

general management plan

february 1980

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~~Joel V. McCaman~~

INDIANA DUNES




INDIANA DUNES NATIONAL LAKESHORE / INDIANA

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GENERAL MANAGEMENT PLAN
INDIANA DUNES NATIONAL LAKESHORE
INDIANA



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The dunes are a symbol of the crisis that faces all Americans. It is as though we were standing on the last acre and were faced with a decision of how it should be used. In actuality, it is the last acre of its kind. In essence, it foreshadows the time not too far removed when we shall in all truth be standing on that last unused, unprotected acre and shall be wondering which way to go.

Senator Paul H. Douglas
May 7, 1958

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I N T R O D U C T I O N

Dramatic changes occurred in northern Indiana in the 50 years between 1916, when Stephen Mather recommended national park designation for the Indiana dunes, and 1966, when the park was established by Congress. But the natural and social forces at work in the dunes region have remained fairly constant over this century, and knowledge of them is useful to understand the national lakeshore as it exists today and to guide the direction of the plan for its future.

The major trend affecting the natural environment has been continual encroachment by residential, agricultural, and industrial development on one of the last remnants of the great Lake Michigan shoreline. Mather had noted in 1916 that lands in Lake and LaPorte counties were "very close to industrial centers, and in the paths of industrial expansion." By the 1950s, when the next attempt was made at creating a national park, the same could be said of lands in Porter County; and by the time the park was established in 1966, the industrial complex of Midwest Steel, the Port of Indiana, Bethlehem Steel, and the Northern Indiana Public Service Company was an established part of the landscape.

Although the legislation passed in 1966 more or less fixed the land use patterns that now characterize Porter County between U.S. 12 and Lake Michigan, a more subtle kind of encroachment--in the form of air pollution, water pollution, noise, and visual intrusions--may still threaten the Indiana Dunes environment. If what remains of this natural shoreline is to be preserved, the National Park Service must develop the capability to safeguard the resources it has been mandated to protect and to promote the natural evolution of the landscape. A program for achieving this is a major consideration of this plan.

A second trend has been a growing awareness of the importance of creating national parks near urban areas. The public record from 1916 contains a statement by Jen Jensen that is as relevant to the urban parks movement as any that has been made since:

The people of the mills, the shops, and the stores are the backbone of the great cities. They are the producers of wealth and the human species; and the opportunity for those people to get the full value of the out of doors is made almost impossible. The great national reservations of the West are beyond their reach and the parks of the cities, valuable as they are, do not possess the wild beauty of the Master's hand nor do they inspire the soul in the same degree. . . . The dunes of northern Indiana are almost within a stone's throw of perhaps one of the

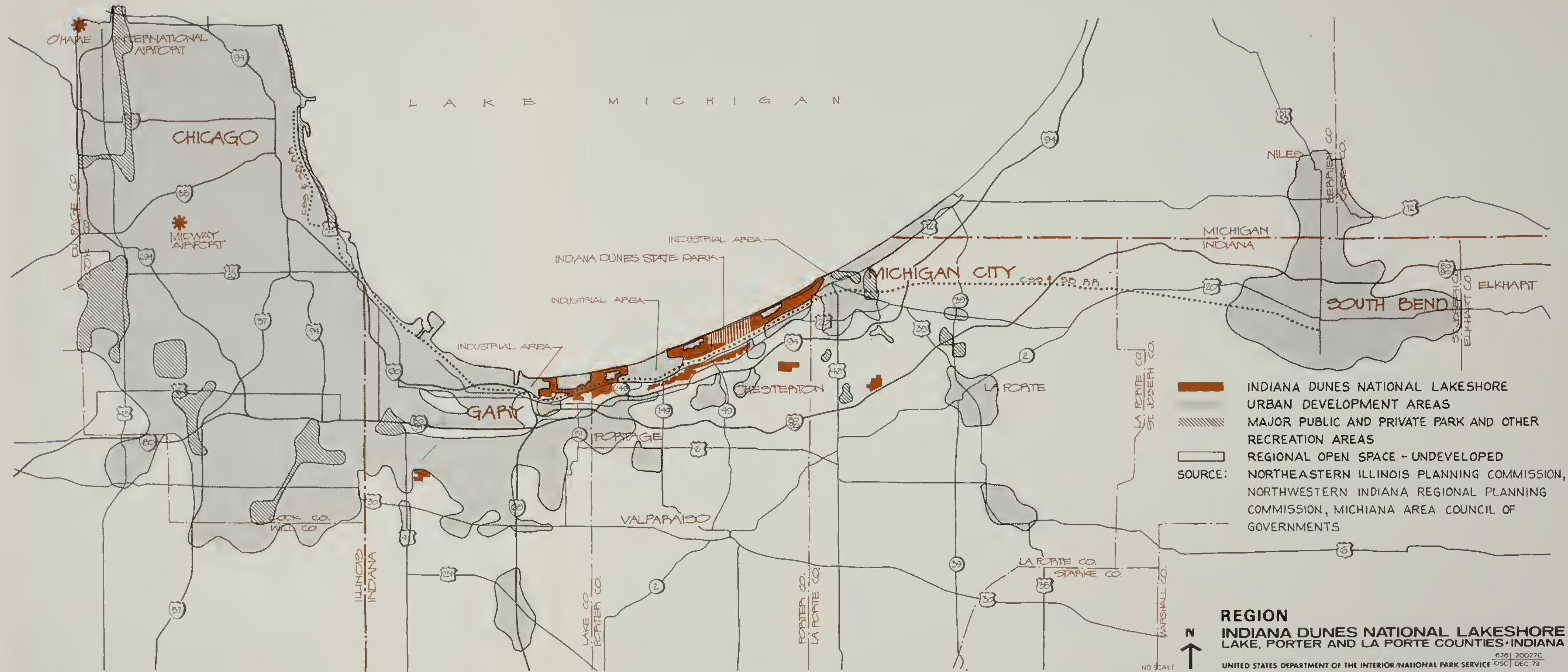
greatest industrial communities of the world. It is the only landscape of its kind within reach of the millions that need its softening influence for the restoration of their souls and the balance of their minds.

The issue of taking parks to the people waned somewhat after World War I and continued to wane through the next four decades, when more and more Americans were, indeed, visiting the western parks (and their counterparts in the east). But the trend is swinging back again, as witnessed by national park visitation figures, to closer-to-home vacations. Clearly, park planning must be responsive to the realities of less abundant energy and the effect it will have on people's use of their national parks. In the case of Indiana Dunes, this will not be a depressing effect. Indicators today portend that national parks near urban areas will experience a rate of growth limited only by the availability of facilities. The provision of facilities that will take greatest advantage of the lakeshore environment to provide opportunities for a variety of satisfying park experiences for a large number of people is a second major consideration of this plan.

Indiana Dunes is an ideal learning environment and a source of inspiration. In the early 1900s, Henry Cowles came to the dunes, where he discovered a unique area for observing plant ecology. His pioneering endeavors to understand the natural forces at work in the successional changes in the landscape gained him international recognition as a leader in the field of botany. Because of the work of Cowles and others who followed him, the area that includes the national lakeshore is well known as a place where the process of ecological succession can be studied.

Indiana Dunes is also a place where people go to have fun. The potential for recreational use of the dunes was noted in 1916 by an exmayor of Gary. The new national park, he stated, was not to be a "playground for scientists . . . only" but a "place where people can go and walk on the grass, and see the trees, and get not only recreation, but recuperation."

This is the context of the plan for Indiana Dunes National Lakeshore. It is a small natural area fortuitously but precariously situated on the edge of one of the largest industrial complexes and population centers in the world. Each piece of this precious parkland must be examined for its greatest value. Some areas cannot withstand much use. Other areas can, but they must be made accessible in a way that won't destroy their inherent attractiveness. The lakeshore offers excellent opportunities for swimming and boating, and so long as the fragile foredunes are protected, the beach can accommodate a large number of people without damage. The older stabilized dunes invite hikers in summer and cross-country skiers in winter. The dunes are beautiful in



every season, and they should be enjoyed in February as well as in July. An unusual variety of landforms and plant and animal communities create invaluable outdoor classrooms for nature study and environmental education. Man-made structures, ranging from the historic homestead of an early furtrapper to the industrial towers of nearby steel mills and power plants, interrupt the natural scene, but by their contrast they create additional opportunities for study and learning.

The opportunity to make these outstanding recreational and educational resources available to the residents of the greater Chicago-Gary region is greatly enhanced by a well-established system of major highways and the presence of the South Shore Railroad, which travels the length of the national lakeshore on its route between Chicago and South Bend. The National Park Service is extremely interested in working cooperatively with other public agencies to provide train and bus transportation to the lakeshore and to integrate that with in-park shuttle service. This will encourage use of the lakeshore by transit-dependent people, help avoid many of the problems associated with traffic congestion, and offer a more energy-efficient means of travel.

The general management plan for Indiana Dunes outlines the National Park Service's broad strategies for pursuing these many opportunities while continuing to preserve the natural values that make the lakeshore significant. The plan will be implemented gradually. More detailed site planning will precede the implementation of each phase of the plan and will include public review.

THE PARK AND ITS SETTING

MAJOR PARK FEATURES

Indiana Dunes preserves an important remnant of what was once a vast and unique lakeshore environment resulting from the retreat of the last great continental glacier some 11 thousand years ago. The park contains 15 miles of the Lake Michigan shoreline and some 12,500 acres of land. Immediately inland from the beaches, sand dunes rise to almost 200 feet in a series of ridges, blowouts, and valleys. Extensive wetlands fill the depressions between the dunes.

Lake Michigan is one of the largest lakes in the world. The fine beaches of the national lakeshore, washed by the warmest waters of the lake, are the most significant recreational resource in the park. Swimming and sunbathing are popular uses of the lake and beaches, as are boating and fishing. With the exception of a riprap revetment, constructed to temporarily halt shoreline erosion in front of Beverly Shores, the shoreline in the park retains much of its natural character. Outside the national lakeshore, however, the shoreline has been drastically altered by the construction of harbors and industrial complexes which have changed the littoral drift processes within the lakeshore. Of the 41 miles of shoreline between Michigan City and the Indiana/Illinois border, more than half has been altered to protect private residential or industrial interests.

Back of the beaches, high dunes, wetlands, woodlands, and fields provide splendid opportunities for hiking, nature study, picnicking, photography, artwork, wildlife viewing, interpretive programs, winter sports, and group activities. Byways for bicycling and roads for leisure driving are abundant.

The landscape inside the park represents four successive stages of the Lake Michigan shoreline levels beginning with the present and extending back in time (and south from the lake) through the Tolleston, Calumet, and Glenwood stages. The Tolleston dunes are difficult to isolate from more recent formations, and the Inland Marsh area is the best place in the national lakeshore to see them. U.S. 12 follows the crest of the Calumet dune line through the eastern park units. The Glenwood formations generally lie to the south of the park, but they swing north to cut through portions of the Bailly and Tremont units.

Most of the upland dunes have been stabilized for some time, and the predominant vegetation there is oak forest. In the active beach zone, however, some dunes are still active and all stages of vegetative succession can be seen: the open beach, grass-covered dune ridges, blowouts, dunes that have begun to accumulate woody shrubs and trees, pine forested dunes, and oak forested dunes.

One of the best places to see this pattern is Miller Woods; where the complete progression from bare sand beach to climax forest is represented. Another major feature is Mount Baldy, the largest active dune in the national lakeshore and a popular visitor attraction. Some of the highest dunes in the lakeshore, including Mount Holden, a stabilized dune rising 183 feet above the lake level, are inside Indiana Dunes State Park.

The wetlands in the national lakeshore include ponds, marshes, swamps, and peatlands. Because of variations in water level from year to year and season to season, wetlands may fluctuate between one type and another. Historically, wetlands were much more prominent. Surface ditching and stream channelization, practiced since the late 1800s, have claimed many wetland areas for other uses. Today, Pinhook Bog and Cowles Bog are exemplary for their habitat types in the central Midwest. The interdunal ponds in the Miller Woods area are also noteworthy as excellent examples of aquatic community succession.

The Little Calumet River, which passes through the Heron Rookery, Bailly, and West units, is the one principal river flowing through the national lakeshore. The easternmost segment of the Grand Calumet River formerly drained the Miller Woods area, but today only lagoons with minimal flow remain. The Little Calumet drains agricultural, residential, and industrial areas. Both the watershed and the water course itself have been extensively altered by human activity. During historic times the river flowed westward into Illinois, but today the portion west of Burns Ditch flows to the east and out the Burns Waterway into Lake Michigan. Inside the national lakeshore the river is used for canoeing and fishing. To the west, approximately 22 miles of the river are being developed under the multiagency Little Calumet River Project, which will provide for recreational navigation from the mouth of Burns Waterway to the Indiana-Illinois state line. As much as 2,500 acres of recreational space could be provided by a riverside greenbelt corridor.

The vegetation in the national lakeshore is outstanding, with more than a thousand different species of flowering plants and ferns. The dunes are a meeting place of northern and southern, prairie and woodland species. Hoosier Prairie is one of the last vestiges in this region of the tall-grass prairie found generally throughout the eastern Great Plains but only occasionally in northwestern Indiana. The wildlife is also diverse. The variety of environmental niches makes the region an important habitat area. Birdlife is extremely varied; more than 300 species have been observed. Being located on the shoreline of the southern tip of Lake Michigan makes the park an especially important feeding and resting area for migrating land and water birds. One area within the national lakeshore has been set aside particularly for its value as a site of concentrated nesting activity by the great blue heron.

