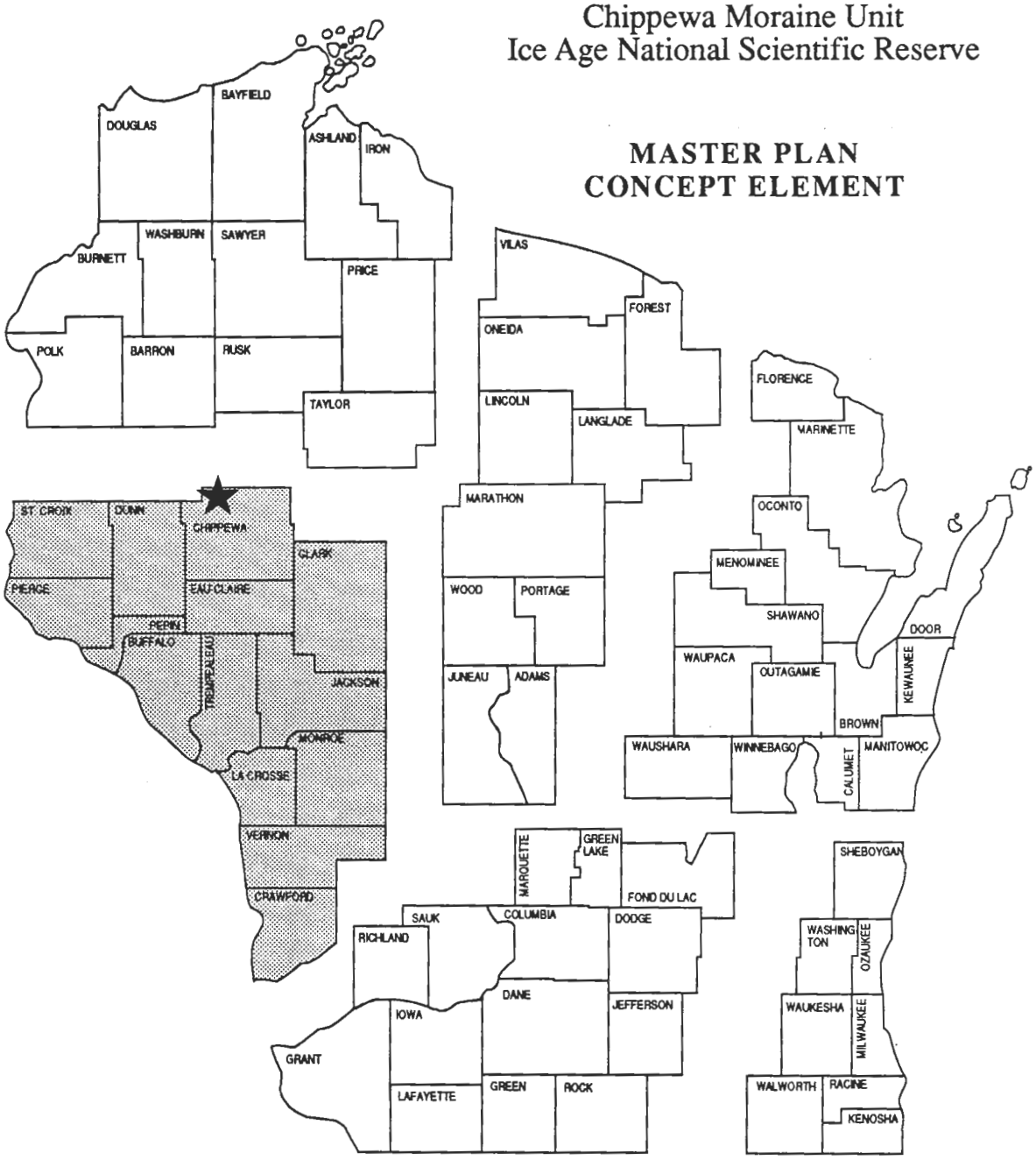
Chippewa Moraine Unit
Ice Age National Scientific Reserve

MASTER PLAN
CONCEPT ELEMENT



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Approved By: NRB

Date: March 29, 1990

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

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MASTER PLAN CONCEPT ELEMENT

Chippewa Moraine State Recreation Area (Ice Age National Scientific Reserve Unit)

SECTION I - ACTION

This 4,587-acre unit is situated six miles northeast of Bloomer (Figure 1) and contains what geologists refer to as "dead ice" or "ice stagnation" features. Within the unit are many lakes (some of which are fringed with sandy shores, swamp, and marshlands) kames, crevasse ridges, kettles, outwash deposits, and inwash features. Some eskers are found nearby.

