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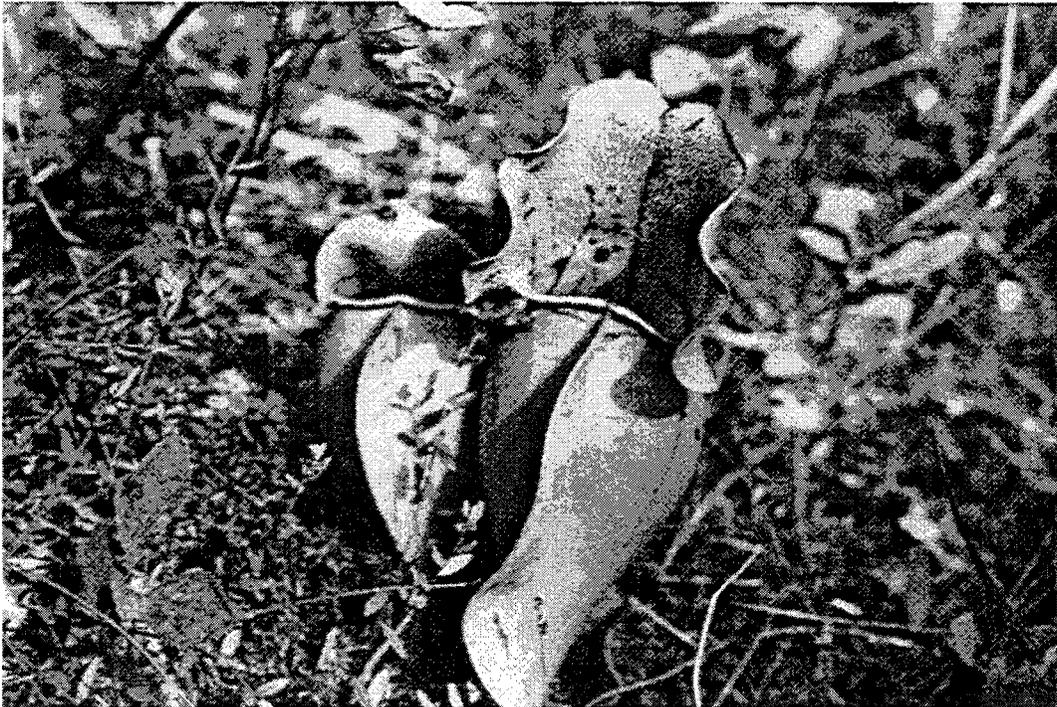
General Management Plan
INDIANA DUNES NATIONAL LAKESHORE

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**General Management Plan
Indiana Dunes National Lakeshore**

August 1997



INTRODUCTION

This *General Management Plan* for Indiana Dunes National Lakeshore is a combination of the National Park Service's 1992 *West Unit General Management Plan Amendment*, 1991 *Little Calumet River Corridor Plan*, and 1997 *East Unit General Management Plan Amendment*. It defines the management philosophy and goals for the national lakeshore for making decisions and solving problems for the next 20 years.

This plan summarizes and consolidates the revisions made to the 1980 *General Management Plan* for the national lakeshore. Some of the provisions in the 1980 plan have been successfully implemented. However, several key provisions are no longer considered feasible due to changes in visitor needs and the characteristics of neighboring communities in the last 17 years and updated national lakeshore natural and cultural resource data. Additional details concerning the amended plan for managing the lakeshore are contained in the plans listed in the above paragraph plus the Park Service's 1991 *U.S. 12 Scenic Road Feasibility Study*.

This plan, in itself, contains no new material or decisions. However, the *East Unit General Management Plan Amendment* has changed the recommendations of the *Little Calumet River*

Corridor Plan by eliminating the canoe facilities and river clearing for canoe use on the Little Calumet River and limiting the Little Calumet River Trail to hiking only. The U.S. 12 hike/bike trail between the IN 149 bridge and Oak Hill Road will require further study as a result of limiting the Little Calumet River trail to hiking. This plan reflects those changes and provides one reference for all of the decisions made in the plans above. Full public review was provided when those plans were prepared.

New base maps consistent with the maps in the East Unit plan amendment were prepared for the West Unit plan amendment and the Little Calumet River plan sections. The text describing the three plans is excerpted from the original documents. The plan is in three sections — West Unit, Little Calumet River corridor, and East Unit.

Subsequent plans, plan updates, and implementation proposals will be based on the goals and philosophies described in the amended general management plan for the national lakeshore. These plans include the *Resource Management Plan*, *Fire Management Plan*, *Interpretive Plan*, and any site development plans for specific facilities.

CONTENTS

BACKGROUND	3
Brief Description of the National Lakeshore	3
Legislative History	3
Purpose and Significance of the National Lakeshore	4
Primary Interpretive Themes	4
Visitor Experience Goals	7
WEST UNIT GENERAL MANAGEMENT PLAN AMENDMENT	11
West Unit Access — Improve Existing Routes	11
West Beach	11
Marquette Park	11
Proposed Gary Marina	11
Traffic Options When West Beach Parking Is Full	12
Transit Center and Shuttle Bus System	12
General Development	12
Accessibility	16
Boundary Adjustments	16
Development Costs	16
LITTLE CALUMET RIVER CORRIDOR PLAN	23
General Development	23
East-West Connection Route	23
East Branch Little Calumet River Hiking Trail	24
U.S. 12 Hike/Bike Path	24
East End Bike Route	24
River Access and Parking	29
Howe Road River Access	29
IN 149 River Access	29
Boo Road River Access	29
Burns Ditch River Access	29
Development Costs	29
EAST UNIT GENERAL MANAGEMENT PLAN AMENDMENT	33
Overview	33
Natural Resource Management	33
Cultural Resource Management	34
Access and Circulation	37
U.S. 12/Dunes Highway	37
Shuttle Services	38
Shoreline Access	38
Little Calumet River Access	38
Boat-in Access	39
Road Closures	39
Pinhook Bog Access	39
Orientation, Interpretation, and Education	39
Visitor Center and Information Stations	39
World's Fair and Lustron Houses	40
Environmental Education	40
South Shore Railroad Cars	40

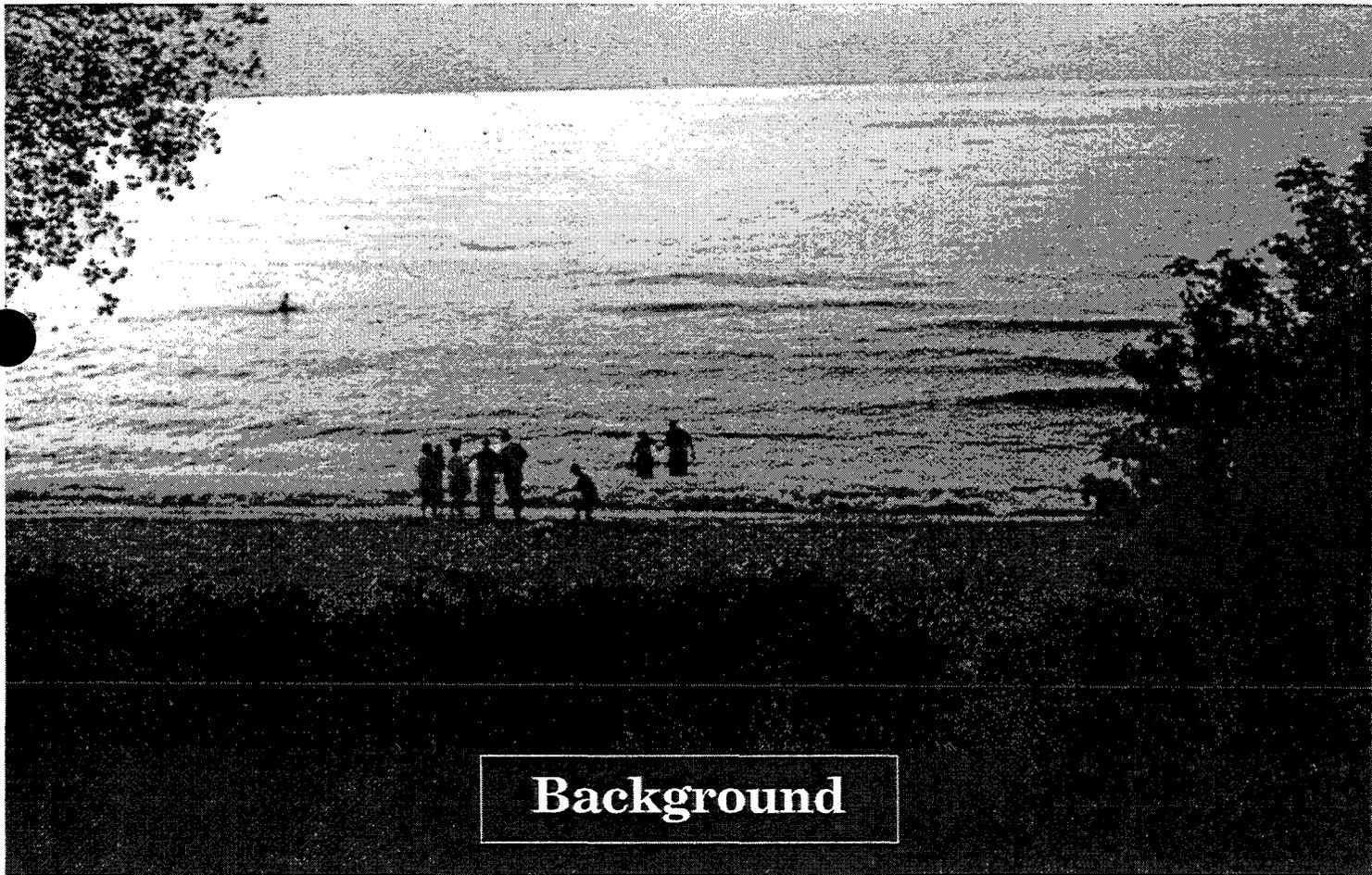
Visitor Use	40
Trails	40
Picnicking	42
Camping	42
Miscellaneous Actions for National Lakeshore Operations	42
Mitigating Measures	42
Natural Resources	42
Cultural Resources	43
Scenic Quality	43
Development Costs	43

MAPS

Location	5
West Unit Access/General Development	13
Boundary Adjustments	17
General Development, Little Calumet River Corridor	25
General Development — Detail, Little Calumet River Corridor Plan	27
General Management Plan Amendment, East Unit	35

TABLES

1: West Unit General Management Plan Amendment Development Cost Estimates, Class C	19
2: Little Calumet River Corridor Plan Development Cost Estimates, Class C	30
3: East Unit General Management Plan Amendment Estimated Development Costs, Class C	44



Background

BACKGROUND

BRIEF DESCRIPTION OF THE NATIONAL LAKESHORE

Indiana Dunes National Lakeshore is composed of several noncontiguous units. Most of the national lakeshore's land area is along the south shore of Lake Michigan between the urban centers of Gary and Michigan City, Indiana (see Location map). A variety of residential, commercial, and industrial developments abut the lakeshore boundaries, including several small communities that are completely surrounded by national lakeshore land.

The national lakeshore is separated into an East Unit and a West Unit by a large industrial complex (see Location map). Pinhook Bog, the Heron Rookery, Hobart Prairie Grove, Calumet Prairie, and Hoosier Prairie are small, noncontiguous satellite areas, with resources that differ from the lakefront lands. The roads through the national lakeshore serve visitors and local residents, as well as regional industrial and commercial users.

Biological diversity is one of the most significant features of the national lakeshore. This diversity is many times greater than that of most areas of similar size because Indiana Dunes is in several ecological transition zones, including where the northern conifers meet the temperate hardwood forests of the northern and eastern United States and the tallgrass prairies of the Mid west. This exceptional biological diversity was a primary reason for the national lakeshore's establishment.