The principal cultural resource is the Bailly homestead, settled in 1822 by Joseph Bailly, a French Canadian furtrapper. A few of the structures remain. This homestead-trading post was the first of its kind in northwest Indiana. The site also includes a historic cemetery.

Other cultural resources include five homes originally displayed at the 1933 Chicago World's Fair, three experimental prefabrication houses constructed by the Lustron Corporation between 1949 and 1951, and the Chellberg farm, which is typical of the farms constructed during the late 1800s.

PARK ACCESS AND FACILITIES

Indiana Dunes is well served by a highway network that ties it to the Chicago region and the rest of the nation. The principal access routes used by local residents are U.S. 12 and 20. These highways carry heavy steel mill traffic and are often clogged during peak travel periods. Access to destinations in the national lakeshore is provided by a number of local roads. Many of these are older narrow alignments that are not suitable for accommodating both local residents and park visitors. Also, railroad grade crossings of the north-south routes result in frequent disruptions of traffic.

The Chicago, South Shore and South Bend Railroad provides rail passenger service to the national lakeshore from as far west as Chicago and as far east as South Bend. There are ten scheduled stops between Gary and Michigan City, and the train will stop on request at the Kemil Road visitor center.

Since the establishment of the national lakeshore two new visitor facilities have been constructed, the West Beach bathhouse and the Bailly interpretive station. Other facilities have been provided by adapting structures that were already present when the lakeshore was authorized. Most notable of these is the Tremont visitor center, which is housed in a church building on Kemil Road. A former Nike missile base has been adapted for the park administrative and maintenance headquarters. Other structures present when the national lakeshore was authorized are currently unoccupied but have been retained because of their potential for use later. These include the Coronado Lodge, which was formerly leased by American Youth Hostels, and the old Goodfellow Camp, which includes a complex of structures and recreational facilities no longer in usable condition.

VISITORS

Visitation to the national lakeshore is increasing by large percentages every year. This is a typical growth pattern for a new area. Comparison of annual visitation statistics for the national lakeshore and the state park illustrates the difference in growth patterns between a new area and an established park where visitation is approaching capacity.

Annual Visitation Statistics

<u>Year</u>	<u>Indiana Dunes National Lakeshore</u>	<u>Indiana Dunes State Park</u>
1971	28,317	801,000
1972	22,440	802,000
1973	50,332	803,000
1974	62,995	988,949
1975	100,458	1,112,200
1976	153,854	1,215,205
1977	570,093	1,154,701
1978	1,031,307	1,113,000

Past visitation figures have not been used to project what future visitation might be, largely because the growth pattern has not had a chance to stabilize. However, it is assumed that visitation to national parks near urban areas will continue to grow steadily until the capacity of the park is reached. At a time when visitation to most areas of the National Park System is generally holding steady, visitation to most parks near major population centers is continuing to increase.

The pattern of visitor use at Indiana Dunes shows heaviest visitation in the summer months, particularly from July through September. In 1978 total visits during these three months accounted for more than 60 percent of the yearly total. During this time about 40 percent of the visits occurred on weekends, with the remaining 60 percent distributed fairly evenly throughout the rest of the week.

Statistical information about visitor profiles has not been developed yet. Most visitors are either local residents or residents of the greater Chicago region. More than half of the visitors to West Beach are from the Chicago area, but most other park areas are probably visited more by local residents from Gary, Michigan City, and the towns between. The population of the Chicago region is expected to grow from 7 million people in 1970 to 10 million people by the year 2000. Population increases are also expected in northern Indiana. The total projected population for Lake, Porter,

and LaPorte counties by the year 2000 is 952,000 people, which will be a 29 percent increase over the 1970 population.

LANDOWNERSHIP AND ADJACENT LAND USE

The authority of the National Park Service to manage the resources inside the authorized boundaries of the national lakeshore is constrained by the fact that large segments are still not in full federal ownership. These include nonfederal public lands, residential lands with reservations-of-use, industrial lands that can be acquired only under specified conditions, and rights-of-way specifically recognized by Congress.

Nonfederal public lands authorized to be included in the national lakeshore but held and administered by various state and local agencies include the 2,182-acre Indiana Dunes State Park and 304 of the 335 authorized acres of the Hoosier Prairie State Nature Preserve. These lands are managed by the Indiana Department of Natural Resources to achieve objectives that are compatible with the objectives of the National Park Service. Other nonfederal public lands include the beach in front of Dune Acres and a section of the Cowles wetlands adjacent to Mineral Springs Road. The position of Congress concerning nonfederal public lands is that they will generally be acquired only through donation.

The Congress has directed that owners of residential properties may reserve the use of their homes and land for a number of years after the sale of the properties to the United States. Thus full federal possession and management of all of the residential properties inside the national lakeshore will not occur until some time after the year 2000. As of January 1979, at least 323 sellers of homes on 419 acres had withheld reservations of use. Reservations of use have been withheld on all but one of the eight houses in the national lakeshore that have been nominated to the National Register of Historic Places for their architectural significance.

Some of the industrial lands within the national lakeshore have been specifically recognized by the Congress, and it has stipulated certain conditions that apply to their acquisition. These include U.S. Steel properties near the Grand Calumet River, Midwest Steel property near the Burns Waterway, and NIPSCO property in the Crescent Dune area.

The authorization pattern for Indiana Dunes has resulted in an extensive roving, twisting boundary that causes the national lakeshore to weave in, out, and around a variety of lands with different uses. These are primarily rural and suburban residential development and industry. Adjacent land uses include three

residential communities that are completely surrounded by the national lakeshore boundary and major industrial complexes that physically divide the national lakeshore and flank it on both the west and the east.

T H E P L A N

MANAGEMENT ZONING

Management zoning establishes the future management emphasis for the park's lands and waters, showing graphically where different kinds of management strategies will be implemented. Management zones applicable to the National Park System are the natural zone, historic zone, and park development zone. These three zones are used to set forth major differences in management emphasis for lands and waters where the National Park Service has sole or primary jurisdiction. The special use zone shows the probable future use of lands and waters within park boundaries that will be controlled by other agencies or interests. Refinement of these zones is accomplished through establishment of subzones, which define more specifically the management emphasis for lands and waters within the parent zones.

Natural Zone

Natural Environment Subzone. This classification will encompass the bulk of the national lakeshore and will comprise the greater variety of landforms, plants, and animals.

Proposed for this subzone are several miles of beaches, dunes in varying stages of succession from barren foredunes to stabilized back dunes with heavy forest cover, and a mixture of wetlands ranging from open water to forested swamp. The forest cover is generally mixed deciduous with a scattering of coniferous species. There are floodplains, bluffs, ravines, fields, and prairie remnants. Overall, the area is in distinct contrast to the adjoining heavy industry, towns, agricultural lands, and residential areas. Most, if not all, of the area has been disturbed to varying degrees at different times by timber harvesting, road and railroad construction, ditching, farming, and sand mining. The lands have been used for industry and for recreational activities such as motorbiking and dune buggy riding.

The management strategy will be to provide quality nonconsumptive, resource-related recreation consistent with the protection of the natural ecosystems and with respect to private property rights, to promote understanding and appreciation of park values, and to enhance recovery of the lands to their natural conditions by appropriate means.

Approximately 7,636 acres, or 57.3 percent of the national lakeshore, will be in this management zone.

Outstanding Natural Feature Subzone. Areas proposed for classification under this subzone are well known landmarks that receive considerable visitation and are of considerable interest to the general public.

Bogs, forests, shoreline portions of Lake Michigan, interdunal ponds, and the highest, largest, most spectacular moving dune in the national lakeshore are represented in this diverse, complex subzone.

The management strategy will be to provide visitor access while giving special protective consideration to the natural conditions and processes which make the areas outstanding, to provide appropriate interpretive services which will lead to an appreciation of the natural and cultural values, and to provide for scientific monitoring of influences coming from within or outside the park.

Approximately 1,892 acres, or 14.2 percent of the national lakeshore, will be placed in this management subzone.

Protected Natural Area Subzone. That portion of the Heron Rookery Unit administered by the National Park Service will be classified in this subzone, primarily to provide protection to the nesting herons and their habitat. The management strategy will be to perpetuate these values with minimal human intrusion.

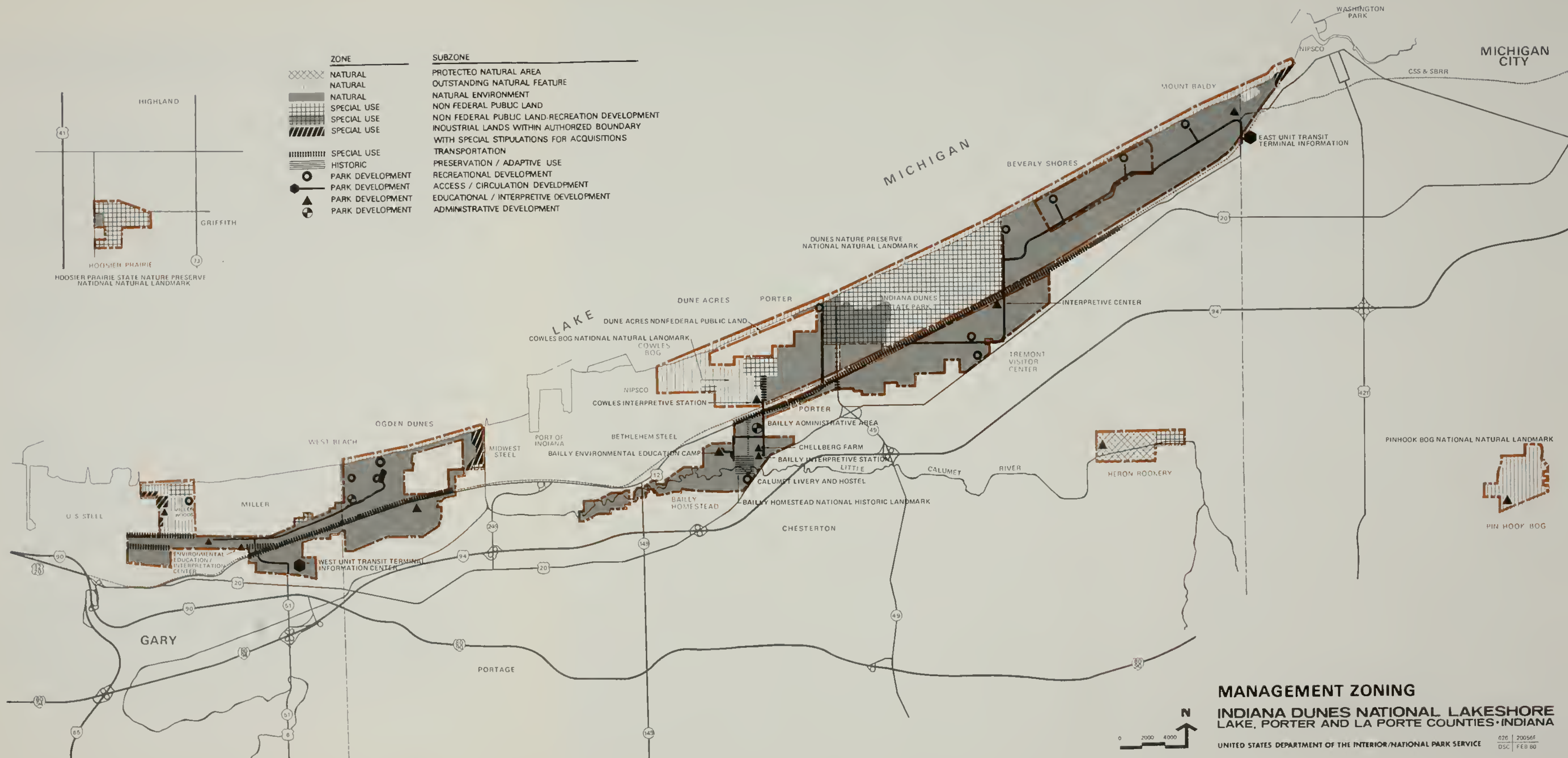
Approximately 320 acres, or 2.4 percent of the national lakeshore, will be included in this subzone.

Historic Zone

This zone includes all lands managed primarily to preserve cultural resources or to commemorate historical subjects.

Preservation Subzone. The House of Tomorrow is included in this subzone. Since the relocation site for this structure has not yet been determined, this subzone is not included on the Management Zoning map. The management strategy will be to restore this structure and to interpret its architectural significance.

Preservation/Adaptive Use Subzone. The historic resources proposed for this classification are the Bailly homestead and cemetery, the Florida Tropical House, and the Rostone House. The Bailly homestead is a registered national historic landmark (1965). The boundaries depicted on the Management Zoning map reflect the boundaries of the Joseph Bailly historic district. Relocation sites for the Florida Tropical and Rostone houses have not been determined, so these are not included on the map. Approximately 40 acres, or 0.3 percent of the national lakeshore, will be within this subzone.



