread into native forests.

### **Conclusion**

The most significant area of impact to vegetation would occur with the restoration of the view from the Manor House and replanting with species that mimic apple species. The forest would be changed from second-growth white pine mono culture to a species mix that better replicates the historic orchard at the time period of the Cones. The result will be planting of native redbud or dogwood to mimic apple tree character while providing an over story that will reduce the establishment of evasive species. Trail work usually results in the loss of few trees and most of these tend to be 6" dbh or less. Smaller scale actions would include clearing of rhododendron at Trout Lake, management of water lilies, restoration of sugar maple, partial restoration of orchards, conifer plantations, and expanding the edges of agricultural fields at the manor house. That could impact approximately 8 – 15 acres. Actions would have a negligible, long-term impact.

Overall adverse impacts to vegetation would be minor and long-term.

## ***Alternative Two (Cultural Landscape Rehabilitation)***

### **Direct/Indirect Impacts**

During the historic period approximately 75% of the estate, excluding the orchards, was forested. Presently about 90% is tree covered with another 8% in fields (Firth 1993). Under Alternative Two the percentage of forested lands would decrease while the amount of fields would increase, though there would still be fewer acres maintained as agricultural fields (about 300 acres) than during the historic period (about 500 acres in 1940 (Firth 1993)).

The biggest impact to the park's vegetation under Alternative Two would be from opening historic views and restoring some of the old agricultural fields. Historic fields in three areas of the estate would be cleared of forests and restored to open fields: north and south of the Parkway at Milepost 292.9; south of the Moses H. Cone Overlook on the Parkway to the Black Bottom Carriage Road, and an area near the intersection of the Rich Mountain Carriage Road and Deer Park Carriage Road (**Figure 6**). Other existing fields may be enlarged to restore historic boundaries but these should affect relatively small areas of woods.

The view from the Manor House from Upper Pond, Heart Pond and Bass Lake would be restored under this Alternative. While this would be similar to what is proposed for Alternative One, under Alternative Two the work would be more "comprehensive" with more vegetation removed. About 20 to 40 acres (8 –

16 ha) of forests between the Manor House and Bass Lake would be cut to open the view and replanted with redbuds or dogwoods.

Total potential acreage to return to open, treeless areas is approximately 650 acres with another 50+ acres that would be managed more intensely (conifer plantation, trails in China Orchard, portions of Flat Top Orchard, gardens, sugar maples, water lilies, rhododendron screening).

Vistas along the carriage roads would be opened to restore historic views, as in Alternative One, though it is likely that a larger number of views would be restored. Other landscape elements, such as gardens, tennis court and buildings, are to be restored under this Alternative and much of this work would require clearing of forests or alterations of existing lawns or fields and relocation of existing power lines, though the total area would likely be less than 20 acres (8 ha). Some of the landscaping may result in native vegetation being replaced with non-native plants.

Trail construction in China Orchard, rerouting the entrance and exit to the Trout Lake parking lot, and the parking lot redesign at the Manor House would all be the same as in Alternative One. Hazard trees and non-native plants would be managed the same as the No Action Alternative.

### **Cumulative Impacts**

Cumulative impacts are the same as in the No Action Alternative except that there would be the potential to restore approximately 250 acres to open field of agricultural fields, a moderate, long-term, beneficial impact.

### **Conclusion**

While impacts to vegetation would be greatest under this alternative they would still change only a small portion of the entire estate. Land managed as Special Cultural Zones would double from about 30% of the estate to 60% with some of this increase needed to restore wooded and overgrown areas back to their more historic open conditions or to restore landscaped areas with historic vegetation. The rest of the newly designated Special Cultural Zone would remain forested as it was during the Cone period. Overall there would be adverse impacts that would be minor and long-term.

## **WILDLIFE, INCLUDING NEOTROPICAL MIGRATORY BIRDS**

### ***No Action Alternative (Continue Current Management)***

#### **Impacts Analysis**

Cone Park provides some high quality wildlife habitat for a variety of species and would continue to do so under this Alternative. Other lands, such as agricultural fields and forest edges, would continue to provide marginal habitat that is commonly found nearby. While the Cones managed the estate as a “working estate” they did enjoy nature and generally protected trees and flowers from harvesting. This has resulted in large areas of the estate remaining in forests consisting of native species that provide habitat, food and nest sites to wildlife. Fragmentation of the estate caused by the Parkway and carriage roads has degraded the quality of the habitat slightly but except for the smallest animals this is a minor impact. Bear and deer are returning to the park and may require intervention in the future. The Integrated Pest Management (IPM) process would be employed to address management.

#### **Cumulative Impacts**

Habitat loss continues as a major threat to the viability of many species in the North Carolina high country. Thousands of acres have been converted from forests to fields and then turned into subdivisions. While the speed of the conversions has slowed down with the nation’s economic downturn it is still

occurring and could easily increase again once the economy rebounds. Cone Park, along with the adjoining Julian Price Memorial Park, protects more than 7,000 acres (2,830 ha) of high quality habitat that is disappearing elsewhere (habitat estimates: 200 ac parking, roads, impoundments; 2500 ac woods; 500 ac deep woods; 300 fields; 100 successional). Much of this could be considered as “deep woods” rather than edges, making it even more important for area wildlife. The No Action Alternative maintains the existing natural areas and provides much needed habitat that is otherwise being lost.

### **Conclusion**

This Alternative maintains important habitat (deep woods, successional woods, and edges) at current levels. While the park is not pristine, with impacts from roads, impoundments and buildings, it does preserve about 99% of the estate as potential wildlife habitat for many species that are being displaced elsewhere. Maintaining the estate with the current natural areas intact does provide major long-term benefits to wildlife, while activities allowed under this Alternative that would degrade existing habitat are minor and long-term.

## ***Alternative One (Enhance What We Have)***

### **Impacts Analysis**

With the limited changes proposed under Alternative One the Cone Estate would continue as a wildlife refuge in a rapidly changing area. The biggest impact to wildlife would be the work involved with restoring the view from the Manor House down to Bass Lake. As described above this would convert acres of mono culture pine with native redbud and dogwoods that could provide nesting habitat and forage food for several species of birds and mammals. Other species might in turn benefit from the new forest condition. The new trails, restoration of views, changes at Trout Lake and new parking area at the Manor House should have negligible impact on wildlife. The majority of the estate would remain as it is, with some areas eventually changing from second-growth forests to old-growth, and would provide important habitat to a variety of wildlife in the area.

### **Cumulative Impacts**

Cumulative impacts would be the same as under the No Action alternative except that the Parkway would maintain the conifer plantations that would provide habitat for early successional species.

### **Conclusion**

Except for the work needed to restore the view from the Manor House this alternative would have long-term negligible adverse impacts. Impacts to wildlife in the area between the Manor and Bass Lake would be minor and long-term. Depending on the species being considered the impacts would be positive or beneficial with the overall effects being positive.

## ***Alternative Two (Cultural Landscape Rehabilitation)***

### **Direct/Indirect Impacts**

Most of the changes called for under Alternative Two would negatively impact local wildlife populations, though none of the impacts to Cone Park wildlife would be significant either individually or in total. Restoration of agricultural fields, vistas and landscaping would generally come at the expense of second-growth native forests, areas that provide important habitat for a variety of wildlife.

Clearing forested areas and replacing them with agricultural fields or landscaping would create more habitat that is already widely available in the park and surrounding area while removing habitat that is

increasingly in short supply nearby. Deep woods have been heavily impacted by development throughout Watauga County and this loss has affected several species that need large tracts of undisturbed forests, such as wood thrushes and scarlet tanagers. The newly created habitat would be either agricultural lands that are frequently mowed or forest edges that are already abundant around towns and other developments.

Additional trails in China Orchard would bring visitors and their disturbance to an area that is one of the least visited portion of Cone Park. While use of the trails would probably be low it still could disrupt wildlife that is more sensitive to human noises and activities. New visitor facilities, such as a visitor information center near the Manor House and changes to the Trout Lake entrance, would likely increase the numbers of visitors to the site but this use would be confined to previously disturbed areas and should not be a significant increase. A very small amount of habitat would be lost to these additions but other disturbances to wildlife should be negligible.

Retention and management of the conifer plantations would provide successional woods for successional species.

### **Cumulative Impacts**

Cumulative impacts are the same as in the No Action Alternative and Alternative One except more fields would be managed adding to habitat variety that would provide successional woods for successional species.

### **Conclusion**

There would be several areas of impact to Cone Park wildlife, including migratory birds, from the actions planned in Alternative Two, with all of the impacts being adverse and long-term. The main impact would be caused by habitat loss and fragmentation as lands are converted from mature second-growth forests to either agricultural fields or late-successional forests. None of these projects is expected to impact rare species or communities and because of the small overall area involved the impact to park wildlife should be minor overall, though animals living in the area where the impacts occur would be moderately impacted.

## **CULTURAL AND HISTORIC RESOURCES**

### **ARCHEOLOGICAL RESOURCES**

#### ***No Action Alternative (Continue Current Management)***

#### **Direct/Indirect Impacts**

The No Action Alternative would continue the currently occurring activities on the estate and archeological resources would generally continue to degrade from equine, pedestrian, and vehicular traffic. No new construction that would affect archeological resources is planned and continued maintenance of existing facilities and on-going agricultural activities would cause little impact to the site. However with little or no knowledge as to how many or where archeological sites may be located within the estate no monitoring or rehabilitation of these sites could be accomplished.

