

HARRINGTON BEACH STATE PARK
Master Plan and Environmental Analysis



WISCONSIN DEPARTMENT OF NATURAL RESOURCES
SOUTHEAST REGION

June 2004

*The Natural Resources Board approved
the Harrington Beach State Park Master Plan on
June 23, 2004*

*Wisconsin Department of Natural Resources
Box 7921
Madison, WI 53707-7921*

The Wisconsin Department of Natural Resources provides equal opportunity in its employment, programs, services and functions under an Affirmative Action Plan. If you have any questions, please write to the Equal Opportunity Office, Department of Interior, Washington, D.C. 20240.

*This publication is available in alternative format (large print, Braille, audio tape, etc.) upon request.
Please call 608-266-2181 for more information.*

*You can also view this document on the Web at:
http://www.dnr.wi.gov/master_planning/
(select Completed Master Plans, State Parks and Trails)*



PUB-PR-698 2004



Printed on
Recycled
Paper

ACKNOWLEDGMENTS

Wisconsin Department of Natural Resources Board

Gerald M. O'Brien, Chair
Howard D. Poulson, Vice Chair
Jonathan P. Ela, Secretary
Herbert F. Behnke
Christine L. Thomas
John Welter
Stephen D. Willett

Wisconsin Department of Natural Resources

P. Scott Hassett, Secretary
William H. Smith, Deputy Secretary
Mary Schlaefter, Executive Assistant
Paul DeLong, Division of Forestry
Laurie Osterndorf, Division of Land
Todd Ambs, Division of Water

Southeast Region

Gloria L. McCutcheon, Regional Director
Chip Krohn, Regional Water Leader
Lakshmi Sridharan, Regional Air and Waste Leader
Frank Trcka, Regional Land Leader

Guidance Team

Mike Willman, Bureau of Parks and Recreation
Chip Krohn, Regional Water Leader
Steve Miller, Bureau of Facilities and Land
Frank Trcka, Regional Land and Forestry Leader

Planning Team

Larry Baer, Forester
Jim Buchholz, Superintendent
Therese Gripentrog, Regional Landscape Architect*
Dale Katsma, Senior Wildlife Biologist
Andrew Krueger, Assistant Park Manager
Jerry Leiterman, Park Superintendent
John Nelson, Fisheries Biologist

* Team Leader

TABLE OF CONTENTS

	Page
Wisconsin State Park Mission Statement	i
Introduction and Executive Summary	i
Section I – Goal Statement and Objectives	1
Section II – Development, Operations and Management Plans	5
Project Boundary and Ownership Goals	5
Vegetation Management	6
Park and Recreation Development and Operations	7
Resource Management and Maintenance	10
Fisheries Management	11
Cultural Resource Management	12
Land Use Classifications	13
Section III – Background Information	19
Property Description and Regional History	19
Management	20
Facility Development	20
Land Acquisition History	21
Local and Regional Land Use Analysis	22
Legislative Authority and Approvals	22
Soils, Geology, and Hydrology	23
Aquatic Resources	23
Vegetative and Wildlife Resources	24
Historical and Archeological Features	26
Appendices	
Appendix A - Citizen Involvement	28
Appendix B - Fish Species	29
Appendix C - Wildlife Species	30
Appendix D – Alternatives to the Plan and Their Impacts	31
No Action	31
Limited Recreational Development	31
Restoration of a Southern Mesic Hardwood Forest	31
Retain Existing Property Boundary and Acquisition Goal	32
Recommended Alternative	32
Appendix E – Environmental Impacts of the Proposed Plan	33
Project Summary	33
Evaluation of Project Significance	33
Estimated Costs of Development	36
Significance of Cumulative Effects	37
Significance of Risk	37
Significance of Precedent	38
Significance of Controversy Over Environmental Effects	38
Appendix F – Compliance with the Wisconsin Environmental Policy Act	39
Decision	39
Notice of Appeal Rights	40
Maps	

Map 1 - Regional Locator	2
Map 2 - County Locator	3
Map 3 - Existing and Proposed Project Boundary	15
Map 4 - Existing and Proposed Development	16
Map 5 - Existing Vegetative Communities	17
Map 6 - Land Use Classifications	18
Aerial Photo of Harrington Beach State Park	4

WISCONSIN STATE PARK MISSION STATEMENT

The mission of the Wisconsin State Park system is to preserve, protect, interpret and enhance the scenic and cultural resources of the state, and to provide compatible outdoor recreational and educational opportunities.

INTRODUCTION AND EXECUTIVE SUMMARY

Harrington Beach State Park (HBSP) is in Ozaukee County on the shore of Lake Michigan (Maps 1 and 2). The park has exceptional vegetative and wildlife habitats including a white cedar swamp and old field grasslands. The most popular recreational activities at the park are swimming, hiking, picnicking, fishing, cross-country skiing and nature study.

History

The shores of Lake Michigan have been inhabited for thousands of years. Shorelines provided a variety of food and raw material resources necessary to the prehistoric economy. Although no prehistoric archeological sites have yet been reported at HBSP, information from the surrounding region suggests that sites probably exist within the park boundary.

Over the past one hundred years, the land on which HBSP lies was primarily used for farming and for the mining of limestone. In the 1880s, ownership of the property was in the hands of a dozen different landowners, and much of the land was tilled field or pasture. From the early 1890s until 1925, the eastern section of the park was used for quarrying limestone. A mining community developed, remnants of which can still be seen. The western section of the park was cleared of all trees and farmed. The lowland forest in the eastern section was too wet to be intensively developed and was used as a pasture area for cattle when the mining operation was dissolved.

Purchase of Harrington Beach

In 1968 the State of Wisconsin purchased the first parcels of land for Harrington Beach State Park. Park use is concentrated primarily in the summer months, though visitation is increasing during the spring, fall and winter seasons. The park has an active nature interpretation program during the summer months, and is a favorite spot for bird watchers in the spring and fall because of the migratory birds flying along the Lake Michigan shoreline. Winter recreational use also is increasing as a result of the development of a 2-1/2 mile cross-country ski trail and special events such as candlelight skis and hikes. The acquisition of approximately 190 acres is key to protecting and restoring the natural resources and providing additional recreational opportunities.

Goal Statement and Recommendations

The goal for the park is to: "Preserve and protect the unique natural, historical and cultural resources of Harrington Beach State Park, especially the Lake Michigan shoreline, and provide multi-seasonal resource-related recreational and educational opportunities."

This goal can be accomplished through the implementation of the objectives and recommendations in the plan. The major proposals contained in the plan are to:

-) add an additional 190 acres to the present boundary for a total of 827 acres
- * develop camping opportunities, including electrical, tent, yurt* and kayak sites
- * provide additional picnic and beach recreational opportunities

- * manage archaeological, historical and cultural resources to provide preservation and protection of significant sites, as well as educational opportunities for visitors to the park.

The Harrington Beach State Park master plan provides guidance for management of the park, yet it remains flexible enough to respond to changing information, interests and needs. The continued involvement of the public is essential to successful implementation of the plan. With all of these elements working together, the park can be preserved for the enjoyment of residents of Wisconsin and visitors.

* yurt – a yurt is a circular domed tent with a plywood floor, structural wall support covered with a waterproof polyester fabric, electricity and a clear, plexiglass skylight. It is designed to withstand high winds and efficiently retain heat in the winter. It has a framed-in lockable wooden entry door, window screens and flaps, reflective insulation, a smoke detector and a fire extinguisher.

SECTION I - GOAL STATEMENT AND OBJECTIVES

Goal Statement

Preserve and protect the unique natural, historical and cultural resources of Harrington Beach State Park, especially the Lake Michigan shoreline, and provide multi-seasonal resource-related recreational and educational opportunities.

Objectives

1. Develop additional trails for hikers and skiers.
2. Develop a single entrance to the park by working in partnership with neighbors and local government.
3. Improve and increase fishing opportunities by improving shoreline accessibility at Puckett's Pond, and by developing a barrier-free pier at both Puckett's Pond and Quarry Lake.
4. Continue to provide bow and muzzle-loading deer hunting opportunities, and consider other deer management opportunities.
5. Develop camping opportunities including electrical, tent, yurt and kayak sites.
6. Provide additional access to picnic areas and the beach.
7. Provide open vistas, and maintain the old field grasslands and other native plant and animal communities to encourage biodiversity.
8. Manage cultural resources, both archeological and historical, to provide for the preservation and protection of significant sites as well as educational opportunities for visitors to the park.
9. Develop an interpretive center and expand the educational program by establishing a more extensive interpretive program.
10. Manage existing fish and wildlife habitat to encourage species diversity for educational and recreational use, and to provide observation opportunities.

MAP 1 – Regional Locator

MAP 2 – County Locator

AERIAL PHOTO

SECTION II - DEVELOPMENT, OPERATIONS AND MANAGEMENT PLANS

HBSP currently is a day use park with facilities for seasonal activities. Development of a donated welcome center and a new state park office building demonstrate the level of importance of this park to the statewide system. The number of annual day-use visitors also demonstrates the popularity of the park. Overall, though, the park is in need of major upgrades including a campground, an expansion of the beach parking lot, a new shuttlebus, facilities that better serve people with disabilities, and better fishing access at both Puckett's Pond and Quarry Lake. The 2000-2005 Statewide Comprehensive Outdoor Recreation Plan describes the need for additional recreational facilities, including campgrounds, in southeastern Wisconsin. Harrington Beach State Park is a perfect candidate for a campground because of its location along the I-43 transportation corridor and Lake Michigan shoreline, and its proximity to a large population base.

The management and development alternatives selected for HBSP allow for little increase in visitor use and development east of Sauk Trail Road (Map 4). This part of the park has nature, hiking and cross-country ski trails, developed picnic grounds, a 76-space parking lot and a swimming beach. The Ansay Welcome Center, donated to the park in 1998, provides space for nature programs when it is not being rented for public and private gatherings. The land to the west of Sauk Trail Road is mainly open, old field grassland. It has the potential for the development of additional hiking and cross-country ski trails, picnic areas and a campground.

An active integrated resource management program to encourage plant, wildlife and fish species diversity will be undertaken. Species diversity will allow for more educational and nature interpretive activities. The park now offers nature and education programs only on weekends during the summer.

The total number of annual visitors to the park, over the next 10 years, is anticipated to be approximately 200,000 if camping is provided and approximately 150,000 without camping. Estimated actual visitation was 125,000 between 1998 and 2000.