The management strategy will be to protect and interpret the historical and cultural scenes and to make appropriate adaptive use of the historic structures for utilitarian purposes.

Park Development Zone

This zone includes visitor use facilities and management facilities. Developments include roads, parking, bathhouses, restrooms, visitor facilities, and administrative and maintenance buildings.

The management strategy will be to develop these facilities in the most efficient, effective, and aesthetic manner possible, while providing the maximum benefit to visitors and creating the least disruption of the natural, scenic, historic, scientific, and recreational values. This zone will encompass approximately 266 acres, or 2.0 percent of the national lakeshore.

The three subzones in the development zone include the recreational development subzone, encompassing 27.0 acres, or 0.2 percent of the national lakeshore; the access/circulation development subzone, encompassing 212 acres, or 1.6 percent of the national lakeshore; and the educational/interpretive development subzone, including 27 acres, or 0.2 percent of the national lakeshore.

Special Use Zone

Uses carried out on these lands by private or public interests are beyond the control of the National Park Service, or NPS interests are secondary to another party. This zone contains those lands where uses that predate the establishment of the park are continuing, generally because the National Park Service has not acquired a controlling interest in the lands. Generally, the Park Service monitors the management of these lands to ensure that no action is taken that would be detrimental to park values or impede the implementation of park policies in other zones. This zone will encompass approximately 3,172 acres, or 23.8 percent of the national lakeshore total.

There are three subzones within this special use zone. The nonfederal public land subzone encompasses 2,892 acres, or 21.7 percent of the national lakeshore total; the subzone comprised of industrial lands within the authorized boundary with special stipulations for acquisition encompasses 147 acres, 1.1 percent of the national lakeshore total; and the transportation subzone includes 133 acres, or 1.0 percent of the national lakeshore total.

NATURAL RESOURCE MANAGEMENT

Management Philosophy

The National Park Service intends to understand and preserve the natural resources of Indiana Dunes, to make them available for appropriate public uses, and to protect them from potentially harmful actions occurring either within or outside the national lakeshore boundaries. However, it also recognizes that the landscape here is irreversibly different from the natural environment that would have evolved if man had not brought habitation and technology to the region. The groundwater regime has been altered, surface water flows have been diverted or impeded, the air has been contaminated, and the Lake Michigan shoreline has been altered with unnatural harbor works, landfills, revetments, and other devices intended to control shoreline erosion. For this reason, the National Park Service can propose only to lead the ecosystem in a direction toward more natural conditions.

The natural environment is a dynamic system of interrelated and evolving forms that are continually adapting to prevailing forces. Although the plant and animal communities present at Indiana Dunes have been significantly altered by unnatural influences, they can be expected to return to many of the sites where they were once present if man-caused changes in their physical environment can be reversed or compensated for. Recognizing this, the plan places great emphasis on reestablishing a more natural hydrologic regime, obtaining less polluted air, respecting the natural role of fire, and allowing natural erosion and accretion of the Lake Michigan shoreline.

The resource management concepts expressed in the following proposals apply to lands within the national lakeshore that are not currently under NPS control, as well as to those lands that are under NPS jurisdiction. The National Park Service will work cooperatively with appropriate agencies to see that these concepts are applied throughout the national lakeshore.

Protection of Environmental Quality

National Park Service specialists will be actively involved in identifying, controlling, mitigating, or eliminating point sources of air and water pollution that may have a significant detrimental effect on the park's resources. Major aspects of this program will include

- an ambient air quality monitoring program to supplement data gathered by other agencies

a baseline water quality monitoring program to establish the current character of both ground and surface waters

monitoring for and immediate detailed investigations of suspected pollutants

review of regional compliance with air and water quality regulations

plant pathology studies to determine the effects of air and water pollution on park resources

appropriate courses of action to obtain relief from pollution

This comprehensive program for the control of air and water pollution will help to achieve a physical environment conducive to the reestablishment and perpetuation of natural vegetative patterns in the national lakeshore and ensure the health and safety of visitors.

Water Management

In addition to being concerned about the quality of water in the lakeshore, the National Park Service is also concerned about its quantity, distribution, and flow, since these factors also greatly affect the character of the landscape. The natural hydrologic processes in this area have been significantly altered during the agricultural and industrial development of the south Lake Michigan shoreline, and major changes, including the channelization of the Little Calumet and the filling of wetlands, are irreversible. But other, more localized disruptions to the hydrologic regime of the national lakeshore are reversible. These include localized ditching, flooding, dewatering, and barriers to surface water flow.

To learn more about the lakeshore's hydrological system, the National Park Service will continue to contract with the U.S. Geological Survey to carry out a four-year study of the hydrology of the 100-square-mile area in and around the park. This information will enable the National Park Service to react in a more timely and knowledgeable manner to any potential threats to its water resources.

Results of the baseline hydrology study will also enable the National Park Service to determine if any of the ditches running through the national lakeshore can be allowed to close to reestablish a more natural hydrologic regime. Most of the ditches are legal drains that dewater private land and therefore must be maintained. But Derby Ditch, Markowitz Ditch, and the unnamed ditches in the Tremont Triangle area and the Great Marsh may be found to dewater only

federal parkland, in which case their closure will be completed. Wherever ditches close, there will be a reestablishment of wetland conditions more closely approximating the conditions that prevailed before the lands were drained.

Natural wetland conditions will be further enhanced by breaching roads and other barriers that restrict surface water flow. The long-term objective of the National Park Service is to remove many of the federally owned roads from the lakeshore, but the remaining roads, railroad rights-of-way, and dikes will have to be breached with culverts or penetrated in some other way to allow free movement of water through the park's wetlands.

Other threats to the park's waters will be evaluated as they arise. The National Park Service and the U.S. Geological Survey are currently monitoring the water table and the general character of the wetland vegetation in the vicinity of the boundary with the Northern Indiana Public Service Company to determine whether construction dewatering on the NIPSCO Bailly site might lower groundwater levels inside the national lakeshore. If lowering of the water table is found to be attributable to the drawdown well, and if it is judged to be significant, the National Park Service will instruct the Nuclear Regulatory Commission to use whatever measures are necessary to obtain relief from the effects of the drawdown. Prior to detection of any effects from dewatering, if continuing evaluation by the Geological Survey shows that the NRC criteria do not adequately protect the national lakeshore interest, the National Park Service will instruct the Nuclear Regulatory Commission to change them.

Shoreline Management

The National Park Service will continue to cooperate with the U.S. Army Corps of Engineers to mitigate the damage to the shoreline caused by the Michigan City harbor structures. The Corps addressed this problem in a report published in 1975. The stated purpose of the study was to prevent future losses of shore property due to erosion and to maintain and enhance recreational opportunities along the shore of Lake Michigan. In consultation with the National Park Service, in particular, and also with other interested agencies and the public, the Corps proposed to nourish the beach in front of Mount Baldy but to take no action to mitigate the natural shoreline erosion occurring at Beverly Shores. The National Park Service endorses this alternative.

The determination of an appropriate shoreline management strategy for the western portion of the national lakeshore is being deferred, pending the completion of programmed shoreline studies related to possible marina development.

Fire Management

Fire will be regarded as a natural factor in the Indiana Dunes ecosystem. At the same time, however, it will be respected for the impact it may have on human life and property. In each instance of a fire from any cause, so long as life or property is not threatened, the fire will not be stopped until it reaches an existing defensible line, such as a dune crest, swamp edge, road, railroad, or powerline clearing.

In the absence of a complete and precise understanding of the role of fire at Indiana Dunes National Lakeshore, this fire policy is considered interim in nature. The role of fire will be further studied and a prescribed burning plan will be drafted in the near future to allow the National Park Service to utilize prescribed burns in those situations where it is considered necessary. Some situations in which prescribed burning may be applied include the removal of vegetation from roadsides, clearing of vegetation for aesthetic purposes, control of exotics, and the maintenance of fire-dependent plant communities that have been or may become overprotected from natural or accidental fires. This plan will be submitted for Washington Office review as NPS procedure requires. The plan will conform to provisions of the National Environmental Policy Act and the Clean Air Acts of the United States and the state of Indiana.

These actions will help perpetuate the broadest possible spectrum of native plant species and natural vegetative patterns. They will also avoid the necessity of clearing understory and overstory vegetation to construct temporary fire lines.

Management of Plant and Animal Communities

Threatened and Endangered Species. All legally protected threatened and endangered species and their habitats will be identified and protected in full compliance with the Endangered Species Act of 1973. Species of concern in Indiana will be protected to assure their success in the Indiana Dunes ecosystem.

Reestablishment of Native Species. Some small limited-range animals and some plants that have been extirpated from the Indiana Dunes environment might be successfully reintroduced if habitats could be restructured in such a way as to provide available niches for them. As more territory is acquired into full federal ownership, the national lakeshore environment will be monitored to consider if a territory of sufficient dimension has become available to constitute a niche for the beaver. With the development of more secure knowledge about other extirpated plants and animals, other proposals for reintroduction of certain species may also be considered.

Wildlife Population Monitoring. Populations of deer and raccoon inside the park may be increasing, and the National Park Service will monitor these populations for change. Should it become apparent that their numbers are becoming a problem--a threat to vegetation in the case of deer and a nuisance or health hazard in the case of raccoons, studies will be made to obtain more specific information about their distributions, food habits, numbers, and general health. Regulation of the deer and raccoon populations will be permitted to occur by natural means to the greatest extent possible.

Disease and Insect Pests. No new action will be taken at this time to control native or nonnative diseases or insect pests since no avoidable threat to park resources or danger to people or property is perceived.

Hazards. Especially in light of the small amount of threat to the majority of people, national lakeshore visitors will be expected to share in the responsibility for their personal safety. Visitors will be advised of hazards in the greater area of the national lakeshore and appropriate precautions for avoiding them. National lakeshore personnel will attempt to remove hazards, such as poison ivy and weakened trees, from developed areas only.

Exotic Species. Highly visible exotic tree and shrub species will be eliminated from the natural zone. In the development zone, individual specimens will be removed or tolerated depending upon the likelihood of their spreading, the degree to which they mislead park visitors' understanding of natural dune vegetation, and the amount of threat they pose to natural successional patterns. Unless a threat to the natural vegetative character of the national lakeshore is perceived, herbaceous exotics will be tolerated in all locations.

Populations of feral cats and dogs will be controlled by capturing and removing conspicuous or troublesome animals, and regulations prohibiting the deliberate abandonment of pets within the national lakeshore boundaries will be enforced. Other exotic animal species will be tolerated unless a threat to the natural vegetative character, native wildlife, or human health or safety is perceived.

Building Sites and Landscaping. As full interest in private holdings is acquired, the National Park Service will continue to remove or obliterate residences, outbuildings, roads, and utilities except for those few that are needed for park use. Old building sites will be graded and topped with soil appropriate to the specific location so that the surrounding vegetation can extend into the site.

All future landscaping and rehabilitative planting around construction sites or other disturbed areas will be done with local varieties of native species planted in natural patterns.

CULTURAL RESOURCE MANAGEMENT

The objective of the cultural resource component of the general management plan is to translate federal legislation, policies, and regulations into specific guidelines for management of cultural resources at Indiana Dunes National Lakeshore.

The National Park Service is committed to the effective management of known cultural resources at Indiana Dunes. In line with this commitment, management will focus on preservation, partial restoration, or adaptive use, depending on the character and cultural value of the resources and their designated management zones. Total reconstruction as a cultural resource management strategy is not being considered at this time. Adaptive uses of the lakeshore's cultural resources may include interpretive, educational, and arts programs, and administrative functions.

An inventory has been completed for all historic resources within the boundaries of the national lakeshore. As a result of this inventory, the Joseph Bailly Homestead and Cemetery Historic District (five structures and cemetery) has been placed on the National Register of Historic Places, and the five 1933 World's Fair homes and the three Lustron houses have been nominated for inclusion on the register. The Bailly homestead is a registered national historic landmark.

An inventory of archeological sites has yet to be completed. The National Park Service will evaluate known archeological sites for their significance according to national register criteria. Additional archeological surveys will also be undertaken at development sites proposed in the plan.

Bailly Homestead and Cemetery

Five structures and a cemetery associated with the Bailly family are listed on the National Register of Historic Places as the Joseph Bailly Homestead and Cemetery Historic District. The homestead itself is a registered national historic landmark. The exteriors of the buildings have been restored for interpretation. The homestead is said to be the last remaining fur-trading site in the region. The main house, a 2½-story frame building, actually postdates the fur-trading era; it was begun the year of Joseph Bailly's death. Furthermore, it was substantially remodeled after Joseph Bailly's death. The house exterior has been restored to its 1917

appearance. The restored cemetery is located three-quarters of a mile north of the homestead. The earliest marked grave site is dated 1811, 11 years before Bailly entered the region.

The general management plan proposes adaptive use of the interior of the Bailly house for interpretive purposes. The programs section of this plan includes a description of the interpretive and environmental education programs that are proposed for the Bailly area. The restored Bailly cemetery will be maintained and interpreted to visitors.