#### **Cumulative Impacts**

Increasing development of Boone and the surrounding areas has the unintended consequence of reducing the number of unimpaired archeological sites within the region. The Cone Estate and the 7,000 acres managed by the National Park Service remain unimpaired under the No Action Alternative. While this

has the benefit of protecting unknown resources, it is estimated that some of the archeological resources are suffering from human and natural degradation. Without a systematic archeological survey of the property these sites would continue to be negatively impacted.

### **Conclusion**

Presently there has been no systematic archeological survey of the Moses Cone Estate as required under Section 110 of the NHPA of 1966 as amended. Therefore, unrecorded sites would continue to degrade as a result of equine, pedestrian, and vehicular travel. Under the No Action Alternative, unknown archeological sites would be adversely affected at a moderate level for the duration of this action alternative.

## ***Alternative One (Enhance What We Have)***

### **Direct/Indirect Impacts**

The impacts of actions on archeological resources under Alternative One would be generally the same as those described under the No Action Alternative. An increase in the number of visitors to the Manor House would have the potential to adversely impact archeological resources because visitors, vehicles, and horses would likely continue to affect archeological resources. The rehabilitation and reconstruction of the carriage trails could affect archeological resources. Since most of this work would take place within previously disturbed contexts i.e. the original construction of the carriage roads, the adverse effect is thought to be minimal if any.

### **Cumulative Impacts**

Cumulative impacts are the same as under the No Action Alternative.

### **Conclusion**

Construction of additional parking at the Manor House and the relocation of parking from U.S. 221 to within the Memorial Park, as well as the construction of new trails could affect archeological resources. The location of trails and parking areas would be sited to avoid known archeological resources. All ground disturbing activities would be preceded by site-specific archeological surveys and, where appropriate, subsurface testing to determine the existence of archeological resources and how best to preserve them. If National Register-eligible archeological resources could not be avoided, an appropriate mitigation strategy would be developed in consultation with the North Carolina State Historic Preservation Officer (SHPO). If previously undiscovered archeological resources were uncovered during construction, 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 North Carolina SHPO. Few, if any, adverse impacts on archeological resources would be expected due to efforts to avoid all known sites. Archeological survey of the Manor House property would result in a beneficial, moderate to major, and durational effect to archeological resources since the location of these remains would be known and park staff could monitor the conditions of these resources.

## ***Alternative Two (Cultural Landscape Rehabilitation)***

### **Direct/Indirect Impacts**

The impacts of actions on archeological resources under Alternative Two would be greater than those described under the No Action Alternative and Alternative One. An increase in the number of visitors to the Manor House would have the potential to adversely impact archeological resources because visitors, vehicles, and horses would likely continue to affect archeological resources. The rehabilitation and

reconstruction of the carriage trails could affect archeological resources. Since most of this carriage trail rehabilitation work would take place within previously disturbed contexts i.e. the original construction of the carriage roads, the adverse effect is thought to be minimal if any. The construction of a new visitor's center and additional parking areas has the potential to adversely affect archeological resources. Construction of additional parking at the Manor House and the relocation of parking from U.S. 221 to within the Memorial Park, as well as the construction of new trails could affect archeological resources. The location of trails and parking areas would be sited to avoid known archeological resources. The installation of a fire suppression system has the potential to adversely impact archeological resources.

### **Cumulative Impacts**

Cumulative impacts would be the same as for the No Action Alternative.

### **Conclusion**

All ground disturbing activities would be preceded by site-specific archeological surveys and, where appropriate, subsurface testing to determine the existence of archeological resources and how best to preserve them. If National Register-eligible archeological resources could not be avoided, an appropriate mitigation strategy would be developed in consultation with the North Carolina State Historic Preservation Officer (SHPO). If previously undiscovered archeological resources were uncovered during construction, 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 North Carolina SHPO. Few, if any, adverse impacts on archeological resources would be expected due to efforts to avoid all known sites.

## **CULTURAL LANDSCAPES**

### ***No Action Alternative (Continue Current Management)***

#### **Direct/Indirect Impacts**

Under the No Action Alternative Cultural Landscapes would continue to exist in their current state. Much of the existing cultural landscape is as it existed during the period of significance, while other areas have been affected by encroaching vegetation due to the lack of a comprehensive management plan. The Cultural Landscape Report (1993) suggests the preparation of a restoration and management plan for the carriage roads, Flat Top orchard, and Rich Mountain pasture among other recommendations.

#### **Cumulative Impacts**

Prior to park acquisition of the Cone Estate, Moses and Bertha Cone employed a retinue of maintenance workers including gardeners, carpenters, and arborists. Since receiving the property from the Cones the National Park Service has maintained the property as a developed area focusing on recreation and interpretation. Park budget constraints do not allow for the property to be maintained to the level it once was when significantly more funds and employees were allotted to the upkeep of the estate. As a result many of the carriage roads and associated vistas have fallen into disrepair and become overgrown. The No Action Alternative would not allow for the rehabilitation of the Cultural Landscape at the estate and would consequently be seen as an adverse, moderate, durational effect.

#### **Conclusion**

Because no new activities would be conducted, no rehabilitation to the cultural landscape would occur under this alternative. The maintenance of the Manor House and associated outbuildings would continue as is currently conducted. Vistas and overlooks, along the carriage roads, would remain as they exist in a state of disrepair. No significant modifications would occur to the present cultural landscape at the Manor House.

## ***Alternative One (Enhance What We Have)***

### **Direct/Indirect Impacts**

The impacts of actions on cultural landscapes under Alternative One would be generally the same as those described under the No Action Alternative.

### **Cumulative Impacts**

Cumulative impacts are the same as under the No Action Alternative.

### **Conclusion**

Portions of the current landscape that best represent the historic landscape would continue to be maintained. Flexible use of historic structures and cultural landscapes would be encouraged to facilitate increased educational and interpretive services and traditional recreation uses for visitors. All work would be carried out in accordance with pertinent laws and regulations, including the stipulations of the 2008 Programmatic Agreement among the National Park Service (U.S. Department of the Interior), the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers. The NC SHPO will be consulted prior to any cultural landscape rehabilitation. The work would be documented so that there are no questions about what steps were taken. All work would be carried in compliance with Cultural Landscape Report for this site dated August 1993 and updated in 2013 which would serve to guide BLRI staff in maintaining the desired historic landscape. Park staff would develop a plan of action to maintain maple trees that line Bass Lake in perpetuity (e.g., seeds may be reared in greenhouse; several new trees may be planted each year, etc.) Where feasible, structures whose materials have been compromised would be returned to near-historic status (e.g., the current observation tower is metal; if possible, it would be returned to chestnut or other natural material that is more closely related to its original fabric)

Where feasible, historic gardens would use historic varieties and germplasm as close to the original as possible. By following the recommendations in the 1993 Cultural Landscape Report and the 2013 update the proposed project would have a beneficial, minor to moderate, long term effect on the cultural landscape within the project APE.

## ***Alternative Two (Cultural Landscape Rehabilitation)***

### **Direct/Indirect Impacts**

Alternative Two, when compared with the other alternatives, has the greatest potential for protection and preservation of cultural landscapes. The proposed visitor's center has the potential to negatively affect for a short term the cultural landscape during construction. The overall long-term, beneficial, moderate to major impact of removing the Craft Guild from the visitor's center, combined with the construction of visitor facilities that are in the style and similar size to original outbuildings in use during the period of significance outweigh the short-term, minor, negative impacts to the cultural landscape resulting from construction of the proposed structures.

Relocation of the parking lot is expected to have a beneficial, moderate to major, long-term, impact to the cultural landscape, particularly around the historic core of the Cone Estate. The removal of the parking lot from directly behind the mansion would allow for the reestablishment of key landscape features present during the Cone occupation, including but not limited to: vegetable and flower gardens, croquet and tennis courses, icehouse and carbide plant, and the former bowling alley.

Replanting of maple trees along the lakeshore of Bass Lake would have a beneficial, moderate, long-term impact on cultural landscapes. The restoration of vistas and plantings along the carriage roads to the period of significance, as well as the establishment of interpretive wayside exhibits detailing the Cone's unique system of carriage roads similar to the Blue Ridge Parkway with their emphasis on overlooks and vistas would be a beneficial, moderate, long-term impact.

Reestablishing portions of the orchards at Flat Top, Saw Mill and China Orchard would have a beneficial, moderate to major long-term impact to the visitor experience. This would allow visitors the opportunity to learn about plant grafting for fruit production, the importance of preserving unique genetic varieties, and how scientific advances in fruit production have changed over the last century.

### **Cumulative Impacts**

Cumulative impacts would be the same as for the No Action Alternative.

### **Conclusion**

The proposed actions under Alternative Two would follow recommendations proposed in the 1993 Cultural Landscape Report and the 2013 update. The NC SHPO will be consulted prior to any cultural landscape rehabilitation. Implementation of this Alternative would have a beneficial, moderate to major, long-term effect on cultural landscapes.

## **ETHNOGRAPHIC RESOURCES**

### ***No Action Alternative (Continue Current Management)***

#### **Direct/Indirect Impacts**

Nothing proposed under the No Action Alternative would result in an adverse impact to ethnographic resources at the site.

#### **Cumulative Impacts**

Since taking possession of the property from the Cones', the National Park Service has maintained a good relation with the Cone heirs. Cone descendants, as well as friends of the Cones are allowed uninhibited access to the Cone burial plot as per the arrangement signed by the USA with Bertha Cone. Increased visitation to the park would not occur if the No Action Alternative is selected so there would be no effect to ethnographic resources.

