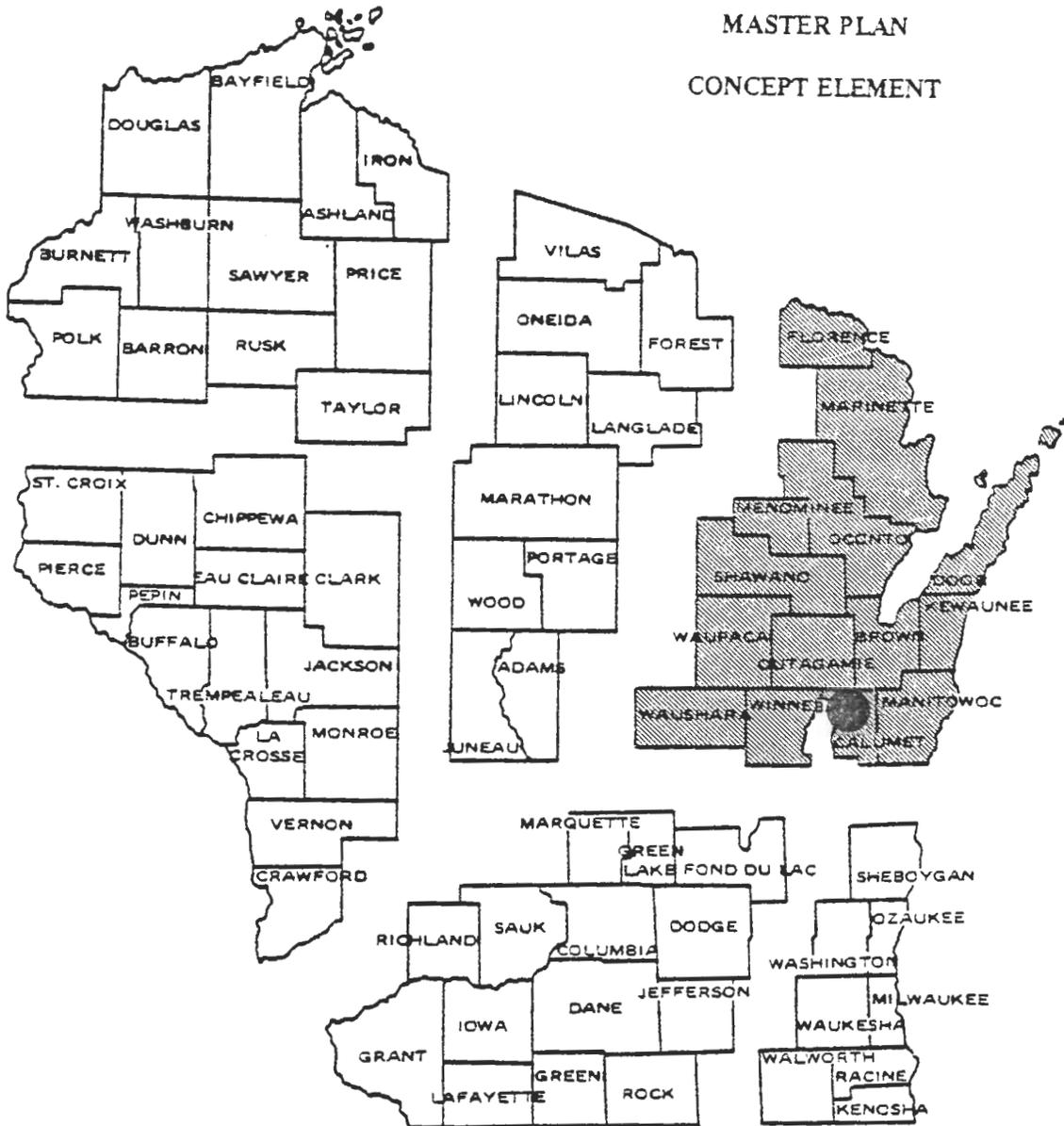


HIGH CLIFF STATE PARK

MASTER PLAN
CONCEPT ELEMENT



Property Task Force

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Approved By: NRB
Date: 12/15/82

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Master Plan Concept Element

High Cliff State Park

SECTION I - ACTIONS

High Cliff State Park is a scenic and resource oriented state park. A wide range of traditional activities is offered including camping, hiking, swimming, and picnicking. A well developed marina with rental slips and launching ramp to Lake Winnebago is also provided as well as an adjacent golf course.

A. GOAL AND OBJECTIVES

Goal

Preserve and protect the unique geological and historical features of the site, and provide a resource-based outdoor recreation area serving primarily the east-central region of the State.

Objectives

1. Provide recreational facilities capable of accommodating 750,000 visitor days annually, distributed as follows:

Tent/trailer Camping	50,000
Group Camping	20,000
Nature Study	25,000
Hiking	25,000
Snowmobiling	10,000
Cross-Country Skiing	10,000
Horseback Riding	5,000
Picnicking	100,000
Swimming Beach Use	200,000
Boating and Marina Use	150,000
Sightseeing/Pleasure Driving	100,000
Shore Fishing	10,000
Other Passive Uses	95,000

2. Provide facilities and programs for interpreting the history of the lime kilns and associated company town.

3. Provide facilities and programs for interpreting the unique geology and biology of the park.
4. Establish a State Scientific Area as proposed by the Bureau of Research and the Scientific Areas Preservation Council.

B. RECOMMENDED MANAGEMENT AND DEVELOPMENT PROGRAM

The actions listed in this section respond to the management problems and related concerns and recreational needs stated in the Background Information section of this document. Three basic categories of action are involved: land control, management, and development.

1. Land Control (Fig. 3)

It is recommended the property acreage goal of 1,294.00 acres be reduced 100.55 acres.

The new acreage goal for High Cliff State Park would be 1,191.45. The recommended boundary revision is shown in Figure 3. Efforts would continue to acquire the remaining 51.56 acres of privately owned land located within the proposed property boundary.

Efforts to eliminate one of the three park access points will continue. The most desirable solution would be to close the road north of the marina to all traffic. If this is not possible, a one-way exit only route will be sought. Control of other town roads within the park will also be sought.

2. Management

All lands within the park will be classified according to Uniform Land Use Classification System (Fig. 4). This will clarify and reinforce past management practices.

The two lagoons adjacent to the marina will be managed by stocking, drawdown, or chemical treatment for production and harvest of panfish. This will help provide expanded fishing opportunities for park users, with little or no development necessary.

The vegetation of the park will be managed to provide a natural diversity and density of species. Agricultural use will be allowed to continue in some areas now leased for that use. Others will be allowed to revert to pioneer species of plants. Some will be planted with trees and shrubs.

A 46 acre woodlot will be developed as a forest management demonstration area. Planting and selective cutting will be completed to soften the corners and straight sides of the woodlots and also to improve wildlife habitat and reestablishment of timber types. Diseased, dangerous, or downed trees will be removed throughout the Park's woodlots when they endanger the public safety near trails, roads, buildings, or other developed facilities.

The State Scientific Area will be undisturbed except where public safety is a factor.

3. Development (Fig. 5)

This section deals with actions necessary to achieve certain objectives and does not list items that would be considered maintenance, repair, or timely replacement.

- a. Provide a separate bicycle and pedestrian route to alleviate traffic conflicts on the "hill road." This may or may not parallel the road. Also, trees along hill road should be thinned to increase sunlight penetration and visibility.
- b. The capacity for tent/trailer camping at High Cliff should be increased by at least 50 sites. A loop-type configuration should be used. The site for this development will be near the existing campground.
- c. The access road to the campground should be relocated to be closer to the park office. This will allow park personnel to more closely monitor traffic entering and leaving the facility, and reduce or eliminate unauthorized entry.
- d. Develop a horseback riding trail in the park contingent upon the ability to do so without causing environmental degradation. Access will be controlled to assure collection of admission fees. A tentative route is shown in Figure 5 with final routing to be decided in the field. The trail will not be established until problems relating to access and control are solved to the satisfaction of the Department.
- e. Any extension of the breakwater or expansion of the marina facilities will be considered if private funds become available for these purposes.
- f. Develop a barrier-free fishing access to Lake Winnebago. This structure may take the form of a new pier structure, or modification of the existing breakwater, but will not be intended for the mooring of watercraft. The structure should be able to accommodate at least 25 fishers and be accessible by wheelchair.

- g. The popularity of ski touring points to the need for more miles of ski trail in the park. While no quota of new trail is specified, an addition should be established.
- h. Select one old quarry area in the park that best suits the interpretive needs of the naturalist program and totally clear trees and brush to re-expose the quarry walls. Allow the other quarry sites to be reclaimed by vegetation.
- i. Construct an observation tower atop the escarpment to provide a panoramic view of the park and the lake. The tower should be tall enough to allow visibility above the tree tops. The view of the horizon from below should also be considered.
- j. The south breakwater structure will be extended to prevent direct wave action inside the harbor. This project is contingent upon securing design and construction funding from sources outside the DNR.
- k. An additional section of snowmobile trail about 2 1/2 miles in length will be established as a connecting link between the Calumet County Park south of High Cliff and the existing pass through trail. This will eliminate the need for snowmobile travel on Lake Winnebago.

4. Development Phasing

Development is organized into phases based on relative importance and timeliness:

Phase I

- Establish horseback riding trail
- Expand campground and revise access
- Expand ski trail system

Phase II

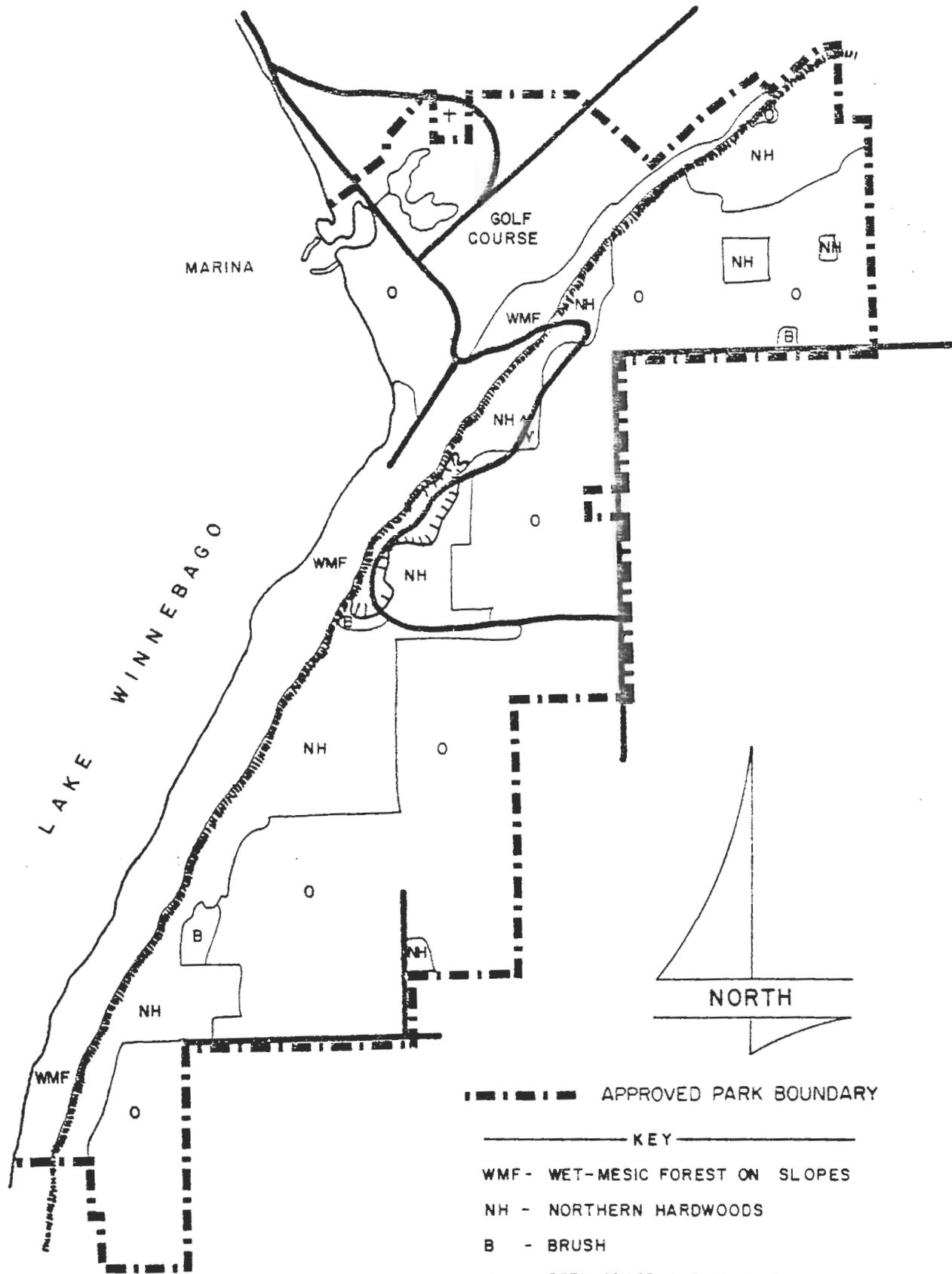
- Construct observation tower
- Provide shore and pond fishing
- Construct new park office
- Begin vegetation management