The development and operations for the park are outlined below in priority order. An estimated cost for the development projects is given. Operations costs are considered part of the Wildlife, Fisheries, and Parks and Recreation general program budgets. The cost of conducting an archeological survey, where necessary, is included in the project development cost.

Project Boundary and Ownership Goals

The state of Wisconsin owns 637 acres within the 827-acre HBSP boundary (Map 3). The approximate cost of acquiring the additional 190 acres and a six-acre easement to provide a buffer at the entrance to the park is \$800,000 in 2001 dollars. Some property owners have stated that, at this time, they do not want to sell their land to the Department. The Department purchases land from willing sellers only, and will typically only acquire improvements at the owner's request and only when there is no alternative. The improvements are then resold or otherwise disposed of. The Department has the ability of using many different real estate tools to acquire land. These tools might include fee simple, conservation easements, purchase of development rights, and donation.

Most of the privately owned land in the boundary is in agricultural use and none of the soils in this area are Class I. Although the Department intends to purchase these lands and convert them into grassland, doing so is not an immediate need. In addition, if the Department were to purchase these lands, it would consider leasing or renting them for agricultural production for an appropriate period of time.

A one-mile stretch of Sauk Trail Road runs north and south, bisecting the park into two tracts. This segment of road within the park boundary should be acquired from the town of Belgium. State ownership and closure of the road would create one entrance to the property, improving management and law enforcement in the park and providing added safety for park visitors. The road also impedes development of an uninterrupted trail system. The Belgium Town Board has expressed an interest, at this time, in keeping the road under town ownership.

The acquisition of approximately 190 acres to the west of the existing state ownership would provide an opportunity to create a large grassland habitat and provide land for hiking, birdwatching, nature study and interpretive nature trails. Grassland in southeastern Wisconsin is rapidly being destroyed. There are presently about 235 acres of old field grassland and shrub carr/wetland in the park, west of Sauk Trail Road. The additional 190 acres, combined with the existing state ownership, would create a 425-acre block of land for grassland species. Most grassland bird species require a minimum of 300 acres to support viable populations.

The additional acreage would provide nesting habitat for grassland birds, and it may be large enough to support minimum viable populations of the smaller grassland bird species such as sparrows and meadowlarks. It is also possible that the grassland could support larger grassland species such as harriers, upland sandpipers and short-eared owls. The restoration and proper management of existing and additional grasslands may benefit several rare insects. In addition, the grassland habitat would provide an excellent site to conduct both educational programs and research.

The campground will be developed in the existing grassland and old field habitat west of Sauk Trail Road. Approximately 60 acres are needed for the campground and associated roadways. This would leave approximately 365 acres for grassland development.

Vegetation Management

Staff from the Southeastern Wisconsin Regional Planning Commission (SEWRPC) conducted a vegetative inventory of HBSP in October, 1989. The inventory report identified 14 plant communities in the park. Map 5 identifies each of the following plant communities:

- old field grassland with scattered wetland swales
- upland and wetland complex
- wetland swales consisting of scattered southern wet to wet-mesic lowland hardwoods
- wetland swale consisting of wet meadow and old field
- pond and pond edge community
- wetland consisting of wet meadow and shrub carr/wetland with scattered southernwet to wet-mesic lowland hardwoods
- old field grassland and shrub carr/wetland with scattered southern wet-mesic lowland hardwoods
- old field grassland and second growth northern transitional wet-mesic hardwoods
- lakeshore beach and dune complex
- low ridge and swale complex consisting of good quality cedar swamp, northern transitional wet to wet-mesic lowland hardwoods with scattered ephemeral ponds, and southern mesic hardwoods on the ridge tops
- upland consisting of old field, disturbed limestone cliff, shrub thicket, and wet-mesic to mesic hardwoods
- wetland consisting of wet meadow and scattered lowland hardwoods

- woodland consisting of disturbed, second growth wet-mesic hardwoods
- shrub thicket

Management of these vegetated communities is generally limited to safety activities, monitoring succession, prescribed burning, mowing, supplemental plantings and seeding activities. These efforts are to maintain the existing vegetative character of the individual plant communities.

The cedar swamp and dunes that exist east of Sauk Trail Road would remain undeveloped. This area would continue to provide habitat for shorebirds and migratory birds and wildlife observation opportunities for visitors.

Though once abundant, large areas of native grassland are very rare in southern Wisconsin. Grasslands provide important nesting and foraging habitat for birds, mammals and insects. Several species of wildlife associated with grasslands have declined in number and in their distribution over the last few decades. Certain species of grassland birds such as the harriers, upland sandpipers and short-eared owls require approximately 300 acres of open grassland to maintain viable populations. Other grassland bird species such as the vesper sparrow and meadowlark have smaller territorial needs. The grassland area also would benefit many wildlife species using the adjacent wetland habitats.

The old field grassland and shrub carr/wetland plant communities west of Sauk Trail Road will be maintained through prescribed burns and mechanical means such as mowing. In addition, the 190 acres of agricultural land not currently in state ownership will be restored to grassland as it is acquired. Encroaching vegetation in both areas would be removed and the areas replanted with a mix of forbs and grasses. Both recreational and self-guided interpretive trails will be developed within the westernmost acreage.

Park and Recreation Development and Operations

HBSP currently is a day use park with facilities for picnicking, swimming, hiking, fishing, cross-country skiing and nature study. One of the Wisconsin State Parks for the Year 2000 Long-Range Strategic Plan goals is to provide more camping opportunities. The plan further states that the new campsites will be located where camping surveys and research indicates there is public demand, such as at Harrington Beach. It is also recommended that Ozaukee County provide signs for a trail connector between the Ozaukee County multi-use trail and the park.

All existing and future facilities are identified on Map 4.

Development – Higher Priority

1. Develop camping opportunities including electrical, tent, yurt and kayak sites: \$2,400,000

The development of a modern* campground, including no more than 75 sites made up of 28 electrical sites, 33 non-electrical tent and recreational vehicle sites, 6 walk-in tent sites, a group site (equivalent to five tent sites that could accommodate up to 30 people) and 2 accessible yurt* sites, will be constructed on approximately 60 acres west of Sauk Trail Road. The yurt sites will be accommodated in the northernmost loop. Accessible facilities will be incorporated into the campground design. One medium-size flush toilet-shower building and two pit toilets will also be constructed to service the campground. The pit toilets will be used primarily in winter and will also serve as an emergency back-up for the toilet-shower building. A recreational vehicle dump station will be constructed along the campground exit road and a trail will be constructed between the campground and the beach. Camping opportunities will be available year around. There will be a 400 foot buffer between Cedar Beach Road and the campground and a 300 foot buffer between Sauk Trail Road and the campground.

In addition, one rustic* site for use by up to six kayakers will be developed along the Lake Michigan shoreline. The campsite will accommodate a maximum of six people. The kayak site will be a minimum of 400 feet from either the north or south property boundary. The Department will work with the neighbors, at the time of construction, to determine the exact location of the campsite.

The 2000-2005 Statewide Comprehensive Outdoor Recreation Plan states that the need for additional camping opportunities is expected to increase. The addition of a campground to HBSP will increase the cost of visitor protection, law enforcement, revenue collection, and maintenance. These costs will need to be covered by an increase in the park's operating budget. An additional 2.0 permanent staff will be needed to manage the campground and increased visitor use.

2. Add 25 new parking spaces adjacent to the existing beach parking lot: \$25,000

There is a need for additional parking near the picnic areas. The 76-stall lot on the northeast side of the park is full early on weekends and many weekdays during the summer months. Others park in the 140-stall upper lot on the west end of the park and either take the shuttlebus to the beach and day use areas, or take the trail. The shuttlebus operates on weekends and holidays only. If the north parking lot fills during the week, visitors have to walk with their beach and picnic gear about 0.6 miles from the upper lot to the beach and picnic areas.

3. Develop approximately three miles of trails for hiking and nature interpretation: \$10,000

Because of the significance of the natural features, the great birding habitat, and the abundance of wildlife in the park there will be a great opportunity to develop trails on both the east and west sides of the park. The trails will be a combination of lightly and moderately developed trails with a rough to smooth graded base.

Campground definitions, unless otherwise noted, from NR 44, master planning for Department properties

* modern campground – comprised of a single campground or a large campground complex, and typically have 75 or more campsites. The separation distance between campsites may vary, although 100 feet shall be used as a guideline. The facility development options are not limited; however, the following facilities usually are provided: electrical hook-ups for recreational vehicles, hand pump or pressurized water supply, vault or flush toilets, a recreational vehicle dumping station on-site or nearby, asphalt roadways, open play areas, paved paths and trails, lighting on buildings and public telephones. Examples of other facilities that may be present include playground equipment, full-service concessions, showers and laundry facilities.

* rustic campground – a rustic campground shall have fewer than 75 total campsites, and the distance separating campsites shall be typically 100 feet to 200 feet but may be greater. The rustic kayak campsite at Harrington Beach State Park will be limited to six people.

* yurt – a yurt is a circular domed tent with a plywood floor, structural wall support covered with a waterproof polyester fabric, electricity and a clear, plexiglass skylight. It has a framed-in lockable wooden entry door, window screens and flaps, reflective insulation, a smoke detector and a fire extinguisher. (def. from Oregon Parks web site)

4. Upgrade the shuttlebus to accommodate additional passengers: \$80,000

The current shuttlebus is a tram attached to a pick-up truck. A new shuttlebus, built for this specific use, will have a ramp for wheelchair accessibility and room under the seats for coolers and other beach and picnic gear. It will be more convenient for visitors if the Department operates the shuttlebus on weekdays, as well as weekends. To best serve the public, a new

shuttlebus and a staff person to operate it is needed.

5. Develop a six-unit flush toilet building next to the Ansay Welcome Center: \$100,000

The welcome center was developed without toilet facilities. The only accommodations for groups who rent the center are the pit toilets in the north picnic area.

6. Develop an Interpretive Center: \$ 625,000

An interpretive center with restroom facilities and a small naturalist/volunteer office will be constructed at the Puckett's Pond picnic area. The 3,000 square foot center will primarily be for park visitors, though school groups and others will also be encouraged to use the facility. There will be some indoor programming space and storage for props, files, and equipment. The potential also exists to work with a nonprofit astronomy group to incorporate an observatory.

7. Develop a children's play area: \$60,000

Develop a children's play area on the west side of the north beach parking lot with a diverse selection of playground equipment that will accommodate children with disabilities.