1933 World's Fair and Lustron Houses

The 1933 World's Fair and Lustron houses nominated to the National Register of Historic Places include eight residences located in the town of Beverly Shores. The 1933 World's Fair houses were constructed as demonstration houses for the Chicago Century of Progress Exposition. They were later purchased by developer Robert Bartlett as a promotional scheme for his Beverly Shores resort area. Bartlett moved the houses from Chicago to Beverly Shores by barge. The houses were later sold to private owners as residences.

The Lustron houses were originally designed in 1946 by Carl Strandlund, president of Lustron Homes Corporation, as an answer to the post-World War II housing shortage. About 2,000 of the small prefabricated, mass-produced all-steel homes were manufactured before the company went out of business in 1951. Three Lustron houses, including one of the few three-bedroom models, are within the national lakeshore boundary.

Except for the Rostone House, which presently houses the lakeshore's science program, the World's Fair and Lustron structures are the private dwellings of families holding reservations-of-use from the National Park Service. While reservations-of-use are in effect, the National Park Service will perform necessary preservation work to the extent that is possible. Plans for the houses after the reservations-of-use expire are described below.

House of Tomorrow. The House of Tomorrow, the work of the well-known architect George Fred Keck, is an example of a design which looked toward the future in its approach to everyday living. The house was intended to be the inspiration for new and innovative architecture. Of all the World's Fair houses, this one employs the most radical use of space and materials. There are almost no known surviving examples of such showcase homes from any world's fair. The house is also significant because of its

association with Keck, whose work has regained favor in the past decade after 25 years of obscurity.

This structure will be relocated outside the active beach zone. The National Park Service will interpret the experimental architecture of the 1930s embodied in the House of Tomorrow by acquiring the furnishings and restoring the house to its 1933-34 appearance insofar as such restoration is in accordance with National Park Service management policies. A building restoration of this time period will be unique in the National Park System and rare in the world. The potential availability of the original furnishings will make this project unusually accurate and relevant to the surrounding major cities. The reservation-of-use on this house expires in 1995.

Florida Tropical House. The Florida Tropical House, with its broad open spaces, big windows, and ample airflow, was intended to embody the characteristics desirable in a south Florida home. This structure will be relocated outside the active beach zone. Because of its appropriate size, floorplan, and materials, the interior of the house will be adapted for use as a hostel. The house exterior will be restored to the 1933-34 Chicago World's Fair period. The reservation-of-use on this structure expires in 1985.

Rostone House. The main purpose in designing the Rostone House was to experiment with a new building shell material, a synthetic cast-stone created from alkaline earths, shale, and stone chips. Another experimental characteristic of the structure is the way that space is used to facilitate reduction of fossil fuel consumption. The Rostone House will continue to be the headquarters of the lakeshore's science program. If it is threatened by shoreline erosion in the future, it will be relocated within the lakeshore.

Lustron, Armco-Ferro, and Cypress Houses. The Lustron houses are notable as early experiments in the development of prefabricated buildings. They are constructed of modular enameled steel components, which make up all surfaces of the one-story structures except the floor. The Armco-Ferro House, which can be viewed as a forerunner of the Lustron system, is unusual only because of its outer shell--an enameled steel panel system. The Cypress House's principal significance is that it was in the Chicago World's Fair. Not especially innovative, it is an example of the "rustic style" popularized by the National Park Service between 1915 and 1940.

The Armco-Ferro, the Cypress, and all three of the Lustron houses have been nominated by the National Park Service to the National Register of Historic Places. Until the nominations are acted upon and the supportive research is completed, no action will be taken.

If the structures are accepted to the register, they will remain in their present locations until the expiration of the reservations-of-use. During this period, necessary preservation work will be performed to the extent possible. The historic aspects of the structures will be interpreted from the outside, and full or partial restoration in the future will not be prevented. When the reservations-of-use expire, the structures will be relocated within the national lakeshore and operated in tandem as in-park hostels or park housing.

In the event that the register nominations are rejected, the National Park Service will select from among the Lustron structures the one which best represents the Lustron concept based on NPS research and will undertake a maintenance preservation program for that structure until the expiration of the present reservation-of-use. When the structure comes under full NPS control, it will be adaptively used for park purposes. The remaining two Lustron houses and the Cypress and Armco-Ferro houses will be removed from the lakeshore when their reservations-of-use expire (1995).

Chicago, South Shore and South Bend Railroad

The South Shore Railroad is considered to be the last electric interurban line in the nation. Its tracks parallel some of the earliest trails in the region. The fleet consists of 49 passenger cars; 43 are motorized and 6 are trailers. Most of the cars currently in service are over 50 years old and many were rebuilt in the mid 1940s. Thirteen of the passenger coaches have never been rebuilt, and no major work on the cars has been undertaken for the past 30 years. The South Shore Railroad has made application to discontinue all passenger service over this line due to the deteriorated condition of the fleet and financial burdens. The South Shore line appears to be eligible for inclusion on the National Register. Upon request, the National Park Service will assist the Indiana state historic preservation officer in seeking a determination of eligibility for the National Register of Historic Places.

Chellberg Farm

The Chellberg farm is typical of the farms constructed during the late 1800s. It was constructed over a number of years by the Chellberg (Kjellberg) family, originally Swedish immigrants.

The farm does not meet the criteria for inclusion on the National Register of Historic Places. The Chellberg farm will be an integral part of the lakeshore interpretive program (see programs section).

VISITOR USE AND GENERAL DEVELOPMENT

Character and Intensity of Use

The beach and wooded dunes preserved within Indiana Dunes National Lakeshore are situated on the eastern edge of the greater Chicago-Gary region, one of the largest industrial complexes and population centers in the world. Because the region's high rate of population increase suggests outdoor recreation demand is likely to be much greater in the future, there has been considerable public interest in the lakeshore's potential to supplement regional recreational facilities and programs. The public has also emphasized that this potential should not be developed in a way that would destroy the natural features of the lakeshore.

The National Park Service proposals for visitor use and general development will enable a substantial increase in recreation at the lakeshore while reducing conflicts between visitors and residents over the long term. At the same time, the lakeshore's significant natural features will be preserved through relatively low developmental impact on the natural environment.

A variety of recreation experiences ranging from relatively structured environmental education programs to hiking on self-guided nature trails are proposed in the general management plan. Full advantage will be taken of the lakeshore's fine beaches and waters to provide opportunities for swimming, boating, and sunbathing. The proposal will double the amount of shoreline available to the public by providing convenient access to approximately 7 miles of the lakefront. The proposal will also provide a significant increase in the recreational and interpretive opportunities in the forested inland areas. A marina, system of hostels, an expanded trail system, and two environmental education centers are considered appropriate methods of increasing access to the waters, beaches, dunes, and inland forests.

The intensity of visitor use proposed by the general management plan is based on preliminary estimates of carrying capacity derived from a methodology developed by the Urban Research Development Corporation (1977) for the Bureau of Outdoor Recreation, and on a facility capacity based on proposed parking availability and estimated use of mass transit. Capacity of parking areas was designed to be less than the carrying capacity to ensure the protection of environmental quality at Indiana Dunes, since it is probable that demand for recreational resources may equal or exceed whatever facilities are provided. This approach will give managers time to gather additional information about visitor behavior and its relationship to environmental impact as facilities are developed and use increases. Collection of data on visitor use patterns began with a preliminary survey in the summer of 1978. Visitor use surveys will continue, as will natural resource studies.

When sufficient data has been compiled, the relationship between visitor use and impacts on natural resources will be thoroughly analyzed.

Proposed Annual Capacities

<u>Unit</u>	<u>Annual Carrying Capacity</u>	<u>Annual Facility Capacity (park- ing plus 10%)</u>
East Unit	1,328,000	858,000
Tremont Unit	122,000	122,000
Bailly Unit	151,000	77,000
Cowles Unit	170,000	74,000
West Unit	605,000*	1,211,000*
Pinhook Bog Unit	15,000	15,000
Heron Rookery Unit	-	-
Total Parkwide Capacities	2,391,000	2,357,000

*Capacities for the West Unit do not reflect any facilities that may be proposed as a result of the programmed marina study. Facility capacity exceeds carrying capacity in the West Unit because of the proposed transit terminal. Visitors will be shuttled to other units of the national lakeshore from this point.

The National Park Service is also concerned about the potential for conflicts between increasing numbers of visitors and reservation-of-use holders. To reduce this potential, the general management plan proposes to develop the new visitor facilities in phases (see section on costs and phasing). Development that will directly affect reservation-of-use properties will not be built until reservations-of-use expire. This proposal is predicated on congressional authorization for the National Park Service to acquire the Beverly Shores island. Two bills which would add Beverly Shores to the lakeshore are currently being considered by the 96th Congress: S. 599 and H.R. 2742. The National Park Service endorses this action because it would allow optimum access to be developed for the largest area of federal beach in the national lakeshore and would help the Park Service to pursue a policy of allowing natural shoreline processes to proceed unhindered.

Greater numbers of visitors will be able to enjoy the national lakeshore with only a minimum of new development. The National Park Service will make use of existing buildings, development sites, and roads to provide additional facilities and improved access with relatively little impact on the natural environment. The intrusion of automobiles will be minimized by encouraging use of public

transportation and by confining large parking areas to the edges of the park.

Transportation and Circulation

The general management plan proposes to facilitate visitor access and minimize associated environmental impacts by locating major parking facilities on the periphery of Indiana Dunes and providing shuttle service from these satellite parking areas to points of interest throughout the entire lakeshore. The shuttle will connect the eastern and western parts of the park. To encourage the use of mass transit as an energy-saving alternative to the private automobile, the National Park Service will also provide shuttle service at South Shore Railroad stops within the national lakeshore. The shuttle system will be phased in as demand warrants, and service to specific destinations will be scheduled on an "as-needed" basis.

In designing the shuttle system, the National Park Service will be attentive to the needs of the physically disabled, the elderly, and other special visitor populations. All shuttle vehicles, staging areas, and major stops will be accessible to physically disabled persons. A special interdunal scenic shuttle tour, utilizing slow-moving vehicles over existing roads through the dunes, will allow visitors with limited mobility to enjoy the natural setting.

To further encourage alternatives to the private automobile, the National Park Service will work cooperatively with the South Shore Railroad and the municipal transit lines in Gary and Michigan City to strengthen their roles in providing access to the national lakeshore. New South Shore stops will be located near satellite parking areas. The Kemil Road stop will be upgraded to a full-service stop if agreements can be reached. The National Park Service will coordinate with the ongoing South Shore corridor study to ensure that transit opportunities for both commuters and recreationists are maximized. The cities of Gary and Michigan City will be encouraged to extend their municipal transit lines into the shuttle terminals of the national lakeshore.

Two new entrances to the national lakeshore will be developed. LaPorte County Line Road between Porter and LaPorte counties will become the East Unit entrance. Access will be facilitated by constructing a new interchange at I-94 and upgrading 2½ miles of LaPorte County Line Road from the interchange north to U.S. 12. A second new entrance for the national lakeshore will be established in the West Unit by extending Indiana 51 north into the Tolleston Dunes area. These actions will require further study and will involve funding and construction by agencies other than the National Park Service.

The West Unit route will be located along previously disturbed areas in the Tolleston Dunes, cross the Baltimore and Ohio Railroad, the South Shore Railroad, and four Conrail tracks, and follow the old Indiana Harbor Belt Railroad alignment. The access route will terminate at the West Beach development. Once this new access road is developed, the present access to West Beach from County Line Road will be abandoned.

Visitor traffic inside the national lakeshore boundary will be controlled by providing shuttle bus service and restructuring automobile access. Transit terminals and information centers will be located near the north end of LaPorte County Line Road and in the Tolleston Dunes area. Shuttle bus service from these terminals to points of interest throughout the the national lakeshore will be scheduled as demand warrants, and it will be gradually increased, along with the amount of available parking. The shuttle bus route will follow upgraded roads in the eastern part of the lakeshore (the East, Tremont, Bailly, and Cowles units), and it will follow a new alignment in the West Unit. When development is completed, visitors will be able to drive along the shuttle route only during low-use periods, and commercial traffic will be discouraged. If the portion of U.S. 12 within the East Unit of the national lakeshore is acquired by the Park Service, it will be administered as a low-speed scenic route. From the intersection with LaPorte County Line Road, U.S. 12 will be rerouted to extend east on Woodlawn Avenue, then north on Sheridan Avenue to its present alignment. This action will also require funding and construction by agencies other than the National Park Service.

In the Bailly Unit, Mineral Springs and Howe roads will be closed to through-traffic. Access to the Coronado Lodge site will be provided from Howe Road. These actions will require NPS acquisition of the roads subsequent to their being vacated by other agencies. During peak visitation periods, through-traffic other than local residents and emergency vehicles will be prohibited.

In the West Unit, the existing access road to West Beach will be eliminated once the new access road, via the Harbor Belt Railroad right-of-way, is constructed.

Insofar as possible, the National Park Service will continue to coordinate transportation planning for the West Unit with planning for the Little Calumet River Project, which adjoins the lakeshore in the west. In addition the National Park Service will consult with the South Shore, Conrail, and Baltimore and Ohio railroads concerning the planning of railroad crossings.