Phase III

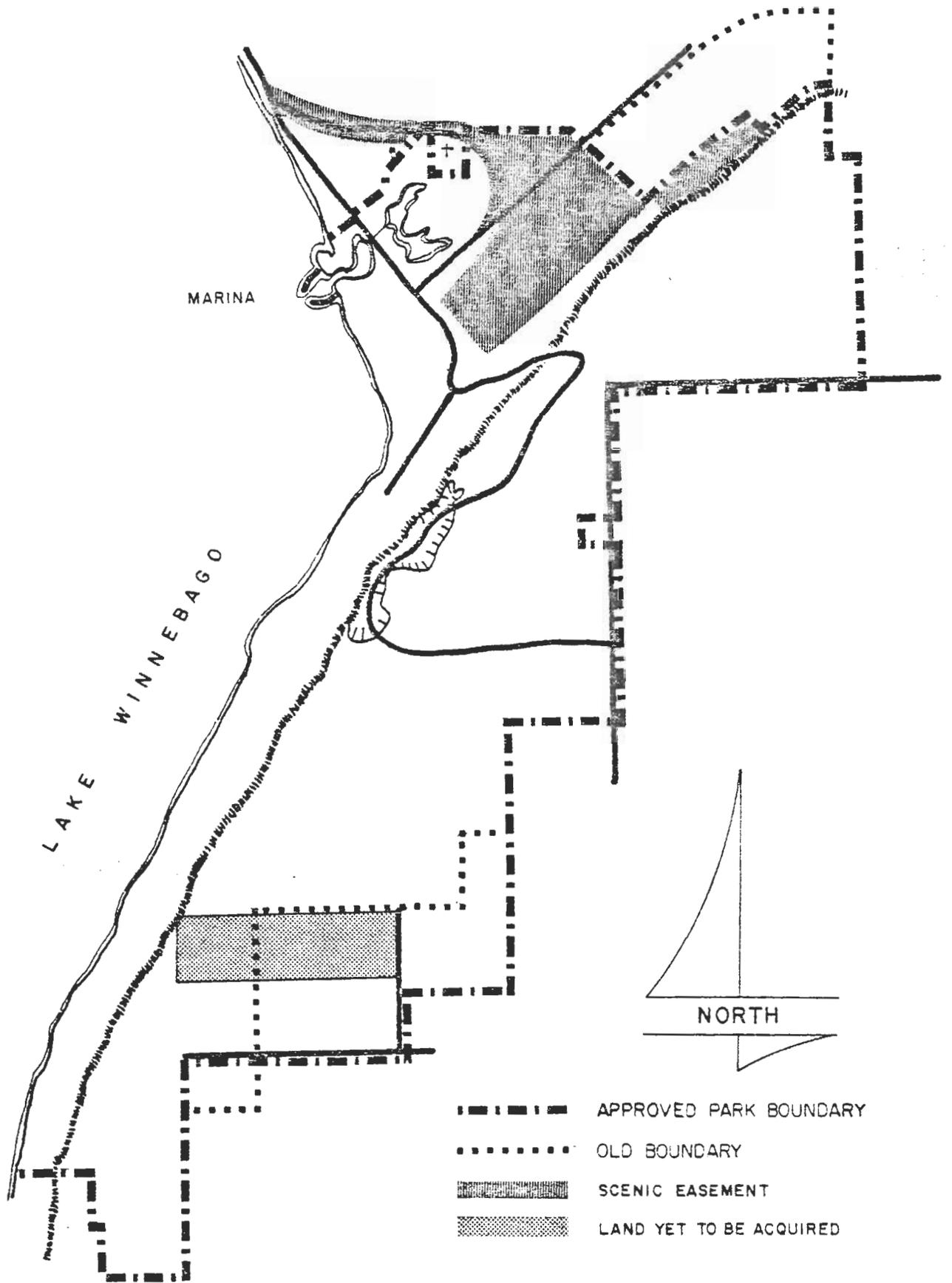
Reconstruct hill road

All areas proposed for development will be examined for the presence of endangered and threatened wild animals and wild plants. If listed species are found, development will be suspended until the District Endangered and Nongame Species Coordinator is consulted, the site evaluated, and appropriate protective measures taken.

A complete biological inventory of the property will be conducted as funds permit. Additional property objectives may be developed following completion of such an inventory.

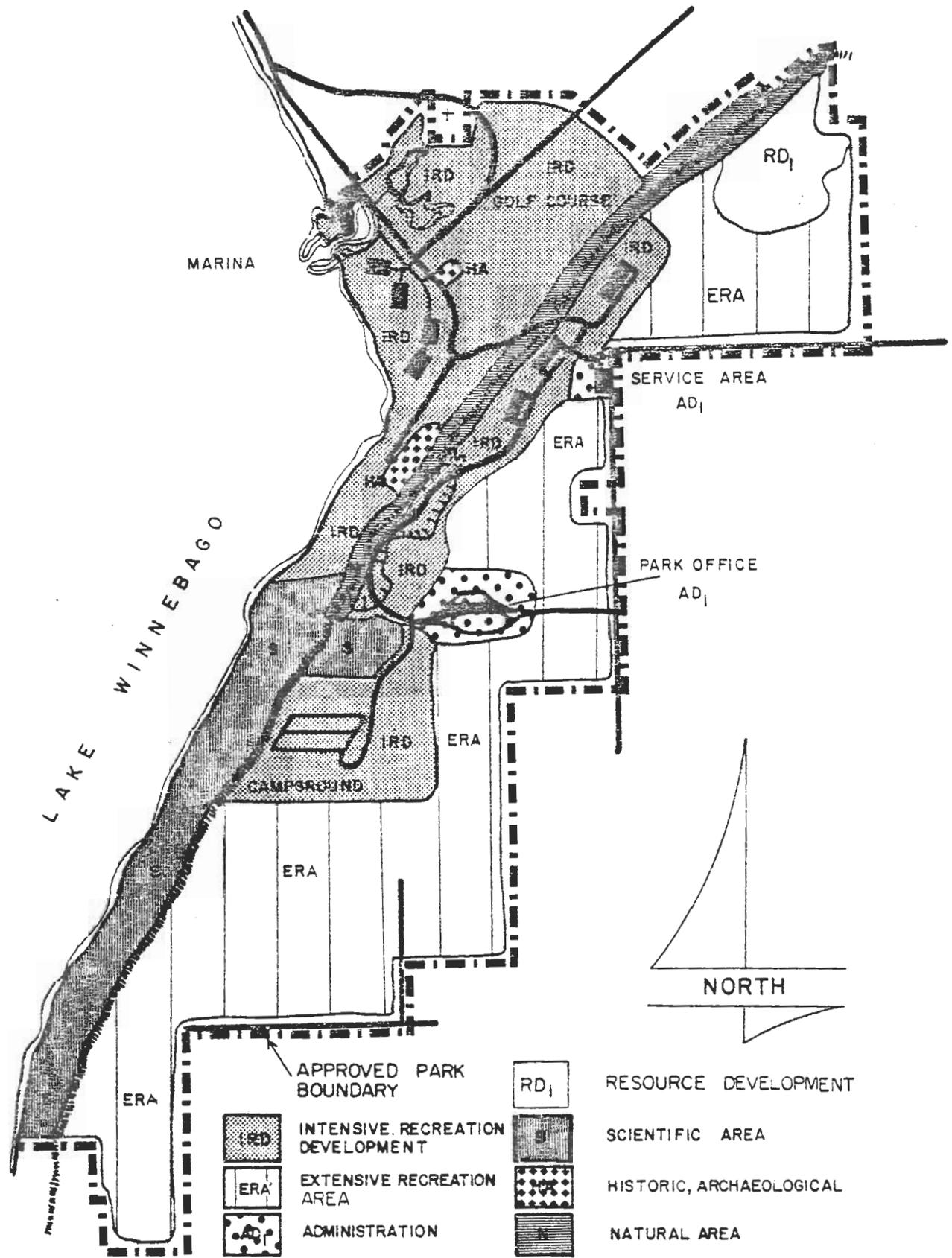


HIGH CLIFF STATE PARK
Fig. 2 VEGETATION



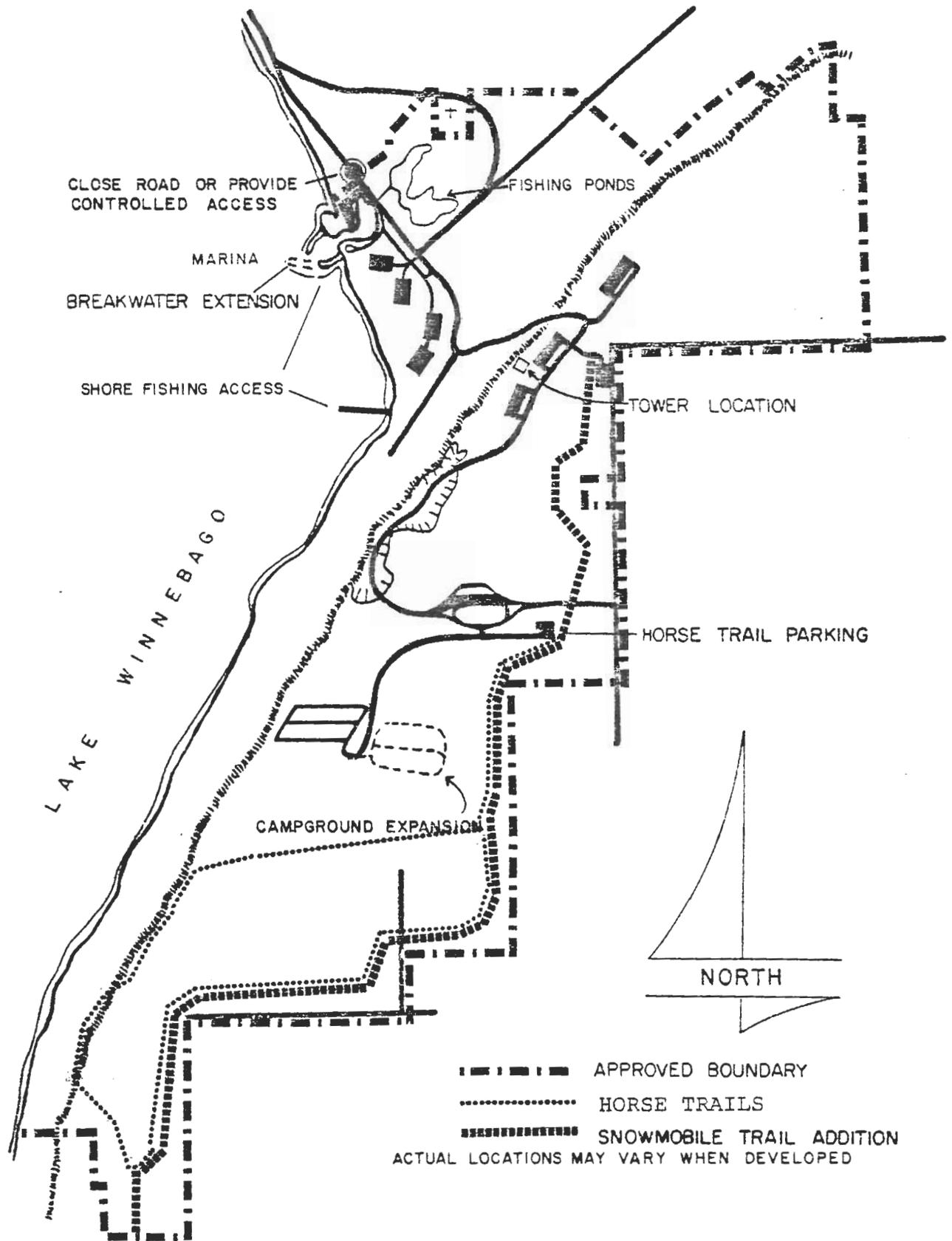
HIGH CLIFF STATE PARK OWNERSHIP AND BOUNDARIES

Fig. 3



**HIGH CLIFF STATE PARK
LAND USE CLASSIFICATION**

Fig. 4



HIGH CLIFF STATE PARK DEVELOPMENT LOCATIONS

Fig. 5

SECTION II - SUPPORT DATA

A. BACKGROUND INFORMATION

1. Location (Fig. 1).

High Cliff State Park is located on the northeast side of Lake Winnebago. The exact location is T19N, R18E, Section 1; and T20N, R18E, Section 36; and T20N, R19E, Section 31, all being in Calumet County, Town of Harrison.