Proposed developments include an interpretive center, hiking/ski and nature trails, interpretive overlooks, picnic area, an auto tour, and campsites.

Management at the Chippewa Moraine Unit will emphasize preservation and interpretation of the glacial history of the unit and Wisconsonian stage of glaciation.

A. Goal, Objectives, and Additional Benefits

Goal

To preserve, protect, and interpret the outstanding glacial features of the area while providing compatible recreational and educational facilities and opportunities.

Annual Objectives: To preserve, protect, and interpret the unique glacially-formed landscape and resulting biotic communities, the Department will:

1. Maintain and enhance the essentially wild character of the property.

2. Manage the property's scenic and natural qualities by maintaining vegetative cover types to insure views of major geological features.

3. Locate recreational and other facilities to minimize erosion and other impacts on the features.

4. To interpret the unique landscape, the Department will:

   a. Construct an Ice Age interpretive center of approximately 4,000 square feet.

   b. Provide and maintain self-guided nature trails, interpretive displays and programs for 50,000 annual visitor days.

5. To provide compatible educational and recreational facilities and opportunities to accommodate 100,000 annual visitors, the Department will:

   a. Provide camping facilities for 15,000 overnight visitors.

   b. Provide and maintain trails to accommodate 30,000 hikers, nature trail users, and cross-country skiers.

   c. Provide access to lakes within the unit for 5,000 annual users.

   d. Accommodate use by individuals with physical and sensory disabilities through the proper design, construction, and management of the property and its facilities.

   e. Open to hunting and trapping except where hiking, passive recreation, and interpretation are the dominant use of a zone with periodic reviews as needed.

6. Additional Benefits:

   a. Provide opportunities for bird watching, wildlife observation, gathering of nuts, berries, and mushrooms, and photography.

B. Recommended Management and Development Program

The Chippewa Moraine Unit is currently classified as a state park. As explained in section B of this Master Plan, the Department is proposing a reclassification of the property to state recreation area. Management direction, however, will basically stay the same and be compatible with the general direction given in the 1974 NPS master plan for the Ice Age National Scientific Reserve and the property master plan and EIS approved in 1978. The Department issued a news release explaining the proposed reclassification and its intent not to prepare a new or revised environmental review document under the Wisconsin Environmental Policy Act (WEPA). Public comments in response to the news release have been considered. The document is in compliance with WEPA.

Major developments will include an interpretive/nature center, a shop building, and campgrounds including: outpost and cart-in tent camping. Limited campsites for larger units including camper-trailers and motorhomes may be constructed if not provided by private campgrounds in the area. An auto tour route will be established with five or more major interpretive stops. Approximately 14 miles of hiking, nature, interpretive, and cross-country ski trails will be constructed on the Moraine.

The Ice Age National Scientific Reserve was created to set aside and preserve representative examples of glacial features. Facilities will be provided so that visitors may camp, picnic, boat, fish, hunt, trap, hike, cross-country ski, photograph, and sightsee. Some visitors will be drawn to study nature. The educational community will use facilities as an outdoor extension of their classrooms. Educational programs, displays, and policies for the Moraine will be coordinated with local and regional educational institutions.

Interpretation at the Chippewa Moraine Unit will be both passive and active. A naturalist will conduct programs and lead hikes, while other activities will be passive. The trails and auto tour routes will be self-guided. Brochures will be available to the public. Films and A-V programs will be shown at the interpretive center which will also house various displays and exhibits.

Citizens contacted regarding the Chippewa Moraine felt that the property should provide a wilderness-like setting. However, they did indicate that some timber cutting and vegetative management should be permitted. Most agreed that the county and state should adopt similar guidelines regarding forestry, hunting and trapping, recreation, and general development. This should be done to insure preservation of the unique geological features within the entire moraine region, both on state and Chippewa County owned land.

1. Management

   a. Vegetation - The vegetative management goal will be to maintain the health, vigor, and diversity of the property's vegetation. To achieve this goal, the following steps will be taken in accordance with Manual Code 2532. The steps will apply to state-owned and regulated lands only, not Chippewa County forest lands.