#### **Conclusion**

The proposed project has been identified as a potential ethnographic resource in the park's draft Ethnographic Overview and Assessment (August 2008), and family heirs are known to be concerned about the short- and long-term direction of management for the site especially contemporary recreational use. The Cone Hospital System also has interest in the resources and activities on the Moses H. Cone Memorial Park and must be evaluated and considered. Cone Heirs and the Cone Hospital System in Greensboro would be kept apprised of proposed modifications to this plan and to activities on site. Because no new activities would be conducted, the No Action Alternative would have no effect on ethnographic resources.

### ***Alternative One (Enhance What We Have)***

#### **Direct/Indirect Impacts**

The impacts of actions on ethnographic resources would be generally the same as those described under the No Action Alternative.

### **Cumulative Impacts**

Cumulative impacts are the same as under the No Action Alternative.

### **Conclusion**

The proposed project has been identified as a potential ethnographic resource in the park's draft Ethnographic Overview and Assessment (August 2008), and family heirs are known to be concerned about the short- and long-term direction of management for the site especially contemporary recreational use. The Cone Hospital System also has interest in the resources and activities on the Moses H. Cone Memorial Park and must be evaluated and considered. Cone Heirs and the Cone Hospital System in Greensboro would be kept apprised of proposed modifications to this plan and to activities on site.

The construction of new trails and the proposed parking lots could affect ethnographic resources; however, trails and parking lots would be sited to avoid identified ethnographic resources. Few, if any, adverse impacts on such resources would be expected. Thus implementation of this alternative would be expected to have beneficial, minor to moderate, long term impacts on ethnographic resources on NPS owned lands.

### ***Alternative Two (Cultural Landscape Rehabilitation)***

#### **Direct/Indirect Impacts**

The proposed actions under Alternative Two would occur in an area that has been identified as a potential ethnographic resource in the Parkway's draft Ethnographic Overview and Assessment (August 2008), and family heirs are known to be concerned about the short- and long-term direction of management for the site especially contemporary recreational use. The Cone Hospital System also has interest in the resources and activities on the Moses H. Cone Memorial Park and must be evaluated and considered. Cone Heirs and the Cone Hospital System in Greensboro would be kept apprised of proposed modifications to this plan and to activities on site.

The construction of a new VF, new trails, and the proposed parking lots could affect ethnographic resources; however, the proposed VF, trails, and parking lots would be sited to avoid identified ethnographic resources.

#### **Cumulative Impacts**

Cumulative impacts would be the same as for the No Action Alternative.

#### **Conclusion**

Few, if any, adverse impacts on such resources would be expected. Thus implementation of this alternative would be expected to have beneficial, minor to moderate, long term impacts on ethnographic resources on NPS owned lands.

## **HISTORIC STRUCTURES AND PROPERTIES**

### ***No Action Alternative (Continue Current Management)***

#### **Direct/Indirect Impacts**

Under the No Action Alternative the NPS would continue to allow the Southern Highland Craft Guild to continue to operate in the Manor House unimpeded. This has the unintended consequence of interior damage to walls from improper routing of foot traffic through the main floor to avoid numerous merchandise platforms. The illumination of merchandise through the use of incandescent spotlighting

requires the use of numerous track lights which the current wiring within the Manor House is insufficient to support. The use of the house by the Craft Guild does have the beneficial effect of daily use which could alert management to any insufficiencies in a timely manner. This, however, does not mitigate the adverse, moderate to major, long term effect to the Manor House that continued use by the Craft Guild poses.

### **Cumulative Impacts**

The Flat Top Manor House is in remarkably good shape considering the age and continued use of the structure. Maintenance and upkeep first conducted by the Cones and later the NPS have allowed the home to endure for over a century with substantial use while retaining many of the architectural features that make the home unique. Continued use of the Manor House by the Craft Guild would result in an adverse, moderate, long term effect.

### **Conclusion**

Under the No Action Alternative, the craft guild would be allowed to remain in the Manor House. This has the potential of an adverse, moderate to major, long-term effect. The Historic Structures Report (HSR 1996) recommends “The Manor House should be an interpretive center, not a historic house museum nor a shop” (135). The 2002 Long Range Interpretive Plan (LRIP) asserts that “Crafts and the story of folk art are marginally related and inappropriate to a country estate (105)”. The HSR states that “An interpretive center...could address a wide range of issues: the lives of the Cone family, Moses Cone’s success as a “captain of Industry”, the concept of the model farm, the Cone mills, the lives of the mill workers...”(135). In order to “provide a complete experience for the visitors, the second floor and attic should be opened, after the structural problems have been corrected” (135). Currently none of the recommendations in the 1996 HSR or the 2002 LRIP have been adopted. The use of the Manor House as an arts and crafts center presents an adverse, moderate to major, long term effect to this historic structure.

## ***Alternative One (Enhance What We Have)***

### **Direct/Indirect Impacts**

The impacts of actions on historic structures would be generally the same as those described under the No Action Alternative.

### **Cumulative Impacts**

Cumulative impacts are the same as under the No Action Alternative.

### **Conclusion**

The craft outlet/book store functions would be allowed to remain, however with less space. The development of interpretive exhibits and ranger led tours of the Manor House would likely result in increased park visitation and the possible loss of historic fabric from historic structures. However, instituting and monitoring user-capacity indicators and implementing potential management strategies such as carpeting the tour routes to mitigate adverse impacts would help reduce impacts on historic structures caused by visitor use. Thus, implementation of this alternative would result in beneficial, minor to moderate, long-term impacts on historic structures.

## ***Alternative Two (Cultural Landscape Rehabilitation)***

### **Direct/Indirect Impacts**

The proposed actions under Alternative Two include the reestablishment, in some form, of the historic core of the Cone Estate in and around the Flat Top Manor House including the installation of a fire-

suppression. The removal of the Craft Guild from the Manor House would have the most direct impact of any of the proposed changes in Alternative Two. This would have beneficial impact of less lighting and associated electrical systems currently in use to illuminate merchandise.

Existing public parking behind the Manor House would be redesigned depending on where new visitor information, education and sales functions are located (see **Figure 13** for site concept plan). Portions of the Manor House would be managed as a historic museum. Historic furnishing decisions and acquisition of historic objects for interpretive and educational needs would be determined by the scope of collections statement for the Parkway, and upon completion of a Historic Furnishings Plan. Full-house tours would be permitted to demonstrate what the home was like when the Cones resided there as long as the building remains structurally sound.

### **Cumulative Impacts**

Cumulative impacts would be the same as for the No Action Alternative.

### **Conclusion**

The impacts of actions on historic structures would be significantly different as those described under the No Action Alternative or Alternative One. The craft outlet/book store functions would no longer be allowed to remain. This would have a moderate to major, long term, beneficial impact on the Manor House. The development of interpretive exhibits and ranger led tours of the Manor House would likely result in increased park visitation and the possible loss of historic fabric from historic structures. However, instituting and monitoring user-capacity indicators and implementing potential management strategies such as carpeting the tour routes to mitigate adverse impacts would help reduce impacts on historic structures caused by visitor use. Thus, implementation of this alternative would result in beneficial, minor to moderate, long-term impacts on historic structures.

## **MUSEUM COLLECTION**

### ***No Action Alternative (Continue Current Management)***

#### **Direct/Indirect Impacts**

Under the No Action Alternative, the NPS would continue to manage museum collections of cultural and natural resource and archival collections relating to the Moses Cone Estate, within the boundaries of the park. The collections would be managed in compliance with NPS standards for collecting, managing and preserving museum collections. As collections are acquired, materials would be accessioned and cataloged, preserved and protected and made available for research and interpretation.

Privately owned cultural artifacts and archival materials would continue to remain in private ownership or be deposited with other organizations. As a result, these objects could be potentially degraded or lost, thus reducing or eliminating their future usefulness for research and interpretation.

#### **Cumulative Impacts**

Because conditions would not change, there would be no cumulative effects on museum collections under this alternative.

#### **Conclusion**

Overall, actions under this alternative would result in negligible to minor, long-term impacts on museum collections possessed by the NPS. Actions under this alternative would result in potential minor to moderate, long-term, adverse impacts on privately owned collections. There would be no cumulative impacts on museum collections under this alternative.

## ***Alternative One (Enhance What We Have)***

### **Direct/Indirect Impacts**

Impacts of actions under Alternative One on museum collections would generally be the same on those described under No Alternative Impact. However, the Alternative could result in enlarged museum collections because the NPS could place original or reproduction artifacts in the Manor House interpretive exhibit. This could include reproduction and/or original furnishings and artifacts.

Acquisition of original and reproduction furnishings and artifacts for interpretation and research would be determined by the parks Scope of Collections Statement and upon completion of a Flat Top Manor House Historic Furnishings Plan.

All NPS collections would be accessioned, cataloged, preserved, protected and made available for access and use according to NPS standards.

Privately owned collections would likely continue to remain in private ownership. These collections would possibly be degraded or lost, thus reducing or eliminating their future usefulness for research and interpretation.

### **Cumulative Impacts**

There would be no cumulative effects on museum collections under this alternative.

### **Conclusion**

Overall, implementation of Alternative Two would result in moderate, long-term impacts on museum collections possessed by the NPS. Implementation of Alternative Two would result in potential adverse, minor to moderate, long-term impacts on privately owned collections. However, this alternative holds the potential for enlarged museum collections compared with No Alternative, because the NPS would place original or reproduction artifacts in the Manor House interpretive exhibit. This could include reproduction and/or original furnishings and artifacts. Acquisition of original and reproduction furnishings and artifacts for interpretation and research would be determined by the parks Scope of Collections Statement and upon completion of a Flat Top Manor Historic Furnishings Plan.