Pinhook Bog, a national natural landmark, is a wetland ecosystem that contains an unusual array of plants, including several carnivorous species. Visitation is limited to guided tours along a boardwalk.

The Heron Rookery is a nesting area for great blue herons along the Little Calumet River. The trail that allows visitor access is built on the opposite bank from the heron colony's tree-top nesting site to protect the birds and resources. Anglers frequently use the trail to get to the river.

Hobart Prairie Grove, north of Lake George in Hobart, Indiana, is primarily black soil savannah with significant acreage of prairie and wetlands. This combination of habitat contains plant communities unique in the national lakeshore. It contains a section of the abandoned Elgin Joliet and Eastern Railroad right-of-way, which is being developed as a hike/bike trail by the Lake County Park Department. This trail can provide access to the diverse resources of the area without significantly impacting them.

The national lakeshore has a variety of cultural resources including the Bailly Homestead and cemetery, Chellberg Farm, the World's Fair and Lustron houses, the Good Fellow Camp, and a number of restored South Shore Railroad cars.

LEGISLATIVE HISTORY

Congress designated Indiana Dunes National Lakeshore as a unit of the national park system on November 5, 1966 (Public Law 89-761) to

preserve for the educational, inspirational, and recreational use of the public certain portions of the Indiana Dunes and other areas of scenic, scientific, and historic interest and recreational value in the State of Indiana.

The act further states

In order that the lakeshore shall be permanently preserved in its present state, no development or plan for the convenience of visitors shall be undertaken therein which would be incompatible with the preservation of the unique flora and fauna or the physiographic conditions now prevailing or with the preservation of such historic sites and structures as the Secretary may designate: Provided, that the Secretary may provide for the public enjoyment and understanding of the unique natural, historic, and scientific features within the lakeshore by establishing such trails, observation points, and exhibits and providing such services as he may deem desirable for such public enjoyment and understanding: Provided further, That the Secretary may develop for appropriate

BACKGROUND

public uses such portions of the lakeshore as he deems especially adaptable for such uses.

Four subsequent legislative acts — PL 94-549 in 1976, PL 96-612 in 1980, PL 99-583 in 1986, and PL 102-430 in 1992 — each provided for the expansion of the national lakeshore to its current 15,139 acres.

PURPOSE AND SIGNIFICANCE OF THE NATIONAL LAKESHORE

The following purpose statements are based on the legislation that established the national lakeshore, the related legislative history, and subsequent supporting documentation.

Each action described in this document is consistent with the following purpose statements:

- Preserve, maintain, and restore the integrity and character of the natural resources and processes and protect cultural resource values at the lakeshore.
- Provide educational, inspirational, and recreational opportunities compatible with preserving natural and cultural resource values.
- Inspire in the public an appreciation of and a sense of personal stewardship for lakeshore resources.
- Interpret, encourage, and conduct scientific research in the tradition of pioneer investigators.

The following significance statements explain why the national lakeshore is important to our natural and cultural heritage. The special character and resource values of the East Unit of Indiana Dunes National Lakeshore must be protected to achieve the purposes of the national lakeshore.

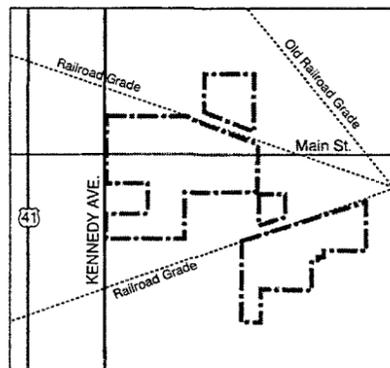
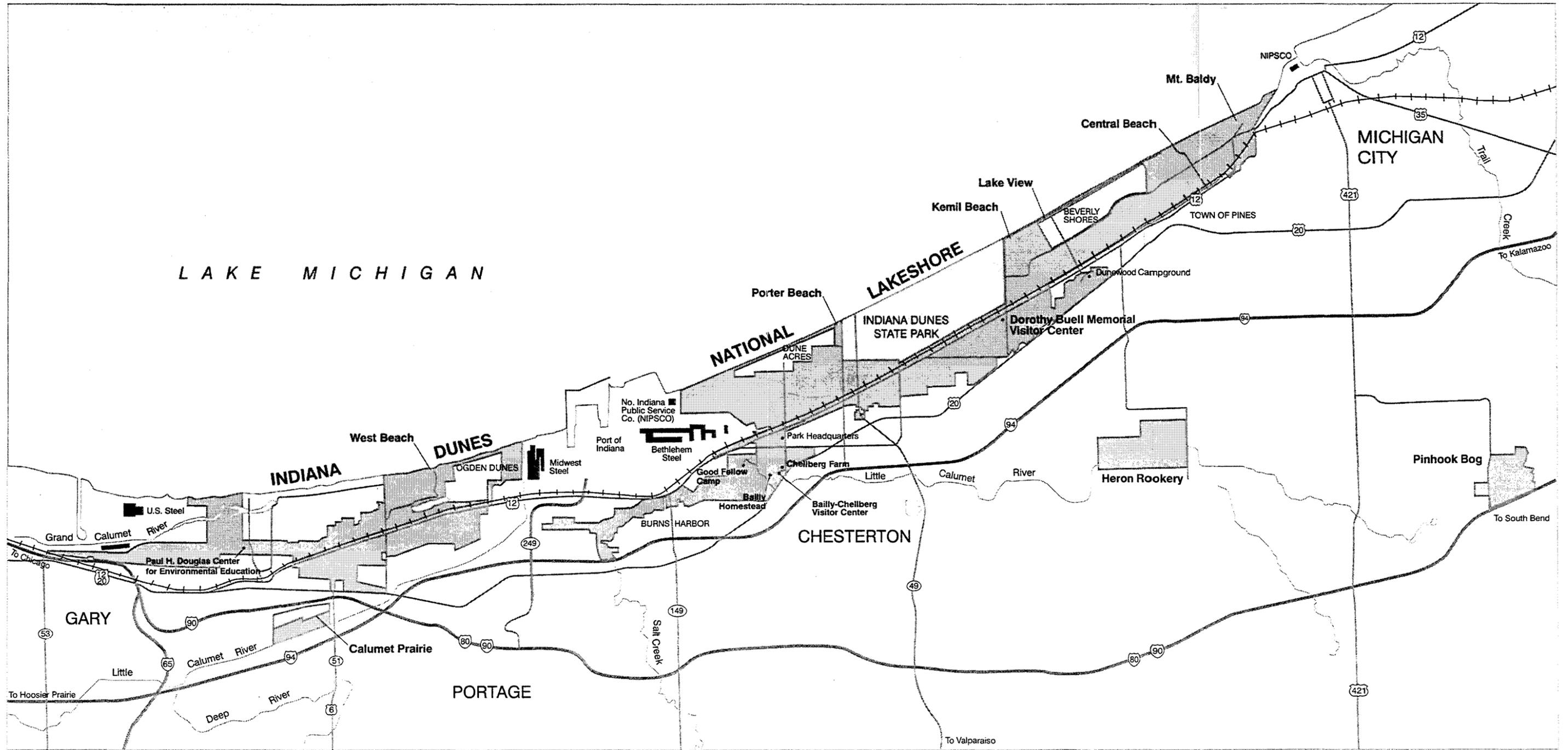
- The national lakeshore contains exceptional biological diversity and outstanding floral richness, resulting from the combination of complex geological processes and the convergence of several major North American life zones.

- The national lakeshore's cultural resources represent the cultural evolution of northern Indiana from prehistoric times to the present day.
- The national lakeshore's extensive reach of undeveloped dunes provides recreational, educational, and inspirational opportunities within a one-hour drive of a major metropolitan area.
- The national lakeshore offers outstanding opportunities for scientific research due to the diversity and complexity of its natural systems, and it provides a dynamic laboratory for early plant succession and faunal studies.
- The presence of heavy industry, long-standing transportation corridors, residential use areas, and natural areas at Indiana Dunes offers an outstanding opportunity to show visitors how these elements interrelate.
- The dunes provide a striking physical and emotional relief to the surrounding flat and highly developed landscape.

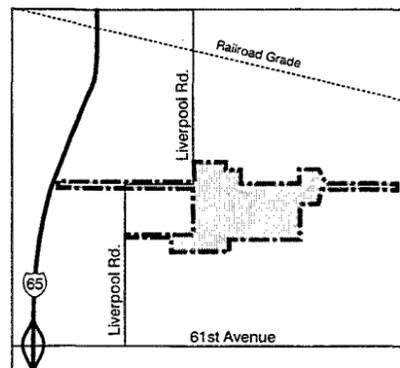
PRIMARY INTERPRETIVE THEMES

Primary interpretive themes are those ideas, concepts, and stories that are central to the nature and significance of the national lakeshore. Although other ideas may also be interpreted, the primary themes described below are the most important and will be prominently featured to visitors.

- Diversity — Lakeshore ecosystems support an exceptional diversity of plants and animals.
- People and the Land — People have lived in the dunes for thousands of years; each group adapted to and modified their environment. The current landscape reveals the effects of this cultural succession.

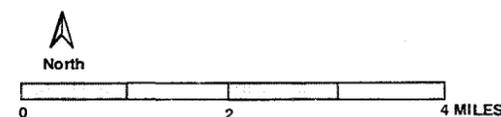


HOOSIER PRAIRIE



HOBART PRAIRIE GROVE

INDIANA DUNES NATIONAL LAKESHORE
STATE PARK OR
NATURE PRESERVE



LOCATION
Indiana Dunes National Lakeshore
United States Department of the Interior
National Park Service
DSC • 626 • 20098 • SEP 96

- Succession — Some of the earliest and most significant research on ecological succession was conducted early in the 20th century at the Indiana Dunes; succession is a major factor in creating the dune landscape.
- Great Lakes — Lake Michigan has been a major factor in shaping the landscape of the dunes. The present and future health of the Great Lakes is primarily a function of human activities.
- Conservation — Indiana Dunes National Lakeshore and Indiana Dunes State Park were created from a history of citizen commitment to preserving the area's unique and sensitive landscape, plants, and animals; this commitment continues today.
- Science — For more than a century the Indiana dunes have been a focus of scientific research to understand, preserve, and restore the natural and cultural environment.
- Recreation — There are many year-round recreational opportunities in the dunes. Public support of low-impact and sustainable recreation is required to protect resources and ensure the continuing availability of resource-related recreational experiences.
- Geological History — The geology of the Indiana dunes was the result of the Wisconsin glacial advance and post-glacial period.

VISITOR EXPERIENCE GOALS

Visitor experience goals describe the experiences that the National Park Service wants to make available for visitors to the national lakeshore. These goals provide direction for facility, landscape, and media designers, as well as for lakeshore programs and management. All lakeshore divisions share responsibility for achieving these goals.

Visitors will

- have easy and safe access to recreational experiences and resources
- find services designed to accommodate and improve access for visitors with disabilities
- understand the significance of the lakeshore
- know about, appreciate, and support resource preservation, management, and restoration programs and goals
- experience the lakeshore in a variety of social settings, ranging from solitude to social or structured experiences
- relate the interpretive themes to visitors' backgrounds, age, learning styles, and interests
- obtain information about the national lakeshore and visitor services inside and outside of the national lakeshore
- know that they are in a unit of the national park system
- know where they are and how to get to where they want to go (way finding)
- learn about and participate in low-impact recreational opportunities in and around the lakeshore, including opportunities in less-used areas and during seasons of low visitor use
- experience personal benefits such as relaxation, enjoyment, education, and inspiration
- demonstrate their interest in and commitment to the lakeshore by becoming involved in NPS programs such as Volunteers in Parks
- recognize and visit significant lakeshore landscapes, such as Lake Michigan, the lakeshore, wetlands, and dunes
- understand and appreciate the fragile and dynamic nature of dunes and other lakeshore habitats



**West Unit General Management Plan
Amendment**

Traffic Options When West Beach Parking Is Full

Special signs could be used just south of County Line Road and U.S. 12 and on the east approach to County Line Road on U.S. 12 to alert visitors that West Beach is full. Visitors could then be directed to East Unit beaches if room is available or west on U.S. 12 to Marquette Park via an improved intersection at U.S. 12 and Hobart Road to Hobart Road and Grand Boulevard.