      Tree cutting on state-owned land will be limited to that needed for user safety, aesthetics, and for clearing views of geological and other natural features (Figure 5). In addition, tree cover will be managed to ensure the safety, and welfare of property visitors in the intensive use areas such as the campgrounds, picnic areas, and along trails. There are approximately 71 acres of white and red pine on state-owned and private land within the Chippewa Moraine boundary. These are mostly plantation pole sized trees or scattered saw timber stands, which will be harvested. The sites will return to northern hardwood tree cover under natural succession.

The forested lands owned by Chippewa County will continue to be managed for timber production, and other multiple use benefits such as hunting, wildlife, and recreation. The county manages their land in accord with forestry practices as outlined in state Statute 28.11 and follows a periodically revised 10-year plan of action for managing the forest. Management will include selective harvesting of trees; regeneration cutting of even aged species to promote their natural reproduction; converting selected sites to conifers due to low productivity of the present hardwood cover; trail maintenance; and recreation area maintenance (picnic sites and boat landings).

A combination of land exchange, easements, and a cooperative agreement between the county and state will be utilized to manage vegetation along the Ice Age Trail, areas adjacent to lakes, public roadways, and other sensitive areas. The specifics of these easements and land use agreements are being negotiated at this time.

b. Wildlife - Wildlife related recreation in the unit should be oriented to viewing wildlife with hunting and trapping permitted under specified conditions. Existing grass-forb cover types should be maintained for wildlife habitat diversity from wooded areas. Snags and den trees will be left standing as part of the forest management program.

No specific fauna will receive intensive management, the natural diversity of the landscape and the diversity of cover type will provide habitat for a variety of mammals and birds.

If hunting and trapping are not allowed, it may be necessary to conduct beaver control activities to prevent damage to roads.

Presently, most hunting effort is directed toward the white-tailed deer, ruffed grouse, and gray squirrel. Opportunities for rabbits, fox, bear, raccoon, bobcat, and waterfowl are also present.

Beaver, muskrat, and mink are the primary species taken by trappers with lesser effort spent on other furbearers. Due to the familiarity with the area, the vast majority of hunting and trapping activities is based on tradition and is used by people from the region year after year. Private lands within the boundaries are generally posted against trespass.

There are no endangered or threatened species known to reside within the project area. However, bald eagles, osprey, and redshouldered hawks may pass through the area.

A complete biological inventory of the entire property is recommended.

c. Fish - The water resources within the Chippewa Moraine consist of 53 lakes ranging in size from less than one acre to 70 acres. There are no major, continually flowing streams within the Chippewa Moraine boundary. Many of the lakes are subject to winterkill conditions and have little or no fishery value. Forty-one of the lakes are nameless. The information provided in this plan will focus on only those lakes which have a known fishery or have the potential for establishing a fishery. These lakes include: Dam, Dumke, Horseshoe, Jeanstow, Knickerbocker, Little Plummer, North Shattuck, Plummer, South Shattuck, and Town Line.

Dam Lake is a 4.5 acre lake with a maximum depth of 17 feet. Access is provided to the lake through an intermittent tributary from Knickerbocker Lake. During low water years, access must be gained by portaging into the lake. No surveys or management activities have occurred on this lake. There are years when the lake supports quality size panfish. Due to its size and occasional winterkill conditions, active management is not recommended for this lake.

Dumke Lake is a 14.5 acre lake with a maximum depth of 25 feet. The lake does not have a developed access; however, access can be gained by portaging a craft into the lake from a nearby town road. No surveys or management activities have occurred with this lake. Due to its size and occasional winterkill conditions, active management is not recommended on this lake.

Horseshoe Lake in T32N, R8W, section 33 is a 24.3 acre lake with a maximum depth of 29 feet. Chippewa County has a boat access to this lake. From 1937 to 1969, the lake was stocked periodically with walleye, bluegill, largemouth bass, northern pike, perch and fathead minnows. In 1963 the lake was chemically treated to rid the lake of an excessive bullhead population. After this treatment, the lake was stocked with walleye to establish a walleye fishery. Later surveys have indicated no natural reproduction of walleye. Stocking of walleye ended in 1970. A survey of the lake in 1986 turned up medium-sized

walleyes. These walleyes either represented natural reproduction of walleye in the lake or illegally stocked fish. This lake may be conducive to supporting a moderate walleye fishery; however, the lake is subject to partial winterkill. The lake has a fish consumption advisory for mercury which recommends that walleyes greater than 18 inches not be eaten. This advisory may preclude the restocking of walleyes in the lake. The lake's fish populations and water chemistry should be assessed to determine proper management recommendations.