A cooperative staging area, serving lakeshore developments and those proposed for the Little Calumet River Regional Park, will be developed on Indiana 51 at the Dunes Drive-In Theater site south

of U.S. 20. This will increase accessibility of the lakeshore to travelers on Interstates 65, 80, 90, and 94. Up to 1,000 additional parking spaces will be provided. Once the cooperative staging area is developed, the National Park Service will reduce the West Beach parking lot to that needed for low use periods.

To maximize use of the South Shore Railroad a pedestrian stop will be provided at the intersection of the new entrance road and the South Shore tracks. The National Park Service will work cooperatively with the South Shore Railroad to maximize use of the rail line for shuttling visitors between the West and East units. Recognizing that lakeshore visitation occurs primarily on the weekends, lakeshore management will work to provide additional train service during peak use periods when commuter service is less demanding.

The exact location of the proposed marina cannot be determined until the completion of a feasibility/suitability study being conducted by the National Park Service; the study will consider possible locations in the area of the beach front from the U.S. Steel breakwater east to Montgomery Street. Therefore access to a marina cannot be specifically addressed at this time. The major entrance route to the West Unit has been selected, in part, for its potential to serve a marina at some locations within the marina study area. When a site has been selected, the National Park Service will work closely with the city of Gary and other planning agencies in planning for marina access. Regardless of location, the marina will be accessible by shuttle service as well as private vehicles.

The Park Service will seek the cooperation of neighboring landowners and public agencies to maintain scenic corridors along all major access routes to Indiana Dunes National Lakeshore.

Trails and Hostels

A foot trail system for hikers and cross-country skiers will extend from the information center near Michigan City to the Miller Woods area near Gary, connecting with all major facilities and South Shore Railroad stops. Trails will, therefore, provide access to all areas of the park, including beaches, wetlands, dunes, hostels, picnic areas, and rail stops. This system will tie into the Indiana Dunes State Park trail network at the state park's main access off Indiana 49. To prevent overuse of the state nature preserve adjacent to the national lakeshore's State Park Road beach access, hikers will only be able to enter or exit the state park at route 49. A cooperative trail alignment, crossing privately owned land, will connect the eastern and western parts of the lakeshore. These endeavors will require the cooperation of the state of Indiana and private landowners.

The Park Service will also cooperate with the state of Indiana to extend the Calumet bicycle trail north and east near Mount Baldy into Michigan City. The cooperative trail alignment mentioned above will include a bicycle trail linking the Calumet trail and additional bicycle routes to be located on existing roads in the West Unit. The hike/bike trail will extend through the southern portion of Miller Woods and connect with the proposed Gary pedestrian corridor and the Little Calumet River Project trail system. In addition, the National Park Service will work cooperatively with the city of Gary to develop trail access between the Miller Woods area of the lakeshore and Marquette Park. This will provide a continuity of access between the transit developments of the Gary Downtown Revitalization Project and the national lakeshore.

A hostel system will be operated along the trails in the national lakeshore. These hostels will be existing buildings remodeled to provide low-cost overnight accommodations for families, individuals, and organized groups. The system will be operated by either a concessioner or the National Park Service.

East Unit

The main development in the East Unit will be the transit terminal and information center, located at the intersection of Woodlawn Avenue and U.S. 12. Visitor parking, a shuttle transit terminal, a South Shore Railroad stop, and a bicycle and cross-country ski rental will be part of the complex. Available parking will be increased as demand warrants, up to 800 spaces. In addition to the regular shuttle, a scenic tour will be offered to visitors, especially handicapped persons and others not capable of hiking through the dunes.

Beach use will be the principal visitor activity along the lakefront from the state park boundary to Mount Baldy. The Crescent Dunes area will be a designated boat anchorage; the rest of the East Unit shoreline will be reserved for swimmers. Beach access points will be developed and improved behind the foredune, and the State Park Road and Central Avenue beach accesses will be improved and expanded to provide additional parking space, restrooms, a shuttle stop, and a lifeguard station. New beach access points will be established west of Mount Baldy, and at Broadway Avenue and Lakeshore County Road.

New hiking trails will be developed on former roads. Two existing buildings in the East Unit will be remodeled to function as hostels. The Florida Tropical House will be relocated and adapted for one of the hostels when its reservation-of-use expires.

The House of Tomorrow will be relocated, restored, and interpreted when its reservation-of-use expires. The Rostone House will continue to be used as the headquarters for the park science program. When it is threatened by shoreline erosion, it will be relocated also.

Tremont Unit

The existing Tremont interpretive center will be devoted to environmental interpretation. The center's 50-car parking area will be retained, as will the paved nature trail.

A new trailhead, providing parking, picnic tables, and a warming hut for winter activities will be located in the former maintenance area north of Furnessville Road. The existing trailhead off Indiana 20 will continue to be available to both hikers and horseback riders. About 5 miles of new trails will be built, and two existing buildings will be remodeled as hostels along the improved trail system.

Bailly Unit

The Bailly Unit will be designated a national environmental study area. Historic structures at the Bailly Homestead a registered national historic landmark, will be adapted for environmental education and other interpretive uses, and the existing Bailly interpretive station will continue to be the central information/orientation facility for this unit.

The former Goodfellow Camp will be redesigned to accommodate live-in environmental education programs. The lodge will be refurbished, other structures will be removed, and tent platforms will be built.

A hostel and canoe livery will be provided at the Coronado Lodge site. The facility will include overnight accommodations, a canoe and winter sports rental shop, a canoe landing, and parking. Another hostel will also be located in the Bailly Unit.

Foot trails will be extended to provide a link to facilities within the unit, other lakeshore units, and the cooperative trail alignment to the Little Calumet River Project.

Central administrative headquarters and maintenance facilities for the national lakeshore will continue to be located at the former Nike base. Also located within this 15-acre area will be the Bailly ranger station and headquarters for the Young Adult Conservation Corps.

Cowles Unit

Access to Cowles Bog National Natural Landmark will be regulated to ensure visitors' safety and to minimize adverse impacts on the natural environment. Guided and self-guided tours will start at a new interpretive station and proceed along a boardwalk or some other appropriate walkway that will allow visitors to view the area while minimizing impact. The tour route will be part of the new foot trail system developed to link Cowles Bog National Natural Landmark and the surrounding wetlands with other national lakeshore facilities and Indiana Dunes State Park. These new trails will also provide access to the primitive boat-in beach west of Dune Acres.

A small boat launch, restrooms, and parking will be provided at the end of Waverly Road near Porter Beach. The specific size and design of the launch will be determined in a later phase of the National Park Service planning and design process.

West Unit

The West Unit presently provides for intensive beach recreation at its existing West Beach facilities, including a bathhouse, picnic area, major parking area, and trail system. In addition, an interpretive contact station, entrance kiosk, and maintenance facility have been previously approved and funded and will be developed shortly.

The National Park Service endorses a marina development in the West Unit of the national lakeshore, in the vicinity of Marquette Park, pending further study; a study will be conducted in cooperation with the city of Gary to determine marina feasibility, location, size, and configuration. In addition to meeting a part of the regional demand for increased boat access to Lake Michigan, the marina will be developed to provide for interpretation, environmental education, and recreation for nonboat owners. Marina facilities will supplement lakeshorewide environmental education programs, emphasizing the theme of Great Lakes and lake ecology. Organized groups and the general public will be provided with boat access to the lake for interpretive and environmental education programs. Other new developments in the West Unit will include a transit terminal and information center, an environmental education/interpretation center, interpretive facilities, and trails.

The West Unit transit terminal and information center will be located in the southern Tolleston Dunes area. Visitor parking, shuttle service, and lakeshore information will be provided. Available parking will be increased as demand warrants, up to 800 spaces.

This will occur in four development phases and will be coordinated with an expanding parkwide shuttle service.

An additional 1,000 parking spaces will be provided at the cooperative staging area to be developed by the Little Calumet River Project. Shuttle service through this staging area will link national lakeshore facilities with the proposed camping area and marina in the Little Calumet River Regional Park.

An environmental education/interpretation center will be developed east of Grand Boulevard. Access will be provided from the proposed shuttle route. A laboratory, classrooms, small display area, auditorium, 50-car parking area, and rental facilities for bicycles and cross-country skis will be provided at the complex. In the southern portion of the Miller Woods (east of Lake Street), a small parking area, restrooms, and an interpretive kiosk will provide visitor services for hikers. A new foot trail will enable hikers to see the various stages of dune succession from bare beach to climax forest. An additional interpretive kiosk will be provided in north Miller Woods, and a warming hut for ice fishermen and ice skaters will be provided on the Grand Calumet lagoon; provision for other activities in this area will be a cooperative undertaking between the National Park Service and the city of Gary. At Inland Marsh, picnic sites will be provided near another new trailhead and interpretive kiosk which will be located in a previously disturbed sand-mined area. At West Beach, a new interpretive station and a new maintenance building will be constructed.

New hiking and bicycling trails will be developed throughout the West Unit, linking all lakeshore developments and tying to other regional developments including the Little Calumet River Regional Park, Marquette Park and the Gary pedestrian corridor. Two former residences in the Edgewater area will be converted to hostels once their reservations-of-use expire.

Heron Rookery Unit

Access to the Heron Rookery Unit will be by permit. Lakeshore managers will be responsible for issuing permits and monitoring public use of this fragile area. Development will be limited to a small gravel parking area. Interpretation of the rookery will be presented at the Tremont interpretive center.

Pinhook Bog Unit

A new interpretive station will be located in the existing ranger residence, which will be remodeled to accommodate both uses. Guided walks along a boardwalk and new foot trail will provide access to the bog, a national natural landmark.

Indiana Dunes State Park Unit

Indiana Dunes State Park, a portion of which is a national natural landmark, will continue under state management for the foreseeable future. The National Park Service will cooperate with the state to extend shuttle service into the state park and to connect the lakeshore's parkwide trail system with the state park's trails. Visitors hiking on the state park trail system will enter and exit at the main state park entrance off Indiana 49. Use of the state park trail system will be controlled by the state of Indiana.

Hoosier Prairie Unit

Hoosier Prairie, a national natural landmark, will also continue to be managed by the state of Indiana. The National Park Service will work cooperatively with the state so that the 33 acres of disturbed land now in National Park Service ownership can be used by the state for park development.

PROGRAMS: INFORMATION, INTERPRETATION, AND ENVIRONMENTAL EDUCATION

Adequate visitor information and orientation to the national lakeshore will be provided in both the eastern and western portions of the park, so that visitors entering from either direction will know what opportunities are available to them. Information centers will be associated with the transit terminals off LaPorte County Line Road and in the Tolleston Dunes area; displays and personnel will assist visitors in comprehending the extent of the lakeshore and inform them about available transportation options. Information and orientation will also be available at other interpretive facilities throughout the lakeshore.

A comprehensive interpretive and environmental education program will be developed. The primary interpretive themes will be the processes of lakeshore dynamics, lake and wetland ecology, dune succession, and energy conservation. The interaction of humans with these processes will be an integral part of interpretation. Exhibits and other presentations at the East and West unit information centers will provide a broad overview of these themes, and their various aspects will be more thoroughly explored through on-site interpretive programs at appropriate locations throughout the park.

Backpack camping under close supervision of the lakeshore staff will be provided as a lakeshorewide program. The aim of the program will be to teach environmentally sound camping skills.

The proposed West Unit marina will provide for interpretation and environmental education. Marina facilities will supplement lakeshorewide programs, emphasizing Great Lakes and lake ecology. Boat access to the lake for interpretive and environmental education programs will be provided to organized groups and the general public.

The Bailly homestead and Chellberg farm will play a strong role in the interpretive and environmental education programs. The Bailly Unit and the Miller Woods area will be designated as National Environmental Study Areas (NESAs) because they clearly illustrate the interaction of humans with their environment. Their proximity to the industrial complex, along with their historical and natural attributes, make them ideal focal points for environmental education.

Goodfellow Camp will be refurbished to allow implementation of the National Environmental Education Development Program (NEED) and the Environmental Living Program (ELP). Both are intensive, live-in programs for schoolchildren. NEED focuses on learning about natural processes through on-site participatory activities. ELP builds on the knowledge gained from NEED and emphasizes the way humans interact with their environment and with each other in the processes of survival and community development.

The environmental education programs offered in the West Unit will be an extension of the live-in programs offered at the Bailly environmental education camp. The new environmental education/interpretation center will be a day-use facility for indoor activities that will complement outdoor activities. Miller Woods will be the focal point of environmental education in the West Unit, since every stage of ecological succession from bare beach to hardwood forest can be observed there, as well as the interface between industry, the city, and the natural environment.

The existing Bailly interpretive station will continue to be the central information/orientation facility for the Bailly Unit, providing the general public with an overall understanding of the natural and cultural resources and a general concept of early land use. Visitors will be encouraged to walk the trail from the interpretive station to the Bailly house, Bailly cemetery, and Chellberg farm.

The Bailly homestead will be adaptively used for interpreting the fur-trapping period and for interpretive staff facilities necessary to support the program at the Bailly site. Restoration of the Bailly cemetery will be completed, and the grounds around the homestead will be used to demonstrate and interpret period crafts.

The existing buildings at the Chellberg farm will be stabilized and preserved and used to interpret and demonstrate the contrast between present energy consumption and energy use during the late 1800s.