Special signs could also be used on IN 51 just south of the intersection of IN 51 and U.S. 20 to direct visitors to Marquette Park via Hobart Road when West Beach is full.

Road improvements will be required on Hobart Road as described above. A beach parking sign at this location will direct all beach traffic to the IN 51 and U.S. 20 intersection where vehicles normally go right (east) to West Beach, and when West Beach is full, all beach traffic will turn left (west).

In order to notify beach users who have exited the toll road at I-65 and U.S. 12 and 20, a sign will be placed on U.S. 12 just west of the new access ramp from U.S. 12 to Hobart Road that will be activated when West Beach is full. It will direct West Beach bound traffic to exit onto Hobart Road, turn left on Hobart Road to Grand Boulevard, and proceed on to Marquette Park. Until the truck terminal site is acquired, this sign will be located just west of Lake Street to direct traffic north on Lake Street, then right on Miller Avenue, and north on Grand Boulevard to Marquette Park.

TRANSIT CENTER AND SHUTTLE BUS SYSTEM

Development of the West Unit transit center and shuttle bus system will be deferred until there is more demand and the system's feasibility is proven for operation in the West Unit. Some of the factors that make the transit center and shuttle bus system infeasible at the present time are (1) the convenience and desire of West Beach users to use private automobiles, (2) the capacity of the existing West Beach parking area, which is full 10-25 days per year, and (3) no private sector response to the 1988 request for a proposal to operate the shuttle bus system.

As economic and sociological conditions change, it may become feasible to operate a shuttle bus system to West Beach. Future transit center locations identified include

- the area along U.S. 20 between the shopping center parking area at IN 51 and County Line Road
- the truck terminal site near the U.S. 12 bridge over Hobart Road

Conditions that justify the acquisition and development of a West Unit shuttle bus system include (1) a significant, sustained increase in the price of gasoline, (2) natural resource management needs to reclaim the existing West Beach parking area, and (3) other economic factors that indicate changing conditions that make a shuttle bus system feasible.

When justified by the above factors, a trial shuttle bus system will be developed with a minimum investment of public funds. If the trial shuttle bus system is shown to be successful, the West Unit transit center and parking area should be built.

GENERAL DEVELOPMENT

This section addresses trail development, visitor facilities, and vehicular access (see West Unit Access / General Development map).

The West Unit is composed of several subunits, such as the area from Broadway in Gary, Indiana, to Miller Woods, Miller Woods, Inland Marsh, and West Beach, which will be linked by hiking and biking trails. The trail improvements are consistent with the long-term goal of the national lakeshore — to tie it together by one trail system.

Using the IHB railroad right-of-way as a primary route, a hiking/biking trail will be extended eastward from Broadway in Gary to the east side of West Beach. At that point the trail will turn south along the east boundary at West Beach and then east along the north side of U.S. 12 to Hillcrest Road at Ogden Dunes. The trail will be developed in consultation with the U.S. Fish and Wildlife Service to maximize existing Karner blue butterfly habitat. A full range of alternatives will be explored. At Hillcrest Road the trail will cross U.S. 12 and

WEST UNIT GENERAL MANAGEMENT PLAN AMENDMENT

This plan uses existing routes to access West Beach and Marquette Park, while minimizing the impact on undisturbed areas. Initially the plan calls for improvements to the U.S. 12/County Line Road intersection to provide turn lanes and signal lights linked with the railroad crossings. If further improvements are required, a new bridge will be constructed on County Line Road over U.S. 12 and the Conrail and South Shore Railroad tracks. The West Unit transit center and shuttle bus system will not be developed until demand warrants and the feasibility of the system is proven.

WEST UNIT — IMPROVE EXISTING ROUTES

West Beach

The two existing routes that are currently used by visitors to West Beach — from I-94 to IN 51, U.S. 20, and Lake/Porter County Line Road; and from I-90 (the toll road) to I-65, to U.S. 12/20, to U.S. 12, and Lake/Porter County Line Road — will be improved (see West Unit Access/General Development map). Signs directing visitors to West Beach will be added, and selected intersections that have traffic engineering and operational problems will be improved. Some of these intersections also have high accident levels and safety hazards. Intersections will be improved by adding dedicated left- and right-turn lanes and modifying traffic signal operation (see diagram of recommended interim improvements in appendix C of the 1992 West Unit amendment).

Interim improvements will be made to the U.S. 12 and County Line Road intersection and at-grade railroad crossing by adding left- and right-hand turn lanes as well as railroad and traffic-activated signals.

These interim improvements will be monitored to determine the effect on safety and traffic congestion. If these interim improvements do not minimize congestion and provide adequate safety, studies will be conducted to determine methods to minimize the visual and environmental impacts of an overpass. If the visual and environmental impacts can be mitigated, a new

bridge will be constructed on County Line Road over U.S. 12 and the Chicago South Shore and South Bend and Conrail Railroad tracks. An overpass will eliminate the at-grade railroad crossing safety hazard of two railroads with approximately 60 trains daily.

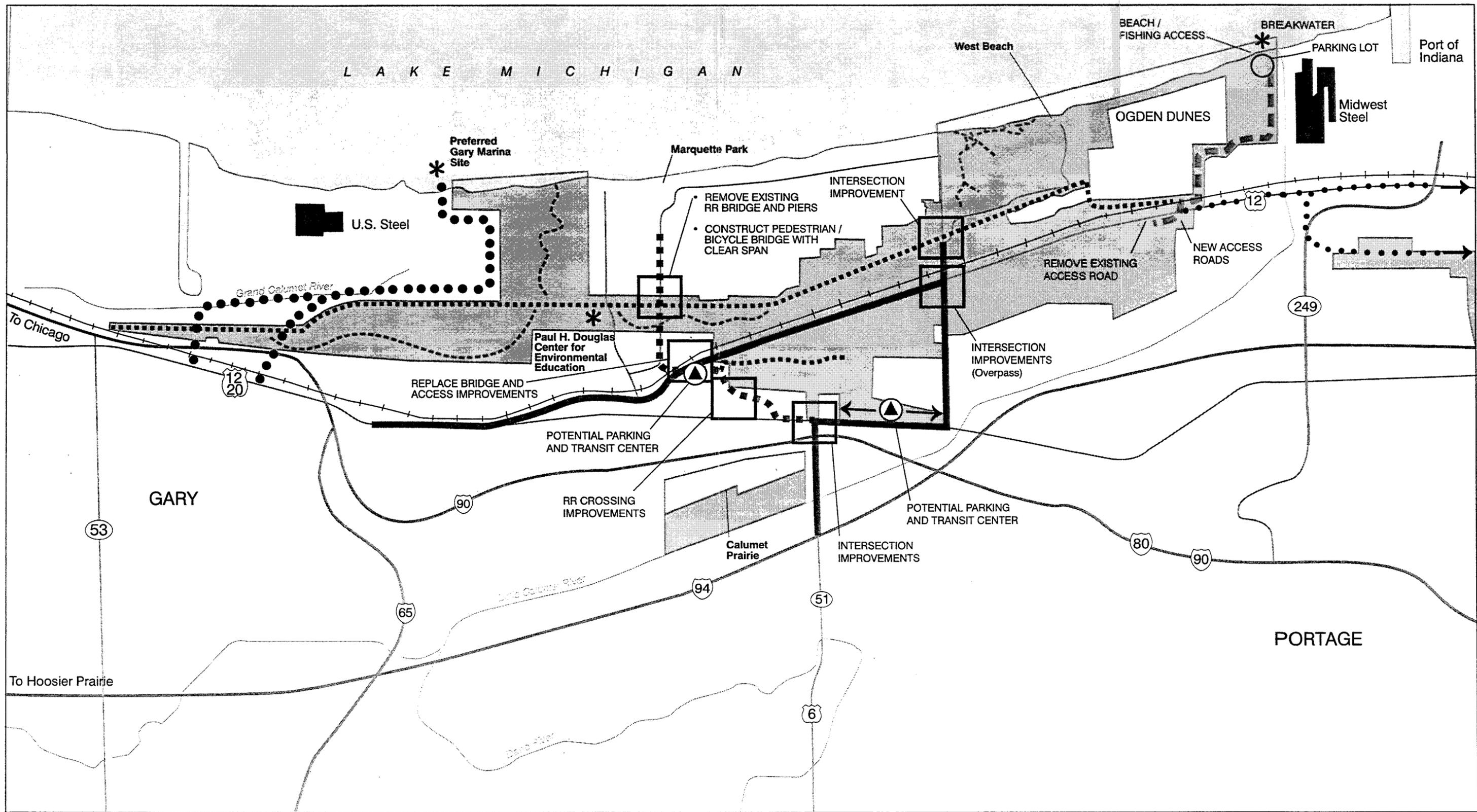
Residents of Miller as well as visitors to West Beach will benefit from the elimination of traffic hazards and congestion. Ramps in the southwest quadrant of the interchange will allow for access from U.S. 12 to County Line Road. Retaining walls will be used to contain the fill for the bridge approaches, minimizing the impact on wetlands. In addition, flow structures and culverts will be incorporated in the design to allow for water flow between Long Lake and the Long Lake wetland. This new overpass will be compatible with the IHB bridge replacement and West Beach access road that opened in 1992 (see diagrams of recommended overpass improvements in appendix C of the 1992 West Unit amendment).

Marquette Park

Road improvements will be made to Hobart Road to facilitate access to Grand Boulevard and Marquette Park. These include the following: improvements to the IN 51 and U.S. 20 intersection, widening and shoulder improvements on Hobart Road, the improvement of Hobart Road and the B&O Railroad crossing, and the replacement of the IHB bridge on Grand Boulevard with a pedestrian structure to eliminate bridge piers on Grand Boulevard. The current IHB bridge over Grand Boulevard is being removed by the National Park Service, which will result in the elimination of two pairs of posts on Grand Boulevard that are a traffic hazard.

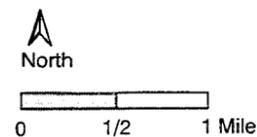
Proposed Gary Marina

Access to the proposed marina on USX property will follow the abandoned IHB right-of-way near the intersection of U.S. 12 and I-65 or by way of USX-owned lands.



-  WEST BEACH ACCESS ROUTE
-  HIKING TRAIL
-  MARQUETTE PARK ACCESS ROUTES
-  HIKE / BIKE TRAIL
-  MARINA ACCESS ROUTES
-  ROAD WITH HIKE / BIKE TRAIL
-  PROPOSED LITTLE CALUMET HIKE / BIKE RIVER CORRIDOR CONNECTION TRAIL

 INDIANA DUNES NATIONAL LAKESHORE
STATE PARK OR NATURE PRESERVE



WEST UNIT ACCESS GENERAL DEVELOPMENT

Indiana Dunes National Lakeshore
United States Department of the Interior
National Park Service
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ON MICROFILM

extend west to Inland Marsh along a new access road to the existing Inland Marsh parking area. The parking area access from U.S. 12 will be obliterated. The trail will also extend to the east along U.S. 12 to connect with trail proposals in the National Park Service's 1991 *Little Calumet River Corridor Plan*.

In the area between the Douglas Center and Broadway in Gary at the west end of the national lakeshore, hiking trails will extend from the IHB trail route through the oak savannah areas both west and east of the Douglas Center. At Miller Woods, between USX property and Lake Street, a system of hiking trails will extend from the IHB route through the wooded dunes to Lake Michigan, as proposed in the 1984 *Trail Plan*. The warming hut proposed in the 1984 plan will not be constructed.