8. Create a comprehensive nature education program, including the development of self-guided nature trails: \$50,000

Interpretive materials will include brochures and displays explaining migration patterns and timing for hawks, waterfowl and songbirds to provide visitors information on the best viewing opportunities. A brochure could be developed on the deer management program. Three distinct trails for woodland and grassland/wetland communities, and educational programs and products will be developed.

Development – Lower Priority

1. Control erosion using native vegetation: \$5,000

The shoreline of HBSP is eroding from the high level of Lake Michigan in the recent past. The water level of the lake changed significantly from 1984-1986 and was at a record high of 581.6 feet in 1986. The water level is at a low point now, but it is expected to return to these high levels in the future.

The waves produced from storms can also cause erosion. Sand dune stabilization efforts may be considered to alleviate this problem. The sand dunes along the lakeshore will be planted in native vegetation. Examples of native vegetation that are good dune stabilizers are prairie sand reed or beach grass, American beach grass, sandbar willow and bearberry.

It is recommended that the shoreline be allowed to accrete and erode without artificial protection. The long-term net result is likely to be slow westward migration of the beach and sand dunes. Emergence of more of the dolomite limestone terrace along the eroding shore will cause storm waves to break and slow the rate of erosion.

In addition, the cost of a stone revetment would be approximately \$350,000 and the annual maintenance costs an average of five percent of the construction costs. Since there are no lakeside structures that require protection, these costs are not justified.

Operations

1. Maintain the Puckett's Pond dike

This pond is a popular attraction for park visitors, both for fishing and wildlife observation. Wetland restorations will reduce sedimentation to the pond and enhance fishing opportunities. It is essential that the water control structure and dike be maintained annually to prevent costly renovation in the future. The maintenance will consist of an annual mowing of the dike in August, repair of holes and erosion areas in the dike or around the structure, removal of brush and trees from the dike, and removal of obstructions to the water control structure.

Resource Management and Maintenance

There is a series of development proposals that will be carried out by park staff and the Bureau of Wildlife. The recommendations focus on restoration of native landscapes to provide additional wildlife habitat, and recreational and educational opportunities.

Development – Medium Priority

1. Restore 24 wetland basins in the park: \$25,000

More than 60% of Wisconsin's wetlands have been drained or filled in, including over 80% of those originally found in southeastern Wisconsin. Wetlands improve the overall environmental quality of an area, and are a very productive wildlife habitat for both species diversity and wildlife abundance. Wetlands enhance the water supply, contribute to flood control, support abundant and varied plants and wildlife, serve as recreational settings for many popular activities, and provide scenic open space.

Approximately 50 acres of wetlands on the west side of the park were drained or modified for agricultural use. Some subsurface drain tiles and a few drainage ditches are obvious, but other old drainage systems are hidden by brush and grass. Some of the depressions have upland sediment overlaying hydric, or wet soils. Projections from aerial photos show about 24 wetland basins totaling almost 30 acres. All wetland depressions will be surveyed to delineate drainage patterns, topographic profiles, hydric soils, and to identify subsurface drain tiles and drainage ditches. The wetland basins will be restored where possible through tile breaks, ditch plugs and shallow scrapes. Wetlands will be restored on parkland west of Sauk Trail Road and north and south of the interior park road.

2. Develop approximately 190 acres of grassland: \$14,000

The development of grassland is recommended for the acreage in the western part of the park boundary, not currently in state ownership. Grassland will be established after the land is acquired. It will be maintained in the same manner described below for the existing 100 acres of grassland.

Management and Maintenance

1. Manage at least two-thirds of the area around Puckett's Pond for wildlife use of the pond by

maintaining the existing cover.

2. Maintain the bluebird houses placed in the park.

Bluebirds use artificial nest structures and supplying them is a practical, cost-effective way to improve their status. It is a popular species for birdwatchers and nature enthusiasts. The 45 bluebird houses placed by the HBSP Friend's Group in edge areas at the park have attracted two nesting pairs. All of the boxes should be maintained along the park boundaries and trail areas.

3. Maintain approximately 100 acres of existing old field grassland.

This would be done in the grassland area currently in state ownership and west of Sauk Trail Road (see Map 6). Conduct prescribed burns on approximately 60 acres of land per year for three to four years and maintenance burns, as needed, after that. Burning only part of the grassland at any one time can ensure a greater diversity of habitat conditions and lessen the chance of eliminating entire populations of those invertebrates and herptiles that are unable to survive fire. Mowing will also be used as a management tool and will be conducted after mid-August so nesting species are not disturbed. The burns help to maintain the habitat important to grassland nesting species, many of which inhabit HBSP. The invasion of woody vegetation including elm and box elder is changing the vegetative community at the park to a lowland brush. Pioneer brush and trees will be removed by mechanical means.

4. Continue to provide bow and muzzle-loading deer hunting opportunities, and consider other deer management opportunities.

Most of the permanent cover and food in the park and adjacent lands exists in a narrow strip along the lakeshore. This leads to a winter concentration of deer along the lakeshore after crops are harvested in the fall. During a 1990 winter survey of the park, 150 deer were counted. The high deer population in the park has resulted in complaints from surrounding farmers. There is also concern of damage to native vegetation in the park, especially in the lowland forest area. The 2001 deer season resulted in the harvest of 4 antlerless deer and 8 bucks. In 2002, 16 deer were harvested during a doe-only hunt and in 2003, 31 deer were harvested.

Because of the limited park facility development in the western part of the park, the lands to the west of Sauk Trail Road, (excluding the entrance, shop and residence areas) are open to deer hunting during the 9-day gun season, the late muzzleloader season and the late bow season. Hunting will continue in this area if a campground and interpretive center are built; however, hunting will not be allowed in those designated use areas. If hunting does not achieve deer management goals, other control measures such as sharpshooting may be initiated.

Fisheries Management

Fisheries management within HBSP will focus on Quarry Lake and Puckett's Pond. Quarry Lake will be managed for general recreational fishing while Puckett's Pond will be managed to emphasize fishing opportunities for children. There is great demand for fishing opportunities, especially since the park is within a one-hour drive of the Milwaukee metropolitan area.

No boat access developments are recommended for the Lake Michigan shoreline because there is no improved harbor at the site and development would be cost prohibitive. Other facilities are available in Ozaukee County.

Development – Higher Priority

1. Dredge the eastern 1/2 of Puckett's Pond to a depth of 15': \$10,000

Puckett's pond is shallow and weed-choked, making fishing difficult in spring and summer when there is the highest demand for opportunities. The pond should be drained in September and dredged to a depth of 15' in the eastern ½ of the pond. Dredged material will be sampled and analyzed to determine if any special handling is necessary. The material will be placed in an upland area, away from sensitive habitat or wetlands or, at the contractor's discretion, placed in an appropriate off-site location.

2. Develop a disabled-accessible fishing pier on the east end of Quarry Lake and a bridge over each of two Quarry Lake-Lake Michigan inlets leading to the pier: \$50,000

The pier will be approximately 30 feet long and will be constructed according to the Department's current fishing pier guidelines.

3. Develop a disabled-accessible fishing pier on the north or east shore of Puckett's Pond: \$25,000

The pier will be approximately 30 feet long and will be constructed according to the Department's current fishing pier guidelines. Fishing access also will be provided along the shore.

Fisheries Management – Medium Priority

1. Stock Puckett's Pond annually with quality-size hybrid sunfish: \$1,500.00 per year

The pond will be stocked with 4" or larger hybrid sunfish. The fish will be stocked annually in spring. Urban pond fishing regulations will apply. The pond will be managed to emphasize fishing opportunities for children. The pond will also be stocked annually in April with trout through the Department's Urban Fishing program.

2. Stock Quarry Lake with 1,250 small fingerling smallmouth bass each year for three years:

Smallmouth bass: \$1.00/fish x 1,250 fish/year \$1,250/year x 3 years = \$3,750

Quarry Lake is roughly 25 acres in size with a maximum depth of approximately 47 feet. Its size and depth, and the fact it is spring fed, give Quarry Lake considerable fisheries potential. During summer stratification the bottom waters remain cool and well oxygenated, providing potential for a two-story fishery. The lower story of the lake could support cold-water fish species such as rainbow trout. The upper story could be managed for warm-water species such as smallmouth bass.

Cultural Resource Management

People have lived in southeastern Wisconsin for thousands of years. The chronicle of their lifeways, adaptation to changing environments and use of biotic resources available in the region is recorded in archeological and historical sites. Intensive land use and urban development has obliterated much of this record, leaving only a small percentage of sites intact. Vital information on past adaptive techniques and ecological engineering -- information that can be used to solve modern day problems -- is rapidly disappearing.

Over the past three decades, growing public concern over the loss of human history prompted both federal and state legislators to pass historic preservation laws. In Wisconsin, recently

enacted statutes place responsibility on state agencies to preserve and protect archeological and historical sites on their lands.

One of the privately owned properties within the project boundary has a historic lime kiln structure remaining from the mining operation in the area. Efforts will be made to acquire this property in the future. A trail will connect the northern picnic area to the lime kiln and interpretive signage will be developed at this site.

Management

1. Consider cultural resource protection and preservation in any land use changes or development projects.
2. Plant culturally sensitive areas to protect them from future disturbance and looting.
3. Negotiate with the Wisconsin Historical Society to mitigate adverse effects on cultural resources before any land disturbance activities in accordance with Section 106 of the federal Historic Preservation Act of 1966 as amended and s. 44.40, Wisconsin Statutes.
4. Consider alternate uses, intact sale, or donation of significant historic structures before demolition. If this is not possible, fully document these structures before removal.
5. Provide interpretive and educational programs on cultural resources.
6. Provide educational literature on the preservation and protection of archeological and historic sites.
7. Prohibit the unauthorized collection of artifacts on any land within the park.
8. Encourage and maintain the friends group to aid in the protection and preservation of known sites and the discovery of new ones.
9. Work with special interest groups to protect ethnically sensitive areas within HBSP.
10. Prohibit the disturbance of burial sites, marked and unmarked, within HBSP.

Land Use Classifications

Harrington Beach State Park is divided into four land use classifications (see Map 6).

Special Management Area

This 5-acre management area encompasses the park office, park residence and service buildings.

Native Community Management Area

About 100 of the 200 acres east of Sauk Trail Road will be designated a native community management area. This area encompasses a lacustrine forest or cedar swamp and an area of lakeshore beach and dune complex. It is a relatively undisturbed ecosystem, enjoyed by the public for nature study and aesthetic appreciation. No intensive recreational facilities will be developed in this tract.