The primary theme at the Tremont interpretive center will be the biological and geological processes exemplified in the lakeshore and man's part in these processes. Visitors will also be informed about the principles of the live-in environmental education program at Bailly and the significance of the heron rookery. (Interpretation of the heron rookery will take place at the Tremont center since access to the heron rookery will be limited to special permits). The Tremont center's nature trail, which is accessible to the physically disabled, will continue to be a part of the interpretive program.

In addition to the programs offered at the major centers in the East, West, Tremont, and Bailly units, interpretive messages will be provided at interpretive stations and kiosks throughout the national lakeshore, as described below.

The interpretive kiosk at Mount Baldy will give an interpretive message emphasizing the dynamics of a living, moving dune.

The Cowles interpretive station near the Dune Acres South Shore Railroad stop will encourage compatible uses of the lakeshore's resources. Ecology and the fragility of wetlands will be the principal interpretive message communicated to visitors strolling along the new boardwalk and improved trails.

The interpretive kiosk located in the south Miller Woods will introduce the concept of dune formation and succession as seen along the Miller Woods trail. Interpretation of the interface between industry and the natural environment will be presented at the kiosk in north Miller Woods. Interpretation at West Beach will deal with the ecology of the dunes. Water safety and recreation programs will be presented at the West Beach bathhouse and the marina. The geological significance of the Tolleston shoreline will be presented at an interpretive kiosk at Inland Marsh.

The subject of bog ecology will be introduced in the interpretive station at the Pinhook Bog trailhead. Guided walks along the new boardwalk and approximately 2 miles of foot trail will enable visitors to see and understand the bog first-hand.

The House of Tomorrow, nominated to the National Register of Historic Places, will be restored and interpreted for its significance as innovative 20th century architecture. This is the only representative of 1933-34 experimental architecture to be interpreted in the United States.

Interpretive programs will also be provided on the shuttle buses. An interpreter aboard the interdunal scenic shuttle through the East Unit will explain dune ecology and lakeshore processes. The interface between industry and the natural environment will be interpreted on the shuttle route that connects the east and west portions of the national lakeshore.

PROPOSED STUDIES

The draft general management plan recommends that the following studies should be undertaken immediately.

Marina Study

The National Park Service supports the concept of marina development in the western end of the national lakeshore, in the vicinity of Marquette Park. Because present data are inadequate to assess impacts of a marina in this area, a series of studies will be conducted. These studies will include a nearshore hydrodynamics and sediment transport study; a utility access study; hydrographic surveys; and a marina feasibility, functional design, and layout study, including preliminary cost estimates. Other studies recommended should address economic impacts, sociological impacts, and breakwater/marina design options.

The economic analysis should definitively quantify the marina size that will be most economically viable; it should also address impacts on Gary businesses and residents, and the regional economic impacts. The sociological analysis should include impacts on Gary residents, marina users, and lakeshore visitors. Marina and breakwater design options should be evaluated to assess location, size, dredging frequency and cost, wave amplification, harbor resonance, and secondary effects both to the east and to the west.

Access and Circulation Studies

Studies will be undertaken to address the following access and circulation problems: the adequacy and safety of rail/highway grade crossings, with consideration given to the possibility of closing some and upgrading others; the feasibility of transit service to and from adjacent communities; and the impacts of diverting traffic from U.S. 12.

A detailed design of the shuttle system has not been attempted at this stage of planning. In response to further transportation planning and development, shuttle bus proposals will be advanced, costs and operational methods will be perfected and the system will be continuously assessed for operational improvements. Shuttle development will be coordinated with other park developments to accommodate increased visitation and user patterns as the plan is implemented.

UNRESOLVED ISSUES

The National Park Service endorses the concept of linking the parkwide trail system with the Gary pedestrian corridor via trails constructed on the western stretch of the Indiana Harbor Belt right-of-way. The use of this part of the Harbor Belt corridor is an unresolved issue because Section II of the 1976 expansion act (P.L. 94-459) prohibits the Park Service from diminishing any existing line haul railroad operations or maintenance and the western stretch of the Harbor Belt is used as a holding rail by the Conrail system.

IMPLEMENTATION SCHEDULE, PERSONNEL REQUIREMENTS, AND COSTS

The implementation of the general management plan will be accomplished in four phases as described below and will be dependent on congressional appropriations. Scheduling of management actions will ensure that the management objectives of the lakeshore are accomplished in a manner that both provides for increased visitation and minimizes conflicts between visitors and reservation-of-use holders. Actions listed below are in priority order. Cost figures are net costs in 1979 dollars.

Phase 1 Actions. Initiation of these actions will commence immediately after approval of the general management plan. Phase 1 actions will involve development of information services and provision of needed alternative means of transportation for access to and circulation within the national lakeshore.

1. Conduct marina feasibility study, to include

Coastal processes survey of near-shore hydrodynamics and sediment transport	\$ 50,000
Utility access study	40,000
Topographical/hydrographic surveys and maps	53,000
Feasibility design, comprehensive design, functional layout, and construction cost feasibility estimates	47,000

(Marina development costs will be determined by further study and detailed planning; implementation will be determined by the availability of congressionally appropriated funds.)

2.	Acquire land for West Unit entrance	35,000
3.	Construct access road to West Beach and shuttle access road from environmental education/interpretation center to Miller Woods trailhead	2,705,000
4.	Acquire and develop lands for east end transit terminal/information center; initially provide 300 parking spaces	1,690,000
5.	Construct west end environmental education center; provide 50 parking spaces	890,000
6.	Construct west end transit terminal/information center; initially provide 300 parking spaces	1,550,000
7.	Initiate development of west and east South Shore Railroad transit stops	450,000
8.	Initiate shuttle service from west and east transit terminal/information centers	2,776,000
9.	Implement Bailly environmental education camp program	272,000
10.	Complete Bailly administrative area development (includes maintenance facilities, YACC facilities, and utilities for administrative area and Bailly Unit)	<u>1,050,000</u>
	Cost of Phase 1 actions	\$11,608,000

Phase 2 Actions. These actions will be accomplished on lands under the control of the National Park Service that either are accessible now or will have been made accessible by Phase 1 actions. Phase 2 actions will primarily provide needed development to support expanding programs and activities.

1.	Develop Miller Woods kiosk, trail system and trailhead	\$ 370,000
2.	Stabilize historic resources to prevent further deterioration	188,000
3.	Improve roads in the Bailly Unit	920,000
4.	Develop State Park Road beach access	245,000
5.	Develop Central Avenue beach access	245,000
6.	Improve East Unit roads	1,000,000

7.	Develop Inland Marsh trailhead and trails	415,000
8.	Develop Chellberg farm interpretive facilities	135,000
9.	Develop Pinhook Bog trails and interpretive station	338,000
10.	Develop Calumet canoe livery and hostel	525,000
11.	Develop Mount Baldy dune access and kiosk	45,000
12.	Develop Furnessville Road trailhead and warming hut	320,000
13.	Develop Cowles interpretive station and trails	1,280,000
14.	Develop North Miller Woods kiosk	15,000
15.	Develop one Edgewater hostel	60,000
16.	Develop Miller Woods lagoon warming hut	<u>50,000</u>
	Cost of Phase 2 actions	\$6,151,000

Phase 3 Actions. These actions are planned to enhance the interpretive programs, provide additional hostel facilities, make additional inland areas accessible to visitors, and continue cultural resource development in the Bailly Unit.

1.	Develop Waverly Road beach and boat launch	\$ 745,000
2.	Refurbish Tremont interpretive center	156,000
3.	Provide Tremont family hostels	120,000
4.	Adapt Bailly homestead for interpretive use	100,000
5.	Expand and improve Bailly Unit trails	140,000
6.	Provide Bailly Unit family hostel	60,000
7.	Improve Tremont Unit roads	200,000
8.	Develop second Edgewater hostel	60,000
9.	Expand east and west transit terminal/information center parking (300 spaces each)	600,000
10.	Expand parkwide shuttle system	2,776,000
11.	Develop trail links with Little Calumet River Regional Park	10,000

12. Relocate Florida Tropical House and adapt for hostel	<u>167,000</u>
Cost of Phase 3 actions	\$5,134,000

Phase 4 Actions. These actions will generally require the completion of major land acquisitions and the phasing out of reservations-of-use prior to implementation. These actions will complete the shuttle system, the lakeshore hostel system, the lakeshore entrance developments, and provide for the West Unit marina.

1. Improve shuttle route and extend to serve new developments and Indiana Dunes State Park	\$ 474,000
2. Provide new signs at Dune Acres South Shore Railroad stop	5,000
3. Complete parking (200 spaces) at east and west end transit terminal/information centers	400,000
4. Complete House of Tomorrow restoration	375,000
5. Develop Broadway Avenue beach access	245,000
6. Develop Lakeshore County Road beach access	245,000
7. Develop Mount Baldy beach access	205,000
8. Complete road improvements	2,000,000
9. Complete Heron Rookery improvements	15,000
10. Complete East Unit hostel system	120,000
11. Complete East Unit trail development	200,000
12. Remove up to 500 West Beach parking spaces	1,090,000
13. Complete implementation of parkwide shuttle system	<u>1,852,000</u>
Cost of Phase 4 actions	\$7,226,000

Additional Costs. Archeological surveys (to be phased in with appropriate developments) \$ 60,000

Total general management plan development costs in net 1979 dollars \$30,179,000

Personnel Requirements and Annual Operational Costs

<u>Division</u>	<u>Man-Years</u>		<u>Cost*</u>
	<u>Permanent Positions</u>	<u>Temporary Positions</u>	
Administration	11	3.7	\$ 254,000
Management	5	4.8	258,000
Natural Science	9	5.0	560,000
Interpretation	20	39.0	863,000
Resource Management and Visitor Protection	18	56.5	1,130,000
Maintenance	44	54.8	1,947,000
Cyclic Maintenance (roads)			513,000
Shuttle Bus Operation	10	30	1,574,000
Site Restoration	—	—	45,000
Totals	117	193.8	\$7,144,000

*Net 1979 dollars. Annual operational costs do not include ongoing land acquisition cost and program items such as the Young Adult Conservation Corps program and ongoing research contracts.

OTHER RELATED PROJECTS

The National Park Service is working with a host of agencies, citizen groups, and other entities in an effort which recognizes the national lakeshore as an integral part of the region. Below are short discussions of some of the major regional projects that relate to the general management plan.

THE LITTLE CALUMET RIVER PROJECT

The Little Calumet River Project is a flood control effort being undertaken by the Army Corps of Engineers. Proposals for extensive recreation development along approximately 22 miles of the Little Calumet are associated with the flood control project. As much as 2,500 acres of recreational space, provided by a riverside greenbelt corridor with nine recreation nodes, has been considered in the early phases of the Corps planning.

As of this writing, the Corps of Engineers has identified three flood control alternatives for detailed study and are in the process of hiring a consultant to develop recreation plans to accompany each alternative. An advisory council composed of members of local, state, and federal agencies interested in the project has been proposed to assist the Corps in overseeing the work of the recreation consultant. The Corps presently plans to issue a draft environmental statement on the proposal in 1982.

Although the details of the recreation plan may change considerably as planning proceeds to selection of a preferred alternative, two concepts will continue to be evaluated: a marina near the confluence of Burns Ditch and Burns Waterway and a large campground near the junction of Interstates 65 and 80/90. Once the recreation project is completed, either state or federal management of the area could be initiated. Federal management in conjunction with Indiana Dunes National Lakeshore is a possibility; however, detailed feasibility studies will be required.

The National Park Service recognizes the potential for the Little Calumet River Project and Indiana Dunes National Lakeshore to complement each other in providing much needed recreation opportunities in the greater Chicago region. The general management plan proposes that the National Park Service continue to take an active interest in planning for the Little Calumet project. The National Park Service will seek to be represented on any advisory council working with the Corps recreation consultant. Further studies of a marina and access and circulation in the West Unit will, insofar as possible, be coordinated with Corps planning.

INDIANA DUNES STATE PARK

Indiana Dunes State Park lies within the congressionally authorized boundaries of the national lakeshore, but it will continue to be administered by the Indiana Department of Natural Resources. Management emphasis throughout the majority of the state park is directed toward resource preservation, as evidenced by its status as a state nature preserve.

The natural resources of the state park and the national lakeshore are part of a single natural system and must be managed consistently if natural processes and features are to be perpetuated. The resource management objectives of the Indiana Department of Natural Resources and the National Park Service are compatible.

Generally implementation of the general management plan will complement visitor use at the state park by providing additional beach access to the Lake Michigan shoreline and by providing increased opportunities for visitor enjoyment of the natural areas within the lakeshore.

In order to prevent overuse of the state nature preserve adjacent to the national lakeshore's State Park Road beach access, the National Park Service will sign and patrol the boundary. The Park Service will also educate visitors about the significance of the nature preserve's resources and, through placement of lifeguard stations, trails, and other services, attempt to channel visitors away from the preserve.

Because of the state park's recognized popularity throughout the region, it is unlikely that development on NPS administered properties will detract from state-provided recreational opportunities.

The general management plan emphasizes the continuity of the two areas by providing shuttle service and trail alignments between the state park and the national lakeshore; however, the state will control all ingress to and egress from the state park. Cooperative planning and management between the Park Service and the state of Indiana is imperative to achieve management consistency.