Hiking trails will be constructed in the Edgewater area, in the northwestern corner of the West Beach unit. These trails will connect existing trails within the West Unit, the parking area, the picnic area, Long Lake/wetland interpretive areas, the information center, the beach house, the wooded dune areas at the west edge of the unit, and Lake Michigan. The 14,200 feet of trails will add interpretive opportunities and scenic overlooks, as well as provide an alternative trail route to Lake Michigan. The trails will wind through the undeveloped areas in Edgewater, passing over high points with expansive views and around wetlands, avoiding existing residential and disturbed areas, and connecting to the Lake Michigan shoreline.

For Unit I-C (the parcel located north of U.S. 12 between Ogden Dunes and the Portage/Burns Waterway), a road will be extended from Hillcrest Road at Ogden Dunes north and east on NPS property to the eastern boundary of the national lakeshore at the Portage/Burns waterway. From here the road will extend north to a 10- to 20-car parking area at the breakwater and beach. A hiking/biking trail will be included as part of this roadway. This road/trail will provide access to both the beach and the Portage/Burns Waterway breakwater, which has been designed to accommodate fishing. Trails will be developed to avoid adverse impacts on threatened and endangered species habitat and unstable steeply sloped sand dunes.

The eastern half of this parcel, owned by National Steel, is being reclaimed after years of use as the site for four hazardous waste lagoons. The National Park Service cannot acquire the eastern half unless National Steel is willing to sell and until it can be demonstrated that no hazardous wastes remain and there are no hazards to visitors from its previous use. If the National Park Service acquires the site, the access road from Ogden Dunes can be extended east to the breakwater. A 10- to 20-car parking area will be developed at the northern terminus of the access road.

A trail will be developed in the Tolleston Dunes. It will connect the transit center site (Hobart Road and U.S. 12), parcel 2, to the Inland Woods addition, parcel 5, through the Tolleston Dunes (see West Unit Access / General Development map). The transit center and its parking area will be the western trailhead.

Trails will be constructed in the least intrusive manner possible so that they will fit compatibly and unobtrusively into their particular surroundings. Surfaces for trails will be appropriate for their prescribed use (hiking, biking, or hiking and biking combined). Hiking trails will use softer, more permeable, and more resilient surfacing materials than will the biking trails.

The existing parking areas at West Beach were designed to hold 615 cars and 25 buses. These numbers are based on the use of 10-foot by 20-foot, 60-degree angle parking stalls for cars. Parking will be increased by restriping the two existing parking areas using smaller 9-foot by 20-foot stalls configured at 90 degrees to the traffic aisles. This 90-degree layout dictates a minimum aisle width of 24 feet. These modifications plus some minor reconfiguration of the parking rows could increase parking capacity to 700 cars.

The abandoned IHB bridge over Grand Boulevard will be replaced with a clear, single-span structure for the hiking and biking trail. This new structure will eliminate two pairs of posts on Grand Boulevard that are a traffic hazard.

ACCESSIBILITY

All hiking and biking trails will be designed for access by special need populations, such as the elderly and handicapped. The bicycle paths will be surfaced to facilitate wheelchair access.

Hiking trails through the dunes might not be accessible to wheelchair users, but could be accessible to visually impaired visitors. All development at the national lakeshore will comply with appropriate laws and regulations, including the Architectural Barriers Act of 1968 (42 USC 415 et seq.), the Americans with Disabilities Act of 1990 (42 USC 12101 et seq.), and the Rehabilitation Act of 1973 (29 USC 792 et seq.).

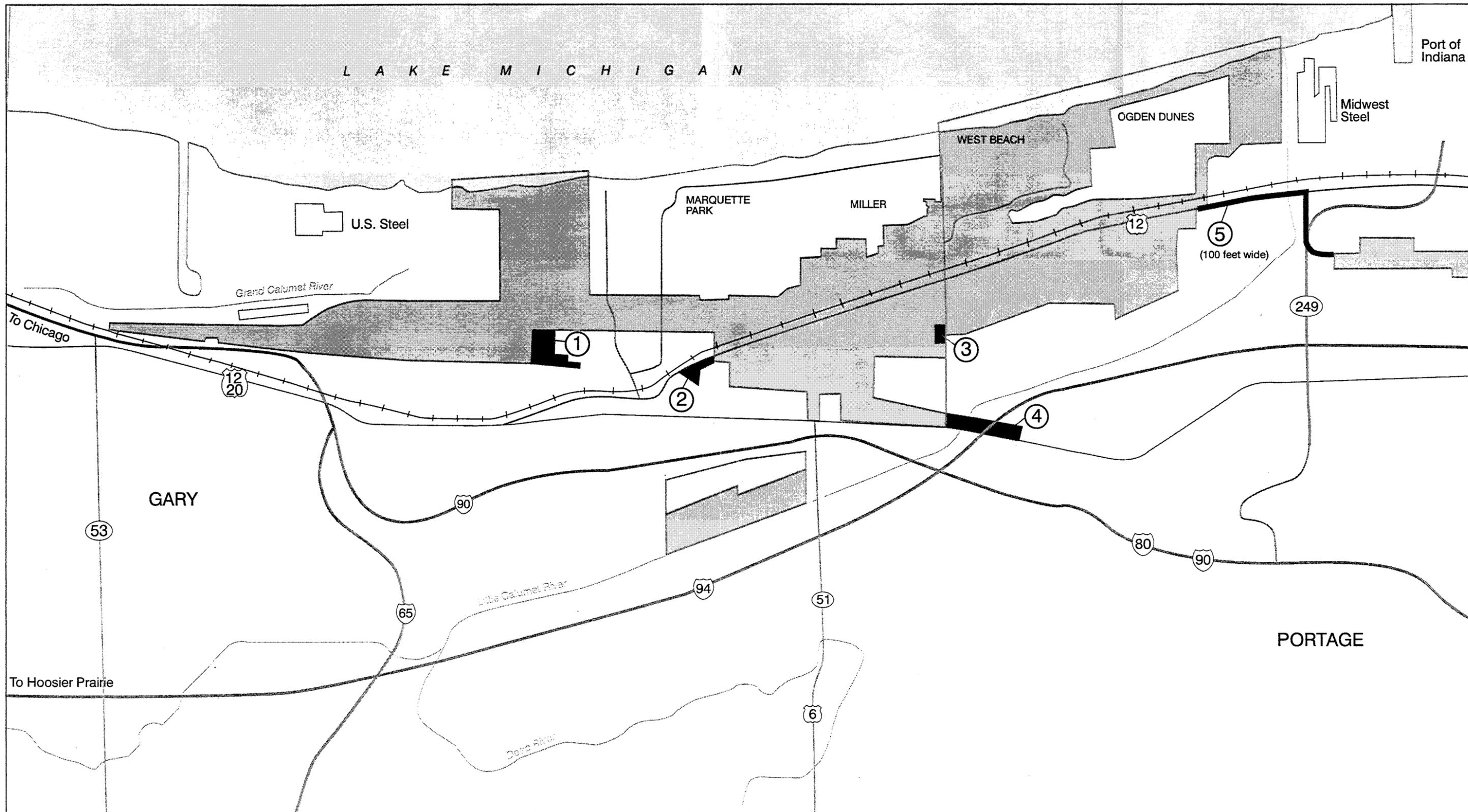
BOUNDARY ADJUSTMENTS

The following boundary adjustments are recommended to provide for the protection of natural resource values and visitor use facilities (see Boundary Adjustments map for location of individual sites).

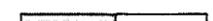
1. This 60-acre addition lies east of Clay Street in the southeast portion of Miller Woods. This area extends the Miller Woods ecosystem, which contains high-quality savanna and marsh areas and will be managed to preserve its natural resources.
2. The Dunes Highway corridor extends the lakeshore boundary westward along the south side of U.S. 12 to Hobart Road. Acquisition of this approximately 5-acre site will allow for the removal of the two truck terminals. The site is an alternative location for the West Unit transit center and remote parking. In the interim the parcel will be landscaped with mature vegetation to improve its appearance. This site could also be used for parking and as a trailhead for the Tolleston Dunes east-west trail. Acquisition will allow for improving the access to Marquette Park from U.S. 12 via Hobart Road and Grand Boulevard.
3. This 8-acre Inland Woods addition is south of U.S. 12 on the west side of County Line Road. The area contains one of the high-quality savannas and mostly untouched oak dune savanna and wetlands; it will be managed to preserve its natural resources.
4. This parcel is bounded on the west by the Little Calumet River and ending west of the Burns Ditch / U.S. 20 rest area, on the north by the B&O Railroad tracks, and on the south by U.S. 20. Owned by the state of Indiana, this approximately 14-acre site could be used to provide access to a proposed hiking/biking trail.
5. This 100-foot-wide corridor along U.S. 12 connects the national lakeshore boundary south of U.S. 12, continues east along U.S. 12, south on Crisman Road, and east along the Little Calumet to the national lakeshore's western boundary on the Little Calumet. The approximately 10-acre parcel will allow for a hiking/biking trail linking the East and West Units.

DEVELOPMENT COSTS

Development costs for this plan are in table 1.



 INDIANA DUNES NATIONAL LAKESHORE
 STATE PARK OR NATURE PRESERVE
 BOUNDARY ADJUSTMENTS


 North

 0 1/2 1 Mile

BOUNDARY ADJUSTMENTS
 Indiana Dunes National Lakeshore
 United States Department of the Interior
 National Park Service
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ON MICROFILM

**TABLE I: WEST UNIT GENERAL MANAGEMENT PLAN AMENDMENT
DEVELOPMENT COST ESTIMATES, CLASS C**

Interim intersection improvements at County Line Road and U.S. 12	LS	\$ 221,000
Construct new road bridge over County Line Road at U.S. 12	LS	1,222,000
Hobart Road improvements		
Add access ramps at U.S. 12	LS	278,000
Widen Hobart Road and provide shoulders; improve B&O RR crossing of Hobart Road	LS	348,000
Improve IN 51/U.S. 20 intersection	LS	104,000
Install 3 directional signs to divert traffic to alternative beaches	LS	142,000
Restripe West Beach parking		
Obliterate existing stripes (615 spaces)	4,100 SF	5,000
Paint new stripes (700 spaces)	4,600 SF	7,000
Tolleston Dunes		
Hiking trail (6,000 ft by 8 ft)	5,300 SY	89,000
Construct West Unit transit center ¹	3,000 SF	500,000
800-car parking area, asphalt	LS	1,333,000
Construct trails		
Douglas Center to Broadway in Gary		
Hiking trail (19,500 ft by 8 ft), gravel	17,300 SY	361,000
Hiking/biking trail (Broadway to Ogden Dunes – 42,000 ft by 10 ft), asphalt	46,700 SY	1,297,000
Miller Woods		
Hiking trail (6,000 ft by 8 ft)	5,300 SY	89,000
Unit I-C ²		
Hiking trail (12,000 ft by 8 ft)	10,700 SY	168,000
Roadway (12,000 ft by 18 ft)	24,000 SY	1,572,000
Parking area (10–20 cars)	750 SY	41,000
West Beach trails at Edgewater area ³		
Hiking trail (14,200 ft by 8 ft)	12,600 SY	210,000
Inland Marsh — U.S. 12		
Obliterate existing parking access drive at Inland Marsh/U.S. 12 (20 ft by 200 ft)	450 SY	5,000
Construct new parking access road to Inland Marsh (20 ft by 1,000 ft)	2,300 SY	80,000
Construct new pedestrian clear-span bridge over Grand Boulevard at IHB right-of-way	150 LF	108,000
Total Construction Cost		8,180,000
Advance Planning, Design, and Construction Drawing Preparation		1,561,000
TOTAL PROJECT COST		\$9,741,000

LF = Linear Feet; SY = Square Yards; SF = Square Feet; LS = Lump Sum

NOTE: Total project costs presented are gross figures, which include advance planning, design, construction drawing preparation, construction supervision, and facilitating administrative services. Estimates are class "C," meaning they are derived from average costs for similar facilities in other NPS areas.