The park is well located to serve the Fox River Valley. The five counties surrounding Lake Winnebago have a combined population of over 500,000. Major cities in these counties and distances to the park are:

<u>City</u>	<u>Population</u>	<u>Distance (miles)</u>
Green Bay	87,809	35
DePere	13,309	30
Appleton	56,377	11
Kaukauna	11,308	8
Neenah	22,902	13
Menasha	14,836	11
Oshkosh	53,082	31
Fond du Lac	<u>33,515</u>	49
Total	303,138	

<u>Counties</u>	<u>Population</u>
Brown	158,244
Outagamie	119,398
Calumet	27,604
Winnebago	129,946
Fond du Lac	<u>84,567</u>
Total	519,719

2. History of the Park

The idea of developing a park on the northeast shore of Lake Winnebago was considered as early as 1928. The interest shown by a number of people in the area known as the Fox River Valley prompted the 1929 State Legislature to investigate the possibility of establishing a park incorporating the scenic ridge overlooking the lake. This scenic 225 foot precipice was known locally as "High Cliff." The site had already proven to be popular as a private recreation area for picnics, family reunions, and outings. The excursion boats that travelled the lake made regular stops there to make connections for passengers bound for Green Bay, Menasha, Neenah, Oshkosh, and Fond du Lac. A group of local citizens took positive action in 1953 and formed the High Cliff Forest Park Association, Inc., whose mission was to promote the establishment of High Cliff as a state park. Under their leadership \$26,000 "seed money" was raised to prove to the State Conservation Commission that the Association was serious in its intentions. (Since then the Association has donated many thousands of dollars for continued acquisition and development at High Cliff.)

In 1954, the Conservation Commission officially established High Cliff State Park, and in 1955 approved the purchase of the initial 288-acre tract of land from the Western Lime and Cement Co. Since then state ownership has increased to over 1,000 acres.

3. Existing Ownership and Land Control (Fig. 3)

The approved acreage goal for the park is 1,292.00 acres, of which 1,139.89 has already been acquired, making ownership 88% complete.

Scenic easements have also been acquired for portions of the ledge that are not owned outright including portions of the adjacent golf course.

4. Existing Park Development

Since the beginning of development of High Cliff State Park, the following facilities have been built:

Tent/trailer Campground - 54 units

Group Camp - 80 person capacity

Nature Trail - 4.6 miles

Hiking Trail - 4.5 miles

Snowmobile Trail - 5 miles
Ski Touring Trail - 4.25 miles
Picnic Area - 45 acres
Picnic Shelters - 2
Swimming Beach - 250 feet
Bathhouse
Marina - 96 slips
Marina Parking - 71 cars
Boat Landing - 82 cars/trailers
Park Road System - 5 miles
Park Office (Temporary)
Shop/Storage Building

Other notable features include the High Cliff general store and post office which has been restored as a museum; the ruins of the kilns used by the Western Lime and Cement Company and the Red Bird Memorial and picnic shelter/concession building donated by the Banta Foundation.

In 1980, on a trial basis, a local group of radio-controlled model glider enthusiasts was allowed to launch their craft from an open field atop the ledge.

In 1980, High Cliff received 510,235 visitors of which 19,117 were campers. Wisconsin residents made up 80% of the visitors and the remaining 20% lived elsewhere. The major attraction to the park is day-use, ranked in descending priority as swimming, picnicking, and sightseeing. The 54-unit campground is heavily used during the summer season, with over 90% of the campers being Wisconsin residents.

B. RESOURCE INVENTORY AND CAPABILITY

1. Geology and Soils

The limestone ridge on which the park is located is actually the exposed edge of the Niagara limestone layer of bedrock. This "Niagara Escarpment" is part of a larger dish-like syncline formation reaching New York State, a distance of 900 miles. It is evident in Wisconsin from Kenosha County in southeast Wisconsin to the tip of the Door Peninsula. Nowhere is it as prominent a landscape feature as along the eastern shore of Lake Winnebago. The same deposit of limestone was quarried by the Western Lime and Cement Co. for use in cement, mortar, and as building stone.

The soils are mainly glacial till deposits. Silt loams and mucky loamy fine sands predominate. Some clayey soils are also present. Below the ledge in the area of the marina and swimming beach the original soils were silty clay loams. During dredging of the yacht basin dredge spoils were used to level the land surface for development.

The depth of soil over bedrock atop the ridge varies from several feet to only a few inches. The soil below the ridge near the beach and marina is very deep. The lake itself lies on a deep bed of glacial drift.

2. Fish and Wildlife

The fishery of Lake Winnebago is diverse and productive. This is due partly to the large amount of habitat contained in the lakes and rivers associated with Lake Winnebago. This system is made up of Lakes Butte des Morts, Little Butte des Morts, Poygan, Winnecone, and Winnebago, all connected by the Fox and Wolf Rivers.

An extensive list of fish species found in the system is included in the appendix. Lake sturgeon, walleye, sauger perch, and white bass are the most popular sport fish present. Rough fish such as suckers, drum, and carp are routinely removed from Lake Winnebago by both contract operation and State-owned trawlers.

Wildlife resources of High Cliff State Park include white-tailed deer, red and gray foxes, raccoons, opossums, fox and gray squirrels, skunks, woodchucks, and other small mammals. The park is also home to tiger salamanders, leopard frogs, wood frogs, turtles, and toads. Garter snakes, red-bellied snakes, and eastern milk snakes are also present. There are no poisonous snakes in or near the park.

No endangered or threatened species of mammals, birds, reptiles, fish, amphibians, or mollusks are known to be present on the property.

3. Vegetation (Fig. 2)

The forest cover atop the escarpment is mainly of the northern hardwood association, while that on the steep slopes below is swamp hardwood. Some areas of oak-hickory association are also present. Much of the upland within the park is cleared land formerly used for agriculture. Old field pioneers are reclaiming these areas. Turf grass is cultivated in the recreational areas of the park, while some of the other open land is still leased for farming.

The following are the forest cover types with acreages

<u>Type</u>	<u>Acres</u>
Northern Hardwood	183
Swamp Hardwood	176
Oak-Hickory	<u>7</u>
	366

No endangered or threatened species of wild plants are known to be present on the property.

4. Water Resources

a. Surface Water

High Cliff has three surface water resources of which Lake Winnebago is the most prominent. The park contains 12,500 feet of Lake Winnebago shoreline. Because of its general character and size, Lake Winnebago provides a wide range of recreational opportunities. The water of the lake is fertile and very productive biologically. Lake Winnebago is 137,708 acres in size with a maximum depth of 21 feet. Its water level is controlled by two dams, one at Neenah and one at Menasha, each having a head of 5 feet.

Two small unnamed ponds, formerly used as a private fish hatchery, lie within the park. These ponds are designated as 36(2c) and 36(2d) in the "Surface Water Resources of Calumet County" and are 1.3 acres and 3.4 acres in size. Both are fed by two unnamed streams. The pond water is turbid with depths of 8 and 9 feet. Water levels are controlled by a recently reconstructed spillway emptying into the marina.

The unnamed streams feeding this system drain a residential development and a golf course. Water is relatively clear and the bottom types include clay and hardpan. Combined length is about 4.5 miles.

The High Cliff Marina has a dredged yacht basin into which overflow from the two small ponds drains intermittently. Water depth is maintained by periodic dredging. The basin is about 3 acres in size and is intended for craft having a maximum draft of 5 feet. Lake water is circulated through the basin by a pump to prevent excessive algae accumulation. Two rock rubble breakwater structures shelter the marina entrance.

b. Groundwater

The groundwater resources in the area of High Cliff are closely related to the bedrock layers that are present. Generally the quality of the water is good, although in some areas of shallow soil the potential for contamination through fractures in the limestone layers exists. All wells must be cased and grouted to assure purity. Also, some deep wells tap waters that have a naturally high concentration of dissolved minerals, giving a brackish taste.

High Cliff State Park gets its water from the municipal water supply of the nearby Village of Sherwood.

5. Air Quality

Air quality at High Cliff varies with wind direction. Ordinarily the air quality is an example of a clean rural atmosphere reflecting a lack of point sources of pollution in the immediate vicinity. The industries of the Fox River Valley are primarily located to the west of Lake Winnebago. Since a high degree of compliance with clean air standards has been achieved in the area little, if any, measurable effect is noticed at High Cliff.

Air samples taken in 1977 at Oshkosh, Neenah, Menasha, and Appleton show sulfur dioxide and suspended particulates to be generally within the limits set forth in the Department of Natural Resources' NR 155 Ambient Air Quality. These conditions coupled with a distance of 20-50 miles assure that air quality will be good at the park. A seasonal air quality problem not related to industrial sources arises from periodic algae blooms which occur on the lake. Under certain short-lived weather conditions the ammonia smell from decaying algae reduces the enjoyment of the park.

6. Historic and Archaeologic Features

Long before the advent of "civilization" the region now encompassed by Calumet County was home to wandering bands of Native Americans. The popularity of this region is evidenced by the large numbers of burial mounds, effigy mounds, and food caches found along Lake Winnebago's eastern shoreline. The many marshes along with Lake Winnebago provided all that was necessary for these primitive hunting and gathering people to sustain themselves.

The first Europeans to visit present day Calumet County were probably early French explorers during the mid- 1600's. There is little record of their visits and they left no permanent impression on the county other than its name. "Calumet" is a French derivation of an Indian name applied to a small Menominee village and means "Little Reed" or "Pipe of Peace."

In 1831, the Stockbridges and the Brothertowns obtained a large tract of land along Lake Winnebago. Settlement of these lands began two years later in 1833. White settlers, primarily soldiers from Fort Howard in Green Bay, moved to the area as the military road from Green Bay to Prairie du Chien was built. Soon after on December 7, 1836, Calumet County came into legal existence, and was attached to Brown County for judicial, tax, and election purposes. Not until March 4, 1840, did Calumet County become completely self-governing.

Within High Cliff State Park is a group of both conical and effigy Indian mounds. Legend has it that Chief Red Bird brought tribal children to the high cliff (presumably the section of it in the park) to look out over the placid waters and tell them stories of the good life beyond.

7. Land Use Classifications

In accordance with the Department's Land Use Classification System, lands within the park are classified as: Extensive Recreation Area (ERA), Intensive Recreation Development (IRD), Resource Development (RD₁), Scientific Area (S), Public Use Natural Area (N), Historic, Archaeological (HA) and Administrative Area (AD₁). The location of these areas is shown in Figure 4.

Approximately 600 acres of the park are classified as Extensive Recreation Area. ERA includes most of the scenic lands outside the more heavily developed areas of the property. They are available to certain forms of recreation like hiking, cross country skiing, nature study, snowmobiling and horse back riding. These lands contribute toward giving the recreation area user a quality outdoor experience.

One hundred fifteen acres devoted to a family campground, picnic areas, beach, marina and outdoor group camp are classified as Intensive Recreation Development.

A 46-acre woodlot designated as a Resource Development Area will be managed as a forest management demonstration area. Tree planting and selective cutting will take place to give the woodlot a more natural, less blocky appearance, improve wildlife habitat and reestablish certain timber types.

One hundred twenty five acres are classified as Scientific Area. The proposed High Cliff Escarpment Scientific Area features both shaded and exposed cliff habitats along the Niagara escarpment, talus slopes supporting a wet-mesic forest vegetation type, about one mile of the littoral zone of Lake Winnebago, and outstanding examples of conical and effigy mounds in the level woodland above the escarpment. A more detailed description of the proposed scientific area is found in Appendix C.