Jeanstow Lake is an 8.6 acre lake with a maximum depth of 30 feet. Access is only available by carry-in boat or canoe from a nearby town road. No survey or active management has occurred in this lake. Due to the size of the lake and lack of access, active management of this lake is not recommended.

Knickerbocker Lake is a 15 acre lake with a maximum depth of 25 feet. The lake has an unimproved boat landing. The lake has been stocked periodically from 1941 through 1979 with bluegill, northern pike, and largemouth bass. The lake suffers from periodic, partial winterkill. Past survey report authors recommend management of this lake for largemouth bass and bluegill. A survey in 1986 found yellow perch ranging from 9 to 12 inches. An updated survey of the fish population and water chemistry is recommended to determine the proper management for this lake.

Little Plummer Lake is a 10 acre lake with a maximum depth of 34 feet. Access to this lake is available through a channel connecting Plummer Lake. No surveys or management have occurred in this lake. No active management is recommended for this lake. It is likely that any management activity in Plummer Lake will affect the fishery of Little Plummer Lake.

North Shattuck Lake is a 43.4 acre lake with a maximum depth of 59 feet. The lake has an unimproved boat landing. No management has been conducted in this lake. The lake has a fish consumption advisory in effect for largemouth bass and northern pike due to mercury contamination. A survey of the lake's fish population should be conducted to determine the proper management for the lake. However, due to the mercury problem, it is recommended that active management be kept to a minimum.

Plummer Lake is a 49.4 acre lake with a maximum depth of 36 feet. The Town of Sampson maintains an unimproved boat access on the lake. From 1935 through 1978 periodic fish stocking of muskellunge, largemouth bass, walleye, northern pike, and panfish has occurred. Management has consisted of winter monitoring of dissolved oxygen level, periodic surveys to determine winterkill severity, and stocking of fish after a winterkill. An up-to-date survey of the fish population should be made to determine its status and management alternatives. With periodic winterkill, active management of the fisheries may be limited.

South Shattuck Lake is 70 acres and has a maximum depth of 32 feet. An improved boat access was constructed in 1988. From 1933 through 1976 the lake was frequently stocked with largemouth bass and northern pike and less often with bluegill, walleye, and crappie. Management has consisted of winter monitoring of dissolved oxygen level, periodic surveys to determine winterkill severity, and stocking of fish after a winterkill. An up-to-date survey of the fish population should be made to determine its status and management alternatives. With periodic winterkill, active management of the fisheries may be limited.

Town Line Lake is a 48.4 acre lake with a maximum depth of 26 feet. Chippewa County maintains an unimproved boat access on the lake. From 1939 through 1982 the lake was frequently stocked with northern pike and less often with largemouth bass and walleye. Management has consisted of winter monitoring of dissolved oxygen level, periodic surveys to determine winterkill severity, and stocking of fish after a winterkill. An up-to-date survey of the fish population should be made to determine its status and management alternatives. With periodic winterkill, active management of the fisheries may be limited.

Plummer, North Shattuck, South Shattuck and Town Line Lakes are phosphorus sensitive. Land management should guard against erosion to protect and improve water quality.

Six lakes could be used for walleye rearing ponds. Trail and road layout should be evaluated with concern given to fisheries, vehicle access to these water bodies.

Two aquatic plant species; Utricularia purpurea in North Shattuck Lake and Potamogeton capillaceus in Horseshoe Lake are of special concern. Land management in these lake watersheds should safeguard these plants habitats.

d. Facilities

As set forth in the federal legislation establishing and authorizing the cooperative agreement between NPS & DNR, and the 1974 master plan for the Ice Age Reserve, the Ice Age National Scientific Reserve (IANSR) will be managed for the protection, preservation, and interpretation of the nationally significant geologic features which are evidence of the Wisconsonian stage of the continental glaciation. Under terms of the agreement between the Secretary of Interior and the State of Wisconsin, the Wisconsin DNR will have overall responsibility for the administration and management of the recreation area/reserve. The actual operation and maintenance will be carried out by DNR employees; however, the National Park Service will contribute to the operations costs, assist in interpretive planning, and conduct periodic reviews of the administration and management of the reserve.