1. Development accomplished only when conditions warrant a transit center.
2. Development accomplished only when site has been totally cleaned of all hazardous waste and completely reclaimed.
3. Development accomplished only after the Edgewater area becomes part of the national lakeshore.



Little Calumet River Corridor Plan

LITTLE CALUMET RIVER CORRIDOR PLAN

This plan provides a method to connect the diverse existing national lakeshore trails into one comprehensive trail system. Four new trail components will be established to accomplish this comprehensive trail network:

- the east–west connection route
- the east branch Little Calumet River hiking trail
- the U.S. 12 hike/bike path
- the east end bike route

This trail system will provide for pedestrian and bicycle transit. The trails will link the river, natural and cultural resources, and recreational facilities into one continuous network. Visitor activities on the trail system will include hiking, biking, fishing, and cross-country skiing. These activities and facilities will be tied closely to the natural, cultural, and recreational resource opportunities already provided in the area and will be compatible with existing land uses. A discussion of the potential regional trail connections is included at the end of the description of the plan.

The plan also provides better river access, parking, and recreational opportunities and addresses resource protection issues upstream along the Little Calumet River and Salt Creek. Four new river access sites will be established:

- the Howe Road river access
- the IN 149 river access
- the Boo Road river access
- the Burns Ditch river access

The trail system components and the river access sites are shown on the General Development and General Development — Detail maps.

Most of the proposed actions are totally within current national lakeshore boundaries and on federal land. The proposals in this plan may be implemented shortly after plan approval as funding and other national lakeshore development priorities allow. Other plan recommendations will require boundary adjustments, land

acquisition, cooperative agreements, easements, or actions by others. These proposals will be developed as cooperative agreements or boundary adjustments are made and lands or interests in lands (easements) are acquired. Priorities for establishing the trails and river access sites will vary as funds and land acquisitions become available and as visitor use patterns develop.

GENERAL DEVELOPMENT

The following trails will be constructed in the least intrusive manner possible so that they will fit compatibly and unobtrusively into their particular surroundings. Surfaces for the trails will be appropriate for their prescribed use (hiking, biking, or hiking and biking combined). Hiking trails will use softer, more permeable, or more resilient surfacing materials, such as crushed aggregate, a soil–aggregate mix, stabilized turf, or soil cement. Biking trails will have impervious, durable surfaces such as asphalt, concrete, or soil cement.

East-West Connection Route

The east–west connection route connects the proposed West Unit hike/bike trail at Hillcrest Road in Ogden Dunes with the proposed east branch Little Calumet River hike/bike path (described below) trailhead at the Old Crisman Road bridge.

The route will begin at a trailhead at the Inland Marsh parking lot near the Hillcrest Road and U.S. 12 intersection in Ogden Dunes. From the trailhead, this route will head east along the south side of U.S. 12 and across the Portage/Burns Waterway on a pedestrian/bicycle bridge as part of or attached to the south span of existing U.S. 12. The route will continue eastward past the Little Calumet River Basin Development Commission's proposed marina site to Crisman Road, then south to the Old Crisman Road bridge. The length of this segment will be about 1.3 miles.

East Branch Little Calumet River Hiking Trail

The east branch Little Calumet River hiking trail will extend east from the Old Crisman Road bridge to Good Fellow Camp following the banks of the east branch of the Little Calumet River.

From the north side of the Old Crisman Road bridge, this trail will pass under the north ends of the Old Crisman Road bridge and the double-span bridge of IN 249, and turn north along the IN 249 right-of-way to skirt the existing marina. Returning to the north bank of the river, the trail will continue east, paralleling the river, to the Samuelson Road bridge.

At Samuelson Road the trail will cross the bridge to the south side of the river and continue eastward across Salt Creek where a new 150-foot footbridge will be constructed. East of Salt Creek, the trail will connect to a short spur trail that will link the trail system to the Boo Road river access.

The trail will continue east to the IN 149 river access, avoiding wetlands by staying on higher ground. In areas that may contain federal and/or state-listed species, elevated boardwalks will be constructed to minimize the loss of sensitive plant or animal habitat. The trail will cross the river on the IN 149 bridge, connect to the U.S. 12 bike path (described below), and together they will pass beneath the IN 149 bridge and continue eastward on the north side of the river. There will be trail crossings under IN 149 on both the north and south sides of the river to provide access to the IN 149 river access and to connect with the U.S. 12 bike path. There will be no at-grade crossings of IN 149.

The trail will continue along the north side of the river and pass beneath the Conrail Railroad bridge over the Little Calumet River. From there the trail will begin a gradual climb away from the river, following the northern NPS boundary and crossing the existing Bailly Unit hiking trail to Good Fellow Camp, where it will link to that facility's existing road and continue on it until intersecting Howe Road at the camp entrance. The trail distance from the Old Crisman Road bridge to Howe Road is about 4.5 miles.

U.S. 12 Hike/Bike Path

A bicycle path will be developed along the south side of the U.S. 12 right-of-way, extending from the IN 249 intersection with U.S. 12 eastward to IN 149 and Oak Hill Road. Most of the intersection crossings along this bicycle path will be at grade, including those at Bethlehem Steel main gate access road and all of the lower traffic volume service roads and driveways. As planned, the U.S. 12 hike/bike path will leave the U.S. 12 right-of-way just west of IN 149 and turn south into the national lakeshore, connecting with the east branch Little Calumet River hiking trail. Further study will determine whether the different uses will be combined on the trail as it continues under IN 149 and on to Good Fellow Camp.

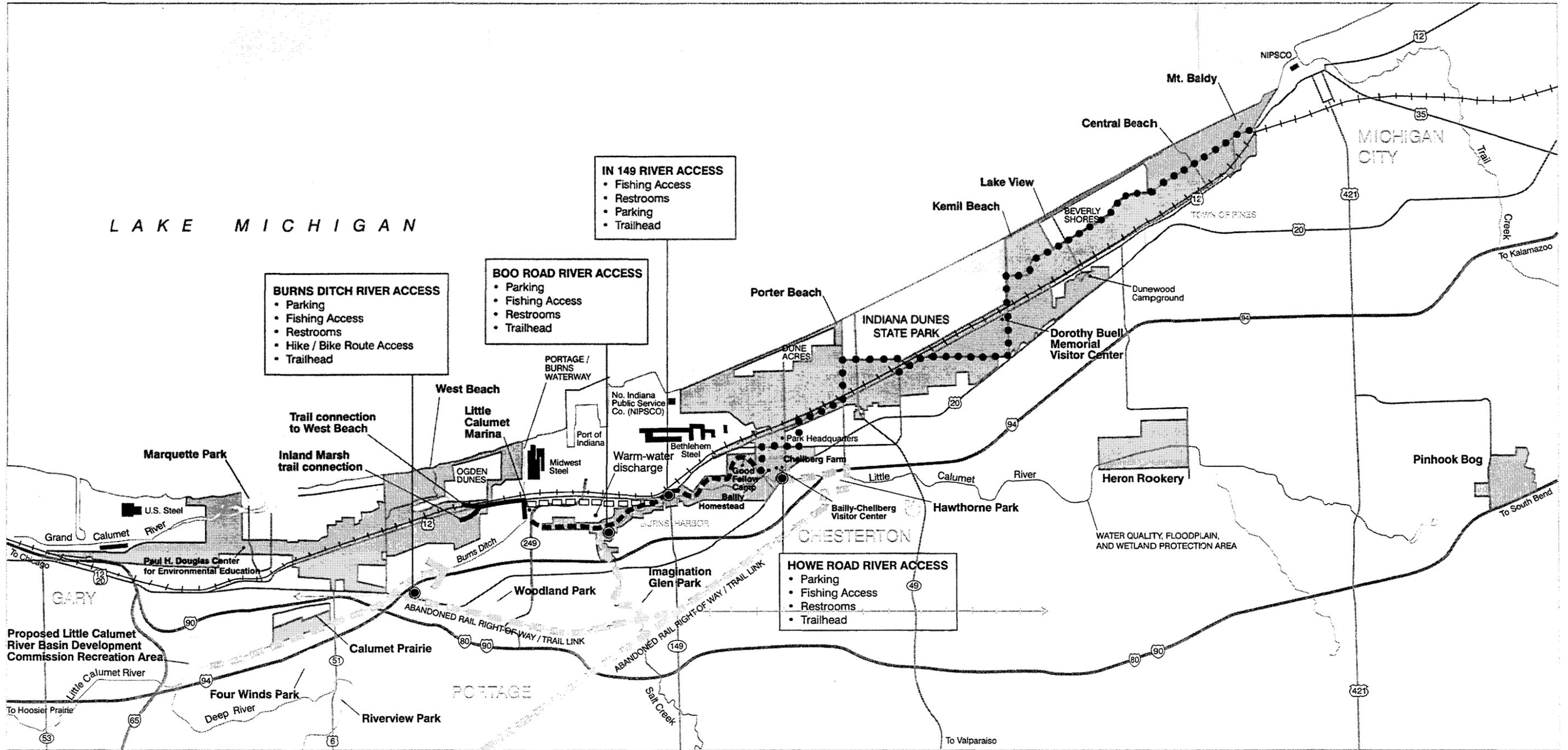
The U.S. 12 hike/bike path will require an easement along the south side of the U.S. 12 right-of-way that is adequate to provide space for two directions of bicycle traffic and safe separation distance from the highway. A minimum width of 30 feet will be needed for the path right-of-way; however, a 70-foot easement would provide a proper 30-foot separation from both the highway and adjacent private property to allow for a visual and noise buffer as well as flexibility in path alignment.

East End Bike Route

The east end bike route will provide a 13-mile designated bicycle route that will connect the East Unit of the national lakeshore with the Bailly Unit, using existing streets and rights-of-way. The route will be designated by roadside signs and on bicycle maps.

From Good Fellow Camp the route will go north on Howe Road, east on Oak Hill Road, and then north on Wagner Road to U.S. 12.