## ***Alternative Two (Cultural Landscape Rehabilitation)***

### **Direct/Indirect Impacts**

Implementation of Alternative Two would have moderate long-term impacts on the parks museum collections. This alternative holds the potential for enlarged museum collections compared with Alternative One because the Flat Top Manor House would be fully furnished with reproductions and/or original Cone family furnishings.

The park would develop and implement a curatorial housekeeping program for the house. Curatorial staff would be hired to manage the historic house museum and furnishings on a full-time basis.

Acquisition of original and reproduction furnishings and artifacts for interpretation and research would be determined by the parks Scope of Collections Statement and upon completion of a Flat Top Manor House Historic Furnishings Plan.

All NPS collections would be accessioned, cataloged, preserved, protected, and made available for access and use according to NPS and other professional standards and guidelines.

A museum collections storage facility and curatorial work space would be constructed to preserve and protect objects on exhibit and in storage for research purposes.

Privately owned collections would likely continue to remain in private ownership. These collections would possibly be degraded or lost, thus reducing or eliminating their future usefulness for research and interpretation.

### **Cumulative Impacts**

There would be moderate cumulative effects on museum collections under this alternative.

### **Conclusion**

Overall, implementation of Alternative Two would result in adverse, moderate, long-term impacts on museum collections possessed by the NPS. Implementation of Alternative Two would result in potential adverse, minor to moderate, long-term impacts on privately owned collections. This alternative would potentially enlarge the parks museum collections because the NPS would place original or reproduction artifacts in the Manor House and manage as a historic furnished structure. This could include reproduction and/or original furnishings and artifacts. Acquisition of original and reproduction furnishings and artifacts for interpretation and research would be determined by the parks Scope of Collections Statement and upon completion of a Flat Top Manor House Historic Furnishings Plan.

## **HUMAN REMAINS AND BURIALS**

### ***No Action Alternative (Continue Current Management)***

#### **Direct/Indirect Impacts**

Nothing proposed under the No Action Alternative should result in an adverse effect to Human Remains and Burials.

### **Cumulative Impacts**

The only known Human Remains and Burials within the estate, are those of Moses and Bertha Cone. Under the No Action Alternative the current agreement between the Cones and the USA would remain in effect and would preserve the beneficial, moderate, durational effect to Human Remains and Burials.

### **Conclusion**

Under the No Action Alternative, there would be no adverse impacts to Human Remains and Burials.

Maintenance of this cemetery is perpetually conducted as this cemetery is classified as a Class 'A' cemetery according to the 1979 Guidelines for Maintenance of Cemeteries within the Boundary of the Blue Ridge Parkway. The document states that cemeteries afforded class 'A' status, (the Cone cemetery being the only one on the Parkway to achieve such status,) would receive complete and perpetual maintenance responsibility. In accordance with the deed, the United States must maintain access to the cemetery for relatives and friends. "The United States of America shall forever keep the said burial ground in a manner suitable to the wishes of the friends and relatives...shall perpetually keep in repair the coping and railing...and shall keep the lawn set in grass and properly trimmed. Any violation of the conditions of this conveyance...shall work a forfeiture of the estate..." (July 7, 1949). Human remains and burials would not be affected under the No Action Alternative.

### **Conclusion**

The No Action Alternative would have no effect on historic structures or archaeological resources. This alternative would have no effect on cultural landscape or currently unidentified ethnographic resources. Implementation of this alternative would have no effect for museum collections.

The No Action Alternative would not produce major adverse effects to cultural resources whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation of the park, (2) key to the natural or cultural integrity of the park or opportunities for enjoyment of the park, or (3) identified as a goal in the park's general management plan or other National Park Service planning documents.

## ***Alternative One (Enhance What We Have)***

### **Direct/Indirect Impacts**

The impacts of actions on Human Remains and Burials under Alternative One would be generally the same as those described under the No Action Alternative.

### **Cumulative Impacts**

Cumulative impacts are the same as under the No Action Alternative.

### **Conclusion**

The Cone cemetery is the only known cemetery within the project APE. It is the final resting place of Moses and Bertha Cone. Maintenance of this cemetery is perpetually conducted as this cemetery is classified as a Class 'A' cemetery according to the 1979 Guidelines for Maintenance of Cemeteries within the Boundary of the Blue Ridge Parkway. The document states that cemeteries afforded class 'A' status, (the Cone cemetery being the only one on the Parkway to achieve such status,) would receive complete and perpetual maintenance responsibility. In accordance with the deed, the United States must maintain access to the cemetery for relatives and friends. "The United States of America shall forever keep the said burial ground in a manner suitable to the wishes of the friends and relatives...shall perpetually keep in repair the coping and railing...and shall keep the lawn set in grass and properly trimmed. Any violation of the conditions of this conveyance...shall work a forfeiture of the estate..." (July 7, 1949). Thus,

implementation of Alternative Action One would result in beneficial, minor to moderate, long term impacts on the cemetery.

### ***Alternative Two (Cultural Landscape Rehabilitation)***

#### **Direct/Indirect Impacts**

The impacts of actions on Human Remains and Burials under Alternative Two would be the same as those listed in Alternative One.

#### **Cumulative Impacts**

Cumulative impacts would be the same as for the No Action Alternative and Alternative One.

#### **Conclusion**

The Cone cemetery is the only known cemetery within the project APE. It is the final resting place of Moses and Bertha Cone. Maintenance of this cemetery is perpetually conducted as this cemetery is classified as a Class 'A' cemetery according to the 1979 Guidelines for Maintenance of Cemeteries within the Boundary of the Blue Ridge Parkway. The document states that cemeteries afforded class A status, (the Cone cemetery being the only one on the Parkway to achieve such status,) would receive complete and perpetual maintenance responsibility. In accordance with the deed, the United States must maintain access to the cemetery for relatives and friends. The United States shall forever keep the burial ground in a manner suitable to the wishes of the friends and relatives...shall perpetually keep in repair the coping and railing...and shall keep the lawn set in grass and properly trimmed. Any violation of the conditions of this conveyance...shall work a forfeiture of the estate. Thus, implementation of Alternative Action Two would result in beneficial, minor to moderate, long term impacts on the cemetery.

## **SECTION 106 SUMMARY**

This environmental assessment provided detailed descriptions of three alternatives (including a no action alternative), analyzed the potential impacts associated with possible implementation of each alternative, and described the rationale for choosing the preferred alternative. Also contained in this environmental assessment are proposed mitigation measures for adverse effects on cultural resources.

Formal consultation with the North Carolina State Historic Preservation Office has been initiated and the State Historic Preservation Officer has been invited to participate in the planning for this project. Proposed mitigation measures will be discussed in consultation with the SHPO (36 CFR 800.6(a)). This environmental assessment would be forwarded to the State Historic Preservation Office for review and comment, and would be the vehicle for Section 106 consultation for this project.

## **SOCIOECONOMICS**

### ***No Action Alternative (Continue Current Management)***

#### **Direct/Indirect Impacts**

The Craft Guild and Eastern National would continue craft sales in the Manor House, so there would be no change to impacts on those concessioners from this alternative. In addition, the impact to the surrounding communities from visitation to the memorial park would be expected to continue to be

similar to the current impact. There are moderate long-term beneficial socioeconomic impacts from the No Action Alternative.

### **Cumulative Impacts**

Visitation levels would be expected to remain stable under continuation of current management; the Memorial Park would continue to serve as a local, regional, and national resource for visitation and recreation. Watauga County has created a county-wide recreational plan and is focusing marketing efforts on the County and the region as a recreation destination. In addition, the High Country Council of Governments has undertaken bicycle and pedestrian plans that include Watauga County as well. These efforts could have an additional effect of bringing more visitors to the Moses Cone Estate and surrounding areas. With similar visitation, or future increases from cumulative impacts, it could be expected that there would continue to be positive economic impacts to the Town of Blowing Rock and adjacent jurisdictions. Therefore there would continue to be moderate long-term beneficial socioeconomic impacts from the No Action Alternative.

### **Conclusion**

Under continuation of current management practices in the No Action alternative, there would continue to be moderate long-term beneficial impacts to the socioeconomic environment. Visitors and residents would continue to benefit from use of this valuable resource, and businesses locally would continue to see economic benefit from associated visitation.

## ***Alternative One (Enhance What We Have)***

### **Direct/Indirect Impacts**

Creation of new opportunities for recreational visits, including new interpretive exhibits in the Manor House and orchards, could lead opportunities for local and regional economies, concessions and commercial use authorizations as users are attracted to new expanded visitation opportunities. The local economy would benefit from a potential increase in visitation to the new exhibits and interpretive programs at the Memorial Park.

There could be an increase in quality of life for residents and visitors along the Parkway in the Boone and Blowing Rock areas to re-discover this resource if new opportunities to understand the Cone family and the estate are created and views and other cultural and natural resources are restored.

There could be a benefit to commercial use operations and concessions if more visitors are attracted to the expanded interpretive programs and exhibits and new commercial uses result.

All of these socioeconomic impacts would be minor to moderate long-term beneficial impacts.

### **Cumulative Impacts**

Watauga County has created a county-wide recreational plan and is focusing marketing efforts on the County and the region as a recreation destination. In addition, the High Country Council of Governments has undertaken bicycle and pedestrian plans that include Watauga County as well. These efforts could have an additional effect of bringing more visitors to the Cone Estate and surrounding areas; this would be a minor to moderate long-term beneficial impact.