Although the Chippewa Moraine is a unit of the IANSR, it is also a state park property and subject to the normal requirements of Wisconsin law with respect to such matters as state and/or local taxes, licensing, and management. As a state recreation area, the Chippewa Moraine will be developed and managed under Chapter 23.091 (Appendix B). The property will be managed under the provisions of Wisconsin Administrative Code 45 which contains the rules of the Wisconsin DNR pertaining to the conduct of visitors in state parks, forests, and other properties under the jurisdiction of the DNR.

Presently, staffing for the Chippewa Moraine Unit is provided by the Work Unit from Lake Wissota State Park. There are no employees assigned specifically to the Chippewa Moraine. The Work Unit has a very limited budget for maintaining and operating the Moraine at this time. However, upon development of the property, it is proposed that a Park Superintendent 3, Natural Resources Specialist 2/Naturalist, Park Ranger 2, and Receptionist/Public Contact Person be hired. In addition, there should be a 3/4 or full-time equivalent of limited term employment (LTE) made available during the high use seasons. Duties of these individuals will include presenting programs and conducting hikes focused on the overall glacial story, and subsequent biological and cultural features on the property. Routine law enforcement duties will be handled by the property personnel with support available from the Chippewa County Sheriff's officers. Maintenance equipment similar to what is presently being used at Lake

Wissota will be needed to maintain the property. The actual operating cost of the undeveloped Chippewa Moraine is under $8,000 at the present time. However, upon completion of initial development, a budget of near $120,000 would be needed to staff and maintain the property. The annual cost for management, protection, maintenance, etc. of the property will be subsidized by the National Park Service. They are authorized to pay up to one-half the annual operating expenses for the Reserve.

Under the terms of the agreement between the Secretary of the Interior and the State of Wisconsin, individual units of the IANSR are subject to Wisconsin park user fees. However, in regard to fees, no charges are proposed for areas outside of the controlled access points. This would mean that all outlying parking lots for the Ice Age trail, boat launches, and interpretive sites will not have a fee charged. Similarly, an access fee probably will not be charged at the interpretive center, just as it is not charged at the Northern Unit Kettle Moraine State Forest. There will be a charge for the camping areas. Monies collected for campground rentals will be applied for operation and maintenance costs of the Wisconsin Parks/Recreation Area and Forest Programs.

Under the terms of the agreement with the National Park Service, Wisconsin will honor the Golden Eagle, Golden Age, and Golden Access Passports at the Ice Age Units. The Golden Eagle Passport is an annual purchased permit available from the National Park Service. It permits admission into all national parks, monuments, recreation areas, seashores, historic and memorial parks administered by the NPS. The Golden Age Passport provides the same privileges and is available free of charge to any citizen 62 years of age or older. The Golden Access Passport is free to citizens with permanent disabilities. Currently, the National Park Service passports are being honored at the Kettle Moraine, Devils Lake, Mill Bluff, and Interstate Park units.

Control of wild fires falls upon the Department of Natural Resources as the project is within the intensive fire control area of the Cornell Ranger Station. Wild fires will be suppressed by DNR with the help of local town and municipal fire departments on an as needed basis, and as per uniform fire suppression agreements and mutual aid agreements that are in or will be in force. Details of these agreements are found in the Area Fire Plan on file with the District and Area DNR offices. Structures will be protected by Township or Municipal fire departments having jurisdiction in the area where the structure is located.

e. Education and Interpretation

Major development will consist of an interpretive center which will be utilized as an initial orientation and interpretation point. A variety of educational and informational highlights of on-site examples of geology, ice age features, lumbering, and wildlife will be provided.

2. Providing for Use by Mobility Impaired and Other Individuals with Disabilities

The state parks overall program will initiate an information/education program to inform the public of accessible facilities. The program will also work to accelerate communications with advocacy groups to determine needs for other and less traditional recreation activities.

All new buildings will be accessible as well as certain renovated areas in other facilities.