SOUTH SHORE RAILROAD CORRIDOR STUDY

A technical advisory committee of the Northern Indiana Commuter Transportation District is in the process of studying the operation of the Chicago, South Shore and South Bend Railroad, considered to be the last interurban line in the United States. The railroad, which traverses the national lakeshore, has great potential for

transporting urban recreationists to and between units of the national lakeshore. However, in recent years, the railroad has been plagued by financial problems and the fleet of passenger cars has deteriorated. These difficulties provided the impetus for the present study.

The general management plan for Indiana Dunes proposes that the National Park Service cooperate with the advisory committee to ensure that transportation opportunities for both commuters and recreationists are maximized.

INDIANA SALMONID FISHERIES PROGRAM

Both the Little Calumet River and Kintzele Ditch are designated salmon streams and managed as part of the Salmonid Fisheries Program by the Indiana Department of Natural Resources. The National Park Service will cooperate with the state in providing stream access for fishermen and state fisheries personnel.

LAND USE ADJACENT TO NATIONAL LAKE SHORE PROPERTIES

The general management plan recognizes the need for additional residential development adjacent to the park. However, the National Park Service is concerned about additional pressure for commercial strip development. This development will occur as lakeshore development and recreational use increase and result in greater demands for goods and services. It is imperative that adjacent municipalities recognize the possibility of these demands and initiate proper land use controls to minimize unwanted development. The National Park Service encourages proper development outside the national lakeshore to provide necessary support facilities for lakeshore visitors and residents alike. Lakeshore managers will cooperate with adjacent municipalities to ensure compatibility of planning and development efforts.

A P P E N D I X A : I N D I A N A D U N E S
 N A T I O N A L L A K E S H O R E
 M A N A G E M E N T O B J E C T I V E S

Identify, inventory, and monitor the scenic, scientific, geologic, archeologic, and historic features and the unique flora, fauna, and physiography of the lakeshore, and provide for their protection and use.

Secure, through acquisition or other means, a land base adequate to ensure long-term protection and environmentally compatible public use of lands within the park's legislatively authorized boundary.

Assure that all lands and waters within the lakeshore boundaries, whether owned by the National Park Service, the state of Indiana, or local governments, are managed in a compatible and consistent manner to achieve park purposes.

Restore natural processes and conditions of the shoreline using the techniques available now and in the future and allow natural erosion and dynamic beach building processes to proceed unimpeded. Where it is not possible or feasible to restore the natural processes, as in the case of erosion caused by the Michigan City harbor structures, mitigate the effects of the unnatural or disruptive influences to the extent possible, by means most closely approximating natural forces.

Maintain native plant and animal interrelationships and protect, reestablish where appropriate, and manage native prairies.

Remove developments which are not necessary for area management and public use in order to reduce intrusion on the natural and historic scenes and to facilitate restoration to the natural or desired conditions.

Identify, provide for, and regulate appropriate recreational uses of the lakeshore in a manner consistent with the protection of the scenic, natural, and historic resources and existing private rights, and provide access and facilities within the lakeshore to permit and manage such uses.

Coordinate planning and development of the lakeshore with other affected governmental, political, and private entities and the surrounding communities in such a fashion that the provision of necessary visitor services not required within park boundaries may be identified and provided for in the surrounding region.

Interpret the natural, cultural, and historical significance of the lakeshore as an interrelated, dynamic, evolving environment.

Portray the drama of the forces, social as well as natural, that have produced the distinctive features of the lakeshore and help visitors understand and appreciate those processes and features.

Provide interpretation for various depths of interests, including general concepts, in-depth interpretation, and environmental education, particularly in regard to the diverse visitation; a large number of repeat local and regional visitors and an increasing number of national visitors.

Explore and interpret the park's function as a natural area within a heavily industrialized and urbanized region, with increasing urban visitation.

Assist park visitors to the lakeshore and surrounding region by providing adequate information and orientation on visitor uses and services; provide basic visitor services required to encourage year-round use; insure the safety of visitors and residents; provide fire protection; protect the rights of homeowners.

Plan, develop, and interpret the lakeshore to promote maximum energy efficiency, including mass transit and alternative transportation for park visitation.

Serve the recreational and informational needs of special populations found in the lakeshore's visitation area, including programs for the economically disadvantaged, physically and developmentally handicapped, non-English speaking, and youth and senior citizen groups.



Public Law 89-761
89th Congress, S. 360
November 5, 1966

An Act

80 STAT. 1309

To provide for the establishment of the Indiana Dunes National Lakeshore, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in order 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 Secretary of the Interior is authorized to establish and administer the Indiana Dunes National Lakeshore (hereinafter referred to as the "lakeshore") in accordance with the provisions of this Act. The lakeshore shall comprise the area within the boundaries delineated on a map identified as "A Proposed Indiana Dunes National Lakeshore", dated September 1966, and bearing the number "LNPNE-1008-ID", which map is on file and available for public inspection in the office of the Director of the National Park Service, Department of the Interior.

Indiana Dunes
National Sea-
shore.
Establishment.

SEC. 2. (a) Within the boundaries of the lakeshore the Secretary of the Interior (hereinafter referred to as the "Secretary") is authorized to acquire lands, waters, and other property, or any interest therein, by donation, purchase with donated or appropriated funds, exchange, or otherwise. The Indiana Dunes State Park may be acquired only by donation of the State of Indiana, and the Secretary is hereby directed to negotiate with the State for the acquisition of said park. In exercising his authority to acquire property by exchange for the purposes of this Act, the Secretary may accept title to non-Federal property located within the area described in section 1 of this Act and convey to the grantor of such property any federally owned property under the jurisdiction of the Secretary which he classifies as suitable for exchange or other disposal within the State of Indiana or Illinois. Properties so exchanged shall be approximately equal in fair market value, as determined by the Secretary who may, in his discretion, base his determination on an independent appraisal obtained by him: *Provided*, That the Secretary may accept cash from or pay cash to the grantor in such an exchange in order to equalize the values of the properties exchanged.

Acquisition of
lands, authori-
zation.

(b) In exercising his authority to acquire property under subsection (a) of this section, the Secretary may enter into contracts requiring the expenditure, when appropriated, of funds authorized to be appropriated by section 10 of this Act, but the liability of the United States under any such contract shall be contingent on the appropriation of funds sufficient to fulfill the obligations thereby incurred.

Contracts.

SEC. 3. As soon as practicable after the effective date of this Act and following the acquisition by the Secretary of an acreage within the boundaries of the area described in section 1 of this Act which in his opinion is efficiently administrable for the purposes of this Act, he shall establish the Indiana Dunes National Lakeshore by publication of notice thereof in the Federal Register. Following such establishment and subject to the limitations and conditions prescribed in section 1 hereof, the Secretary may continue to acquire lands and interests in lands for the lakeshore.

Boundaries.
Publication
in Federal
Register.

SEC. 4. (a) The Secretary's authority to acquire property by condemnation shall be suspended with respect to all improved property located within the boundaries of the lakeshore during all times when an appropriate zoning agency shall have in force and applicable to such property a duly adopted, valid zoning ordinance approved by the Secretary in accordance with the provisions of section 5 of this Act.

Condemned
property.

"Improved property."

(b) The term "improved property", whenever used in this Act, shall mean a detached, one-family dwelling, construction of which was begun before January 1, 1965, together with so much of the land on which the dwelling is situated, the said land being in the same ownership as the dwelling, as the Secretary shall designate to be reasonably necessary for the enjoyment of the dwelling for the sole purpose of noncommercial residential use, together with any structures accessory to the dwelling which are situated on the lands so designated. The amount of land so designated shall in every case be not more than three acres in area, and in making such designation the Secretary shall take into account the manner of noncommercial residential use in which the dwelling and land have customarily been enjoyed: *Provided*. That the Secretary may exclude from the land so designated any beach or waters, together with so much of the land adjoining such beach or waters, as he may deem necessary for public access thereto or public use thereof.

Standards.

SEC. 5. (a) As soon as practicable after enactment of this Act, the Secretary shall issue regulations specifying standards for approval by him of zoning ordinances for the purposes of sections 4 and 6 of this Act. The Secretary may issue amended regulations specifying standards for approval by him of zoning ordinances whenever he shall consider such amended regulations to be desirable due to changed or unforeseen conditions. The Secretary shall approve any zoning ordinance and any amendment to any approved zoning ordinance submitted to him which conforms to the standards contained in the regulations in effect at the time of adoption of such ordinance or amendment by the zoning agency. Such approval shall not be withdrawn or revoked, by issuance of any amended regulations after the date of such approval, for so long as such ordinance or amendment remains in effect as approved.

(b) The standards specified in such regulations and amended regulations for approval of any zoning ordinance or zoning ordinance amendment shall contribute to the effect of (1) prohibiting the commercial and industrial use, other than any commercial or industrial use which is permitted by the Secretary, of all property covered by the ordinance within the boundaries of the lakeshore; and (2) promoting the preservation and development, in accordance with the purposes of this Act, of the area covered by the ordinance within the lakeshore by means of acreage, frontage, and setback requirements and other provisions which may be required by such regulations to be included in a zoning ordinance consistent with the laws of the State of Indiana.

(c) No zoning ordinance or amendment thereof shall be approved by the Secretary which (1) contains any provision which he may consider adverse to the preservation and development, in accordance with the purposes of this Act, of the area comprising the lakeshore; or (2) fails to have the effect of providing that the Secretary shall receive notice of any variance granted under and any exception made to the application of such ordinance or amendment.

(d) If any improved property, with respect to which the Secretary's authority to acquire by condemnation has been suspended according to the provisions of this Act, is made the subject of a variance under or exception to such zoning ordinance, or is subjected to any use, which variance, exception, or use fails to conform to or is inconsistent with any applicable standard contained in regulations issued pursuant to this section and in effect at the time of passage of such ordinance, the Secretary may, in his discretion, terminate the suspension of his authority to acquire such improved property by condemnation.

(e) The Secretary shall furnish to any party in interest requesting the same a certificate indicating, with respect to any property located within the lakeshore as to which the Secretary's authority to acquire such property by condemnation has been suspended in accordance with provisions of this Act, that such authority has been so suspended and the reasons therefor.

SEC. 6. (a) Any owner or owners of improved property on the date of its acquisition by the Secretary may, as a condition to such acquisition, retain the right of use and occupancy of the improved property for noncommercial residential purposes for a term of twenty-five years, or for such lesser time as the said owner or owners may elect at the time of acquisition by the Secretary. Where any such owner retains a right of use and occupancy as herein provided, such right during its existence may be conveyed or leased for noncommercial residential purposes. The Secretary shall pay to the owner the fair market value of the property on the date of such acquisition, less the fair market value on such date of the right retained by the owner.

Owners of improved property, retention rights.

(b) The Secretary shall have authority to terminate any right of use and occupancy retained as provided in subsection (a) of this section at any time after the date upon which any use occurs with respect to such property which fails to conform or is in any manner opposed to or inconsistent with the applicable standards contained in regulations issued pursuant to section 5 of this Act and which is in effect on said date: *Provided*, That no use which is in conformity with the provisions of a zoning ordinance approved in accordance with said section 5 and applicable to such property shall be held to fail to conform or be opposed to or inconsistent with any such standard. In the event the Secretary terminates a right of use and occupancy under this subsection, he shall pay to the owner of the right so terminated an amount equal to the fair market value of the portion of said right which remained unexpired on the date of termination.

Termination right of Secretary.

SEC. 7. (a) In the administration of the lakeshore the Secretary may utilize such statutory authorities relating to areas of the national park system and such statutory authority otherwise available to him for the conservation and management of natural resources as he deems appropriate to carry out the purposes of this Act.

Administration.

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

SEC. 8. (a) There is hereby established an Indiana Dunes National Lakeshore Advisory Commission. Said Commission shall terminate ten years after the date of establishment of the national lakeshore pursuant to this Act.

Indiana Dunes National Lakeshore Advisory Commission.

(b) The Commission shall be composed of seven members, each appointed for a term of two years by the Secretary, as follows: (1) one member who is a year-round resident of Porter County to be appointed from recommendations made by the commissioners of such county; (2) one member who is a year-round resident of the town of Beverly Shores to be appointed from the recommendations made by

Membership.

the board of trustees of such town; (3) one member who is a year-round resident of the towns of Porter, Dune Acres, Portage, Pines, Chesterton, Ogden Dunes, or the village of Tremont, such member to be appointed from recommendations made by the boards of trustees or the trustee of the affected town or township; (4) one member who is a year-round resident of the city of Michigan City to be appointed from recommendations made by such city; (5) two members to be appointed from recommendations made by the Governor of the State of Indiana; and (6) one member to be designated by the Secretary.

(c) The Secretary shall designate one member to be Chairman. Any vacancy in the Commission shall be filled in the same manner in which the original appointment was made.

(d) A member of the Commission shall serve without compensation as such. The Secretary is authorized to pay the expense reasonably incurred by the Commission in carrying out its responsibilities under this Act on vouchers signed by the Chairman.

(e) The Secretary or his designee shall, from time to time, consult with the Commission with respect to matters relating to the development of the Indiana Dunes National Lakeshore and with respect to the provisions of sections 4, 5, and 6 of this Act.