The site containing the ruins of the kilns used by the Western Lime and Cement Company and the general store are classified as Historical-Archaeological.

The two remaining land use classifications are Public Use Natural Area which protects and preserves the Niagara escarpment outside the proposed scientific area and Administrative Area which includes the park entrance visitor station/park office complex and service area. Both of these land use classifications contain a relatively small amount of acreage.

C. MANAGEMENT PROBLEMS AND RELATED CONCERNS

1. The gradient of the road connecting the upper and lower sections of the park is steep, 15 to 17% in some places. While there are a number of other steep roads that exist in Wisconsin, there are several complications that make this hill road difficult to manage. It is difficult for large recreation vehicles to attain sufficient speed to ascend the hill. Some overheat or stall part way up the grade. The road at both the top and at the bottom of the hill curves sharply, providing little or no sight-distance. Also, this road gets pedestrian and bicycle use. Presently, there is little or no road shoulder to accommodate pedestrians or bicyclists, causing them to use the traffic lanes. A number of traffic conflicts have resulted. During the winter the hill is closed to traffic due to its steepness and the build-up of ice and snow that occurs due to shaded conditions.
2. Inadequate campground capacity is causing lost potential revenues and inconvenience to potential campers. During the summer months the existing 54-unit campground fills to capacity each weekend, weather permitting. On those same weekends many campers are turned away due to lack of capacity. Holiday weekends have been documented where as many as 200 requests for campsites were denied. Most weekends 70 to 100 camping parties are turned away. The nearby Calumet County park has 60 campsites and receives the overflow from High Cliff until its capacity is reached. Persons not able to camp at the County park are forced to travel out of the area or to stay in motels since there are no private campgrounds nearby.

3. During busy times of the year there is an excessive amount of casual traffic "cruising" in the campground. This is caused mainly by non-campers and detracts from the peace and quiet of the facility. Efforts at reducing the problem through the use of signs have been ineffective.
4. Unauthorized camping and frequent beer parties occur in parts of the undeveloped portion of the park.
5. Several sections of High Cliff's road network are not owned by the State. Also, there are basically three entrances to the park. The lack of access control in the park prevents effective collection of user fees. Also standard park laws cannot be enforced.
6. Numerous requests for horseback riding facilities have been received by the park staff. Occasionally horses are ridden on the town roads within the park. Horses cannot be kept off the park roads. A number of park neighbors own horses and desire to ride into the park. Others, farther away, would use trailers. A number of non-horse owning property owners have expressed opposition to having horse riders crossing their land to get to the park or proposed trails. The High Cliff golf course owners have echoed this opposition.
7. There is no non-winter access point for park visitors wishing to fish Lake Winnebago without a boat. Also ponds near the marina could be managed for fishing.
8. Ski-touring use is on the increase. An expansion of High Cliff's ski-touring trail system is needed.
9. Past plans have called for the interpretation of certain quarry sites in the park by keeping them free of vegetation. Other areas were to be allowed to "grow up" to whatever vegetation would thrive naturally. All areas are currently becoming brushy.
10. Vegetative management is needed since much open land as well as forest is present. No specific plan is currently in force.
11. The nature interpretation program as well as the general scenic enjoyment of High Cliff could be significantly enhanced through the construction of an observation tower. Observation towers have proven to be very popular in other parks having scenic overlooks.

12. The marina is protected from wave action by a pair of breakwater structures. Under certain circumstances waves enter directly through the opening between the two, causing wave action within the harbor. An extension of the south breakwater would eliminate this condition.
13. The Department and the Calumet County Snowmobile Alliance desire to de-emphasize snowmobile travel on Lake Winnebago by providing a land route connecting Calumet County Park and High Cliff State Park.

D. RECREATION NEEDS AND OTHER FACTORS

Planning Region Six of the Wisconsin Outdoor Recreation Plan 1981 includes Menominee, Shawano, Waupaca, Outagamie, Waushara, Winnebago, Calumet, Marquette, Green Lake, and Fond du Lac Counties. Public recreation resources of Region 6 include 21 county parks, 2 state parks, and one state recreational forest. There are also numerous public hunting and fishing areas and some county forest lands. Part of the Horicon National Wildlife Refuge lies in southern Fond du Lac County.

The recreational modes studied in the 1981 plan are Bicycling, Tent/trailer, Camping, Primitive Camping, Hiking, Horseback Riding, Cross-Country Skiing, Snowmobiling, Pleasure Boating, Fishing, Hunting, Canoeing, and Swimming. Of these, only canoeing and hunting are not relevant activities at High Cliff.

1. Bicycling Particularly the off-road trail variety, has a supply of 31 miles in the region. Estimates show a projected need of 675 miles by 1984. It is unlikely that any can be developed at High Cliff although on-road use is popular.
2. Tent/trailer Camping There is no indicated need for additional sites in Region 6. Generally, the demands are being well met. However, as indicated by the estimated 2,400 camping party turn aways during the summer months, there is an evident demand for additional campsites at High Cliff.
3. Primitive Camping The demand for primitive camping in Region 6 far exceeds the present supply. Three sites now exist and it is estimated that 250 are needed. Some of this need may be met at High Cliff.
4. Hiking Eleven miles of hiking trails are known to exist in Region 6, of which 4.5 miles exists at High Cliff. A need for 356 miles of trail is expressed for Region 6.

5. Horseback Riding The recreation plan lists 56 miles of bridle trail in Region 6, and a need for an additional 11 miles. Of the existing horse trails in the region, 10 miles are state owned, 18 miles are county owned, and 28 miles are privately owned. Existing state trails are located in the Kettle Moraine State Forest Northern Unit, which lies in southern Fond du Lac County.

By establishing horse trails at High Cliff the demand could be partially met with better regional distribution of supply.

6. Cross-Country Skiing A need well in excess of existing supply of trail mileage is expressed. Presently, 186 miles of trail are available in Region 6 and 1,085 miles are needed. High Cliff supplies 4.25 miles.
7. Snowmobiling There are 652 miles of snowmobile trail in Region 6 and 1,160 miles are needed. High Cliff supplies 5 miles of pass-through type trail.
8. Pleasure Boating Region 6 has 325 developed access sites and needs an additional 245 according to the plan. The High Cliff Marina provides an excellent launching facility with parking, plus a limited service marina with 96 rental slips in a protected basin.
9. Fishing Lake Winnebago supports a diverse and productive fishery as described in previous sections. Sport fishing takes place summer and winter alike. The High Cliff Marina offers good lake access for fishing during the summer months. During winter ice fishing pressure is widely distributed on the lake. Ice on Lake Winnebago tends to get quite thick during January and vehicles carrying fishermen commonly drive to fishing spots rather than walk long distances. High Cliff does not provide lake access for vehicles during the winter months. Winter fishing access is provided by local governments and clubs, in the form of ice bridges and plowed ice roads.

The demand for fishing opportunities in Region 6 is well above the statewide average.

10. Hunting Trapping in state parks is prohibited. Under certain circumstances deer hunting is allowed to control overpopulation. The need to do so is not evident at High Cliff at present.
11. Canoeing Although canoeing participation in Region 6 is nearly double the statewide average, there is a distinct lack of opportunity at High Cliff. Canoeing is not encouraged on Lake Winnebago.
12. Swimming Planning Region 6 is shown to have demand and need data comparable to the statewide average. High Cliff currently supplies 250 linear feet of developed beach frontage with 3.7 acres of swimming area. Carrying capacity can accommodate 100,000 user days per season.

E. ALTERNATIVES AND ANALYSES

1. Increase the Intensity of Park Development

High Cliff is a well developed park offering a wide variety of recreational opportunities. Any significant increase in intensity would take the form of creating a more luxurious atmosphere. Such amenities as full camper hook-ups, lodges, tennis courts, swimming pool, and shower building would be added.

2. Reduce the Scope of Development

This alternative is not called for. The effect would be to reduce services and opportunities already available to the public and would effectively reduce interest and utilization of the property.

3. Status Quo

This alternative would keep the park operating basically as it is now. Regular maintenance and repair would be carried out as usual. No doubt High Cliff could continue for a number of years this way, but many of the problems and concerns listed in the background section of this plan would go unsolved.

4. A Compromise

This alternative is a combination of elements found in alternatives 1 and 3. While no expansion of the boundary is proposed, a number of projects are suggested that will increase recreational quantity and quality. These actions are mainly proposed in response to the stated management problems and related concerns as listed earlier in this document.

Fish found in Lake Winnebago and connected Lakes (From Priegel, 1967)

Family	Species	Abundance
Petromyzontidae (Lampreys)	Chestnut lamprey	Very rare
	Silver lamprey	Common
Amiidae (Bowfins)	Bowfin (Dogfish)	Rare
Clupeidae (Herrings)	Gizzard shad	Rare
Hiodontidae (Mooneyes)	Mooneye	Common
Umbridae (Mudminnows)	Central mudminnow	Rare
Esocidae (Pike)	Northern pike	Abundant
	Muskellunge	Rare
Cyprinidae (Minnows)	Stoneroller	Very rare
	Northern redbelly dace	Very rare
	Carp	Very abundant
	Hornyhead chub	Very rare
	Golden shiner	Common
	Pugnose shiner	Rare
	Emerald shiner	Very abundant
	River shiner	Abundant
	Common shiner	Common
	Blackchin shiner	Rare
	Blacknose shiner	Common
	Roseyface shiner	Common
	Spotfin shiner	Common
	Sand shiner	Very rare
	Mimic shiner	Very rare
	Pugnose minnow	Very rare
	Bluntnose minnow	Rare
	Fathead minnow	Very rare
	Longnose dace	Very rare
	Creek chub	Very rare
Percichthyidae (Temperate basses)	White bass	Very abundant
	Yellow bass	Common
Percidae (Perches)	Iowa darter	Very rare
	Fantail darter	Very rare
	Johnny darter	Common
	Banded darter	Very rare
	Yellow perch	Very abundant
	Logperch	Common
	Blackside darter	Very rare
	River darter	Very rare
	Sauger	Very abundant
	Walleye	Very abundant
Acipenseridae (Sturgeon)	Lake Sturgeon	Abundant
Lepisosteidae (Gars)	Longnose gar	Common
	Shortnose gar	Rare
Salmonidae (Trouts, Whitefishes)	Cisco (Lake Herring)	Very rare
	Rainbow trout	Rare
	Brown trout	Rare
	Brook trout	Rare
	Lake trout	Very rare

Fish found in Lake Winnebago and connected Lakes (From Priegel, 1967)(cont.)

Family	Species	Abundance
Catostomidae (Suckers)	Quillback	Abundant
	White sucker	Abundant
	Lake chubsucker	Rare
	Bigmouth buffalo	Very rare
	Spotted sucker	Very rare
	Northern redhorse	Common
Ictaluridae (Catfishes)	Black bullhead	Abundant
	Yellow bullhead	Common
	Brown bullhead	Very abundant
	Channel catfish	Abundant
	Stonecat	Rare
	Tadpole madtom	Rare
	Flathead catfish	Common
Cyprinodontidae (Killifishes)	Banded killifish	Rare
Gadidae (Codfishes)	Burbot	Abundant
Gasterosteidae (Sticklebacks)	Brook stickleback	Very rare
Percopsidae (Trout-Perch)	Trout-Perch	Very abundant
Centrarchidae (Sunfishes)	Rock bass	Common
	Pumpkinseed	Common
	Bluegill	Abundant
	Smallmouth bass	Abundant
	Largemouth bass	Common
	White crappie	Rare
	Black crappie	Abundant
Sciaenidae (Drums)	Freshwater drum (Sheepshead)	Very abundant
Cichlidae (Cichlids)	Tilapia	Very Rare
Cottidae (Sculpins)	Mottled sculpin	Common

SEP 17 1982



State of Wisconsin

DEPARTMENT OF NATURAL RESOURCES

Carroll D. Besadny
Secretary

BOX 7921
MADISON, WISCONSIN 53707

September 15, 1982

File Ref: 2100

Mr. David Weizenicker
Bureau of Parks and Recreation
Dept. of Natural Resources
P.O. Box 7921
Madison, WI 53707

Dear Dave:

We have reviewed the High Cliff State Park master plan and find that our interests are adequately covered.