### **Conclusion**

New opportunities at the Cone Estate would likely result in increased visitation, additional economic benefit to local jurisdictions and businesses, and provide residents with new ways to experience this resource - all of which are minor to moderate long-term beneficial impacts.

## ***Alternative Two (Cultural Landscape Rehabilitation)***

### **Direct/Indirect Impacts**

Redevelopment of the estate to its period of significance would provide a completely new visitor draw for the Memorial Park. Enhanced opportunities would attract both regular and new visitors which could lead to new opportunities for local and regional economies, concessions and commercial use authorizations as users are attracted to new expanded visitation opportunities. The local economy would benefit from a potential increase in visitation to the new exhibits and interpretive programs at the Memorial Park.

There could be an increase in quality of life for residents along the Parkway in the Boone and Blowing Rock areas to re-discover this resource if new opportunities to understand the Cone family and the estate are created and views and other cultural and natural resources are restored.

New visitor facilities would provide a reason to visit and re-visit the estate and would increase expenditures to the concessioners and commercial use operations.

All of these socioeconomic impacts would be moderate to major long-term beneficial impacts.

### **Cumulative Impacts**

The addition of new visitor facilities could generate new opportunities for existing local businesses and may lead to creation of Memorial Park specific business endeavors. This results in a moderate long-term beneficial socioeconomic impact. In addition, Watauga County has created a county-wide recreational plan and is focusing marketing efforts on the County and the region as a recreation destination. In addition, the High Country Council of Governments has undertaken bicycle and pedestrian plans that include Watauga County as well. These efforts could have an additional effect of bringing more visitors to the Cone Estate and surrounding areas; this would be a minor to moderate long-term beneficial impact.

### **Conclusion**

New visitor facilities and opportunities at the estate would likely result in increased visitation, additional economic benefit to local jurisdictions and businesses, and provide residents with new ways to experience this resource - all of which are moderate to major long-term beneficial socioeconomic impacts.

## **VISITOR USE AND EXPERIENCE, INCLUDING RECREATIONAL AND VISUAL RESOURCES**

### ***No Action Alternative (Continue Current Management)***

#### **Direct/Indirect Impacts**

Under the No Action alternative visitor use and experience would continue as currently managed. There would continue to be a moderate long-term beneficial impact to visitors from recreational use and visitation to the manor house and other parts of the estate. There would continue to be negligible to minor short-term adverse impacts to visitor experience when parking shortages exist during peak visitation. There may also be moderate to major long-term adverse impacts to visual resources if current management practices continue and view sheds remain obstructed or become more overgrown. By not removing a monoculture pine stand the park will delay long term maintenance needs as the pines mature and become hazardous to visitors. There may also be a moderate to major long-term adverse impact to the visitor experience if the cultural landscape is not able to be maintained or restored in the future.

#### **Cumulative Impacts**

Under the No Action alternative, there may be moderate to major long-term adverse impacts to visual resources if current management practices continue and view sheds remain obstructed or become more overgrown. There may also be a moderate to major long-term adverse impact to the visitor experience if the cultural landscape is not able to be maintained or restored in the future.

Watauga County is in the process of creating new recreational opportunities within the County, hoping to market the County as a diverse recreational destination. These new recreational opportunities would provide an enhanced visitor experience for estate visitors, as they could adventure beyond the estate and experience the region as well. This cumulative impact would be minor to moderate long-term beneficial.

### **Conclusion**

The No Action alternative through continued management of recreational use and visitation would provide direct moderate to major long-term beneficial impacts to visitor use and experience, including recreational and visual resources. There may be moderate to major long-term adverse impacts to visual resources, and thus visitor experience if the cultural landscape and view sheds are not restored and vegetation continues to take over once open fields, meadows, and views.

## ***Alternative One (Enhance What We Have)***

### **Direct/Indirect Impacts**

Creation of new opportunities for recreational visits, including new interpretive exhibits in the Manor House and orchards, would provide enhanced visitor experience, a moderate long-term beneficial impact. In addition some clearing above Bass Lake restoring the historic view from the Manor House would provide a major long-term beneficial impact on visual resources. There may be negligible to minor short-term adverse impacts to visitor experience when parking shortages exist during peak visitation.

### **Cumulative Impacts**

There would be a moderate long-term beneficial impact to visitors from recreational use and visitation to the manor house and other parts of the estate. While some restoration, maintenance, and clearing would be done there may be moderate long-term adverse impacts to visual resources where view sheds remain obstructed or become more overgrown. There may also be a moderate long-term adverse impact to the visitor experience if the cultural landscape is not able to be maintained or restored in the future.

Watauga County is in the process of creating new recreational opportunities within the County, hoping to market the County as a diverse recreational destination. These new recreational opportunities would provide an enhanced visitor experience for estate visitors, as they could adventure beyond the estate and experience the region as well. This cumulative impact would be minor to moderate long-term beneficial.

### **Conclusion**

Implementation of Alternative One would provide mostly moderate long-term beneficial impacts to visitor use and experience, including recreational and visual resources. There will be some cumulative moderate long-term adverse impacts if resources, such as views, are not able to be maintained.

## ***Alternative Two (Cultural Landscape Rehabilitation)***

### **Direct/Indirect Impacts**

Addition of new visitor facilities, redevelopment of the historic core of the estate, and creation of new opportunities for recreational visits would provide a new and enhanced visitor experience, a major long-term beneficial impact. In addition, restoring the historic view from the Manor House would provide a very positive impact to visitor use and visual resources. All of these actions have major long-term beneficial impacts on visitor use and experience and recreational and visual resources.

During construction of visitor facilities and parking there would be some minor short-term adverse impacts to human health and safety – such as air quality, construction hazards and may negatively impact visitor experience but those would last only through the construction period.

### **Cumulative Impacts**

Watauga County is in the process of creating new recreational opportunities within the County, hoping to market the County as a diverse recreational destination. These new recreational opportunities would provide an enhanced visitor experience for estate visitors, as they could adventure beyond the estate and experience the region as well. This cumulative impact would be minor to moderate long-term beneficial.

### **Conclusion**

Implementation of Alternative Two would provide major long-term beneficial impacts to visitor use and experience, including recreational and visual resources. New visitor facilities, exhibits, and experiences combined with alleviation of current issues – i.e. provision of adequate parking. Restoration, maintenance, and clearing would be done to keep the cultural landscape intact and visual resources would be restored and protected from overgrowth. There may be some minor adverse impacts associated with construction, but those would be short-term.

## **HUMAN HEALTH AND SAFETY**

### ***No Action Alternative (Continue Current Management)***

#### **Direct/Indirect Impacts**

Under continuation of current management practices, there would continue to be negligible impacts to human health and safety issues. There would occasionally be human health and safety issues, incidents, and accidents resulting from the daily course of business and those would be managed, minimized, and mitigated according to NPS policies.

Safety issues such as no HVAC or fire suppression in the Manor House would be remedied under all alternatives, mitigating associated health & safety issues. be negligible impacts to human health and safety issues.

Use restrictions are being developed to protect visitors and employees from contaminated soils in and adjoining the historic orchards, however, existing uses such as walking, hiking and apple picking pose no discernible threat to visitors or employees. There are also existing warnings against ingesting fish caught in Bass Lake due to arsenic contamination.

#### **Cumulative Impacts**

Current management practices are addressing recently discovered arsenic and existing lead contamination. Since no soil disturbance is proposed in this alternative, there is a negligible long-term adverse impact to human health and safety which would be mitigated according to EPA, NPS, and State of North Carolina policies.

#### **Conclusion**

Under continuation of current management practices, there would continue to be negligible impacts to human health and safety.

### ***Alternative One (Enhance What We Have)***

#### **Direct/Indirect Impacts**

Under Alternative One there would continue to be negligible impacts to human health and safety issues. There would occasionally be human health and safety issues, incidents, and accidents resulting from the daily course of business and those would be managed, minimized, and mitigated according to NPS policies. Safety issues such as no HVAC or fire suppression in the Manor House would be remedied under all alternatives, mitigating associated health & safety issues.

Use restrictions are being developed to protect visitors and employees from contaminated soils in and adjoining the historic orchards, however, existing uses such as walking, hiking and apple picking pose no discernible threat to visitors or employees. There are also existing warnings against ingesting fish caught in Bass Lake due to arsenic contamination.

#### **Cumulative Impacts**

Since Alternative One proposes no construction in this area, there is a negligible long-term adverse impact to human health and safety which would be mitigated according to EPA, NPS, and State of North Carolina policies.

#### **Conclusion**

Under Alternative One there would be negligible impacts to human health and safety.

### ***Alternative Two (Cultural Landscape Rehabilitation)***

#### **Direct/Indirect Impacts**

Under Alternative Two there would continue to be negligible impacts to human health and safety issues. There would occasionally be human health and safety issues, incidents, and accidents resulting from the daily course of business and those would be managed, minimized, and mitigated according to NPS policies. Safety issues such as no HVAC or fire suppression in the Manor House would be remedied under all alternatives, mitigating associated health & safety issues.

Use restrictions are being developed to protect visitors and employees from contaminated soils in and adjoining the historic orchards, however, existing uses such as walking, hiking and apple picking pose no discernible threat to visitors or employees. There are also existing warnings against ingesting fish caught in Bass Lake due to arsenic contamination.

During construction of visitor facilities and parking there would be some minor short-term adverse impacts to human health and safety – such as air quality, construction hazards and may negatively impact visitor experience but those would last only through the construction period.