A 0.25-mile spur bike route on Howe Road will connect the east end bike route with the Little Calumet River hike/bike path terminus at the Good Fellow Camp entrance at Howe Road. The east end bike route will continue east on U.S. 12 (0.5 mile) to Waverly Road, then north to South State Park Road, east to Tremont Road, and south to U.S. 12. The bike route will follow U.S. 12 again (0.5 mile) east to Furnessville Road where it will continue east to Kemil Road



BURNS DITCH RIVER ACCESS

- Parking
- Fishing Access
- Restrooms
- Hike / Bike Route Access
- Trailhead

BOO ROAD RIVER ACCESS

- Parking
- Fishing Access
- Restrooms
- Trailhead

IN 149 RIVER ACCESS

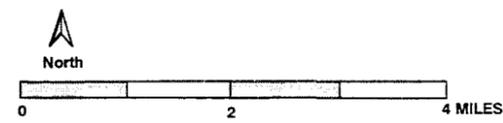
- Fishing Access
- Restrooms
- Parking
- Trailhead

HOWE ROAD RIVER ACCESS

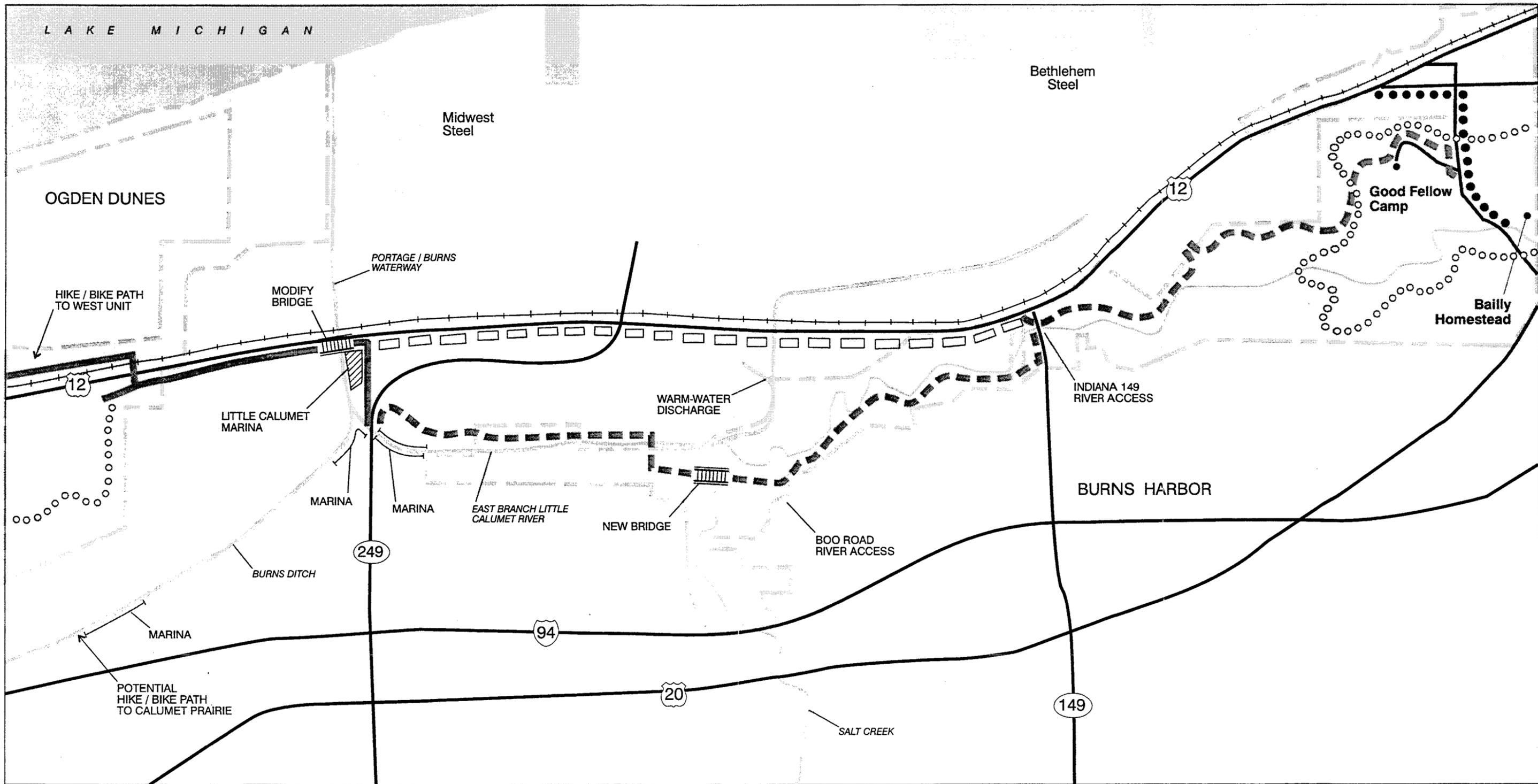
- Parking
- Fishing Access
- Restrooms
- Trailhead

- EAST END BIKE ROUTE.
- EAST BRANCH LITTLE CALUMET RIVER HIKING TRAIL
- EAST-WEST CONNECTION ROUTE
- U.S. 12 HIKE / BIKE PATH
- POTENTIAL TRAIL CONNECTIONS TO OTHER REGIONAL RECREATION FACILITIES (not developed by the Park Service)

- ▨ INDIANA DUNES NATIONAL LAKESHORE
- ▨ STATE PARK OR NATURE PRESERVE
- ▨ OPEN SPACE / PARK
- RIVER ACCESS
- ← ABANDONED RAILROAD RIGHT-OF-WAY

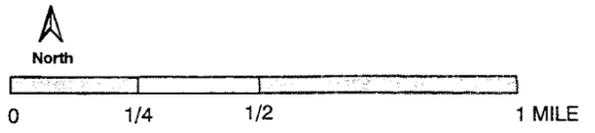


GENERAL DEVELOPMENT
LITTLE CALUMET RIVER CORRIDOR
 Indiana Dunes National Lakeshore
 United States Department of the Interior
 National Park Service
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- INDIANA DUNES NATIONAL LAKESHORE
- EAST BRANCH LITTLE CALUMET RIVER HIKING TRAIL
- EAST-WEST CONNECTION ROUTE
- U.S. 12 HIKE / BIKE PATH

- EAST END BIKE ROUTE
- EXISTING TRAIL SYSTEM



**GENERAL DEVELOPMENT
DETAIL**

LITTLE CALUMET RIVER CORRIDOR
Indiana Dunes National Lakeshore
 United States Department of the Interior
 National Park Service
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ON MICROFILM

and then north across U.S. 12. From Kemil Road the bike route will proceed east on Beverly Drive for approximately 0.25 mile, then turn south on an abandoned road to Service Avenue, and continue east on Service Avenue to Broadway Avenue. From Broadway, the bike route will head north to Beverly Drive and then east along Beverly Drive to U.S. 12 and the Porter/LaPorte county line.

RIVER ACCESS AND PARKING

To provide facilities for fishing and hiking, and to preserve the resources along the streams, the Park Service will construct access points along the river (see General Development map). These access points will have parking, toilet, and trash facilities, as well as connections to trail systems and recreation sites along the Little Calumet River. The access points will be where conditions already favor their construction. Site criteria include safe road access, close proximity to utility service, ease of maintenance access, compatible surrounding land uses, and adequate available land area. Four such sites, spaced from 0.5 mile to 2 miles apart, have been identified along the Little Calumet River.

Howe Road River Access

This access will provide hiking, trail, and fishing access, parking for 10 to 20 cars, toilets, and trash facilities. The river access site will extend from Howe Road, at a point about 100 feet from U.S. 20, northeast to the Little Calumet River floodplain. Vehicle parking will be provided above the floodplain to serve trailhead uses. Trails will extend through the wooded floodplain to the Little Calumet River bridge at Howe Road. Here the trail will connect to the Bailly Unit trail system.

IN 149 River Access

This bridge over the Little Calumet River was designed to span the river's floodplain and allow unimpeded flood flow; the design will also provide an opportunity to construct parking directly beneath the span of the bridge. Access to the site will be from IN 149 by way of the frontage road paralleling it on the east side. Facilities will include parking for 10 to 20 cars, toilets, and trash facilities. The facilities will be designed and located to minimize interference with flood flows. The east branch Little Calumet hiking trail will be along the south bank of the river west of the IN 149 bridge and the north bank of the river east of it. It will pass under the IN 149 bridge and connect to the IN 149 river access site on the south side of the bridge.

Boo Road River Access

A trail and fishing access area will be developed near Boo Road within the lakeshore boundary. Parking will be provided for 10 to 20 cars, along with toilets, trash facilities, and a 200-foot trail to the east branch Little Calumet River hiking trail.

Burns Ditch River Access

This river and trail access point will be developed on the west bank of the Burns Ditch at U.S. 20 and County Line Road. Development will include parking for 10 to 20 cars, toilets, and trash and trailhead facilities. The site will be accessed from County Line Road north of U.S. 20. This site will also provide access for the Burns Ditch hike/bike path that has been proposed by the Little Calumet River Basin Development Commission.

DEVELOPMENT COSTS

Development costs for this plan are in table 2.

**TABLE 2: LITTLE CALUMET RIVER CORRIDOR PLAN
DEVELOPMENT COST ESTIMATES, CLASS C**

Trails	Gross Cost
East-West Connection Route	\$408,000
East Branch Little Calumet River Hiking Trail	760,000
U.S. 12 Hike/Bike Path	236,000
Subtotal of Trails	\$ 1,404,000
River Access Sites	
Howe Road River Access	\$210,000
IN 149 River Access	61,000
Boo Road River Access	86,000
Burns Ditch River Access	54,000
Subtotal of River Access Sites	\$ 411,000
Plant Materials / Revegetation Program	Lump Sum \$ 50,000
Total Construction Costs — Trails and Sites	\$1,865,000
Advance Planning, Design, and Construction Drawing Preparation	356,000
Total Project Costs	\$ 2,221,000

Note: Total project costs presented are gross figures, which include advance planning, design, construction drawing preparation, construction supervision, and facilitating administrative services. Estimates are class C, meaning they are derived from average costs for similar facilities in other NPS areas.



**East Unit General Management
Plan Amendment**

EAST UNIT GENERAL MANAGEMENT PLAN AMENDMENT

This section presents the approved plan (selected alternative) for managing the East Unit of Indiana Dunes National Lakeshore. This approved plan amends the plans for managing the East Unit that were presented in the 1980 *General Management Plan*.

OVERVIEW

The approved amended plan for the national lakeshore's East Unit will provide educational and recreational opportunities by preserving and providing access to uncrowded natural settings (see the General Management Plan Amendment, East Unit map). In these natural areas visitors can appreciate lakeshore habitats and understand the lakeshore's ecological processes and the need for resource protection. A strong effort will be made to maintain and restore native plant and animal communities and natural ecological diversity. The Great Marsh will be restored to the fullest extent possible.

Cultural resources will continue to be preserved and interpreted and, where appropriate, used for national lakeshore purposes.

The visitor experience will be enhanced in several ways, including designating a section of U.S. 12 as the Dunes Highway (managed by the National Park Service), building a new visitor center and a new information station, improving visitor orientation and resource interpretation, and expanding the Dunewood Campground.

NATURAL RESOURCE MANAGEMENT

The principal natural resource management objectives will be to continue to protect and preserve the natural environment and ensure ecosystem integrity while providing for visitor enjoyment.

Endangered and sensitive species will be protected and, where possible, restored to their natural ranges. Biological, geological, and other natural processes will be permitted to continue with minimal human interference. However, because natural resources are not free from

human influences, some active management will be necessary to meet resource management objectives. Managing the national lakeshore's natural resources will include actions necessary to replicate and control processes that shaped the resources. Examples include management-ignited prescribed fire, the removal of ditches and barriers to natural water flow, beach nourishment, and removal of invasive exotic species.

The National Park Service will work cooperatively with the U.S. Army Corps of Engineers to reestablish a beach nourishment program to compensate for the effects of the Michigan City harbor structures on beach regeneration. This cooperative action will restore more natural accretion and erosion processes along the Lake Michigan shoreline and reduce the erosion rate of the beaches of the East Unit.

A prescribed fire regime will be established at the national lakeshore. Fire management will be conducted as outlined in the national lakeshore's approved 1992 *Fire Management Plan*.

New facilities will be planned, sited, and developed with sensitivity to natural and cultural resources and will comply with environmental laws.

The National Park Service will continue to establish cooperative relationships with other agencies and affected entities to define and resolve resource management issues.

Most of the sites of expired reservations of use and occupancy and other disturbed areas such as roads that are no longer needed will be restored to their former topography and planted with native vegetation. Some sites and roads not otherwise needed will be used to provide for visitor services such as trailhead parking areas or hiking or biking trails.

The National Park Service will also remove some roads or other barriers that separate or fragment ecosystem areas and will restore the natural habitats in those areas.

The National Park Service will cooperate with local jurisdictions to restore wetlands by closing drainage ditches wherever feasible. Closing

some drainage ditches will help restore areas of the Great Marsh. The National Park Service will cooperate with local jurisdictions to install culverts beneath some roadways or build causeways to elevate road sections that currently restrict surface water flows. This will help natural water regimes to operate without restriction.