The Wisconsin Office of Coastal Management in the 1960s and the SEWRPC, on contract with the Department in 1989, conducted vegetative inventories of the Lake Michigan coastal lands. The 1989 SEWRPC inventory and the 1997 SEWRPC "A Regional Natural Area and Critical

Species Habitat Protection and Management Plan for Southeast Wisconsin” report identifies the lacustrine forest as a natural area of county significance.

Recreation Management Area

The designated recreation management area accounts for approximately 160 acres within the current park boundary, and includes most of the scenic land, such as the beach and quarry lake, the campground, and the picnic areas and swimming beach. These lands are available for recreational pursuits such as hiking, cross-country skiing and nature study.

The Recreation Management Area is further designated with a Type 4 recreational use setting, the management objective being to offer opportunities for intensive recreational use activities and experiences. Facilities, when present within this setting, may provide a relatively high level of user comfort, convenience and environmental protection.

Habitat Management Area

Approximately 365 acres west of Sauk Trail Road will be designated for this purpose. Currently, the area consists of old-field grasslands and cropped fields interspersed with wet swales. While much of the land has been ditched, drained and farmed, it has good potential to be managed as a grassland/wetland community to support breeding populations of grassland bird species. Within the habitat management area, approximately 335 acres will be maintained as grassland habitat, comprised of various native and non-native grasses and associated forb species. The remaining approximately 30 acres will be restored wetlands. As a secondary use, this area will provide opportunities for birdwatching and hiking.

Map 3 – Existing and Proposed Project Boundary

Map 4 – Existing and Proposed Development

Map 5 – Vegetative Communities

Map 6 – Land Use

SECTION III - BACKGROUND INFORMATION

Property Description and Regional History

Property Description

HBSP is in eastern Ozaukee County on the Lake Michigan shore, about 7 miles north of the city of Port Washington and 30 miles north of the city of Milwaukee (Maps 1 and 2, pp. 3 and 4). The legal description is: Section 19, T12N R23E; and the E1/2, the E 60 acres of the NW1/4, and the N1/2 of the NE1/4 of the SW1/4, all in Section 24, T12N R22E.

Interstate Highway 43 is the principal transportation access to the park. The Interstate runs north to south about two miles west of the park. There is direct access to the park from the County Highway D exit on Interstate 43.

The principal Wisconsin communities and their population within a one-hour drive of the park are Appleton (59,032), Fond du Lac (35,863), Milwaukee (636,212), West Bend (21,484), Sheboygan (48,085), Manitowoc (32,547), Two Rivers (13,354), and Oshkosh (49,620), for a total population base of 896,197.

Area Parks and Campgrounds

State parks and forests within a one-hour drive of the park include Kohler-Andrae State Parks, about 15 miles to the north; the Northern Unit of the Kettle Moraine State Forest (KMSF), about 30 miles to the west; Pike Lake and Loew Lake units of the KMSF, about 50 miles to the southwest; High Cliff State Park, about 60 miles to the northwest; and Point Beach State Forest, about 60 miles to the north.

There are approximately 2,100 private and county campsites located within Ozaukee and neighboring counties. The majority are privately owned and operated. The majority of the privately owned sites in Sheboygan County are located near the KMSF-NU. These sites serve a specific audience such as racing fans or they act as overflow camping for the KMSF-NU. The recreational vehicle campground at State Fair Park in West Allis is the only publicly owned facility in Milwaukee County. There are no privately owned campgrounds in Milwaukee County.

History of the Area

More than 350 million years ago, the area which is now HBSP was inundated by a vast sea that covered much of what is now the northeastern United States. As the seas gradually retreated, the area experienced an erosional cycle that cut rivers and streams into the landscape. This process continued concurrently with a series of uplifts and downgradings until glaciers covered over three-fourths of the Wisconsin landscape. The last glaciation over 10,000 years ago, more than any other element, determined the form and the physical characteristics of the HBSP area.

Prehistoric Cultures

People first entered Wisconsin during the last glacial stage of the Pleistocene. Over the next 10,000 years, a series of cultural traditions, called Paleo-Indian, Archaic, Woodland and Mississippian resulted from the adaptation of humans to the variety of environments present throughout the state.

Records on file at the State Historical Society show no known archeological sites within the boundary of the park and no survey for sites has been conducted on the property. That this area has escaped archeological attention in the past is evidenced by the fact that the ruins of the historic quarry community of Stonehaven is not recorded in the Historical Society archives. Evidence of prehistoric use of the region has been found in areas surrounding the park. The

sites are primarily small campsites probably representing food collecting and processing expeditions. Also reported for the region are prehistoric burial sites in the form of unmarked graves and burial mounds. The potential for prehistoric sites in the park itself is high, especially along the lakeshore and natural water sources.

It is suggested that prior to direct contact with Europeans, indigenous people in Wisconsin had contact with eastern groups pushed westward by European expansion. These groups brought European-made goods to trade with Wisconsin people. The mass migration caused groups to move from region to region in response to the threat of disease and the fear of warfare.

Prior to 1640, two indigenous groups are believed to have settled in southeastern Wisconsin -- the Winnebago and the Menominee. From 1640 to 1800, the Miami, Sauk, Fox, Potawatomi, Kickapoo, Mascouten, and Ottawa were recorded to have either settled in or passed through the region. Potawatomi settlements have been recorded in Ozaukee County as early as 1665. From 1800 to 1833 (the latter being the date at which all tribal lands were ceded to the United States government) the Potawatomi and Winnebago were the primary inhabitants of the region.

Recent History

Over the past one hundred years, the land was used primarily for farming and for the mining of limestone. In the 1880s, ownership of the property was in the hands of a dozen different landowners, and much of the land was tilled field or pasture. From the early 1890s until 1925, the eastern section of the park was used for quarrying limestone, and a mining community called Stonehaven was developed. The western section of the park was cleared of all trees and farmed. The lowland forest in the eastern section was too wet to be intensively developed and was used as a pasture area for cattle when the mining operation was dissolved.

Management

Primary management emphasis is on preserving the outstanding scenic qualities, native plant communities, and natural features of the park. The areas of most concern are the Lake Michigan Beach, Quarry Lake and old field grasslands. These features over the years have continually attracted visitors to HBSP. Of the 637 acres of state ownership at HBSP, about 40 acres are used for intensive recreational use activities where facilities provide a relatively high level of user comfort and convenience.

Management of HBSP as part of the Kohler-Andrae work unit is the responsibility of the Park Superintendent stationed at Kohler-Andrae and the Park Ranger stationed at Harrington Beach. Approximately five to six seasonal employees are hired for public contact, law enforcement, nature interpretation and various maintenance functions.

Facility Development

HBSP is open throughout the year for public use. Recreation is the primary use of the park with swimming, sunbathing, hiking, fishing and cross-country skiing being the most popular activities. Approximately 125,000 people visit the park annually.

This property also contains the visible remains of a late 19th- early 20th-century limestone quarrying operation with the adjacent community, called Stonehaven. Extensive ruins of the quarry venture and numerous building foundations provide a step back into history for park visitors. Archival documents, newspaper accounts, and surviving photographs have enabled the park personnel and affiliated friends group to develop an interpretive display and historical interpretive trail at the park.

Although the park is open year-round, park use is concentrated primarily in the summer months

with picnicking, swimming, hiking, nature study and fishing being the most popular activities. The park has an active nature interpretation program during the summer months. Park use is beginning to increase during the spring and fall. The park is a favorite spot for bird watchers in both the spring and fall because of the migratory birds flying along the Lake Michigan shoreline. Winter recreational use is also increasing as a result of the development of a 2-1/2-mile cross-country ski trail.

Recreational Facilities

Picnic Areas. The park has seven picnic areas totaling 13 acres. These areas contain tables, grills, shelters and restrooms.

Parking and Shuttlebus. There are three parking areas -- one outside the park office for about 16 cars, one near Puckett's Pond and the upper picnic area with a 140-car capacity, and one by the north picnic area on the northeast side of the park with parking for 76 cars.

The park has the added amenity of the shuttlebus. Visitors park their cars in the 140-car lot and then may choose to walk or take the shuttlebus to the many activity areas. The shuttlebus holds 24-26 people and is in operation on weekends from Memorial Day to Labor Day.

Trails. For hiking, the park has one mile of Lake Michigan shoreline, and two developed trails east of Sauk Trail Road -- a one-mile nature trail and a one-mile scenic hiking trail. Visitors are welcome to hike on the west side of the park.

Winter activities include cross-country skiing, and snowmobiling on a trail that connects to the county trail system. Approximately four miles of roads inside the park's boundary service the various facilities. Of the four miles of roads, 2-1/2 miles are restricted for use by the shuttlebus system.

Water Bodies. The park also has a 25-acre lake as a result of quarrying operations on site at the beginning of the century, and a 2-1/2-acre pond that was dug by the previous owner.

Support Facilities. Support facilities in the park include a metal pole building, a wooden frame storage building, a shop building, the Superintendent's residence, an administrative/office building, and a welcome center with Friend's Group concession stand at the north picnic area.

Land Acquisition History

The site of HBSP was first brought to the attention of the Department's predecessor, the Wisconsin Conservation Commission, in 1958. The National Park Service realized the potential of the site for recreational purposes during a survey of the Great Lakes shorelines. And SEWRPC recognized the potential recreational and natural resource protection value of this land back in 1964. They rated the site as one of the two most potential sites for a state park in southeast Wisconsin, and recommended that the state purchase the properties that now make up HBSP. Public meetings were held and most of the land encompassing HBSP was purchased between 1968 and 1973. The land was purchased from 11 property owners.

Harrington Beach is named after C.L. Harrington, the first Superintendent of the Division of Parks and Forests for the Wisconsin Conservation Commission. He served in that capacity between 1923 and 1958.

Local and Regional Land Use Analysis

The park lies adjacent to a mixture of agricultural and residential lands on the north, south and west. Lake Michigan lies to the east of the park. The park is currently managed as a year around day-use park with little recreational impact on neighboring land.

The 10-Year Comprehensive Plan for the Village of Belgium, completed in 1990, states that the park has an annual economic impact of approximately \$500,000 in the Belgium and Lake Church area. Within the southeastern region of the state, state park visitors spend an estimated \$31.90 per park visit (2000 dollars).^{*} Examples of these expenditures include travel to and from the park, recreational equipment rentals, and food purchases. Multiplying this number by an estimated 120,000 visitors a year equates to just over \$3.8 million a year spent by Harrington Beach State Park visitors within the southeast region. By using an economic multiplier of 1.75, the total economic impact of this park to Wisconsin's southeast region economy is approximately \$6.7 million per year. If park visitation increases to the estimated 200,000 visitors a year, after the recommend development, the total economic impact within the region will be approximately \$11.2 million per year.