#### **Cumulative Impacts**

Same as Alternative One.

#### **Conclusion**

Under Alternative Two, during construction of visitor facilities and parking there would be some minor short-term adverse impacts to human health and safety – such as air quality, construction hazards and may

negatively impact visitor experience but those would last only through the construction period. Overall there would be a negligible impact to human health and safety.

## **PARK OPERATIONS**

### ***No Action Alternative (Continue Current Management)***

#### **Direct/Indirect Impacts**

Under continuation of current management practices, there would continue to be minor negative impacts to park operations. There are currently no permanent or seasonal staff assigned specifically to the Memorial Park, district staff manage the area as part of the Highlands District. As minimal changes to programming or workload are anticipated, there would continue to be minor negative impacts as district staff struggle to cover operations at the memorial park.

#### **Cumulative Impacts**

Under continuation of current management practices, there would continue to be negligible impacts to park operations. There are currently no permanent or seasonal staff assigned specifically to the Memorial Park, district staff manage the area as part of the Highlands District.

#### **Conclusion**

There would be minor negative impacts to park operations under the No Action alternative.

### ***Alternative One (Enhance What We Have)***

#### **Direct/Indirect Impacts**

The restoration of visitor facilities, including the Manor House, associated increased programming opportunities in those facilities, and the increase in visitation expected as a result of implementation of this alternative create moderate increases to park operations in the short and long term.

There are currently no permanent or seasonal staff assigned specifically to the Memorial Park, district staff manage the area as part of the Highlands District. With the new facilities, associated cyclic maintenance, increased programming, and more visitation NPS staff requirements increase – additional staff from each divisional area would need to be duty stationed at the Memorial Park.

In addition, NPS maintenance and enforcement costs would increase as more people tour the Manor House and Memorial Park; newly restored facilities and landscape features must be maintained in perpetuity.

#### **Cumulative Impacts**

There is some opportunity to offset these impacts through partnerships and private donations, this cumulative impact would have a minor to major short to long term (depending on funding levels) beneficial impact on park operations. However, it is important to note that this funding is not available to fund NPS positions, therefore it would not offset staffing costs.

#### **Conclusion**

There would be moderate short and long term adverse impacts to park operations under Alternative One. These may be mitigated by provision of project funding from private donations, however this money would not be able to supplement NPS staff costs.

## ***Alternative Two (Cultural Landscape Rehabilitation)***

### **Direct/Indirect Impacts**

The addition of new visitor facilities, increased programming opportunities in the Manor House and those facilities, and the increase in visitation expected as a result of implementation of this alternative create significant increases to park operations in the short and long term.

There are currently no permanent or seasonal staff assigned specifically to the Memorial Park, district staff manage the area as part of the Highlands District. With the new facilities, associated cyclic maintenance, increased programming, and more visitation NPS staff requirements increase – additional staff from each divisional area would need to be duty stationed at the Memorial Park.

In addition, NPS maintenance costs would increase as more people tour the manor house; new facilities are constructed and must be maintained in perpetuity.

### **Cumulative Impacts**

There is some opportunity to offset these impacts through partnerships and private donations, this cumulative impact would have a minor to major short to long term (depending on funding levels) beneficial impact on park operations. However, it is important to note that this funding is not available to fund NPS positions, therefore it would not offset staffing costs.

### **Conclusion**

There would be major short and long term adverse impacts to park operations under Alternative Two. These may be mitigated by provision of project funding from private donations, however this money would not be able to supplement NPS staff costs.

## **TRANSPORTATION**

### ***No Action Alternative (Continue Current Management)***

#### **Direct/Indirect Impacts**

Under the No Action Alternative, there would be no new direct/indirect impacts to the overall transportation system serving the Boone and Blowing Rock area. Unauthorized parking along the Parkway motor road in proximity to the Cone manor house parking area would continue. This would continue to cause traffic congestion and potentially unsafe conditions with pedestrians walking along and crossing the motor road.

#### **Cumulative Impacts**

The No Action Alternative would produce no cumulative effects on transportation. There would be no additional trips attracted to the parkway due to the Memorial Park.

#### **Conclusion**

Under the No Action Alternative there would continue to be negligible impacts to the overall transportation system serving the Boone and Blowing Rock area.

### ***Alternative One (Enhance What We Have)***

#### **Direct/Indirect Impacts**

Under Alternative One, there would be some very minimal new direct/indirect impacts to the overall transportation system serving the Boone and Blowing Rock area. This would be caused by the increased interpretive programming on the estate. Some additional vehicles would be entering and exiting the Parkway at its intersection with US 321, Milepost 291.8 and US 221, Milepost 294.6. However, unauthorized parking along the Parkway motor road in proximity to the Cone Manor House parking area would be eliminated with expansion of the existing parking area. This would alleviate the peak use traffic congestion and potentially unsafe conditions with pedestrians walking along and crossing the motor road.

#### **Cumulative Impacts**

Alternative One would produce some very minimal cumulative effects on transportation. There would be some additional trips generated to the Parkway due to the increased interpretive programming at the Memorial Park.

#### **Conclusion**

Under Alternative One there would continue to be very minimal impacts to the overall transportation system serving the Boone and Blowing Rock area.

### ***Alternative Two (Cultural Landscape Rehabilitation)***

#### **Direct/Indirect Impacts**

Under Alternative Two, there would be minimal new direct/indirect impacts to the overall transportation system serving the Boone and Blowing Rock area. This would be caused by changes to the visitor experience and increased interpretive programming on the estate. More vehicles would be entering and exiting the Parkway at its intersection with US 321, Milepost 291.8 and US 221, Milepost 294.6. Also unauthorized parking along the Parkway motor road in proximity to the Cone Manor House parking area would be eliminated with construction of two new parking areas. This would alleviate the peak use traffic congestion and potentially unsafe conditions with pedestrians walking along and crossing the motor road.

#### **Cumulative Impacts**

Alternative Two would produce minimal cumulative effects on transportation. There would be increased additional trips generated to the Parkway due to changes in the visitor experience and the increased interpretive programming at the Memorial Park. Some additional vehicles would be using US 321 and 221 to go to and from the Parkway section that provides access to the Cone Estate. Alternative One would produce some very minimal cumulative effects on transportation.

#### **Conclusion**

Under Alternative Two there would continue to be minimal impacts to the overall transportation system serving the Boone and Blowing Rock area.

## **CONCESSIONS AND COMMERCIAL SERVICES**

### ***No Action Alternative (Continue Current Management)***

### **Direct/Indirect Impacts**

Under the No Action Alternative, there would be no new direct/indirect impacts to the overall concession and commercial services provided on the estate. The arts and crafts shop concession would continue under a concession contract. Other commercial services would continue to be permitted in accordance with NPS laws and policies and park procedures.

### **Cumulative Impacts**

The No Action Alternative would produce no cumulative effects on concession and commercial services provided on the estate.

### **Conclusion**

Under the No Action Alternative there would continue to be negligible impacts to concession and commercial services provided on the estate.

## ***Alternative One (Enhance What We Have)***

### **Direct/Indirect Impacts**

Under Alternative One, there would be minimal new direct/indirect impacts to concession and commercial services provided on the estate. Concession contracting for art and craft sales would continue but less sales and storage space would be allocated within the manor house for the concessioner to use.

Having less space for display of crafts would decrease sales and the associated profit to the concessioner and franchise fee coming back to the NPS.

A proposed visitor use capacity study could potentially limit some uses and number of users on the estate. Commercial services would continue to be permitted in accordance with NPS laws and policies, park procedures and uses standards established by the visitor use capacity plan.

### **Cumulative Impacts**

Alternative One would produce minimal cumulative effects on concession and commercial services provided on the estate.

### **Conclusion**

There would be minimal impacts to concession and commercial services provided on the estate.

## ***Alternative Two (Cultural Landscape Rehabilitation)***

### **Direct/Indirect Impacts**

Under Alternative Two, there would be major new direct/indirect impacts to concession services provided on the estate. Concession contracting for art and craft sales would be eliminated on the estate. This would eliminate the opportunity for visitors to purchase art and craft gifts on the estate. However, the museum and book sales shop would remain open. The current concessioner would experience a moderate impact to revenues until they become established in an off-site location. The NPS would lose the franchise fee revenue being paid by the concessioner.

Just as in Alternative One Alternative Two a proposed visitor use capacity study could potentially limit some uses and number of users on the estate. Commercial services would continue to be permitted in accordance with NPS laws and policies, park procedures and uses standards established by the visitor use capacity plan.

**Cumulative Impacts**

Alternative Two would produce major cumulative effects on concession services with minimal effects on commercial services provided on the estate.

**Conclusion**

Alternative Two would produce major impacts on concession services with minimal impacts to commercial services provided on the estate.

# CHAPTER 5: CONSULTATION AND COORDINATION

## SCOPING AND AGENCY CONSULTATION

The purpose of the scoping process, as outlined in CEQ's regulations for implementing NEPA (40 CFR 1501.7), is to determine the scope of issues to be addressed in the EA and to identify significant issues relating to the proposed action. The lead agency is required to invite input from Federal, State, and local agencies, affected Native American tribes, project proponents, and other interested parties (Section 1501.7 (a)(1)).

Scoping for the EA was announced to the public in a **January 5, 2015** press release, by mailing scoping letters to individuals, and organizations on a mailing list maintained by Blue Ridge Parkway Division of Resources, Management and Science, and by a posting on the NPS planning website (PEPC) (see **Figures A-1** through **A-2** in **Appendix A**). In addition, a public meeting will be held in Blowing Rock, North Carolina, on **January 15, 2015**.