Previous meetings with the property manager and scientific areas section staff resulted in a proposed scientific area including a southern wet-mesic forest type on the extensive exposure of the Niagara escarpment. The boundaries as shown on the land use classification map in the plan are satisfactory.

Cordially,

Forest Stearns
Forest Stearns
Chairman

Wild Resources Advisory Council's review of the High Cliff State Park Master Plan Concept Element.

The High Cliff State Park does not appear to have areas of interest to the WRAC. The reviewer would like to make the following comments on the park.

WRAC agrees with the planners that better traffic control access and egress, is a must for future welfare of the park. Likewise the expansion of tent-trailer camping seems to be a logical solution ~~to use~~ in reducing some pressures. Somewhere along the line use limitations should be considered. Use limitations must be considered. In the estimation of the WRAC there is no way that the park can survive by accommodating the peak demands and the WRAC discourages any attempts to do it. Not only will there be deterioration of its ecological attributes, but also the quality of user experience will suffer.

High Cliff has an unusual assortment of natural assets but it also possesses some unique historical sites and legends and geology. The goal of protection ~~to~~ ^{for} these features is overlooked in the text.

WRAC recommends a more detailed exposure of the Scientific Area. The cliff eco-system is quite unusual and should receive a great deal more space in the text. Nothing is said about the shoreline, it is a large portion of the park.

In the opinion of the WRAC all state lands should have a exhaustive biological inventories as soon as possible. Having inventories makes the management of the resources more meaningful.

The legend and chart show two designated categories that have little if any mention in the text. Scientific Area-- just identity and no discussion. Natural Area- - nothing. WRAC recommends that the Task Force provide adequate information and management proposals. The same for the geology.

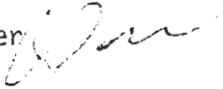
On page 12 I think that effigy and panther mounds are not synonymous. Panther mound is on of the group of effigy mounds. Would you check and correct the sentence, if needed.

The park is serving many users(a few too many), why not add education to the long list .

WRAC agrees with the Task Force that Alternative 4.A Compromise best suits the welfare of the park and its users. With the recommended revisions by the WRAC we urge that the NRE approve the plan and the alternative.

Date: October 4, 1982 File Ref: 2510

To: R. Lindberg - FOR/4

From: D. L. Weizenicker 

Subject: WRAC Comments on High Cliff State Park Master Plan

Our Bureau's response to the Wild Resources Advisory Council comments and recommendations on the High Cliff Master Plan are as follows:

1. WRAC agrees with the planners that better traffic control access and egress, is a must for future welfare of the park. Likewise the expansion of tent-trailer camping seems to be a logical solution in reducing some pressures. Somewhere along the line use limitations should be considered. Use limitations must be considered. In the estimation of the WRAC there is no way that the park can survive by accommodating the peak demands and the WRAC discourages any attempts to do it. Not only will there be deterioration of its ecological attributes, but also the quality of user experience will suffer.

Department Response:

Because of the presence of several town roads in the park complete traffic control is very difficult. However, through design, size of parking lots largely determines user capacity of a park facility. Presently ten percent of the park's 1,140 acres are developed. It is not the Department's intent to change that ratio to accommodate more visitors.

2. High Cliff has an unusual assortment of natural assets but it also possesses some unique historical sites and legends and geology. The goal of protection for these features is overlooked in the text.

Department Response:

The historical interpretation of the lime kilns and associated company town and the interpretation of the park's geological and biological features are included as two of the management and development objectives in the master plan (pages 1 and 2). These objectives basically reemphasize what is already an ongoing program using the services of a summer naturalist (LTE) and an existing nature center facility.

3. WRAC recommends a more detailed exposure of the Scientific Area. The cliff eco-system is quite unusual and should receive a great deal more space in the text. Nothing is said about the shoreline, it is a large portion of the park.

Department Response:

A section will be added to the master plan describing the various land use classifications in greater detail including the proposed High Cliff Escarpment Scientific Area. A map and description of the scientific area will also be placed in the master plan appendix. Over one-mile of Lake Winnebago shoreline is within the proposed scientific area. The remaining shoreline is classified intensive recreation development (IRD) and will be mentioned under the description of that classification.

4. In the opinion of the WRAC all state lands should have exhaustive biological inventories as soon as possible. Having inventories makes the management of the resources more meaningful.

Department Response:

We agree that biological inventories should be conducted but only as funds permit.

5. The legend and chart show two designated categories that have little if any mention in the text. Scientific Area--just identity and no discussion. Natural Area--nothing. WRAC recommends that the Task Force provide adequate information and management proposals. The same for the geology.

Department Response:

Please note our response to item #3. The park's geology is discussed on page 8 in the Resource Inventory and Capability Section.

6. On page 12 I think that effigy and panther mounds are not synonymous. Panther mound is one of the group of effigy mounds. Would you check and correct the sentence, if needed.

Department Response:

Thank you for noting this. The sentence will be corrected.

7. The park is serving many users (a few too many), why not add education to the long list.

Department Response:

As listed in the master plan (Recreational Needs and other Factors, p. 14-15), your comment refers to the various recreational activities with projected 1984 needs data discussed in the 1981 Wisconsin Outdoor Recreation Plan (SCORP). SCORP does not include outdoor education, nature study, environmental education, etc.

8. WRAC agrees with the Task Force that Alternative 4. A compromise best suits the welfare of the park and its users. With the recommended revisions by the WRAC we urge that the NRB approve the plan and the alternative.

Department Response:

Thank you for the Council's endorsement of Alternative #4.

We thank the Council for their careful review and helpful comments.

DJK:jks

cc: D. Kulhanek - P&R/4
J. Treichel - P&R/4
C. Higgs - Green Bay

Wisconsin Scientific Areas Preservation Council
Scientific or Natural Area Report

Name of Area High Cliff Escarpment Inspection Date First: August 19

Quarter NE County Calumet Twp. 19N Range 18E Sections Parts of 1 and 2

Boundaries and acreage of Slightly more than 1 mile of escarpment and wooded slope in NW 1/4
proposed or established Section 1 and E 1/2 2, plus the upland woods in SE 1/4 2 and a
area and buffer strip 200 feet east of the escarpment summit in S 1/4 NW 1/4 1.
Also included is the woodland above the escarpment south of the
quarry in NE 1/4 NW 1/4 1. Total size m.o.l 125 acres.

Access to area The easiest access is by walking westward from the camping area or by parking
at the quarry and walking SW to the site. There are trails at the base and
summit of the escarpment plus less frequently used trails parallel to the
shore.

Description of area: Outstanding features, primary and secondary biotic communities,
dominants, understory and rare species, topography, soils, geology and archeology.

High Cliff scientific area features both shaded and exposed cliff habitats along the Niagara
escarpment, talus slopes supporting a wet-mesic forest vegetation type, about one mile of
the littoral zone of Lake Winnebago, and outstanding examples of conical and effigy mounds
in the level woodland above the escarpment. Vertical cliffs of up to 25 feet are at the
escarpment summit, and contain fragile fern (Cystopteris fragilis), bulblet fern (C. bulbifera)
cup plant (Polymnia canadensis), cliff stick seed (Hackelia americana) and long-beaked sedge
(Carex sprengei). The talus slope below the cliff is composed chiefly of small, flat
rocks although some areas of large limestone boulders occur, and many seepages emanate
from the rocks. The undisturbed deciduous forest on the slope is composed of sugar maple,
basswood, white ash, green ash, slippery elm, Am. elm, hackberry and butternut, while closer
to the lake willows and cottonwood appear. A rich herbaceous understory includes wild
ginger (Asarum canadense), great waterleaf (Hydrophyllum appendiculatum), false rue-anemone
(Isopyrum biternatum), squirrel-corn (Dicentra canadensis) toothworts (Dentaria laciniata,
D. diphylla) and Canada violet (Viola canadensis).

History of land use and limiting factors: Wooded area above the escarpment has been
subjected to intermittent lumbering and grazing. Dutch Elm disease has killed many elms
below the escarpment and opened the canopy so that currants and other shrubs have proliferated

Administrative information: Landowner and administrator, existing and proposed management,
degree of scientific, educational and recreational use of area, adjacent lands and
compatibility. Owned by Department of Natural Resources, within High Cliff State Park.
A 55 unit campgrounds, soon to be expanded, lies along the east side of the scientific
area, and intensive trail use is experienced immediately above and below the escarpment.

Reference information: person recommending area, references, quadrangle and other publica-
tions and date of action taken toward designation of area. Recommended by Scientific
Areas staff. See Neenah 15 / quadrangle. Preliminary plant species list in SAPC files.

Report by: Robert Read, William Tans Date: Revised February 1975

DISTRICT OR BUREAU Lake Michigan District
DNR NUMBER # 1064-e4

ENVIRONMENTAL IMPACT ASSESSMENT SCREENING WORKSHEET
(Attach additional sheets if necessary)

Title of Proposal:

Master Plan - High Cliff State Park

Location: County Calumet
Township _____ North, Range _____ East, West
Section(s) _____
Political Town _____

T19N, R18E, Section 1
T20N, R18E, Section 36
T20N, R19E, Section 31
Town of Harrison

Project:

1) General Description (overview)

See Attached.

2) Purpose and Need (include history and background as appropriate)

See Attached.

Authorities and Approvals:

- 1) Statutory Authority to Initiate Section 27.01, Wisconsin Statutes
- 2) Permits or Approvals Required Natural Resource Board, Governor, Section 30.12 approval
- 3) Participants notified of above requirements? Yes No
- 4) Does this proposal comply with floodplain and local zoning requirements? Yes No

Estimated Cost and Funding Source:

\$381,000 - ORAP, LAWCON or other as available.

Time Schedule:

Beginning late in the 81-83 biennium

EXISTING ENVIRONMENT

1) Physical (Topography-soils-water-air-wetland types)

See Attached.

2) Biological
a) Flora

See Attached.

b) Fauna

See Attached.

3) Social

See Attached.

4) Economic

See Attached.

5) Other (include archaeological, historical, etc.)

See Attached.

Project:

1. General Description (overview)

High Cliff State Park is a scenic and resource oriented State park. A wide range of traditional activities is offered including camping, hiking, swimming and picnicking. A well developed marina with rental slips and launching ramp to Lake Winnebago is also provided. An adjacent golf course and country club also adds interest.

Recommended Management and Development Program:

The actions listed in this section are derived in response to the management problems and related concerns and recreational needs stated in the Background Information section of this document. Three basic categories of action are involved: land control, management and development.

A. Land Control:

1. The current approved acreage goal for High Cliff is 1292 with only one parcel remaining to be acquired. Some adjustment of the park boundary is necessary to reflect past actions and to delete from the boundary several parcels which are not necessary to the park. A map of ownership and boundaries is located in the appendix.

The recommended acreage goal for High Cliff State Park is 1191.45, and the boundary should be revised as shown on the map in the appendix. Efforts should be continued to acquire the remaining 51.56 acre parcel.

2. Efforts to eliminate one of the three park access points should continue. The first alternative would be to close the road near the marina to all traffic. If this is not possible, at least secure a "one-way" only rule allowing traffic to exit the park but not enter. Since the roads involved are town roads, cooperation with the Town of Harrison and Village of Sherwood will be necessary. Control or ownership of all town roads within the park is desirable and should be pursued.

B. Management:

1. Designate all lands within the park, according to the Uniform Land Use Classification System, as shown on the land use map in the appendix. This will basically clarify and reinforce past management practices.
2. Manage the two lagoons adjacent to the marina for production and harvest of panfish. This will help provide expanded fishing opportunities for park users, with little or no development necessary. Management measures may include stocking, drawdown or chemical treatment.
3. Manage the vegetation of the park to provide a natural diversity and density. Agricultural use of certain fields may continue although other fields may be left abandoned so that pioneer species can reclaim them in a natural sequence of succession. Woodlots with rectilinear forms should gradually be softened with new plantings so that man's manipulation becomes less evident. Attention should be paid to prairie establishment in certain areas. The State Scientific Area comprised of northern hardwood species should be left undisturbed.

General Description (overview) continued

4. Control or eliminate unauthorized access to southern areas of the park. This will eliminate littering and illegal entry problems.

C. Development:

This section deals with actions necessary to achieve certain objectives and does not list items that would be considered maintenance, repair or timely replacement.

1. Provide a separate bicycle and pedestrian route to alleviate traffic conflicts on the "hill road." This may or may not parallel the road. Also, trees along hill road should be thinned to increase sunlight penetration and visibility.