A development with the potential to have a major economic influence on the park and surrounding communities is the I-43 ethnic heritage corridor. This is a pilot project through the National Trust for Historic Preservation and the Wisconsin Department of Development. The project goals are to preserve the ethnic culture along the I-43 corridor, to provide education and ethnic awareness of ethnic groups, and to encourage economic development along the trail. A brochure will highlight each stop along the trail, including the former mining community in the park. One loop of the trail will pass the park entrance and trail users will be encouraged to visit the park's historic interpretive trail.

The majority of lands north of the park on Highway D and west of the Lake Michigan shoreline are zoned agricultural. There are two approximately five-acre parcels that are zoned manufacturing, of which neither are directly across from the park entrance. The lands along the Lake Michigan shoreline north of Highway D are zoned residential. Residential zoning in the town of Belgium requires a minimum 1-1/2 acre lot size. The lands across from the park and south of Cedar Beach Road are zoned residential, except for a private banquet hall that is zoned commercial. The surrounding lands are increasingly being developed for residential use. This will create greater use of the park by local residents.

Legislative Authority and Approvals

Section 23.09(2)(d)2, Wis. Stats., gives the Department of Natural Resources authority to acquire lands for state park purposes.

The Natural Resources Board (NRB) must approve certain land acquisitions proposed by the Department pursuant to s. NR 1.41(1), Wis. Admin. Code. Department and NRB policy is to purchase land only from willing sellers.

^{*} Marcouiller, Olson, and Prey. 2002. State Parks and their Gateway Communities: Development and Recreation Planning Issues in Wisconsin. University of Wisconsin – Madison. 62p. Pub. Numbers PR-466 2002 and G3773.

Soils, Geology, and Hydrology

Soils

The U.S. Department of Agriculture, Soil Conservation Service published the Ozaukee County soil survey in 1970. The soils of HBSP are of an origin related to the hydrology of Lake Michigan. The soils are of a Kewaunee-Manawa association that are well-drained to somewhat poorly drained soils and have a subsoil of clay to silty clay loam. They are formed in thin loess and silty clay loam glacial till on the uplands.

The primary soil types in the eastern section of the park are Granby loamy sand, Brookston silt loam, sand, Manawa silt loam, and Nenno silt loam. These soils are extremely unstable when exposed to wind and strong Lake Michigan wave action and have moderate to severe limitations for recreational development.

The soil types in the western section of the park are primarily Kewaunee silt loam and clay. These soils have moderate to severe limitations for recreational development. Also found in this area are Lorenzo and Hebron loam. These two soil types have slight limitations for recreational development.

Geology

Limestone and shale are the strata of HBSP. A succession of retreats and advances of the ancient seas alternately exposed the limestone to erosion and deposition. More than 200 million years ago the seas retreated for the last time.

During the last ice age, more than ten thousand years ago, the landscape of the park was formed. The topography of HBSP is flat to gently rolling. The eastern third of the park is very flat, most of it being of one percent slope or less. The western section of the park is gently rolling former agricultural land. Most of it is within a 2 to 12% slope.

Hydrology

Water from two principal aquifers, Niagara and sandstone, supplies the park. The water table of the aquifers ranges between the current lake level (approximately 583 feet above sea level) and 640 feet above sea level. The bedrock surface ranges from 550 to 680 feet above sea level near the lake in Ozaukee County. The Niagara aquifer furnishes 57% of the groundwater pumped in the area and the sandstone 14%. Both can supply enough water for recreational use. The quality of the groundwater is generally good for drinking purposes.

Aquatic Resources

HBSP has three important water features--Lake Michigan, Quarry Lake and Puckett's Pond.

Lake Michigan. Lake Michigan and its associated beach frontage is by far the most dominant and important natural feature of the park. The extensive uninterrupted stretch of natural beach within the Park currently provides an important public resource. It is the focus of much of the recreation that takes place on the property and one of the prime reasons that people visit the park. The one-mile shoreline at Harrington Beach is mostly a sand beach, interrupted by a gravel-laden point from which extends the remains of the quarry shipping dock.

The shoreline provides one mile of beach frontage that varies in width from 100 to 200 feet. There are ample opportunities for sun bathing, swimming, fishing and boating.

Approximately 130 fish species are reported to live in the Lake Michigan Basin in Wisconsin (Appendix A). All of these may occur in the waters near HBSP including a recent arrival -- the white perch. Stocked trout and salmon, and yellow perch dominate the present sport fishery. Bloater chubs and yellow perch are the most important commercial species harvested in the offshore waters in that area. The Department's Lake Michigan Fisheries Management Plan (Administrative Report No. 25) determines management of the Lake Michigan fishery.

Because of intensive management of the fisheries of Lake Michigan, brown trout, rainbow trout, lake trout, some brook trout, coho salmon and chinook salmon are readily taken offshore by anglers. Surf fishing opportunities exist and seining for smelt along the beach is common in spring. Seasonal shore-fishing opportunities exist for trout and salmon fishers and smelt netters. An extensive sport-trolling fishery occurs offshore along the park's coast. Some commercial gill netting for yellow perch and bloater chubs occurs in this area of Lake Michigan.

Improving boat access to Lake Michigan in the area of Harrington Beach would require extensive modification to the existing near-shore area. A protected harbor would be required to provide quality access for boats. Fishing piers or similar structures also would require a major undertaking.

Many shorebirds use the beach area including sanderlings, yellow legs, and several species of sand pipers, such as ruddy turnstones, dunlins, and occasional plovers. Dozens of species of migratory waterfowl frequent the area and during spring and fall migration many hawks can be observed as they follow the shoreline of the park.

Quarry Lake. Located in the eastern section of the park, Quarry Lake resulted from the filling of an abandoned limestone quarry. It is about a 25-acre abandoned limestone quarry with steep limestone ridges. Surface elevation of the lake is 587 feet above sea level (seven feet above the elevation of Lake Michigan). The lake is a seepage lake with good water quality and a maximum depth of 47 feet. The water depth drops immediately from the edges. Therefore, the lake contains limited littoral fringe making it best suited to open water fish species.

Fish surveys of Quarry Lake have not been done, but anglers have caught black crappie, bluegill, green sunfish, largemouth bass, yellow perch, northern pike, trout, bullheads and goldfish. The Department recently stocked a connected waterway with Black crappie. These fish provided additional sport-fishing opportunities

Puckett's Pond. The former owner dug Puckett's Pond and used the spoils to form an earthen dike. The pond is about six to seven feet deep and is spring fed. It is also fed by surface runoff that makes it very nutrient rich. The fish population in the pond includes small bluegills, green sunfish, and bullheads. The Department stocks trout in the pond. The pond is approximately two to three acres in size and serves as an ice skating pond in the winter.

Puckett's Pond in its present state provides limited fishing opportunity. With some modifications, the pond has the potential to provide a safe, accessible fishery for children and adults who are unable to take advantage of the fisheries in Quarry Lake and Lake Michigan.

Vegetative and Wildlife Resources

Vegetative Resources. Historical records indicate that a vast forest known as the "Southern Mesic Forest" dominated the land area now occupied by HBSP. It is estimated that in

presettlement times the southern mesic forests covered over 3 million acres or about 9.8% of Wisconsin's land area.

The forest was dominated by 26 species of trees. The trees in most abundance were sugar maple, basswood and beech. These species characterize the forest as a "climax" with a variety of species and age classes.

The early settlers of this area found very little value in the forest. They needed only enough timber to build their houses. Their primary reason for settling here was for agricultural purposes. They cleared most of the forest and the easiest way to dispose of the timber was to set it afire. These same forests today would have significant value for producing timber products.

Today the property can be divided into two distinct vegetative areas. The area west of Sauk Trail Road is grassland and shrub carr/wetland that was used primarily as cropland before state acquisition. The area east of the road is heavily forested and was probably not cleared for agriculture because it is characterized by poorly drained soils and a high water table.

The area east of Sauk Trail Road probably appears much as it did in presettlement times. Some selective logging probably occurred but the timber was never large enough or dense enough to attract large-scale logging operations. The tree species have shallow root systems due to the high water table. Many trees die from unusually high water conditions, and others are blown down when water levels fall. Little or no forestry activity is recommended to keep this area looking similar for the next decade or two. It should be noted that the timber could easily be destroyed if the water table were changed (or natural flow of water) by placement of a road or culvert at the wrong location.

Grassland Habitat. The open grassland habitat type is rare in southern Wisconsin. The grasslands of HBSP are classified as old field intermixed with wetland swales (wet meadow and shrub carr). Grasslands are capable of providing critical habitat through maintenance of their open character. The size of an open grassland area is important for encouraging the nesting of grassland birds, and much of the HBSP grassland is converting to shrub and other woody cover. Reducing brush invasion and planting about 100 acres within the current park boundaries to native grasses could, along with creation of grassland on the 190 acres along the western boundary and not currently state owned, achieve an increase in use by species that have declined or are of special concern.

Wooded Habitat. Approximately 166 acres of the park encompasses woods including 112 acres of a low ridge and swale complex of cedar swamp, northern wet-mesic hardwoods and southern mesic hardwoods. Another 53 acres of lowland and upland brush is on the eastern third of the property. Proper upkeep of the cover type will help maintain this area for wildlife. Over-browsing by the large deer population would encourage the growth of non-native, unpalatable species of shrubs and herbs and eliminate reproduction of white cedar.

Wildlife Resources. This property is important for wildlife for many reasons. Very few areas of this size along the Lake Michigan shoreline are undeveloped making this property regionally significant for migratory birds and area dependent species. Vacant habitats are quickly colonized by resident species. The grass- and shrub-dominated old field west of Sauk Trail Road is important to grassland birds that have declined in Wisconsin. White-tailed deer also use the property as a winter concentration area.

Because of the habitat diversity of the park, regionally rare habitats and its migrational use, this property is used extensively for wildlife observation and study. The potential exists for

increasing the use of the property for these activities.

No comprehensive wildlife surveys have been completed for the property, but research has been done on the black-capped chickadees. In 1989, more than 150 deer were counted during a helicopter survey. The SEWRPC completed a detailed plant community survey in 1989. Wildlife communities correspond to habitat and plant communities. Therefore, representative wildlife species are listed by habitat types important to their use or presence on the property.