## AGENCIES, ORGANIZATIONS, AND INDIVIDUALS CONTACTED

The agencies, organizations and experts who were consulted in the process of preparing the DAMP and this environmental assessment are listed below.

- U.S. Fish and Wildlife Service (USFWS), Asheville Field Office
- NC Wildlife Resources Commission, Division of Inland Fisheries, Habitat Conservation Program
- NC State Clearinghouse, Environmental Review
- NC State Historic Preservation Officer
- National Audubon Society
- National Parks Conservation Association, Southeast Regional Office
- Western North Carolina Alliance
- Blue Ridge Parkway Foundation

**State Historic Preservation Office.** The undertakings described in this document are subject to Section 106 of the National Historic Preservation Act. Consultations with the North Carolina Historic Preservation Office have been ongoing since the inception of the project. This environmental assessment will be sent to the North Carolina Historic Preservation Office for review and comment as part of the ongoing Section 106 compliance for the DAMP.

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## APPENDIX A

Table A-1

Affected Resource(s)	Relevant Laws and Regulations
All	<b>National Environmental Policy Act (NEPA)</b> (42 USC 4321-4370)
All	<b>Council on Environmental Quality (CEQ) Regulations</b> (40 CFR 1500-1508)
All	<b>National Park Service Organic Act of 1916</b> (16 USC et seq.)
All	<b>General Authorities Act</b> (1970)
All	<b>National Park Service Director's Order #12: Conservation Planning, Environmental Impact Analysis, and Decision-making</b>
All	<b>E.O. 12372: Intergovernmental Review of Federal Programs</b>
Archeological Resources	<b>National Historic Preservation Act (NHPA)</b> (16 USC 470 et seq.); <b>Antiquities Act</b> (16 U.S.C. 431-433); <b>Archaeological Resources Protection Act (ARPA)</b> (16 U.S.C. 470aa-mm); <b>40 Code of Federal Regulations 1500</b> (regulations for implementing the National Environmental Policy Act); <b>National Park Service Director's Order #12; Native American Graves Protection and Repatriation Act (NAGPRA)</b> (25 USC 3001 et seq.); <b>National Park Service Director's Order #28: Cultural Resources Management</b>
Cultural Landscapes	<b>National Historic Preservation Act (NHPA)</b> (16 USC 470 et seq.); <b>40 Code of Federal Regulations 1500</b> (regulations for implementing the National Environmental Policy Act); <b>Native American Graves Protection and Repatriation Act (NAGPRA)</b> (25 USC 3001 et seq.); <b>National Park Service Director's Order #28: Cultural Resources Management; National Park Service Management Policies 5.3.5.2, 2006</b>
Ethnographic Resources, Including Human Remains and Burials	<b>National Park Service Management Policies 5.3.5.3, 2006; National Park Service Management Policies 5.3.4, 2006; National Park Service Director's Order #28: Cultural Resources Management</b>
Historic Structures	<b>National Park Service Management Policies 5.3.5.4, 2006; National Historic Preservation Act (NHPA)</b> (16 USC 470 et seq.); <b>NEPA</b> (42 USC 4321 et seq.); <b>National Park Service Director's Order #28: Cultural Resources Management; National Park Service Director's Order #12: Conservation Planning, Environmental Impact Analysis, and Decision Making</b>
Human Health and Safety	<b>National Park Service Management Policies 8.2.5, 2006; E.O. 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations; E.O. 13229: Protection of Children from Environmental Health Risks and Safety Risks</b>
Museum Collections	<b>National Park Service Director's Order #28: Cultural Resources Management; National Park Service Director's Order #24: Museum Collections Management</b>
Socioeconomics	<b>40 Code of Federal Regulations 1500</b> (regulations for implementing National Environmental Policy Act)
Soils	<b>National Park Service Management Policies 4.8.2.4, 2006</b>

Vegetation	<b>National Park Service <i>Management Policies 4.4.2.4</i>, 2006</b>
Visitor Use and Experience, Including Recreational / Visual Resources	<b>National Park Service <i>Management Policies 8.1</i>, 2006; National Park Service <i>Management Policies 8.2</i>, 2006; National Park Service <i>Management Policies 9.2</i>, 2006</b>

## Figure A-1. News Release



National Park Service  
U.S. Department of the Interior

Blue Ridge Parkway  
[www.nps.gov/blri](http://www.nps.gov/blri)

199 Hemphill Knob Road  
Asheville, NC 28803

### Blue Ridge Parkway News Release

January 5, 2015

For Immediate Release

Contact: Dawn Leonard (828) 348-3434; email [dawn\\_leonard@nps.gov](mailto:dawn_leonard@nps.gov)

#### Parkway Seeks Input for Moses H. Cone Developed Area Management Plan

(Asheville)—The Blue Ridge Parkway (Parkway) is seeking public input, through **February 9, 2015**, on an Environmental Assessment (EA) for the Moses H. Cone Developed Area Management Plan (DAMP). The DAMP would guide the future development and management of the Moses H. Cone Memorial Park (Memorial Park). The purpose of this EA is to describe the affected environment and analyze potential impacts associated with a no action alternative and two action alternatives.

Recommendations within the EA to be implemented would impact the Memorial Park within the lands administered by the Blue Ridge Parkway. The Memorial Park was originally known as Flat Top Manor and was one of North Carolina's premier country estates. Built by textile magnate Moses H. Cone and his wife, Bertha, at the turn of the 20<sup>th</sup> century, the estate features some 26 miles of carriage roads, manmade lakes, remnant apple orchards and a 23-room manor house. The National Park Service acquired the estate in 1950, managing it as a part of the Blue Ridge Parkway.

Those who wish to review and comment on this document may do so by visiting the NPS Planning, Environment, and Public Comment (PEPC) website at: <http://parkplanning.nps.gov/conedamp>. Even though using this website is recommended, written comments may also be submitted to: Blue Ridge Parkway, **ATTN: Suzette Molling**, 199 Hemphill Knob Road, Asheville, NC 28803. Comments must be sent by February 9. Ideas and concerns expressed by those who comment will be used to prepare the final proposal and impact analysis.

Comments are typically treated as a public record and made available for public review. Individuals may request that the National Park Service withhold their name and address from disclosure. Such requests will be honored to the extent allowable by law.

Comments will also be accepted at a public meeting to be held on January 15, 2015. The public meeting will be held from 4 p.m. to 6 p.m. at the Blowing Rock Club House in Blowing Rock, NC. Members of the public may stop by at any time during these hours to meet with Parkway staff and provide comments.

EXPERIENCE YOUR AMERICA

The National Park Service cares for special places saved by the American people so that all may experience our heritage.

## Figure A-2. Scoping Letter



IN REPLY REFER TO

### United States Department of the Interior

National Park Service  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, North Carolina 28803



L7617  
PIN 10347

January 5, 2015

Dear Interested Party:

After much study and preparation I am pleased to announce the release of the Environmental Assessment (EA) for the "Moses H. Cone Memorial Park Developed Area Management Plan" for the Blue Ridge Parkway (BLRI) in North Carolina. This EA has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality (CEQ) NEPA regulations (40 Code of Federal Regulations (CFR) 1500 to 1508), and the National Park Service (NPS) NEPA compliance guidelines (DO-12). The proposed developed area management plan (DAMP) would provide comprehensive guidance for preserving cultural resources, perpetuating natural systems, and providing opportunities for quality visitor experiences at the Memorial Park. The EA analyzes three alternatives which include no action, managing the Memorial Park as a "Learning Center," and cultural landscape rehabilitation.

The National Park Service is requesting that you read and comment on this proposed action and its potential impacts so that we may be responsive to your ideas and any concerns that you may have about our proceeding with this project on Blue Ridge Parkway lands. We will utilize your comments to finalize the proposal and the impact analysis contained in the environmental assessment.

Please review the proposed action/environmental assessment and provide any comments by **February 9, 2015**, so that we can prepare a final environmental assessment. If no comments are received by that date, we will assume you have none.

You are welcome to write to us at the address below, but our preference would be for you to provide your comments on the National Park Service *Planning, Environment & Public Comment* (PEPC) web site. Comments can be made directly online by going to the following link:  
<http://parkplanning.nps.gov/conedamp>

Written comments may also be submitted to:

Blue Ridge Parkway  
**Attn: Suzette Molling**  
199 Hemphill Knob Road  
Asheville, North Carolina 28803-8686



Upon receipt of your and others comments, we will review them to determine if revisions to the plan proposal or impact analysis are needed. Based upon the review comments received, if no new information is provided through the review process then a determination to prepare a Finding of No Significant Impact (FONSI) will be made. A final environmental assessment and FONSI will then be transmitted to the National Park Service Southeast Regional Office in Atlanta, Georgia for the Regional Director to approve. If you desire a copy of the FONSI, please so indicate.

It is the practice of the NPS to make all comments, including the names and addresses of respondents who provide the comments, available for public review following the conclusion of the scoping process. Individuals may request that the NPS withhold their name and/or address from public disclosure. If you wish to do this, you must state this prominently at the beginning of your comment. Commentators using the PEPC website can make such a request by checking the box "keep my contact information private." The NPS will honor such requests to the extent allowable by law, but you should be aware that the NPS may still be required to disclose your name and address pursuant to the Freedom of Information Act.