The proposed Ice Age nature center and its grounds, as well as its exhibits, will be accessible. In addition, it will use audiovisual and auditory cues to help those who are visually impaired or have other impairments besides mobility restrictions. One or more of the cart-in tent campsites will be accessible. The outpost camps and trails may be impossible to make handicapped accessible due to the steep terrain and muskeg-type soils found within the moraine. However, a small nature trail will be developed, if possible, near the Shattuck Lake area that would be accessible to those with mobility or other physical impairments. The auto tour stops will be made accessible in that the interpretive signing will be legible from the automobile. Similarly, the Pike's Peak overlook facility will also be accessible to individuals with physical impairments. The one facility that would not be accessible as presently designed would be the observation tower. Specific facilities, such as rest rooms, water fountain, telephone, electrical plugs and other site amenities will be made accessible to all individuals regardless of their physical or mental capabilities to the extent possible.

3. Development (Figure 3)

Over the next ten years, the following development is proposed for the Chippewa Moraine Ice Age Unit.

An interpretive nature center, including displays and support facilities, a shop, and hiking, nature, and cross-country ski trails totalling approximately 14 miles will be developed. These trails will be in addition to the existing 7 miles of Ice Age Trail which passes through the Moraine unit.

There will be two types of camping opportunities: a) three outpost type sites will be located along the existing trail, with a capacity for 10 campers each. Each site will include an adirondack shelter and rustic support facilities. b) A 30-campsite tent campground located on South Shattuck Lake, which will include parking, hand cart storage and staging area, trails, well and hand pump, pit toilet, table, fire ring, and other site amenities. One or more of these sites will be large enough to accommodate groups up to 30 individuals.

An auto tour route will be developed along existing county and township roads to allow visitors an opportunity to view various geologic features within the Chippewa Moraine Unit. A guidebook and exhibits at interpretive waysides will be provided.

The Pike's Peak site will feature interpretation of an ice wall lake plain and features viewed in the distance. The Pike's Peak overlook development will include a 40' tower, access road and parking, toilet, well and hand pump, site furnishing, interpretive displays and landscaping. The Shattuck Lake area picnic site will have similar facilities as Pike's Peak, but will not have a tower.

A consideration in establishing the auto tour exhibit areas is the upgrading of the township roads which are currently sand and gravel surfaced. Upgrading the township roads will require cooperation with local units of government.

South Shattuck Lake Road and Ebbens Road must be gravel or asphalt surfaced to provide better access to camping facilities and the existing boat launch. Other roads will be upgraded as part of future development.

The nature trails and the hiking trails will be utilized for interpretation. A Moraine Trail which follows the terminal moraine will include exhibits and trail guide to interpret features of stagnant ice moraine, outwash plain, ice ramps, the glacial advance and diversion, crevasse fills, kettles, kames, eskers, and inwash lake plains. The Kettle Trail will be a nature trail utilizing kettles in different stages of infilling to interpret community differences and eutrophication. The Ice Walled Lake Plain Trail will provide a trail to the top of an ice walled lake plain for viewing and interpreting the immediate environs and surrounding area.

4. Estimated Development Cost and Phasing

Total estimated development cost, based on 1990 figures, is $2,104,750. All proposed development will be dependent upon the availability of funds and upon statewide priorities. Additional and/or up-to-date justification and cost estimates will be required before development projects are funded.

All construction sites will be examined for the presence or absence of endangered or threatened wild animal and plant species and/or archaeological remains. If any are found, appropriate protective measures will be afforded significant sites. If any identified species or archaeological remains are found during development, construction will be suspended until the district endangered and nongame species coordinator or Historical Society is consulted.

Phase 1 (89-91)

Interpretive Center Complex	$425,000
Nature Center Interpretive Displays	$147,750
Engineering and Contingency - 15%	77,250
Subtotal	$650,000

Phase 2 (91-93)

Nature Center Grounds Landscaping & Amphitheater	$40,000
Shop - Service Area	150,000
Trails (hiking, nature, and skiing) @ $2,000 per mile, for 15 miles	30,000
Tent Camping (cart-in), 30 units ($3,500/site)	105,000
Pike's Peak Overlook (includes tower, access road & parking, toilet, well and hand pump, furnishings, landscaping)	140,000
Shattuck Lake day-use area	50,000
Outpost campsites (3 @ $5,000)	15,000
Engineering and Contingency 15%	79,500
Subtotal	$609,500