The National Park Service will work to restore the habitats in the Great Marsh, Furnessville, Little Calumet River corridor, and other areas. Habitats to be restored will include prairie, oak savannah, swamp forest, floodplain forest, and sedge meadow. Controlled burns will restore the role of fire in the ecosystems. Exotic species will be removed.

The Heron Rookery boundary will be surveyed and marked to discourage the disturbance of nesting great blue herons. The Pinhook Bog boundary will also be surveyed and marked.

Resource monitoring and ecological research will continue. Data from these efforts establish a baseline against which natural changes and human impacts on resources are measured.

CULTURAL RESOURCE MANAGEMENT

The National Park Service will ensure that cultural resources, such as archeological and historic sites, historic structures, and cultural landscapes, are afforded protection and maintenance as required by law.

The National Park Service will preserve or adaptively use cultural resources depending on their character and cultural value. Adaptive uses might include interpretive, educational, and arts programs, employee housing, or administrative functions. New facilities will be constructed with sensitivity to cultural resources.

Current management strategies for historic structures, archeological resources, and other cultural resources will continue. A comprehensive cultural resource database, which includes a list of classified structures and an inventory of cultural landscapes, is being compiled for the lakeshore. An ethnographic overview and assessment will be done to provide a broad ethnographic database. The Midwest Archeological Center has also completed a four-year field survey to estimate the number and distribution of

archeological sites within the national lakeshore. Future development actions will be evaluated in relation to these databases to determine the potential for impacts on historic resources.

Structures that are potentially eligible for listing on the National Register of Historic Places will be evaluated to determine if they are eligible. Eligible structures will be documented and placed on the national lakeshore's List of Classified Structures. Use of eligible structures will be evaluated in consultation with the state historic preservation officer.

The Swedish Farming District, which includes the Chellberg Farm and five homesteads, is eligible for listing on the National Register of Historic Places. Swedish farm structures currently owned by the National Park Service will be adaptively used for NPS purposes or will be part of a historic lease program to ensure their upkeep. The historic landscape will continue to be preserved.

The Good Fellow Camp will be used to provide overnight environmental education programs. Historic Good Fellow Camp features that can be incorporated into the environmental education program will be preserved. The preferred alternative will rehabilitate and adaptively use the lodge and additional existing structures associated with the lodge complex.

Long-term leases will be sought for the World's Fair houses. Lessees will be required to maintain the houses according to strict standards. Occasional tours of one or more of the houses will be provided. If leasing proves unsuccessful, other options will be explored in consultation with the state historic preservation officer to ensure that appropriate mitigation measures are adopted.

The Rostone and Florida Tropical houses will be relocated across Lake Front Drive if threatened by shoreline erosion. The other three World's Fair houses — Armco-Ferro, Cypress, and House of Tomorrow — will remain where they are.

The NPS Historic American Buildings Survey and Historic American Engineering Record Division have completed documentation on all World's Fair houses.

The Lustron houses, if listed on the national register, will be leased similarly to the World's Fair houses or used for NPS purposes.

The National Park Service will participate in a public/private partnership, the Trolley to the Dunes Project, with Michigan City, the Indiana Department of Transportation, the RAIL Foundation, the Northern Indiana Public Service Company, and others to develop a railway heritage center to display restored historic South Shore Railroad cars and to use historic South Shore Railroad cars as a shuttle to the Mt. Baldy / Crescent Dune area and facilities. There will be little direct expense to the national lakeshore from participating in this project. The National Park Service will provide some of the cars for display and for the shuttle, interpretive assistance, and access to national lakeshore facilities at Mt. Baldy and Crescent Dune.

The National Park Service will continue to loan South Shore Railroad cars that are not needed at the national lakeshore to museums or other appropriate institutions. The National Park Service will seek legislation or other authority to transfer cars loaned to appropriate institutions to those agencies' collections. This will allow for better care for the cars because many of the institutions are prohibited from spending funds on items that are not the property of the institution.

ACCESS AND CIRCULATION

The National Park Service will work to enhance safety by improving intersections and other actions. The National Park Service will improve informational and directional signs within NPS jurisdiction to better orient visitors and reduce conflicts with local residential and industrial uses. The National Park Service will also work with other governmental agencies to improve signs outside NPS jurisdiction. Actions will include, but not be limited to, entrance/exit signs on roadsides near the national lakeshore boundary, directional signs, development identification signs, trailhead information waysides, and points of interest signs.

Traffic management strategies, including designating one-way road systems, will be considered to resolve traffic congestion problems that might occur and to facilitate traffic flow on

some of the roadways in Beverly Shores. Implementation of traffic management actions outside national lakeshore boundaries will be the responsibility of the local governments.

Additional parking will be provided at new and existing sites. Sites include trailheads, beach access, and shuttle staging areas. Selected sites will be used to provide access to trails on former access roads and driveways. Some existing parking areas will be expanded, and small 5-10 car parking areas at trailheads and points of interest will be developed on previously disturbed sites.

The National Park Service will work with Michigan City and the Indiana Department of Transportation to relocate U.S. 12 along Woodlawn and Sheridan Avenues. The relocation will eliminate two at-grade railroad crossings, permit the restoration of wetlands, and improve safety and access into Mt. Baldy.

U.S. 12/Dunes Highway

An 11-mile segment of U.S. 12, extending from the east gate of Bethlehem Steel to the national lakeshore boundary east of Mt. Baldy, will be designated as the Dunes Highway (for a more detailed description of the Dunes Highway see appendix B of the East Unit amendment or the 1991 *U.S. 12 Scenic Road Feasibility Study*). The National Park Service will seek to acquire the right-of-way along the designated segment from the Indiana Department of Transportation, thereby assuming responsibility for maintenance and law enforcement.

The National Park Service will require the following conditions before implementing actions to manage U.S. 12 as a scenic road:

- The National Park Service will not accept jurisdiction or responsibility for U.S. 12 between the East Gate of Bethlehem Steel and Michigan City until it receives sufficient funding to manage, maintain, and patrol the road at no less than the standards maintained by the Indiana Department of Transportation.
- Before eliminating through, heavy truck traffic on the scenic road, the National Park Service will update the traffic studies

conducted for the 1991 *U.S. 12 Scenic Road Feasibility Study* to reassess the impacts of rerouting that traffic on IN 149, U.S. 20, and other roads that might be affected; the 1991 study indicated that relocating through, heavy truck traffic would have no significant adverse impacts on the roads that would receive the traffic.

- The National Park Service will work with the Indiana Department of Transportation and local communities to plan and implement necessary safety or other improvements to routes or intersections affected by rerouting U.S. 12 and relocating truck traffic.

The National Park Service will seek congressional authorization to purchase land immediately bordering the roadway from Sheffield Avenue to Lake Shore County/Brown Road from willing sellers. Over time this will make this portion of roadway visually consistent with other portions of the Dunes Highway.

The additional conditions required before implementing the U.S. 12/Dunes Highway actions do not alter the assessed actions in the draft plan.

Shuttle Services

Shuttle services will be provided on a trial basis for the Lake View and Kemil Beach areas near the middle of the East Unit, as demand warrants.

Implementing a shuttle system on a trial basis will allow national lakeshore staff to experiment with different schedules and routes to find the most cost-effective arrangement.

Parking areas for shuttle service will be developed on previously disturbed sites. Sites to be used will be identified in the development concept plan for shuttle service, when the service is initiated, based upon the scope and location of shuttle operation.

The Trolley to the Dunes project will provide access from parking in Michigan City to Mt. Baldy and Crescent Dune. Visitors will travel in vintage South Shore Railroad cars from the railway heritage center and other points to the national lakeshore.

The trolley will reduce assessed impacts because it will eliminate the need to provide for shuttle parking/staging for Mt. Baldy and to provide exhibit facilities for displaying vintage South Shore Railroad cars.

Shoreline Access

Existing shoreline access points will continue. New or expanded shoreline access areas will be developed at the picnicking facility near the east end of Lake Front Drive, the Rostone house, and Mt. Baldy. Parking access for the picnicking facility at the end of Lake Front Drive will be restricted to visitors with disabilities. Additional parking on previously disturbed lands at the Rostone site will add 20–30 spaces and at Mt. Baldy will add 25–50 spaces. These parking areas will also serve hikers and bicyclers.

Parking at Porter Beach will be expanded on NPS-owned former reservation of use sites by 25–50 spaces to accommodate more beach-oriented recreation in the East Unit. New restrooms will replace the portable toilets now in use at Porter Beach.

To reduce congestion and improve safety, roads at the Mt. Baldy site will be improved by building a new entrance drive east of the existing entrance. This and related actions will be addressed in a separate site development plan.

As described above, the Trolley to the Dunes project will provide access from parking in Michigan City to Mt. Baldy and Crescent Dune.

Little Calumet River Access

Additional access for fishing will be provided. Three river access sites (trailheads with 5–10 parking spaces and restrooms) as described in the 1991 *Little Calumet River Corridor Plan* will be provided at Howe Road, IN 149, and Boo Road. Canoe launch access, called for in the *Little Calumet River Corridor Plan*, will not be provided.

Boat-in Access

Boat-in access to Lake Michigan beaches will continue to be permitted in the national lakeshore except at designated swimming areas.

Road Closures

Portions of roads not providing access or designated uses in the future will be closed and revegetated to reduce habitat fragmentation and restore native plant communities. Closures of roads not owned by the National Park Service will require the cooperation and approval of other jurisdictions. Examples of roads (or portions of roads) that might be closed include, but will not be limited to, Porter/LaPorte County Line Road, Carolina Avenue, Furnessville Road, Teale, Veden (200 East), Hadenfeldt (150 East), 100 East, 50 East, South State Park Road, Tremont Avenue, and Howe Road.

As reservations of use expire north of Beverly Drive between East State Park Road and Mt. Baldy, some sections of roads will be used for hiking/bike trails. To serve short hiking trails to overlooks in the area east of Beverly Shores, some north-south roads will be retained to small trailhead parking areas (5-10 cars) that will be built on disturbed sites.

Pinhook Bog Access

The parking area at Pinhook Bog will be removed and relocated to improve visitor safety and watershed protection. A new parking area will be constructed about 0.25 mile farther north in an upland field area that is out of the bog's watershed. The current parking area will be restored and revegetated.

ORIENTATION, INTERPRETATION, AND EDUCATION

Visitors will get information, orientation, and interpretation at the existing Bailly-Chellberg information station, the new visitor center near the southeast corner of U.S. 12 and IN 49, and the new information station at Mt. Baldy.

The National Park Service will develop new unstaffed orientation facilities at key points of

interest and will provide national lakeshore and site-based information at parking areas and trailheads.

The major interpretive topics in the East Unit will be ecological succession and diversity, natural history, geologic history, and cultural history and prehistory.

The variety and number of education programs will expand with the addition of the overnight program at the Good Fellow Camp, additional environmental education programs at the former visitor center, and enhanced opportunities for programs at Mt. Baldy.

An interpretive plan for the national lakeshore will be required to provide more details on interpretation and environmental education programs and developments.

Visitor Center and Information Stations

The current visitor center is poorly located for recognition and easy access by visitors. A new visitor center will be built near the southeast corner of the intersection of U.S. 12 and IN 49. The new location will improve access by being located at a principal entrance to the park in a central location.

The new visitor center could be operated in cooperation with the Indiana Dunes State Park and the South Shore Railroad. It will be named the Dorothy Buell Memorial Visitor Center.

Constructing the new visitor center and its vehicle and pedestrian access, parking, and associated facilities will require detailed study through development concept and interpretive plans.

A new information station will be constructed on previously disturbed land at Mt. Baldy. This facility will offer easy access to existing parking areas and trails and provide information, orientation, interpretation, and a group activity shelter capable of accommodating 50-60 people. This shelter will provide support for environmental education programs.

New information facilities will be developed as described in the *U.S. 12 Scenic Road Feasibility Study*. A pulloff and interpretive facility will be

developed near the Bailly Cemetery. Another interpretive facility will be developed at the Tremont picnic area.