The habitat types and their known inhabitants are listed in Appendix C. An asterisk notes those species of special management concern or those known or suspected to be on the decline in southern Wisconsin.

Puckett's Pond. Puckett's Pond is two to three acres in size. It is a shallow embankment with cattail fringe.

Quarry Lake & Riparian Zone. This lake encompasses approximately 21 acres and a four-acre riparian zone.

Lakeshore Beach and Dune Area. This area encompasses about six acres. Protection of the beach area from disturbance would improve the area for wildlife use. Many other species visit HBSP during migration. The lakeshore is a natural migration corridor for raptors, songbirds and waterfowl. An ornithological research station located about five miles north of Harrington Beach provides documentation of the variety of migrants passing through the area.

Historical and Archeological Features

Prehistoric Features. There are no known prehistoric archeological sites within the property. This means that no systematic survey for sites has been conducted on the property and that no one has reported sites to the State Historical Society. There is a high probability of finding archeological sites considering its close proximity to Lake Michigan.

An archeological survey will be conducted before any development project in the park.

Mining History. The remains of the mining quarry in the east central part of the park are of historical interest. The park staff is storing recovered artifacts from the mining operation for future interpretive use. A historical interpretive trail of the mining history was built in the summer of 1991.

The Northwestern Stone and Lake Shore Stone companies operated stone mining operations at this site. Foundations of residences and quarry buildings still exist on the property in an excellent state of preservation. The quarry lake is another remaining element of the mining operation. No archeological survey has been conducted; however, archeological surveys will be conducted before any development in the area.

Shipwrecks. Two ships sank off of the HBSP Lake Michigan coast in 1856. The Niagara, a wooden steamer measuring 230' x 14', lies off the beach area about 1/2 mile off shore and in about 50' of water. Built in 1845, it provided service on Lakes Erie, Superior and Michigan. On September 24, 1856 a fire broke out and spread rapidly. The ship sank and 60 of the 300 passengers lost their lives. One of the anchors from the ship is on display at the park. The Toledo was a wooden steamer measuring 178' x 29' x 12'. The steamer carried freight and immigrants from Buffalo to the northwest. On October 22, 1856 it was caught in a windstorm and pushed toward shore. The ship became stuck in the sand bottom and was quickly pounded to pieces. Only 3 of the 81 people on board survived. In 1900 the anchor was

recovered and is now a monument to the victims of the Niagara and Toledo at Port Washington, Wisconsin.

APPENDICES

Appendix A - Citizen Involvement

A citizen participation program was developed in conjunction with the master planning process. With the first stage of master planning that took place between 1989 and 1991, the program consisted of public open forums; a newsletter devoted to inform interested and affected parties about the planning process, its progress and the issues involved; and the use of a toll-free telephone hotline to gather comments. Over 170 households were on the newsletter mailing list.

Approximately 100 people attended an open forum at the park on June 4, 1989. Another open forum, with approximately 75 people in attendance, was held at the park on September 17, 1989 after the master planning team drafted the goal statement and objectives. The Department took into account the comments received at the June and September open forums when developing the goal statement and objectives, and the recommendations in the plan. A final forum was held on July 21, 1991 during the 30-day draft master plan review period. More than 75 people commented on the draft plan through letters, calls to the hotline, or through the open forum process during the review period.

For a variety of reasons, completion of the master plan was delayed for more than 10 years. The draft master plan and environmental assessment that was presented during a public review and comment period between June 29 and July 12, 2002 was essentially unchanged from the drafts that were reviewed and commented on by the public between 1989 and 1991. The Department received 21 comments. Of these, five expressed general opposition to the draft master plan, 13 questioned or opposed the campground, three opposed closing Sauk Trail Road, one opposed the 190-acre boundary expansion, one opposed expanding use of the shuttlebus, four had concerns about the process for obtaining public input, and one had questions and concerns about deer management in the park. The Department held a public forum in October 2002 to gather further comments on the draft master plan. The forum was well attended and garnered a variety of comments, mainly on the issues outlined above. The majority of comments favored developing a campground at the park. The Belgium Town Chair sent a letter expressing the town's desire to further discuss the development of a campground at Harrington Beach State Park.

In June 2003 the Department presented an updated campground plan to Town of Belgium officials. They agreed that the Department should proceed with updating the master plan with the new campground configuration and release the master plan for public review and comment. The Department received valuable comments in regard to the recommendations in the master plan during the October 2003 review and comment period. Most of the comments were in regard to the proposed campground. Based on comments received, the Department reduced the number of campsite loops from three to two and the number of sites from 100 to no more than 75, and removed the recommendation to widen the shuttlebus road and provide a 30-car lot at the south picnic area.

In April 2004, Department staff presented a summary of plan changes to town of Belgium representatives and sent a letter describing the changes, along with an updated Development Map to everyone on the master plan mailing list. The Department received positive comments about removing the proposed south picnic area parking lot and reducing the number of proposed campsites.

Appendix B - Fish Species

The following fish species are located in Lake Michigan, Quarry Lake, or Puckett's Pond.

Chestnut lamprey	Pugnose shiner (Endangered)	White perch
Northern brook lamprey	Emerald shiner	Burbot
Silver lamprey	Ghost shiner	Banded killfish
Sea lamprey	Ironcolor shiner	Blackstrip topminnow
Lake sturgeon	Common shiner	Starhead topminnow
Longnose gar	Blackchin shiner	Brook silverside
Shortnose gar	Blacknose shiner	Brook stickleback
Bowfin	Spottail shiner	Ninespine stickleback
Alewife	Rosyface shiner	White bass
Gizzard shad	Spotfin shiner	Rock bass
Goldeye	Sand shiner	Green sunfish
Mooneye	Weed shiner	Pumpkinseed
Longjaw cisco (Endangered)	Redfin shiner	Warmouth
Cisco or lake herring	Mimic shiner	Orangespotted sunfish
Lake whitefish	Northern redbelly dace	Bluegill
Bloater	Bluntnose minnow	Longear sunfish
Deepwater cisco	Fathead minnow	Redear sunfish
Kiyi (Endangered)	River carpsucker	Smallmouth bass
Blackfin cisco	Quillback	Largemouth bass
Shortnose cisco (Endangered)	Highfin carpsucker	Black crappie
Atlantic salmon	Longnose sucker	Crystal darter
Coho salmon	White sucker	Western sand darter
Chinook salmon	Blue sucker	Eastern sand darter
Rainbow trout	Creek chubsucker	Mud darter
Brown trout	Lake chubsucker	Greenside darter
Brook trout	Northern hog sucker	Bluntnose darter
Lake trout	Smallmouth buffalo	Fantail darter
Rainbow smelt	Bigmouth buffalo	Least darter
Grass pickerel	Black buffalo	Johnny darter
Northern pike	Spotted sucker	Stippled darter
Stoneroller	Silver redhorse	Banded darter
Goldfish	Black redhorse	Yellow perch
Redside dace	Golden redhorse	Logperch
Lake chub	Shorthead redhorse	Gilt darter
Carp	Black bullhead	Blackside darter
Brassy minnow	Yellow bullhead	Slenderhead darter
Silvery minnow	Brown bullhead	River darter
Speckled chub	Channel catfish	Sauger
Bigeye chub	Slender madtom	Walleye
Silver chub	Stonecat	Freshwater drum
Hornyhead chub	Tadpole madtom	Mottled sculpin
Golden Shiner	Brindled madtom	Slimy sculpin
Pallid Shiner	Trout-perch	Spoonhead sculpin
		Deepwater sculpin

Appendix C - Wildlife Species

The wildlife species are listed under their respective habitats. An asterisk notes those species of special management concern or those known or suspected to be on the decline in southern Wisconsin.

Grasslands

Mammals: cottontail rabbits, red fox, striped skunk, white-tailed deer, white-footed mouse, meadow vole.

Birds: eastern meadowlark*, bobolink*, eastern bluebird*, sparrows* (field, vesper, grasshopper, savannah, clay-colored, and Henslow's), northern harrier*, red-tailed hawk, eastern kingbird, gray catbird, upland sandpiper*, common yellowthroat, song sparrow, American goldfinch, ring-necked pheasant*, gray partridge, blue-winged teal*, mallard. The state-endangered *Tyto alba* (barn owl*), was sited in the park in 1980, and the *Asio flammeus* (short-eared owl*) is a nearly annual winter resident

Herps: northern spring peeper, eastern tiger salamander, American toad, northern leopard frog*, eastern hognose snake, Butler's garter snake*, brown snake

Wooded Habitat

Mammals: raccoon, opossum, white-tailed deer, big brown bat, red squirrel, gray squirrel, deer mouse, long-tailed weasel, gray and red fox

Birds: American woodcock, common flicker, hairy woodpecker, downy woodpecker, alder flycatcher, least flycatcher, black-capped chickadee, blue jay, white-breasted nuthatch, Cooper's hawk*, red-tailed hawk, red-shouldered hawk*, yellow-billed cuckoo, great horned owl, wood duck

Herps: western chorus frog, northern spring peeper, eastern gray treefrog, wood frog, eastern garter snake

Puckett's Pond

Mammals: muskrat, mink, raccoon

Birds: swamp sparrow, red-winged blackbird, green heron, long-billed marsh wren, sora, lesser yellowlegs, blue-winged teal, mallard, American bittern

Herps: green frog, cricket frog, northern leopard frog, painted turtle

Quarry Lake

Mammals: big brown bat, mink

Birds: belted kingfisher, tree swallow, American redstart, bank swallow

Herps: northern water snake

Mammals: raccoons, mink

Lakeshore

Birds: a variety of shorebirds including the semi-palmated plover, greater yellowlegs, lesser yellowlegs, solitary sandpiper, spotted sandpiper, semi-palmated sandpiper, least sandpiper, pectoral sandpiper, Bonaparte's gull, ring-billed gull, herring gull, and Caspian tern*

Appendix D – Alternatives to the Plan and Their Impacts

No Action

This alternative would continue property operation as a day use park. There would continue to be access control concerns due to the public thoroughway provided by Sauk Trail Road. There also would be little or no change in the degree of resource protection or vegetative management. Old field succession would continue. Development would be limited to necessary replacement of facilities as funds became available. Public use of the south beach area would remain limited. This alternative does not address public demand for additional camping facilities in this area. Additional nature education through interpreted trail development would not be available. No construction-related impacts would occur. Noise and traffic would remain at existing levels.