Crimes and of-
fenses, juris-
diction.

SEC. 9. Nothing in this Act shall deprive the State of Indiana or any political subdivision thereof of its civil and criminal jurisdiction over persons found, acts performed, and offenses committed within the boundaries of the Indiana Dunes National Lakeshore or of its right to tax persons, corporations, franchises, or other non-Federal property on lands included therein.

Appropriation.

SEC. 10. There are hereby authorized to be appropriated not more than \$27,900,000 for the acquisition of land and interests in land pursuant to this Act.

Approved November 5, 1966.

LEGISLATIVE HISTORY:

HOUSE REPORT No. 1782 accompanying H.R. 51 (Comm. on Interior & Insular Affairs).

SENATE REPORT No. 334 (Comm. on Interior & Insular Affairs).

CONGRESSIONAL RECORD:

Vol. 111 (1965): June 21, considered and passed Senate.

Vol. 112 (1966): Oct. 11, 12, considered in House.

Oct. 14, considered and passed House,
amended, in lieu of H.R. 51.

Oct. 18, Senate concurred in House
amendment.

Public Law 94-549
94th Congress

An Act

To amend the Act establishing the Indiana Dunes National Lakeshore to provide for the expansion of the lakeshore, and for other purposes.

Oct. 18, 1976
[H.R. 11455]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Act entitled "An Act to provide for the establishment of the Indiana Dunes National Lakeshore, and for other purposes", approved November 5, 1966 (80 Stat. 1309), as amended (16 U.S.C. 460n), is further amended as follows:

Indiana Dunes
National
Lakeshore.
Expansion.

(1) The last sentence of the first section of such Act is amended by striking out "A Proposed Indiana Dunes National Lakeshore", dated September 1966, and bearing the number 'LNPNE-1008-ID'" and inserting in lieu thereof "Boundary Map, Indiana Dunes National Lakeshore", dated September 1976 and bearing the number '626-91007'".

(2) Section 3 of such Act is amended by inserting the following at the end of the first sentence: "By no later than October 1, 1977, the Secretary shall publish in the Federal Register a detailed description of the boundaries of the lakeshore and shall from time to time so publish any additional boundary changes as may occur."

16 USC 460u-2.
Description.
publication in
Federal Register.

(3)(a) Subsection 4(a) of such Act is repealed, subsection 4(b) is redesignated as section 4, and the following sentence is added to new section 4: "All rights of use and occupancy shall be subject to such terms and conditions as the Secretary deems appropriate to assure the use of such property in accordance with the purposes of this Act."

Repeal.
16 USC 460u-3.

(b) The first sentence of section 4 of such Act is amended by inserting immediately after "was begun before" the following: "February 1, 1973, or, in the case of improved property located within the boundaries delineated on a map identified as 'A Proposed Indiana Dunes National Lakeshore', dated September 1966, and bearing the number 'LNPNE-1008-ID', which map is on file and available for public inspection in the Office of the Director of the National Park Service, Department of the Interior, before".

(4)(a) Section 6(a) of such Act is amended by revising the first sentence thereof to read as follows: "Except for owners of property within the area on the map referred to in the first section of this Act as area II-B, any owner or owners, having attained the age of majority, of improved property on the date of its acquisition by the Secretary may, as a condition to such acquisition, retain the rights of use and occupancy of the improved property for noncommercial residential purposes for a term of twenty years, or for such lesser term as the owner or owners may elect at the time of acquisition by the Secretary".

Right of use and
occupancy.
16 USC 460u-5.

(b) Section 6(b) of such Act is amended to read as follows:

"(b) Upon his determination that the property, or any portion thereof, has ceased to be used in accordance with the applicable terms and conditions, the Secretary may terminate a right of use and occupancy. Nonpayment of property taxes, validly assessed, on any retained right of use and occupancy shall also be grounds for termination of such right by the Secretary. In the event the Secretary terminates a right of use and occupancy under this subsection he shall

Termination.

16 USC 460u-3.
Indiana Dunes
National
Lakeshore
Advisory
Commission,
membership.
16 USC 460u-7.

pay to the owners of the retained right so terminated an amount equal to the fair market value of the portion of said right which remained unexpired on the date of termination. With respect to any right of use and occupancy in existence on the effective date of this sentence, standards for retention of such rights in effect at the time such rights were reserved shall constitute the terms and conditions referred to in section 4.”.

(5) Section 8(b) of such Act is amended (a) by striking out “seven members” and inserting in lieu thereof “eleven members”; and (b) by striking out “and” immediately after “State of Indiana.”; and (c) by striking out “Portage,” immediately after “Dune Acres.”; and (d) by inserting immediately after “designated by the Secretary” the following: “; (7) one member who is a year-round resident of the city of Gary to be appointed from recommendations made by the mayor of such city; (8) one member to be appointed from recommendations made by a regional planning agency established under the authority of the laws of the State of Indiana and composed of representatives of local and county governments in northwestern Indiana; (9) one member who is a year-round resident of the city of Portage to be appointed from recommendations made by the mayor of such city; and (10) one member who holds a reservation of use and occupancy and is a year-round resident within the lakeshore to be designated by the Secretary.”.

(6) Section 8 of such Act is further amended by inserting the following new subsection (f):

Coal-fired
powerplant,
Porter County,
Ind.

“(f) The Advisory Commission is authorized to assist with the identification of economically and environmentally acceptable areas, outside of the boundaries of the lakeshore, for the handling and disposal of industrial solid wastes produced by the coal-fired powerplant in Porter County, Indiana, section 21, township 37 north, range 6 west.”.

Appropriation
authorization.
16 USC 460u-9.
General
management
plan, submittal to
congressional
committees.

(7) Section 10 of such Act is amended to read as follows: “The Secretary may not expend more than \$60,812,100 from the Land and Water Conservation Fund for the acquisition of lands and interests in lands nor more than \$8,500,000 for development. By October 1, 1979, the Secretary shall develop and transmit to the Committees on Interior and Insular Affairs of the United States Congress a general management plan detailing the development of the national lakeshore consistent with the preservation objectives of this Act, indicating:

“(1) the facilities needed to accommodate the health, safety, and recreation needs of the visiting public;

“(2) the location and estimated costs of all facilities, together with a review of the consistency of the master plan with State, areawide, and local governmental development plans;

“(3) the projected need for any additional facilities within the national lakeshore; and

“(4) specific opportunities for citizen participation in the planning and development of proposed facilities and in the implementation of the general management plan generally.”.

(8) Such Act is amended by adding at the end thereof the following:

Rights-of-way or
easements.
16 USC
460u-10.

“SEC. 11. Nothing in this Act shall diminish any existing (as of March 1, 1975) rights-of-way or easements which are necessary for high voltage electrical transmission, pipelines, water mains, or line-haul railroad operations and maintenance.

"SEC. 12. (a) Nothing in the Act shall be construed as prohibiting any otherwise legal cooling, process, or surface drainage into the part of the Little Calumet River located within the lakeshore: *Provided*, That this subsection shall not affect nor in any way limit the Secretary's authority and responsibility to protect park resources.

Little Calumet
River.
16 USC
460u-11.

"(b) The authorization of lands to be added to the lakeshore by the Ninety-fourth Congress and the administration of such lands as part of the lakeshore shall in and of itself in no way operate to render more restrictive the application of Federal, State, or local air and water pollution standards to the uses of property outside the boundaries of the lakeshore, nor shall it be construed to augment the control of water and air pollution sources in the State of Indiana beyond that required pursuant to applicable Federal, State, or local law.

"SEC. 13. The Secretary shall acquire the area on the map referred to in the first section of this Act as area III-B within two years from the effective date of this section only if such area can be acquired for not more than \$800,000, exclusive of administrative costs of acquisition, as adjusted by the Consumer Price Index: *Provided*, That the Secretary may not acquire such area by any means after two years from the effective date of this section.

Land acquisition.
16 USC
460u-12.

"SEC. 14. The Secretary may acquire that portion of area I-C which is shaded on the map referred to in the first section of this Act only with the consent of the owner unless the present owner attempts to sell or otherwise dispose of such area.

16 USC
460u-13.

"SEC. 15. Within one year after the date of the enactment of this section, the Secretary shall submit, in writing, to the Committees on Interior and Insular Affairs and to the Committees on Appropriations of the United States Congress a detailed plan which shall indicate—

Plan, submittal to
congressional
committees.
16 USC
460u-14.

"(1) the lands which he has previously acquired by purchase, donation, exchange, or transfer for administration for the purpose of the lakeshore; and

"(2) the annual acquisition program (including the level of funding) which he recommends for the ensuing five fiscal years.

"SEC. 16. The Secretary may acquire only such interest in the right-of-way designated 'Crossing A' on map numbered 626-91007 as he determines to be necessary to assure public access to the banks of the Little Calumet River within fifty feet north and south of the centerline of said river.

"Crossing A"
right-of-way.
16 USC
460u-15.

"SEC. 17. The Secretary shall enter into a cooperative agreement with the landowner of those lands north of the Little Calumet River between the Penn Central Railroad bridge within area II-E and 'Crossing A' within area IV-C. Such agreement shall provide that any roadway constructed by the landowner south of United States Route 12 within such vicinity shall include grading, landscaping, and plantings of vegetation designed to prevent soil erosion and to minimize the aural and visual impacts of said construction, and of traffic on such roadway, as perceived from the Little Calumet River.

16 USC
460u-16.

"SEC. 18. (a) The Secretary may not acquire such lands within the western section of area I-E, as designated on map numbered 626-91007, which have been used for solid waste disposal until he has received a commitment, in accordance with a plan acceptable to him, to reclaim such lands at no expense to the Federal Government.

16 USC
460u-17.

"(b) With respect to the property identified as area I-E on map numbered 626-91007, the Secretary may enter into a cooperative agree-

Study,
transmittal to
congressional
committees.
16 USC
460u-18.

ment whereby the State of Indiana or any political subdivision thereof may undertake to develop, manage, and interpret such area in a manner consistent with the purposes of this Act.

"SEC. 19. By July 1, 1977, the Secretary shall prepare and transmit to the Committees on Interior and Insular Affairs of the United States Congress a study of areas III-A, III-C, and II-A, as designated on map numbered 626-91007. The Secretary shall make reasonable provision for the timely participation of the State of Indiana, local public officials, affected property owners, and the general public in the formulation of said study, including, but not limited to, the opportunity to testify at a public hearing. The record of such hearing shall accompany said study. With respect to areas III-A and III-C, the study shall (a) address the desirability of acquisition of any or all of the area from the standpoint of resource management, protection, and public access; (b) develop alternatives for the control of beach erosion if desirable, including recommendations, if control is necessary, of assessing the costs of such control against those agencies responsible for such erosion; (c) consider and propose options to guarantee public access to and use of the beach area, including the location of necessary facilities for transportation, health, and safety; (d) detail the recreational potential of the area and all available alternatives for achieving such potential; (e) review the environmental impact upon the lakeshore resulting from the potential development and improvement of said areas; and (f) assess the cost to the United States from both the acquisition of said areas together with the potential savings from the retention of rights of use and occupancy and from the retention of the boundaries of the lakeshore, as designated on map numbered 626-91007, including the costs of additional administrative responsibilities necessary for the management of the lakeshore, including the maintenance of public services in the town of Beverly Shores, Indiana. With respect to area II-A, the Secretary shall study and report concerning the following objectives: (a) preservation of the remaining dunes, wetlands, native vegetation, and animal life within the area; (b) preservation and restoration of the watersheds of Cowles Bog and its associated wetlands; (c) appropriate public access to and use of lands within the area; (d) protection of the area and the adjacent lakeshore from degradation caused by all forms of construction, pollution, or other adverse impacts including, but not limited to, the discharge of wastes and any excessive subsurface migration of water; and (e) the economic consequences to the utility and its customers of acquisition of such area.

Land acquisition,
notice to
congressional
committees;
publication in
Federal Register.
16 USC
460u-19.

"SEC. 20. After notifying the Committees on Interior and Insular Affairs of the United States Congress, in writing, of his intentions to do so and of the reasons therefor, the Secretary may, if he finds that such lands would make a significant contribution to the purposes for which the lakeshore was established, accept title to any lands, or interests in lands, located outside the present boundaries of the lakeshore but contiguous thereto or to lands acquired under this section, such lands the State of Indiana or its political subdivisions may acquire and offer to donate to the United States or which any private person, organization, or public or private corporation may offer to donate to the United States and he shall administer such lands as a part of the lakeshore after publishing notice to that effect in the Federal Register."

(9) Section 5 of such Act is hereby repealed, and the succeeding sections are redesignated accordingly. Repeal.
16 USC 460u-4.

Approved October 18, 1976.

LEGISLATIVE HISTORY:

HOUSE REPORT No. 94-818 (Comm. on Interior and Insular Affairs).

SENATE REPORT No. 94-1189 (Comm. on Interior and Insular Affairs).

CONGRESSIONAL RECORD, Vol. 122 (1976):

Feb. 17, considered and passed House.

Sept. 24, considered and passed Senate, amended.

Sept. 29, House agreed to Senate amendment.

WEEKLY COMPILATION OF PRESIDENTIAL DOCUMENTS, Vol. 12, No. 43:

Oct. 19, Presidential statement.

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