2. The capacity for tent/trailer camping at High Cliff should be increased by at least 50 sites. A loop-type configuration should be used. The site for this development should be near the existing campsites.

A wooded location is not a necessity. Expansion of the existing water distribution system to serve the new campsites should be investigated. The number of campsites developed should not exceed 60 sites or be fewer than 50. Suitability of the site should be the deciding factor.

3. The access road to the campground should be relocated to be closer to the park office. This will allow park personnel to more closely monitor traffic entering and leaving the facility, and reduce or eliminate unauthorized entry.
4. Investigate carefully the feasibility of developing a horseback riding trail in the park. Development of this type of recreational facility should be contingent upon the ability to do so without causing environmental degradation. If a trail of at least three miles cannot be established then the idea should be abandoned. Access should be controlled to assure collection of admission fees. A tentative route is shown in the appendix. Final routing should be decided in the field.
5. Develop a barrier free fishing access to Lake Winnebago. This structure may take the form of a new pier structure, or modification of the existing breakwater. In no case is this structure intended for the mooring of watercraft. The structure should be able to accommodate at least 25 fishers and be accessible by wheelchair.
6. The popularity of ski touring points to the need for more miles of ski trail in the park. While no quota of new trail is specified, the establishment of an addition should be investigated.
7. Select one old quarry area in the park that best suits the interpretive needs of the naturalist program and totally clear trees and brush to re-expose the quarry walls. Allow the other quarry sites to be reclaimed by vegetation.

General Description (overview) continued

8. Construct an observation tower on or near the escarpment to provide a panoramic view of the park and the lake. The tower should be tall enough to allow visibility above the tree tops. The location should be selected on the basis of accessibility and quality of view. The view of the horizon from below should also be considered.

2. Purpose and Needs

High Cliff State Park has been open to the public since 1957. The development of park facilities has taken place without a written master plan. During the operation of the park a number of situations and problems have been noted. The following items have been identified for inclusion in the Plan. Not all problems and concerns will necessarily cause actions.

Management Problems and Related Concerns:

- A. The gradient of the road connecting the upper and lower sections of the park is steep, 15 to 17% in some places. While there are a number of other steep roads that exist in Wisconsin, there are several complications that make this hill road difficult to manage. It is difficult for large large recreation vehicles to attain sufficient speed to ascend the hill. Some overheat or stall part way up the grade. The road at both the top and at the bottom of the hill curves sharply, providing little or no sight-distance. Also, this road gets pedestrian and bicycle use. Presently, there is little or no road shoulder to accommodate pedestrians or bicyclists, causing them to use the traffic lanes. A number of traffic conflicts have resulted. During the winter the hill is closed to traffic due to its steepness and the build-up of ice and snow that occurs due to shaded conditions.
- B. Inadequate campground capacity is causing lost potential revenues and inconvenience to potential campers. During the summer months the existing 54 unit campground fills to capacity each weekend, weather permitting. On those same weekends many campers are turned away due to lack of capacity. Holiday weekends have been documented where as many as 200 requests for campsites were denied. Most weekends 70 to 100 camping parties are turned away. The nearby Calumet County park has 60 campsites and receives the overflow from High Cliff until its capacity is reached. Persons not able to camp at the County park are forced to travel out of the area or to stay in hotels since there are no private campgrounds nearby.

It also can be documented that an additional number of potential campers decline to stay at High Cliff because electrical hookups are not available.

- C. During busy times of the year there is an excessive amount of casual traffic "cruising" in the campground. This is caused mainly by non-campers and detracts from the peace and quiet of the facility. Efforts at reducing the problem through the use of signs have been ineffective.
- D. Unauthorized camping and frequent beer parties occur in parts of the undeveloped portion of the park. This uncontrolled situation results in littering.
- E. Several sections of High Cliff's road network are not owned by the State. Also, there are basically three entrances to the park. The lack of access control in the park prevents effective collection of user fees. Also standard park laws cannot be enforced.
- F. Numerous requests for horseback riding facilities have been received by the park staff. Occasionally horses are ridden on the town roads within the park.
- G. There is no non-winter access point for park visitors wishing to fish Lake Winnebago without a boat. Also ponds near the marina could be managed for fishing.

Purposes and Needs (continued)

- H. Ski-touring is on the increase. An expansion of High Cliff's ski-touring trail system is needed.
- I. Past plans have called for the interpretation of certain quarry sites in the park by keeping them free of vegetation. Other areas were to be allowed to "grow up" to whatever vegetation would thrive naturally. All areas are currently becoming brushy.
- J. A policy on vegetative management is needed since much open land as well as forest is present. No specific policy is currently in force.
- K. The nature interpretation program as well as the general scenic enjoyment of High Cliff could be significantly enhanced through the construction of an observation tower. Observation towers have proven to be very popular in other parks having scenic overlooks.

Recreation Needs and Other Factors:

Planning Region Six of the Wisconsin Outdoor Recreation Plan 1981 includes Menominee, Shawano, Waupaca, Outagamie, Waushara, Winnebago, Calumet, Marquette, Green Lake, and Fond du Lac Counties. The publicly-owned recreation resources of Region 6 include 21 county parks, 2 state parks, and one state recreational forest. There are also numerous public hunting and fishing areas and some county forest lands. Part of the Horicon National Wildlife Refuge lies in southern Fond du Lac County.

The recreational modes studied in the 1981 plan are Bicycling, Tent/trailer, Camping, Primitive Camping, Hiking, Horseback Riding, Cross-Country Skiing, Snowmobiling, Pleasure Boating, Fishing, Hunting, Canoeing, and Swimming. Of these, only canoeing and hunting are not relevant activities at High Cliff.

1. Bicycling. Particularly the off-road trail variety, has a supply of 31 miles in the region. Estimates show a projected need of 675 miles by 1984. It is unlikely that any can be developed at High Cliff although on-road use is popular.
2. Tent/trailer Camping. There is no indicated need for additional sites in Region 6. Generally, the demands are being well met. However, as indicated by the estimated 2,400 camping party turn aways during the summer months, there is an evident demand for additional campsites at High Cliff.
3. Primitive Camping. The demand for primitive camping in Region 6 far exceeds the present supply. Three sites now exist and it is estimated that 250 are needed. Some of this need may be met at High Cliff.
4. Hiking. Eleven miles of hiking trails are known to exist in Region 6, of which 4.5 miles exists at High Cliff. A need for 356 miles of trail is expressed for Region 6.

Purposes and Needs (continued)

5. Horseback Riding. The recreation plan lists 56 miles of bridle trail in Region 6, and a need for an additional 11 miles. Of the existing horse trails in the region, 10 miles are state owned, 18 miles are county owned, and 28 miles are privately owned. Existing state trails are located in the Kettle Moraine State Forest Northern Unit, which lies in southern Fond du Lac County.

By establishing horse trails at High Cliff the demand could be partially met with better regional distribution of supply.

6. Cross-Country Skiing. A need well in excess of existing supply of trail mileage is expressed. Presently, 186 miles of trail are available in Region 6 and 1,085 miles are needed. High Cliff supplies 4.25 miles.
7. Snowmobiling. There are 652 miles of snowmobile trail in Region 6 and 1,160 miles are needed. High Cliff supplies 5 miles of pass-through type trail.
8. Pleasure Boating. Region 6 has 325 developed access sites and needs an additional 245 according to the plan. The High Cliff Marina provides an excellent launching facility with parking, plus a limited service marina with 96 rental slips in a protected basin.
9. Fishing. Lake Winnebago supports a diverse and productive fishery as described in previous sections. Sport fishing takes place summer and winter alike. The High Cliff Marina offers good lake access for fishing during the summer months. During winter ice fishing pressure is widely distributed on the lake. Ice on Lake Winnebago tends to get quite thick during January and vehicles carrying fishermen commonly drive to fishing spots rather than walk long distances. High Cliff does not provide lake access for vehicles during the winter months. Winter fishing access is provided by local governments and clubs, in the form of ice bridges and plowed ice roads.

The demand for fishing opportunities in Region 6 is well above the statewide average.

10. Hunting. In general, hunting and trapping in state parks are prohibited. Under certain circumstances deer hunting is allowed to control overpopulation. The need to do so is not evident at High Cliff at present.
11. Canoeing. Although canoeing participation in Region 6 is nearly double the statewide average, there is a distinct lack of opportunity at High Cliff. Canoeing is not encouraged on Lake Winnebago.
12. Swimming. Planning Region 6 is shown to have demand and need data comparable to the statewide average. High Cliff currently supplies 250 linear feet of developed beach frontage with 3.7 acres of swimming area. Carrying capacity can accommodate 100,000 user days per season.

EXISTING ENVIRONMENT

1. Physical

Geology and Soils:

The limestone ridge on which the Park is located is the geological feature for which High Cliff is named. The cliff is actually a cuesta formed by the exposed edge of the Niagara limestone layer of bedrock. This "Niagara Escarpment" is part of a larger syncline formation reaching New York State, a distance of 900 miles. It is evident in Wisconsin from Kenosha County in southeast Wisconsin to the tip of the Door Peninsula. Nowhere is it as prominent a landscape feature as along the eastern shore of Lake Winnebago. It is the same deposit of limestone which was quarried by the Western Lime and Cement Co. for use in cement, mortar and as building stone.

The soils are mainly glacial till deposits. Silt loams and mucky loamy fine sands predominate. Some clayey soils are also present. Below the ledge in the area of the marina and swimming beach the original soils were silty clay loams. During dredging of the yacht basin dredge spoils were used to level the land surface for development.

The depth of soil over bedrock atop the ridge varies from several feet to only a few inches. The soil below the ridge near the beach and marina is very deep. The Lake itself lies on a deep bed of glacial drift.

Water Resources:

- A. Surface Water. High Cliff has three surface water resources of which Lake Winnebago is the most prominent. Calumet County has about 23 miles of Lake Winnebago shoreline, of which 12,500 feet is within the boundary of the park. Because of its general character and size, Lake Winnebago provides a wide range of recreational opportunities. The water of the lake is fertile and very productive biologically. Lake Winnebago is 21 feet deep and the water level is controlled by two dams, one at Neenah and one at Menasha, each having a head of 5 feet.

Two small unnamed lakes lie within the park. These lakes, or more correctly ponds, are designated as 36(2c) and 36(2d) in the "Surface Water Resources of Calumet County" and are 1.3 A. and 3.4 A. in size. Both are fed by two unnamed streams. The pond water is turbid with depths of 8 and 9 feet. Water levels are controlled by a recently reconstructed spillway emptying into the marina. Only during the spring snowmelt and times of heavy rain is there enough water to flow over the spillway. At one time these ponds were used as a private fish hatchery.

The unnamed streams feeding this system drain a residential development and a golf course. Water is relatively clear and the bottom types include clay and hardpan. Combined length is about 4.5 miles.

The High Cliff Marina has a dredged yacht basin into which the above water system drains intermittently. Water depth is maintained by periodic dredging. The basin is about 3 acres in size and is intended for craft having a maximum draft of 6'. Lake water is circulated through the basin by a pump to prevent excessive algae accumulation. Two rock rubble breakwater structures shelter the marina entrance.

Existing Environment - Physical Description continued

- B. Groundwater. Wells at High Cliff share the problems common to all wells tapping the waters of the Niagara escarpment. Volume of water supply has always been adequate for park purposes, but water contamination has been a chronic problem. The fractured nature of the Niagara limestone allows surface water to contaminate ground water with bacteria. Also, the ground-water can be contaminated by faulty septic systems whose effluent can migrate considerable distances along the limestone's laminar joints. One of the early wells in the park was drilled to a depth of 600 feet to try to overcome contamination, but that water contained excessive amounts of dissolved chlorides making it brackish.

Recently, the water distribution system serving the park was connected to the municipal water supply of the Village of Sherwood.

Air:

Air quality at High Cliff varies with wind direction. Ordinarily the air quality is an example of a clean rural atmosphere reflecting a lack of point sources of pollution in the immediate vicinity. The industries of the Fox River Valley are primarily located to the west of Lake Winnebago. Many potential point sources of pollution exist upwind of the park during the prevailing southwest winds. Since a high degree of compliance with clean air standards has been achieved in the area little, if any, measureable effect is noticed at High Cliff.