If you have any questions as you read and comment on this proposal and environmental analysis, please contact Dawn Leonard, Community Planner, at (828) 348-3434. We look forward to hearing from you and thank you in advance for your assistance on this important project.

Sincerely,



Mark Woods  
Superintendent

# APPENDIX B: RESOURCE LANDSCAPE UNITS

## Resource Landscape Units

### Historic Building Resource Landscape Units



**Flat Top Manor House** - This resource landscape unit (RLU) encompasses the Flat Top Manor House, the carriage house and their immediate surrounding landscape. That landscape encompasses an esplanade, the carriage road leading to the Flat Top Manor House, the open pasture immediately in front of it, and remnants of the garden and recreation area including croquet and tennis courts and bowling alley. The historic carriage house, farm outbuilding site and associated visitor facilities (parking and restrooms) are part of this area. Both the Flat Top Manor House and carriage house are listed as contributing resources within the Memorial Park Historic District. The original servant's quarters that has been relocated within this RLU and adaptively used is listed as a non-contributing structure

The Flat Top Manor House is the visually dominant feature in this RLU and it is situated at the head of a small valley. The building is surrounded on the west, north and east sides by forest. Vegetation on the east side is more open and through it passes the main pedestrian access sidewalks and stairs. On the Flat Top Manor House's south side where the vegetation is lawn and pasture there is an impressive down slope view of the Flat Top Orchard and Bass Lake RLUs and of the east and west flanks of the Duncan Road and the Maze/Stringfellow Road RLUs, respectively.



Behind and upslope from the Flat Top Manor House lies the visitor parking area. Near the Flat Top Manor House and to the east is the carriage house, a three-story structure constructed with stables underneath the carriage storage space. Currently, public restrooms are located on the middle level of the building over the stable space.

There were several buildings and gardens associated with the Flat Top Manor House which no longer exist. These included a carbide plant, laundry and ice house situated behind the house. There were also a male and female servants' quarters to one side. Close to but out of sight of the Flat Top Manor House were two, two acre gardens that supplied produce, nursery space for trees and grasses, and some flowers including rose bushes and peonies. Beside one of the gardens were a grass croquet lawn and tennis court, and nearby a long wooden bowling alley (Firth 1993, 60-63).

### Constructed Water Feature Resource Landscape Units



**Bass Lake** - This resource landscape unit is defined by the carriage road, Bass Lake, and the associated topographic enclosure, vegetation, and views. This resource unit encompasses Bass Lake that is circled by a carriage drive which was carefully planted. The lake is visible from the Flat Top Manor House and is located close to one of the main estate entrances. Bass Lake was created for aesthetic reasons and the lake has an island in the middle as its focal point. Remnants of a boathouse remain along the lake shoreline.

Views from the carriage road are an important part of experiencing this RLU. They include not only views of the conifer plantations and lake but also one of the most popular views across Bass Lake to the

Flat Top Manor House on the hill. Currently, trees around the lake edge have grown up occasionally obscuring the view of the lake from the carriage road.



**Trout Lake** - This resource landscape unit is also defined by its carriage roads, Trout Lake, and the associated topographic enclosure, vegetation, and some limited views. Upon creation Trout Lake measured about 15 acres with a maximum depth of approximately 23 feet. In contrast to Bass Lake, the edges of which were mostly kept in grass and mown and manicured regularly, the edges of Trout Lake were left in forest with a dense understory of rhododendron.



**Sawmill Place Orchard** - The Sawmill Place Orchard RLU is defined primarily by vegetation, the original Sawmill Place Orchard, and the historic main apple barn, which was used for harvesting and apple production. This 25 acre RLU is located in a small valley where one third of the valley's sides exceed 30% slope. The apple barn at Sawmill Place is a three-story structure measuring eighty by twenty-eight feet, not counting the ell-addition. Most of the surviving apple trees are located at the southern end of the orchard; some remaining trees were located beside the Black Bottom Road, but those are no longer living. The northern end is covered by hardwood trees.



**Flat Top Orchard** - The unit is defined primarily by topography and vegetation. It contains the basic footprint of the original Flat Top Orchard, which was eighty-two acres. Flat Top was planted on the slopes of the valley below the Flat Top Manor House. Slopes in Flat Top exceeded 30% almost everywhere in the orchard. There are more apple trees surviving in Flat Top Orchard than any of the others while about half of the orchard is overgrown.



**China Orchard** - This resource landscape unit encompasses the footprint of the original China Orchard (which now consists of woodlands) - eighty-one acres - plus additional land around the orchard. The unit is defined primarily by vegetation and historic use, as well as current recreational use. Slopes in the RLU almost exclusively exceed 30%, and in some places are as steep at 100%. This Orchard RLU is almost completely covered in hardwood trees. Most of the surviving apple trees were in the upper sections near U.S. 221 where the canopy is more open; those trees are now deceased. This unit also serves as a very popular bouldering recreation area.

## Carriage Road System Resource Landscape Units



**Duncan Road** - This RLU encompasses the most heavily used carriage roads, connecting the Flat Top Manor House and Bass Lake. It is defined primarily by recreational use of the carriage roads and associated views. Views from Duncan Road include the Flat Top Manor House across Flat Top Orchard, the approach to the Flat Top Manor House, and pastoral and forest scenery. The unit is bordered to the west by US 221, to the southeast by the estate's boundary, to the east by Bass Lake RLU, and to the north by Flat Top Orchard RLU.



sections, and can be found along May View Road.

**May View Road** - This resource landscape unit is defined primarily by recreational use – the carriage road, horse arena, associated facilities, and views of the Blue Ridge Mountains. It is located between China Orchard and Duncan Road and contains the May View Road carriage road. The road leads to the Blowing Rock Equestrian Preserve, home to the annual Blue Ridge Charity Horse Show, which borders the Moses Cone estate. Retaining walls, constructed with dry stone, were built to support the roads in some



unit on the north. The carriage roads in this RLU are very windy and curve around, thus earning the nickname of The Maze.

**The Maze/Stringfellow Road** - This RLU is defined primarily by recreational use of the carriage roads and vegetation – the conifer plantation – and associated views. Views from Stringfellow Road include Flat Top and Sawmill Place Orchards RLUs, alternating with forested and some pastoral views. It encompasses the heavily used carriage roads adjacent on the east side of the Bass Lake resource landscape unit and the conifer plantation in that area. Flat Top and Sawmill Place Orchards RLUs and the smaller section of Un-Named Forest #2 RLU border this resource landscape



**Wadkins Road** - This RLU is defined primarily by resource use of the carriage roads and vegetation - the large open meadow – and associated views. It encompasses the carriage roads adjacent on the east side of the Stringfellow Road RLU, as well as open pasture that is currently grazed through agricultural lease. It is bordered on the north by the Blue Ridge Parkway RLU, defined by the motor road, and on the east and south by the estate boundary. Views from Wadkins Road include forests and pastoral scenery, along with some filtered views of pastures and orchards. Views from Wadkins Road also now include intrusions of development in nearby Blowing Rock.

## Mountain & Pasture Resource Landscape Units



**Flat Top Mountain** - This RLU is defined by recreational use of the carriage road, Flat Top Mountain, and associated topography, vegetation, and views. The RLU encompasses Flat Top Mountain, the carriage road leading to the top, and the Cone Cemetery and open meadow surrounding it. The Cone Cemetery is located about half way up Flat Top Mountain. It sits in an open meadow, surrounded by an iron fence and a planting of Fraser fir to “frame” the space – though the trees are deceased. Flat Top Road is unique in that it maintains the low slope gradient by using a series of 15 switchbacks on the upper section. Views from Flat Top Road include

filtered views across Flat Top pasture at the lower end, and views to Rich Mountain, Grandfather Mountain, and Trout Lake while crossing the Cone Cemetery meadow. The tower on top of Flat Top no longer provides a continuous 360 degree view of the estate and surrounding Blue Ridge Mountains as the views are now obscured but should be maintained. Views from Flat Top Mountain also now include intrusions of development in nearby Blowing Rock.



**Rich Mountain & Deer Park Pastures** - This RLU is defined by resource use of the carriage road, Rich Mountain, and associated mountain topography, vegetation, and views. The RLU encompasses Rich Mountain, the carriage road leading to the top, the open pasture surrounding it, and the historic deer park. Rich Mountain Road is unique in that it maintains the low slope gradient by using a tight spiral that circles the mountain top three times before cresting. Views from the road include views across pasture to Grandfather Mountain, panoramic views

of the estate from the spiral.

## Un-Named Forest Resource Landscape Units



**Un-Named Forest #1** - This RLU is an expansive area defined primarily by forest cover, ridge and valley topography and the absence of man-made features. The RLU contains native forest cover that existed at the time Moses Cone purchased the estate; some stands of old growth timber existed but it is likely the area was not pristine when Moses Cone acquired the land. These lands have been in forest and were managed as forest through the estate’s history.



**Un-Named Forest #2** – This RLU lies between Flat Top and Sawmill Orchards RLUs. It is forested with two carriage roads through the northern most part of the unit.

## Road Resource Landscape Units



**Trout Lake Road** - This RLU encompasses the road leading from outside the estate boundary to Trout Lake, which passes primarily through a forested valley. The unit is bordered on the east by Flat Top Mountain RLU and on the west by Rich Mountain and the Un-Named Forest #1 RLUs. There is a view from Trout Lake Road across pasture to Grandfather Mountain.



**Blue Ridge Parkway** – This RLU bisects the estate and includes the motor road and its associated road structures and right-of-way. It provides a sequential experience of forest and open field views associated with the Memorial Park