Limited Recreational Development

This alternative would provide for some development to take place to accommodate an increase in the number of visitors. A walk-in campground, cabins for use by people with disabilities, or other type of low-impact overnight camping would be developed. Total park visitation could increase to about 150,000.

A much higher degree of resource protection and vegetative management would occur. The lakeshore beach and dune area, lacustrine forest and grasslands would be better protected and managed. Wetlands would be restored and Puckett's Pond would be managed for both fishing and migratory birds. Only low-impact recreational developments, such as nature and interpretive trails, would be permitted. An additional 190 acres would be acquired to the west of the current boundary for development of grassland and low-impact recreation.

Accessible piers would be built at Puckett's Pond and at Quarry Lake. Quarry Lake and Puckett's Pond would be stocked to provide greater fishing opportunities.

The portion of Sauk Trail Road that bisects the park would be acquired and the park boundary would expand to the north to include a six-acre easement across from the park entrance.

This alternative would allow for a small increase in park visitation and a high level of natural, cultural and historical resource management and protection to take place.

An additional 190 acres would be acquired for eventual grassland restoration, and 235 acres of the existing old field grassland would be maintained and enhanced. Grassland, wetland and prairie restoration impacts include:

- preserving the vistas of Lake Michigan
- complementing the wetland restorations with an associated plant community
- providing a community (grasslands) that fits well into the existing regional landscape
- providing important bird nesting and feeding habitat for resident migratory and predatory birds, waterfowl and songbirds
- providing a diverse habitat for small mammals, invertebrates and reptiles.

Restoration of a Southern Mesic Hardwood Forest

An alternative vegetative management approach would involve restoring the approximately 432 acres of grassland/old field to southern mesic forest--its presettlement vegetation as described by Curtis instead of maintaining this area in grassland and wetland. Doing this would foreclose the impacts listed above for grassland management. Southern mesic hardwood forests, like

grasslands, and forest interior species are in decline. However, the potential impacts of this approach are not well understood and cannot be reliably predicted.

Retain Existing Property Boundary and Acquisition Goal

Without the additional acreage, it could be difficult for the old field grassland within the current boundary to sustain grassland nesting species. In addition, it would be difficult to develop the park with the recreational opportunities residents of Wisconsin, particularly southeastern Wisconsin, are requesting.

The land within the expanded boundary area is currently zoned A-1, Agricultural. This land is within one-half mile of I-43 and, therefore, is very susceptible to changes in land use, some of which might not be compatible with the park. If the land is not added to the property boundary, the park could be impacted in the future by adjoining unbuffered development.

Recommended Alternative

The alternative would allow the development of additional recreational facilities at the park, as well as continued protection and restoration of the natural resources. A campground with a medium-size toilet-shower building, electric utility hookups at 28 sites, two yurt sites, 33 non-electric tent sites, six walk-in sites and a kayak site. Total park visitation could increase to 200,000.

This alternative includes the acquisition of about 190 acres to the west of the current park boundary. The additional acreage would allow the development of a campground within the current boundary without the loss of grassland habitat on the added 190 acres. The park boundary also would be modified to include a six-acre easement across from the park entrance. This acquisition would buffer the park from any adverse development across from the entrance. The portion of Sauk Trail Road that bisects the park also would be acquired.

This alternative would change the character of this property from day use only to an atmosphere similar to that of many other state parks. Increased visitation would result in additional noise, vehicle traffic, patrols and facility maintenance. More visitor use could lead to an increase in user conflicts. The increased use of roads, trails and other facilities within the park would create additional disturbance for wildlife in the vicinity. Minor increases in vehicle fuel usage and emissions would also occur. Development of the campground would change the ground cover over much of the existing 60 acres of grassland and old field habitat. Other facility development would also modify existing vegetation. Temporary construction-related impacts would include increased fuel use, stormwater runoff, erosion and sedimentation, noise, fugitive dust and disturbance or displacement of existing flora and fauna. These impacts would be mitigated by appropriate construction techniques, including erosion control measures, and by avoiding wetlands and important wildlife habitat, including habitat for rare species.

This alternative would substantially increase outdoor recreation opportunities at the park, especially for campers. Restoration and maintenance of grassland areas would increase the numbers and species diversity of grassland flora and fauna.

Appendix E – Environmental Impacts of the Plan

Environmental Analysis and Decision on the Need for an Environmental Impact Statement (EIS)
Southeast Region, Bureau of Parks and Recreation
Type List Designation - NR 150.03 (6) (a) 6.a.

Project Summary

The master plan for the 637-acre Harrington Beach State Park will direct the management and development of the property for the next 10 years. The plan was developed by a Department Master Planning Team comprised of resource managers from the Bureaus of Parks and Recreation, Forestry, Wildlife Management, and Fisheries Management, and members of the public.

Some major proposals in the plan include:

- add an additional 190 acres to the present boundary for a total of 827 acres
- provide barrier-free access to persons with disabilities to all park facilities
- develop a campground with electrical, tent, yurt and kayak sites
- provide picnic and beach recreational opportunities for 200,000 annual visitors
- manage cultural resources, both archeological and historic, in order to provide preservation and protection of significant sites as well as educational opportunities for visitors to the park

Evaluation of Project Significance

Environmental Effects and Their Significance

Development. The park has been open to the public since 1968 on a year around day use basis. The road developments in 1971 and 1972 made it easier for visitors to reach the eastern portion of the park during the winter months. Between 1982 and 1988 the park was closed to vehicular traffic during the winter months. Opening the property to additional public use with the development of a campground would increase overall use of park facilities including trails, beaches, parking areas, Quarry Lake and Puckett's Pond. Some old field vegetation would be disturbed by campground construction. The restoration of grassland habitat would increase the diversity of endemic grassland flora and fauna. The overall environmental effects should not be significant.

Development of facilities such as additions to or new parking lots, construction of trails, and construction of a campground, restroom facilities and roads would cause some minor disturbance of the soil. This would mainly be from grading and compaction during construction. Erosion control practices would be used during all phases of construction to protect any existing surface waters from sedimentation and turbidity. Existing wetlands would also be protected from the effects of erosion, such as sedimentation, by implementation of sound erosion control methods during all construction activities. All disturbed soils would be re-vegetated. Wetland impacts will be avoided in any campground and facility design.

About 24 wetlands totaling almost 30 acres would be restored west of Sauk Trail Road and north and south of the interior park road. The soil also would be disrupted during wetland restoration. The impact on the surrounding lands within the park from this development would be minimal. The restoration of wetlands is not expected to have a negative impact on existing surface waters or groundwater. Some minor disruption of surface conditions also can be expected during construction. Efforts would be made to keep disruptions to a minimum. The wetlands would provide nesting and foraging habitat for wildlife species, and a stopover for migrating waterfowl and birds of prey. Along with the interpretive trails, the wetland areas

would provide an educational opportunity for visitors to the park. These wetlands would also contribute to improved water quality by absorbing run-off. They also provide for more diversity of plant species.

Air Quality. Facility development is not expected to significantly affect the air quality of southeastern Wisconsin. A minimal increase in noise and air pollution can be expected during construction of a non-traditional or traditional campground, construction of roads, and additions to parking lots. The use of the shuttlebus reduces the total air pollution potential by reducing the number of vehicles operating in the park. The additional visitor activity will increase potential air emissions on a proportionate basis.

The management burns that would be conducted in select areas to control woody vegetative growth would be a temporary source of air pollution. To maximize safety and air quality control, all burns for prairie maintenance would be conducted within prescribed conditions of the local burning ordinance.

Cultural Resources. An archeological literature search was conducted at the State Historical Society of Wisconsin (SHSW). The SHSW files show no prehistoric archeological sites reported as yet within the boundary of the park. The manager's residence is recorded in the Wisconsin Inventory of Historic Places, but it is not eligible for the National Register. A systematic archeological survey has not been done and archeological sites are likely to occur within the park, especially along the Lake Michigan shoreline. No new developments are recommended for the portion of the park that includes the historic quarry and Stonehaven village.

All known cultural resources in the park are east of Sauk Trail Road where the mining town and quarry site were located. A member of the Friends of Harrington Beach has extensively researched the history of the park lands, including the mining town and quarrying operation, and has helped develop an interpretive trail in the park.

The Department's archeologist and historic property planner would be consulted, and an archeological survey would be conducted, before any new ground disturbances.

Endangered Resources. A review of the Department's Natural Heritage Inventory database was completed. The presence of threatened, endangered and special concern species noted include: Upland Sandpiper (*Bartramia longicauda*), Barn Owl (*Tyto alba*), Cherrystone Drop Snail (*Hendersonia occulta*), Oval Vallonia Snail (*Vollonia excentrica*), American Sea-Rocket Plant (*Cakile edentula*), Thickspike Plant (*Elymus lanceolatus psammophilus*), and the Seaside Spurge (*Euphorbia polygonifolia*). There will be no impact to these species or their habitats as a result of the facility developments. The Harrington Beach Lacustrine Forest, a 178-acre Natural Area of regional significance (NA-2) is located east of Sauk Trail Road. The development of trails, parking lots, and other facilities will not significantly impact this habitat community. The SEWRPC has identified significant portions of Harrington Beach State Park as being within an Environmental Corridor. This is common to most of the Department's land holdings. The park facilities, including the campground development, are consistent with this designation.

Vegetation. Preventing incompatible activities in these areas would protect the existing high quality lacustrine forest or cedar swamp, Lake Michigan sand dune and shoreline woods, and grassland communities within the park.

The number and type of plant species at HBSP would minimally change from natural plant succession and interruption of succession from cutting, burning and planting of various native species. Some removal of vegetation would occur west of Sauk Trail Road to reduce the shrub carr/wetland stands. The cut and burned areas would be planted and managed for grassland species. This plan recommends the conversion of the old field and agricultural lands and some of the shrub carr/wetland areas to grassland. This would occur on the western portion of the park and on the 190 acres included in the expanded boundary area. The implementation of this recommendation would reduce the amount of topsoil lost through erosion by wind and rain.

Wildlife. The primary beneficial impact to terrestrial species would be the creation of about 30 acres of wetlands and almost 400 acres of grassland. These additional habitats would benefit small mammals, songbirds, waterfowl and migrating birds, amphibians, and reptiles.