Air samples taken in 1977 at Oshkosh, Neenah, Menasha and Appleton show sulfur dioxide and suspended particulates to be generally within the limits set forth in the Department of Natural Resources' NR 155 Ambient Air Quality. These conditions coupled with a distance of 20-50 miles assure that air quality will be good at the park. A seasonal air quality problem not related to industrial sources arises from periodic algae blooms which occur on the lake. Under certain weather conditions the ammonia smell from decaying algae reduces the enjoyment of the park. This problem usually last only a few days.

EXISTING ENVIRONMENT

2. Biological

Vegetation:

The forest cover atop the escarpment is mainly of the northern hardwood association, while that on the steep slopes below is swamp hardwood. Some areas of oak-hickory association are also present. Much of the upland within the park is cleared land formerly used for agriculture. Old field pioneers are reclaiming these areas. Turf grass is cultivated in the recreational areas of the park, while some of the other open land is still leased for farming.

Fish and Wildlife:

The fishery of Lake Winnebago is diverse and productive. This is due partly to the large amount of habitat contained in the lakes and rivers associated with Lake Winnebago. This system is made up of Lakes Butte des Morts, Little Butte des Morts, Poygan, Winneconne and Winnebago, all connected by the Fox and Wolf Rivers.

An extensive list of fish species is found in the system. Lake sturgeon, walleye, sauger perch and white bass are the most popular sport fish present. Rough fish such as suckers, drum and carp are routinely removed from Lake Winnebago by both contract operation and State-owned trawlers.

Wildlife resources of High Cliff State Park include deer, foxes, raccoons, opossums, squirrels, skunks, woodchucks, and other small mammals. The Park is also home to tiger salamander, leopard frogs, wood frogs, turtles and toads. Garter snakes, red-bellied snakes and eastern mil snakes are also present. There are no poisonous snakes in or near the Park, however.

3. Social

The five counties surrounding Lake Winnebago have a combined population of 500,000. A major source of visitation is the Fox River Valley, generally considered to be made up of Green Bay, Appleton, Neenah, Menasha, Kaukauna, Oshkosh and Fond du Lac.

4. Economic

All revenues collected from sales of admission stickers and campground registration are remitted to a segregated fund from which operation and maintenance funds are partially subsidized. High Cliff generally pays for itself due to the high level of use.

5. Other

Additional features include the restored High Cliff General Store which has been converted from company store to a museum. Also present are the ruins of the kilns once used by the Western Lime and Cement Co.

Long before the advent of "civilization" the region was home to migrating tribes of Indians. Large numbers of burial mounds and effigy mounds along the lake's eastern shoreline attest to the fact. One group of Indian mounds exists within the Park.

EXISTING ENVIRONMENT continued

6. Existing Park Facilities

Since the beginning of development of High Cliff State Park, the following facilities have been built:

- Family Campground - 54 units
- Group Camp - 80 person capacity
- Nature Trail - 4.6 miles
- Hiking Trail - 4.5 miles
- Snowmobile Trail - 7 miles
- Ski Touring Trail - 2.4 miles
- Picnic Area - 67 acres
- Picnic Shelters - 2
- Swimming Beach - 250 feet
- Bathhouse
- Marina - 96 slips
- Marina Parking - 71 cars
- Boat Landing - 82 cars/trailers
- Park Road System - 5 miles
- Park Office (Temporary)
- Shop/Storage Building

PROPOSED ENVIRONMENTAL CHANGE

1) Manipulation of Terrestrial Resources (include quantities – sq. ft., cu. yds., etc.)

To provide a safer environment for bicyclists and pedestrians, a seven to eight foot wide surfaced path is proposed. The route may parallel the "hill road" or follow an existing trail. Extra fill will be needed if the path is located on the shoulder of the "hill road." Either bituminous paving or finely crushed stone would be used for surfacing. Expansion of the campground would involve clearing of trees (unless an un-wooded site is chosen) for roads and campsites. About 2½ acres of land would be directly involved in road and campsite construction. The campground proper would occupy about seven acres of land. Excavation of foundations and vaults for two sets of toilets would total about 50 cu. yards.

Establishment of a three mile bridle trail would cause about 3½ acres of surface disturbance. A parking lot of about 5,000 square feet will also be built to serve bridle trail system.

2) Manipulation of Aquatic Resources (include quantities – cfs, acre feet, MGD, etc.)

Management of the two existing lagoons adjacent to the marina for fishing may entail drawdown, stocking, seining, or chemical treatment. The lagoons have a total surface acreage of 4.7 acres.

3) Structures

A permanent park office building is planned. It could be up to 1500 square feet in size. Excavation of footings and foundation walls would be about 105 cubic yards. No trees or very few trees would be cleared due to the open nature of the site.

Construction of an observation tower would require a foundation excavation of about 20 cubic yards.

All excavated material will be stock piled in the park for future fill and landscaping needs.

4) Other

Development of a shore fishing access facility would entail either the placement of a fishing pier on the lake bed, or the modification of an existing breakwater by the addition of gravel or other paving material to effect a surface accessible to pedestrians and handicapped persons in wheelchairs. No fill on the lake bed is planned.

5) Attach maps, plans and other descriptive material as appropriate (list)

Locator Map
Development Map
Land Use Map
Ownership Map

PROBABLE ADVERSE AND BENEFICIAL IMPACTS (Include Indirect and Secondary Impacts)

1) Physical Impacts

Pedestrian/bike path construction would disturb less than a half acre of land.
Campground construction would directly disturb land in the work area.
Bridle trail establishment will disturb 3½ acres of surface.
Park office building construction will cause 105 cu. yd. excavation. Blasting of rock may be required.
Observation tower construction would necessitate about 20 cu. yd. of excavation for footings.
Development of shore fishing access would involve modification of existing breakwater or placement of a fishing pier on the lake bed.
Excavation necessary for campground expansion.

2) Biological Impacts

Trees and other vegetation may be removed from construction zone of road project and campground development.
Some tree trimming may be required for bridle trail development.
Management of ponds for fishing may cause mortality of rough fish species.
A population of usable sized panfish would result.

3) Socioeconomic Impacts

a) Social

Improvement of park facilities will result in better service to the public. An increase in campsite availability will enable more people to experience camping at High Cliff. Number of people "turned away" due to a full campground may be significantly reduced.

Construction of the pedestrian/bike path will provide a safer route for ascending and descending the ledge. Recreation supply will be increased for horseback riding, fishing, and camping in Planning Region 7.

b) Economic

If listed development projects are implemented at least \$381,000 will be into the regional economy.

Added camping capacity will increase revenues collected and remitted to the segregated fund.

4) Other (include archaeological, historical, etc.; if none, so indicate.)

Preservation of Indian mounds will continue under this Master Plan.
Interpretation of the lime kiln ruins will continue.
The High Cliff General Store will continue to operate as a museum and nature center.
The area to be designated as a scientific area will not be affected by the proposed development.

PROBABLE ADVERSE IMPACTS THAT CANNOT BE AVOIDED

Land disturbance and tree clearing from road work and campground development, excavation and grading for new park office and observation tower.

A number of temporary effects due to construction will occur, such as noise from construction machinery, fugitive dust, concussion from blasting of rock (if necessary) and the visual presence of heavy equipment.

RELATIONSHIP BETWEEN SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The existing facilities and the proposed new facilities constitute short-term uses of the environment. Little has been done that would foreclose future options for the site if the need were great enough. Emphasis is placed on preservation and interpretation of the unique resources of the site. Many actions prior to State acquisition and development have influenced the character of the park. These include agriculture, timber harvest, road building and quarrying. These effects would be difficult to erase.

IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES IF ACTION IS IMPLEMENTED

1) Energy

Fossil fuels and lubricants consumed by construction equipment, and that used for transportation of labor and materials.

Fuel and electricity will be used during the operation of the facilities.

2) Archaeological and historic features or sites

None

3) Other

None

ALTERNATIVES (No Action-Enlarge-Reduce-Modify-Other Locations and/or Methods. Discuss and describe fully with particular attention to alternatives which might avoid some or all adverse environmental effects.)

Alternatives

1. Increase the level of development of the park. High Cliff is already a highly developed facility. Therefore, any significant increase in development degree would probably take the form of creating a more luxurious atmosphere. All toilets would be flush type. A large expansion of the campground would be provided. A modern nature center and amphitheater could be added. Sewer water and electrical hook-ups for campers could be provided. The group camp area could have an indoor lodge and dormitory as well as outdoor area. Tennis courts, baseball diamonds, and more playground equipment could be added.

No doubt many of these additions would increase the utilization of High Cliff State Park. However, there are a number of reasons for not developing in such a fashion. First, the resources of the site may begin to be degraded by the heavier use that would result. Second, an unreasonably large expenditure of funds would be necessary to upgrade High Cliff, and thirdly, the DNR has a policy of providing more basic facilities and allowing the private sector to capitalize on the desire for more developed parks.

2. Reduce the scope of development. This alternative is not called for. The effect would be to reduce services and opportunities available to the public and would effectively reduce interest and utilization of the property.
3. Status quo. This alternative would keep the park operating basically as it is now. Regular maintenance and repair work would be carried out as usual. No doubt High Cliff could continue for a number of years this way, but many of the problems and concerns listed in the background section of this plan would go unsolved.
4. A Compromise. While no expansion of High Cliff's property boundary is proposed, a number of additions are proposed that will increase recreational quantity and quality. These would be the actions needed to solve management problems and concerns, as described in the document. A modest expansion of the campground can be justified. An observation tower is proposed and bridle trails will be considered. In light of recreational needs and fiscal conditions, a compromise solution is reasonable.
5. Recommended Alternative. The Compromise alternative is recommended. A detailed description of actions proposed is contained in Section I of the plan.

EVALUATION (Discuss each category. Attach additional sheets and other pertinent information if necessary.)

- 1) As a result of this action, is it likely that other events or actions will happen that may significantly affect the environment? If so, list and discuss. (Secondary effects)

No

- 2) Does the action alter the environment so a new physical, biological or socio-economic environment would exist? (New environmental effect)

NO

- 3) Are the existing environmental features that would be affected by the proposed action scarce, either locally or statewide? If so, list and describe. (Geographically scarce)

NO

- 4) Does the action and its effect(s) require a decision which would result in influencing future decisions? Describe. (Precedent setting)

NO

- 5) Discuss and describe concerns which indicate a serious controversy? (Highly controversial)

NONE

- 6) Does the action conflict with official agency plans or with any local, state or national policy? If so, how? (Inconsistent with long-range plans or policies)

NO

7) While the action by itself may be limited in scope, would repeated actions of this type result in major or significant impacts to the environment? (Cumulative impacts)

Yes, although repeated actions are not likely or planned.

8) Will the action modify or destroy any historical, scientific or archaeological site?

NO

9) Is the action irreversible? Will it commit a resource for the foreseeable future? (Foreclose future options)

NO

10) Will action result in direct or indirect impacts on ethnic or cultural groups or alter social patterns? (Socio-cultural impacts)

NO

11) Other

NONE

W. Schulz-Park Matt. Plan Colvin & Co.

LIST OF AGENCIES, GROUPS AND INDIVIDUALS CONTACTED REGARDING THE PROJECT
 include DNR Personnel and Title

Date	Contact	Comments
1/82	W. Schulz-Park Superintendent	Checked background information and corrected figures.
6/81	C. Kulhanek	Need for 1600-2

#102

RECOMMENDATION

EIS 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 before the Department undertakes this action.

Refer to Office of the Secretary

Major and Significant Action: Prepare EIS

Additional factors, if any, affecting the evaluator's recommendation:

SIGNATURE OF EVALUATOR *Daniel C Rogers* DATE *2/12/82*

CERTIFIED TO BE IN COMPLIANCE WITH WEPA
 DISTRICT OR BUREAU DIRECTOR (OR DESIGNEE) *[Signature]* DATE *8/13/82*

APPROVED (if required by Manual Code)
 DIRECTOR, BEI *H. S. [Signature]* DATE *9-20-82*

comment see attached memo "no change in" "no EIS decision"

This decision is not final until approved by the appropriate Director and/or Director, BEI.