The national lakeshore will continue to use the Bailly-Chellberg information station. The Bailly Homestead will continue to be used to interpret the fur-trapping period. The National Park Service will expand visitor opportunities at Bailly Homestead consistent with the historical resources. The Chellberg Farm buildings will continue to be used to interpret and demonstrate early 20th century farming, including the existing living history farm programs, festivals, and special events at the farm. The National Park Service will expand interpretation of Swedish settlement using the Swedish Farming District.

World's Fair and Lustron Houses

Lease agreements will provide for limited tours of these houses.

Environmental Education

The current visitor center will be converted to a day use environmental education center, primarily used for scheduled groups. The visitor center will accommodate both indoor and outdoor components of East Unit environmental education programs by providing classroom space and being near appropriate outdoor opportunities.

Opportunities for environmental education will be expanded at the east end of the national lakeshore and Mt. Baldy. A shelter at the information station will be available for group use for staging walks and in inclement weather.

South Shore Railroad Cars

The National Park Service will provide South Shore Railroad cars for the Trolley to the Dunes project as a member of the public/private partnership that will both interpret the cars and provide shuttle access to the Mt. Baldy/Crescent Dune area.

VISITOR USE

Recreational activities at the East Unit of the national lakeshore will include walking, picnicking, camping (no utility hookups provided), nature study, bicycling on paved paths or roads, swimming at designated beaches, sunbathing, horseback riding on designated trails in the Lyco-ki-we trail system, cross-country skiing, boating, and fishing.

No canoeing facilities will be developed, and the Little Calumet River will not be cleared of fallen trees to support this activity. The Little Calumet River within the East Unit is only marginally suited to canoeing, and leaving fallen trees and other vegetation will improve river habitat for fish and other aquatic life.

Access to and use of national lakeshore facilities by disabled visitors will continue to be provided in conformance with applicable laws and regulations, specifically the Architectural Barriers Act of 1968 (PL 90-480), the Rehabilitation Act of 1973 (PL 93-112), and the Americans with Disabilities Act of 1990 (PL 101-336). Visitors with disabilities will be able to enjoy the national lakeshore and participate in recreational activities using the same facilities and programs as all other visitors, to the greatest extent possible, commensurate with their abilities. Sensitive planning and design will facilitate this goal.

Trails

The national lakeshore will cooperate with other parties to link the lakeshore trail system with regional trails and recreational facilities, as described in the *Little Calumet River Corridor Plan*.

A hiking/bicycle trail to connect the East and West Units of the national lakeshore will be built along U.S. 12, as described in the *Little Calumet River Corridor Plan*.

The National Park Service will cooperate with Porter County, Michigan City, and the state to upgrade and maintain the Calumet Trail and extend it to Michigan City. The National Park Service will also cooperate with the Town of Beverly Shores to develop a hike/bike trail along Lake Front Drive.

The National Park Service will construct trails called for in the 1984 *Trail Plan*. Trails between lakeshore facilities or attractions will be provided. The trails will be designed to provide access without adversely impacting resources. These trails will provide opportunities for visitors to hike rather than drive to their destinations. Waysides or brochures will interpret resources along new trails.

East End Trails. A trailhead will be built at Mt. Baldy for the Mt. Baldy trail and two new trails. One new accessible hiking trail will lead from Mt. Baldy to an overlook at Crescent Dune, an ideal spot for visitors to see and learn about development and preservation of dune lands. This new Crescent Dune trail will be designed to keep visitors off of vegetation that provides dune stability.

A new hike/bike trail between Mt. Baldy and the east end of Lake Front Drive will be created largely by connecting roads or road traces. The trail will guide visitors through wooded dunes and other landscapes and plant communities. It will provide access to the new picnic area and Lake Michigan overlook at the east end of Lake Front Drive. It will also connect with a proposed new hike/bike trail along the length of Lake Front Drive, thereby providing a continuous connection from Mt. Baldy and, eventually, Michigan City to Kemil Beach. The National Park Service will work with the Town of Beverly Shores in the planning and design of the Lake Front Drive trail.

Other new, short trails will lead to overlooks in the east dunes area, providing visitors with opportunities to enjoy dune and lakeshore views in uncrowded, undeveloped settings. These trails could be accessed from the hike/bike trail or by automobile via trailhead parking areas. Some hiking trails will lead to the tops of dunes, providing visitors with panoramic views of Lake Michigan and forested dunes.

Kemil Area Trails. Existing roads through the dunes between West Derby Drive and East State Park Road will be used for short trails. As described in the NPS 1984 *Trail Plan*, some of these trails may be hike/bike trails and others will be restricted to hiking.

A new trailhead parking area on an expired reservation of use site and a new trail on closed

roads will provide access to the Red Maple Swamp forest near the west end of Beverly Drive.

Furnessville Trails. A new trailhead (20–30 parking spaces) will be provided on part of the site of the national lakeshore's existing roads and trails maintenance facility on Furnessville Road. From there a new trail through lowland forests will connect to the Ly-co-ki-we trail system, providing visitors with diverse options for hikes or ski trips. The Ly-co-ki-we trailhead off U.S. 20 will continue to serve hikers and horseback riders.

Little Calumet River Trail. A new hiking trail will be provided along the east branch of the Little Calumet River using the route outlined in the 1991 *Little Calumet River Corridor Plan*. This trail will not include bicycle use. The trail will connect with a new trail from the West Unit and with existing trails near Good Fellow Camp and the Bailly–Chellberg area.

Porter Beach Hawk Watch Trail. A new accessible boardwalk hiking trail near Porter Beach will lead to a nearby dune ridge, a good location for watching migrating hawks. This short trail will provide visitors with opportunities to learn about and watch the soaring hawks and to see the surrounding landscape, including the high dunes in the state park. Waysides or brochures at the new hawk watch platform will interpret the resources.

Pinhook Bog Trails. The boardwalk at Pinhook Bog will be removed and the area will be restored. A new bog boardwalk trail, somewhat shorter than the current boardwalk, will be built on the north side of the bog and will be designed to minimize impacts on bog wetlands. The new boardwalk will be accessed from the relocated parking area by way of a new trail. A gate near the entrance to the boardwalk will be installed to prevent unauthorized entry. Public access to the bog will be by guided walks only.

A new accessible upland hiking trail will head east from the relocated parking area, allowing visitors to see the diverse vegetation types of the Pinhook Bog area.

Heron Rookery Trail. The Heron Rookery trail will be improved where necessary to

encourage hikers to stay on the trail for safety and resource protection reasons.

Picnicking

Picnic facilities at Tremont and other existing picnic areas will continue.

A new picnic facility and overlook will be constructed on previously disturbed land near the east end of Lake Front Drive. Primary use and access will be by hikers and bikers. However, limited parking restricted to visitors with disabilities will be developed on former reservation of use sites.

A new picnic facility and trailhead will be built on part of the site of the Furnessville maintenance facility.

Camping

The Dunewood Campground will be expanded by up to about 50 conventional (no utility hook-ups) sites when warranted by demand.

Limited group use of Good Fellow Camp will be provided when the camp is not needed for environmental education programs.

Miscellaneous Actions for National Lakeshore Operations and Facilities

The National Park Service will adaptively use structures at the national lakeshore headquarters area by converting the building and utilities shop to use as office workspace, adapting the current carpenter shop to a warehouse/receiving facility, and adding equipment bays to the fire cache. A new support facility will be constructed to house the carpenter, electrician, plumbing, and paint shops. A vehicle storage facility will also be constructed. A new automotive shop will be built; the automotive shop at West Beach will be converted to a fire cache to improve wildfire response in the West Unit. All new construction will be on previously disturbed lands.

The Furnessville roads and trails maintenance area will be screened and fenced, and the

adjoining area to the east will be converted to a trailhead and picnic area.

The National Park Service will work with the Indiana Department of Natural Resources to identify a location for the state park's maintenance facilities on nearby national lakeshore lands.

The headquarters/maintenance consolidation will reduce both costs and previously assessed impacts on the sites affected, all of which are disturbed areas.

The National Park Service will remove the Coronado Lodge. The lodge will be offered for sale and removal. If that fails, the structure will be demolished. Following removal of the foundation, the site will be restored to its former topography and planted with native vegetation.

MITIGATING MEASURES

The following mitigation measures will be used to reduce the potential adverse effects of implementing the approved plan.

Natural Resources

Temporary impacts associated with construction will occur, such as vegetation disturbance, the possibility of soil compaction and erosion, and minor short-term impacts on local water quality. Mitigation measures will be implemented to minimize these impacts.

In most project areas, soils and vegetation are already impacted by facilities and human activity. Construction will take place on previously disturbed areas wherever possible. All disturbed areas will be restored as nearly as possible to natural conditions shortly after construction or will be allowed to revegetate naturally. The development sites will be surveyed for the presence of any special status species or designated critical habitats for such species. Should such species or habitats be identified within areas of proposed construction, mitigation measures will be taken to avoid impacts.

Regarding air quality, increased parking lot capacity will be offset by the reduction of

tial traffic as a result of the expiration and removal of reservations of use and occupancy.

Cultural Resources

Future development will try to avoid sensitive archeological areas and other cultural resources through careful design. If avoidance proves impossible, appropriate mitigation measures will be developed.

Contingency plans for the Rostone and Florida Tropical Houses will be prepared in consultation with the state historic preservation officer and the Advisory Council on Historic Preservation to stabilize and relocate them to the south side of Lake Front Drive if they become threatened by beach erosion or rising lake levels. The

stabilization and relocation plans will be implemented, with the understanding that the structures may not survive the move. The NPS Historic American Buildings Survey and Historic American Engineering Record Division have completed documentation on all World's Fair houses.

Scenic Quality

Facility design will emphasize visual quality while minimizing impacts on resources. Designs and colors of construction materials will blend with the surroundings. Plantings of native shrubs and trees will be used to soften the visual effect of newly constructed facilities.

DEVELOPMENT COSTS

Development costs for this plan are in table 3.

**TABLE 3: EAST UNIT GENERAL MANAGEMENT PLAN AMENDMENT
ESTIMATED DEVELOPMENT COSTS, CLASS C¹**

	Gross Cost	Advance & Project Planning Cost	Total Cost
Mt. Baldy Area	\$316,000	\$60,000	\$376,000
Campground Expansion	751,000	144,000	895,000
New Visitor Center	3,402,000	650,000	4,052,000
Good Fellow Camp Rehabilitation	4,006,000	764,000	4,770,000
Coronado Lodge Removal	213,000	41,000	254,000
Porter Beach Area Improvements	233,000	45,000	278,000
Expand Rostone Parking	78,000	15,000	93,000
Convert Visitor Center to Environmental Education	724,000	138,000	862,000
Furnessville Area Improvements	202,000	39,000	241,000
Upgrade and Consolidate Headquarters Facilities	3,950,000	750,000	4,700,000
Lake Front Drive Picnic Facility and Parking	129,000	25,000	154,000
World's Fair Houses Relocation	200,000	38,000	238,000
Pinhook Bog Area	144,000	28,000	172,000
Other Hiking, Bicycling, and Access Trails, Trailhead Parking and Facilities, and Overlook Platforms	800,000	152,000	952,000
Shuttle Parking Lot	223,000	43,000	265,000
TOTAL			\$18,302,000²

1. These are class C conceptual estimates (in 1995 dollars), which include construction supervision and administrative services. Exhibits, interpretive media, and furnishings are not included in estimates.

2. Costs for restoring natural habitats (removing unused roads, installing culverts and bridges, and removing irrigation ditches) have not been determined. Costs for these actions would be estimated at a later time, when quantities have been determined.

Estimated annual cost to operate a Lake View / Kemil shuttle: \$119,003 (1994 dollars).



As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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