Deer population. Deer are eating some of the native vegetation in the park such as the cedar trees, dogwood and orchids. An aerial survey in 1989 counted 150 deer. A winter population of 50 or less would be more reasonable. The deer population would be monitored closely, and it is currently managed through a late bow and muzzle-loading hunting season as identified in the plan. No additional impacts are expected. In 2003, 31 deer were harvested.

Fisheries. Implementation of fish management recommendations would not result in significant impacts to aquatic species. The land use, surface water quality and quantity, and groundwater quality would not significantly change.

Local services. The property has an on-site manager; however, there may be an occasional need to use the local police, fire, or medical services. The use of these services could increase with the development of a traditional campground. Traffic, noise, patrols, and maintenance activities will also increase proportionately. The closure of the Sauk Trail Road would inconvenience local residents that utilize this thoroughway for transportation. Emergency vehicles utilize other transportation routes avoiding Sauk Trail road since it is unpaved and speeds would be drastically reduced. As such, impacts to local residents should not be significant. Closing of Sauk Trail Road would improve the park visitor control and safety.

Economic benefits. The economic benefits recognized by local businesses would not greatly increase unless a campground is developed in the park. Within the southeastern region of the state, state park visitors spend an estimated \$31.90 per park visit (2000 dollars).^{*} Examples of these expenditures include travel to and from the park, recreational equipment rentals, and food purchases. Multiplying this number by an estimated 120,000 visitors a year equates to just over \$3.8 million a year spent by Harrington Beach State Park visitors within the southeast region. By using an economic multiplier of 1.75, the total economic impact of this park to Wisconsin's southeast region economy is approximately \$6.7 million per year. If park visitation increases to the estimated 200,000 visitors a year, after the recommend development, the total economic impact within the region will be approximately \$11.2 million per year.

^{*} Marcouiller, Olson, and Prey. 2002. State Parks and their Gateway Communities: Development and Recreation Planning Issues in Wisconsin. University of Wisconsin – Madison. 62p. Pub. Numbers PR-466 2002 and G3773.

Some seasonal jobs have been created by the development of the park. In addition, firewood concessions, ice sales, and visits by campers to the local restaurants and grocery stores would have a positive impact on the local economy.

As a result of this master plan, it is anticipated that an additional 2.0 permanent staff would be needed to manage the campground and increased visitor use plus a limited term employee. The cost for these (all costs in 2003 dollars) will be \$41,000/yr., \$32,500/yr., and \$21,000/yr., respectively, for a total of \$94,500 a year.

Additional supplies and services, vegetative management, vegetation restoration, and trail maintenance will come to approximately \$5,500/yr. This will bring the total estimated fiscal impacts to \$100,000 upon completion of all aspects of this master plan.

The total estimated cost to acquire all lands, easements and development rights within the project boundary is approximately \$800,000. Costs to develop the public use and administrative support facilities detailed in this plan are estimated to be \$3,479,000 (2003 dollars).

Estimated Costs of Development

The following are property development projects of the plan. Funding for all projects shown is contingent upon state allocations. All costs shown are estimates from the 2003 capital development cost estimate worksheets. Actual cost at time of construction may increase due to inflation.

Harrington Beach - Estimated Costs of Development

1. Develop 75-unit campground – including electric sites, non-electric sites, yurt sites, a group campground and one rustic kayak site, toilet-shower building, and an RV/dump station	\$2,400,000
2. Develop 25 additional parking spaces to existing lower lot	\$25,000
3. Develop three miles of new hiking trails	\$10,000
4. Upgrade the shuttlebus to accommodate additional passengers	\$80,000
5. Develop six-unit flush toilet building	\$100,000
7. Develop interpretive center	\$625,000
8. Develop children's play area	\$60,000
9. Develop self-guided nature trails	\$50,000
10. Control shoreline erosion	\$5,000
11. Restore 24 wetland basins	\$25,000
11. Create native grassland on 190 acres	\$14,000
13. Dredge Puckett's Pond	\$10,000
14. Develop disabled-accessible fishing pier on the east end of Quarry Lake	\$50,000
15. Develop disabled-accessible fishing pier on the east end of Puckett's Pond	\$25,000
Total	\$3,479,000

Land acquisition. The land acquisition of 190 acres as identified in the plan would cause a shift from private ownership to public ownership. It is the Department's policy to acquire land within a project boundary only from willing sellers.

Land that is now in agricultural production would be used for open space purposes. Lands

purchased after January 1, 1992 for State Park purposes are removed from the tax role and the Department makes a payment in lieu of taxes. The payment in lieu of taxes is paid on an Ad Valorem basis to be distributed to the various taxing jurisdictions. There is no expected loss of revenue to the local Township, School District, or County, nor would the acquisition of the 190 acres have an impact on regional land values.

The tax year following acquisitions, the payment in lieu of taxes would be made to the treasurer of the tax district. The amount of this payment is determined by multiplying the estimated value (purchase price) by the aggregate net general property tax rate for that jurisdiction that would apply if the property were taxable. In subsequent years the estimated value would be adjusted based on the increase or decrease to reflect the annual percentage change in the equalized value of all land in the tax district. This payment would provide a continuing basis for recognizing increasing land values in a tax district.

When a landowner agrees to consider selling their land the Department obtains one or more appraisals depending on the complexity of the acquisition. Appraisals consider the fair market value of the property based on its most probable highest and best legal use. The valuation considers current market sales between private parties and real estate activities in the area. Landowners are presented with an offer, which they may accept, or decline.

Significance of Cumulative Effects

Land acquisition. As stated above, the proposal to enlarge the project boundary by approximately 190 acres should not have any impact on regional land values.

Habitat creation. The restoration of 30 acres of wetlands and the restoration and maintenance of about 400 acres of grassland habitat, over a period of five years, would have a positive effect on the property and surrounding environment. The wetlands would attract migrating birds and waterfowl and provide educational opportunities. The grasslands would attract songbirds and small mammals, provide important nesting habitat that is rapidly being destroyed in southeastern Wisconsin, provide educational opportunities, and provide an area for trail development especially for birdwatching enthusiasts.

Energy use. Management and continued developments in the park does and would continue to use fuels. Overall energy impacts are negligible.

Significance of Risk

Restoration projects. The success of environmental restoration projects, such as the restoration of wetlands and grassland habitat, is not guaranteed. The benefits of taking the risk to establish these environments outweigh the risk of possible failure.

Vegetative burning. The Bureau of Endangered Resources and Wildlife recommend using burning as a technique to control the exotic vegetative species in the grasslands. The risk of the fires to get out of control exists; however, the Department maintains a well-trained staff and a full complement of fire fighting equipment that would be on site during all burns.

Swimming beach. The Department does not maintain a lifeguard on duty at the Lake Michigan swimming and sunbathing beach. Signs are posted stating that all swimmers do so at their own risk.

Significance of Precedent

Development and management. The change in the use of this park from a day-use facility to having camping is a substantial change in property use. This change does establish a new use but is limited to this property only and is not irreversible. If necessary, the use could be

modified and or changed back to the current use; however, a substantial loss of capital investment and revenue income would occur. In general, the development and management recommendations contained in this plan are not precedent setting and should not influence future decisions that would negatively affect the quality of the environment. The development of grasslands and wetlands should have a positive affect on the environment by creating additional habitat for waterfowl, migrating and nesting species.

Agency agreement. This plan contains no known conflicts with local, other state, or federal agencies. The existing park, acquisition of additional lands, and recommendations in this plan are compatible with the statewide and Ozaukee County Comprehensive Outdoor Recreation plans, and with the local zoning ordinance. The Department would work with the local town on procedures to abandon or acquire Sauk Trail Road.

Significance of Controversy Over Environmental Effects

Citizen participation. An extensive citizen participation process has been in effect during the development of this plan. Open forums were held, contacts were made with local governmental officials and residents, newsletters were developed and sent to people throughout southeastern Wisconsin, and a toll-free telephone hotline was made available for comments. The time gap between active planning activity on this project resulted in some new residents probably being unaware of the draft master plan. A news release was recently prepared and a draft of the master plan was made available to the public to address these concerns.

Controversial issues. There has been some local controversy involving several recommendations in the plan. They include the closure of Sauk Trail Road, the development of a campground, and the 190-acre expansion of the park boundary. These concerns are predominantly generated from area residents and adjacent landowners.

Appendix F – Compliance with the Wisconsin Environmental Policy Act

DECISION (This decision is not final until certified by the appropriate authority)

In accordance with s. 1.11 Stats., and Ch. NR 150, Wis. Adm. Code, the Department is authorized and required to determine whether it has complied with s. 1.11, Stats., and Ch. NR 150, Wis. Adm. Code.

Complete either A or B below:

- A. EIS Process Not Required

Analysis of the expected impacts of this proposal is of sufficient scope and detail to conclude that this is not a major action which would significantly affect the quality of the human environment. In my opinion therefore, an environmental impact statement is not required prior to final action by the Department on this project.

- B. Major Action Requiring the Full EIS Process []

The proposal is of such magnitude and complexity with such considerable and important impacts on the quality of the human environment that it constitutes a major action significantly affecting the quality of the human environment.

Therese J. Gripenberg
Signature of Evaluator

5-20-04
Date Signed

Frank Ornel
Regional Supervisor or Bureau Director

5/20/04
Date Signed

Copy of news release or other notice attached? [] Yes No *available upon request*

Number of responses to public notice: *75*

Public response log attached? [] Yes No *available upon request*

CERTIFIED TO BE IN COMPLIANCE WITH WEPA

Marcia C. [Signature]
Regional Director or Director, Bureau of Integrated
Science Services (or designee)

20 May 04
Date Signed

Notice of Appeal Rights

This notice is provided pursuant to section 227.48 (2), Stats. If you believe that you have a right to challenge this decision, you should know that Wisconsin statutes and administrative rules establish time periods within which requests to review Department decisions must be filed.

For judicial review of a decision pursuant to sections 227.52 and 227.53, Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to file your petition with the appropriate circuit court and serve the petition on the Department. Such a petition for judicial review shall name the Department of Natural Resources as the respondent.

To request a contested case hearing pursuant to section 227.42, Stats., you have 30 days after the decision is mailed, or otherwise served by the Department of Natural Resources. The filing of a request for a contested case hearing is not a prerequisite for judicial review and does not extend the 30-day period for filing a petition for judicial review.

Note: Not all Department decisions respecting environmental impact, such as those involving solid waste or hazardous waste facilities under sections 144.43 to 144.47 and 144.60 to 144.74, Stats., are subject to the contested case hearing provisions of section 227.42, Stats.