CORRESPONDENCE/MEMORANDUM

Date: September 7, 1982

File Ref: 1610

To: → Central Office

Calumet County # 1064

Ed Bergman-EI/3

From: D. C. Rogers

Subject: High Cliff State Park Master Plan Review Period

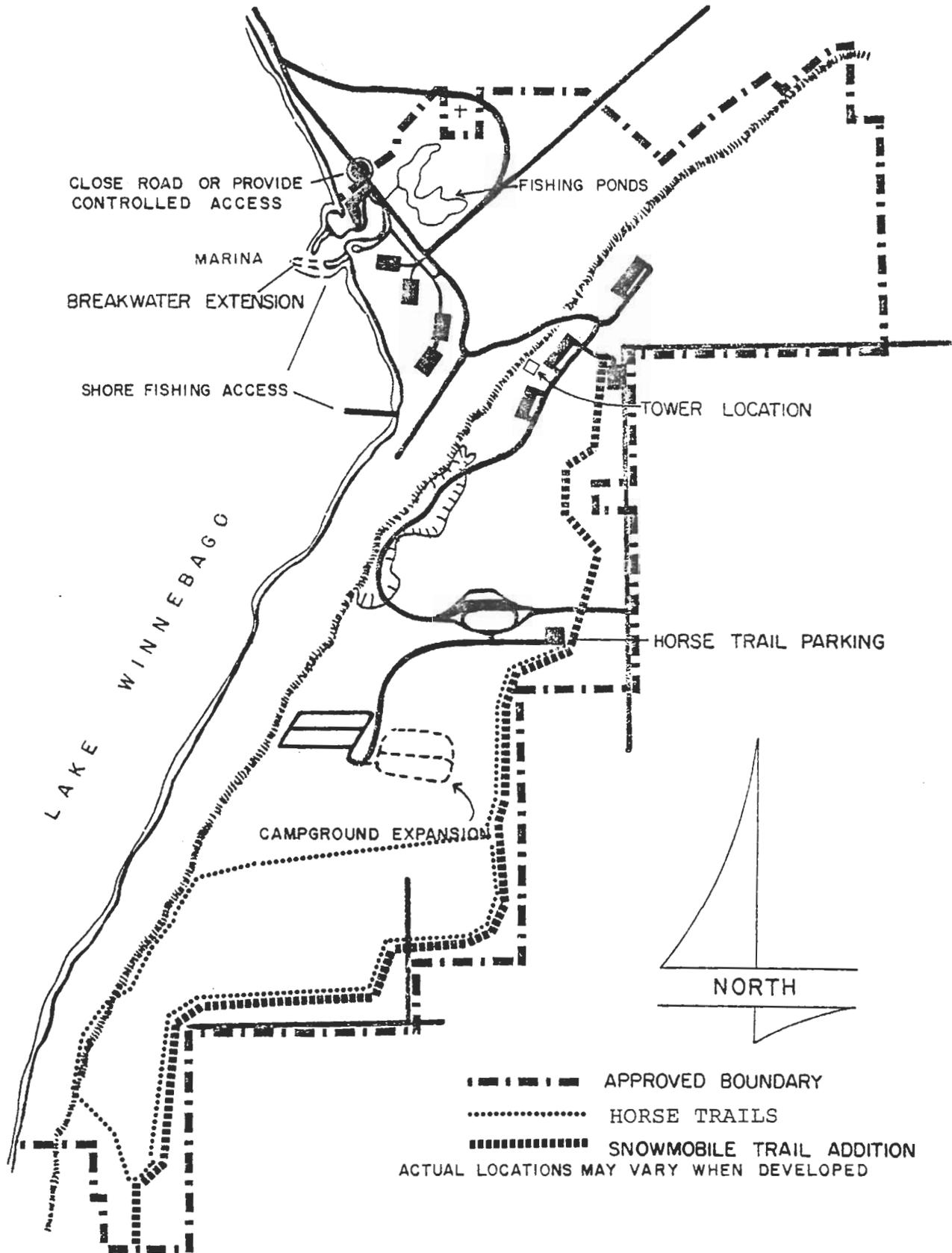
The review period for the High Cliff State Park master plan 1600-2 closed on September 3, 1982. Several comments were received by the staff and myself. All were opposed to expansion of the campground. These comments may be considered collectively as the position of the Wisconsin Association of Campground Owners, an organization perennially opposed to all public campground operation or expansions. All calls were received within a space of three days, apparently the result of a "hot line" call to members. No other aspect of the plan was mentioned by these people. No other comments were received within the review period.

Called Dan Rogers. 9-20-82

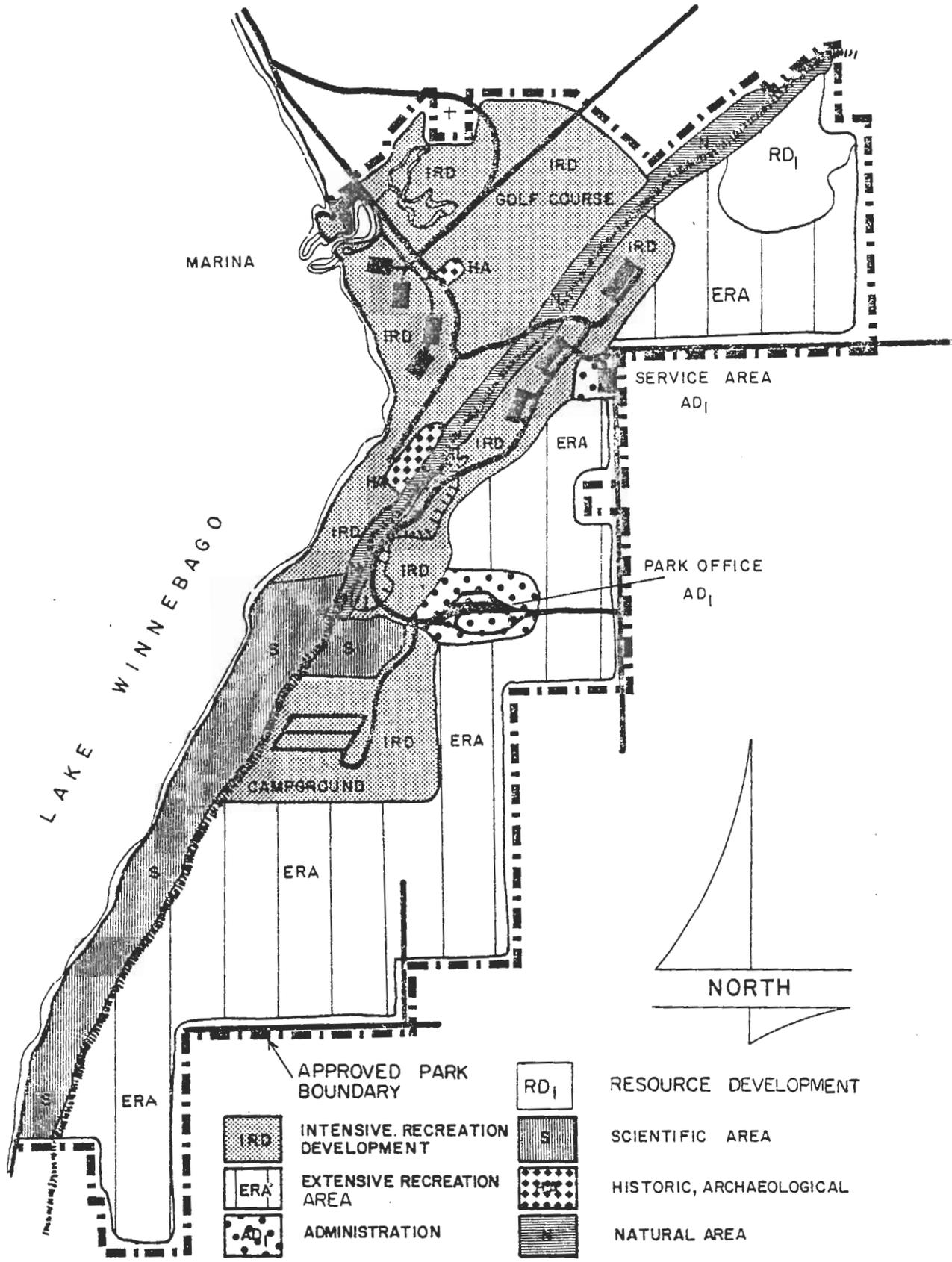
He stated that the Department carefully analyzes the need for additional camp sites. ~~and~~ ^{and} ~~county~~ ^{county} camp owners. heavily used, including the private facilities.

He said that the private campground owners are normally against any campground development.

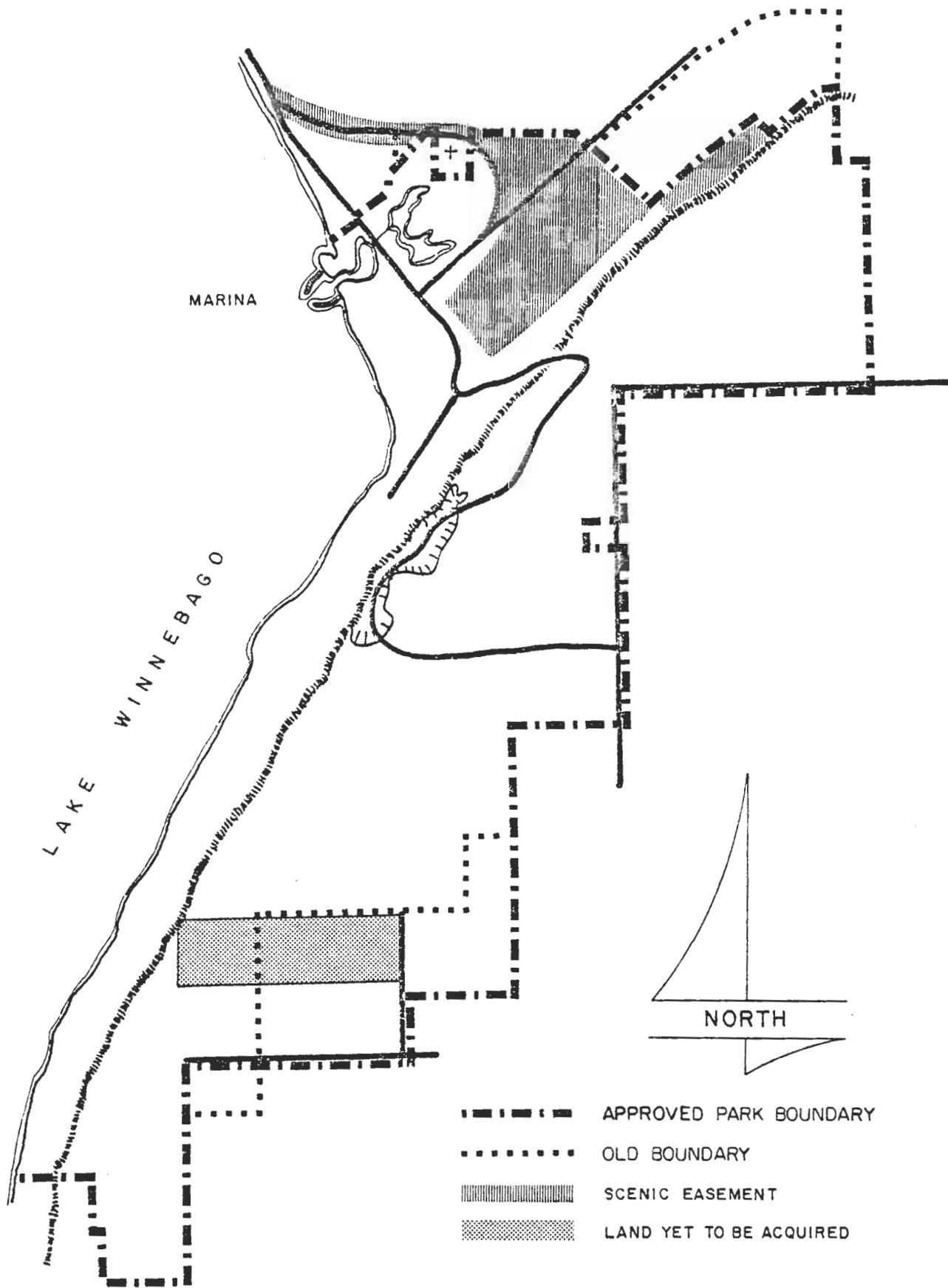
He said that the Dept continues to consider the campground expansion necessary and that no change in the EIS decision



HIGH CLIFF STATE PARK DEVELOPMENT LOCATIONS



HIGH CLIFF STATE PARK LAND USE CLASSIFICATION



HIGH CLIFF STATE PARK OWNERSHIP AND BOUNDARIES