Phase 3 (93-95)

Auto Tour Interpretive Stops, 4 @ $5,000 ea.	$ 20,000
Auto Tour Route Upgrade, South Shattuck Lake Road	
- gravel only	50,000
- asphalt over gravel	120,000
Auto Tour Route Upgrade, Town Line Road & Rattlesnake Hill Road (3.11 miles)	
- gravel only	225,000
- asphalt over gravel	580,000

Township Road upgrading Ebbens Road		
- gravel only		7,500
- asphalt over gravel		15,000
Engineering and contingency - 15%	63,375 to	110,250
Subtotal		$485,875 to 845,250
Total range		$1,745,375 to $2,104,750

5. Land Ownership (Figure 2)

At the present time, ownership consists of 2,761.29 acres in fee and easement. Of the remaining 1,825.7 acres within the boundary, 1,000 acres of land are located within the Chippewa County forest.

Of the 2,761.29 acres under state control, 169.62 acres are by easement. The 169.62 acres that are under easement restrict any development that will deny a view of the glacial landforms. The balance of the property under state ownership is in fee title. The four major lakes in the project are meander lakes. The small pothole lakes are included in the purchase of private property.

There are 160 state-owned acres outside of the project boundary. Of this, 40 acres will be sold off and the remaining 120 acres will be added to the property boundary. This acreage and an additional ± 60-acre parcel will be added to the acquisition goal and create a straight boundary line along the northern section of the property.

The project acreage goal will be 4,587 acres.

The location of lands to be acquired and lands to be disposed of include the following:

Lands to be acquired are in Section 1, T31N, R9W, Sections 6 and 5, T31N, R8W, Section 25 and 36, T36N, R9W, Sections 27, 28, 29, 30, 31, 32, 33, 34, T32N, R8W.

Lands to be sold are in Section 27, T32N, R8W.

The recommended boundary change would include lands in the N1/2 of the SE, N1/2 SW, Section 28, T32N, R8W.

The state proposes to work closely with Chippewa County to safeguard unique geological features on county forest land within the Moraine. In particular, the state proposes purchasing easements or exchanging lands for specific parcels to safeguard unique geological features. The land

controls would cover such things as no cutting or use of heavy equipment within these areas. The state also proposes to formulate a Memorandum of Understanding (MOU) with the county regarding cutting along roadways and trails to reduce the impact of large scale cutting and use of heavy equipment on or near these features. The MOU would allow cutting vistas to open up views of specific geological features. The state will work closely with the county and their administrative bodies to reach an understanding regarding these land use agreements to best safeguard the geological features for which the moraine was established.

The county and state could also adopt similar guidelines regarding hunting and trapping, recreation and general development practices to insure preservation of the unique geological features within the Moraine. The county and state could identify these guidelines in a written agreement (MOU). Such cooperation would eliminate any confusion to the general public using the Chippewa Moraine Ice Age Unit.

Additional alternatives include the following:

Other organizations such as the Ice Age Trail Foundation could propose a land exchange or purchase of a portion of county lands where unique features existed or where facilities would be developed. The land could then be transferred or sold to the state.

Other organizations such as the Ice Age Trail Foundation could propose a land exchange or purchase of all county lands within the Chippewa Moraine Unit of the Ice Age National Scientific Reserve. The land could then be transferred or sold to the state.

The county forest and state ice age lands could be managed under their present system and not address or resolve any land use or management conflicts which exist, or which could arise in the future.

6. Operations, Cost, and Revenue Potential

It is estimated that approximately $120,000 per year will be needed to operate the Chippewa-Moraine when fully developed. This includes salary for three full-time employees and .75 full-time equivalency of LTE labor. It also includes mileage and cost for maintenance vehicles, travel, services and supplies. It does not include ongoing maintenance costs or start-up costs of the shop and purchase of maintenance equipment. Once the Moraine becomes fully operational, a user fee will be charged for campsite reservations and rentals. We do not expect to charge an admission fee at the outlying use areas, trailhead starts, or at the Ice Age center.

Based on projected revenue, it is anticipated that the Chippewa Moraine Ice Age Unit will not generate 50% of its operating costs.

7. Roads, Entrances, and Private Inholdings

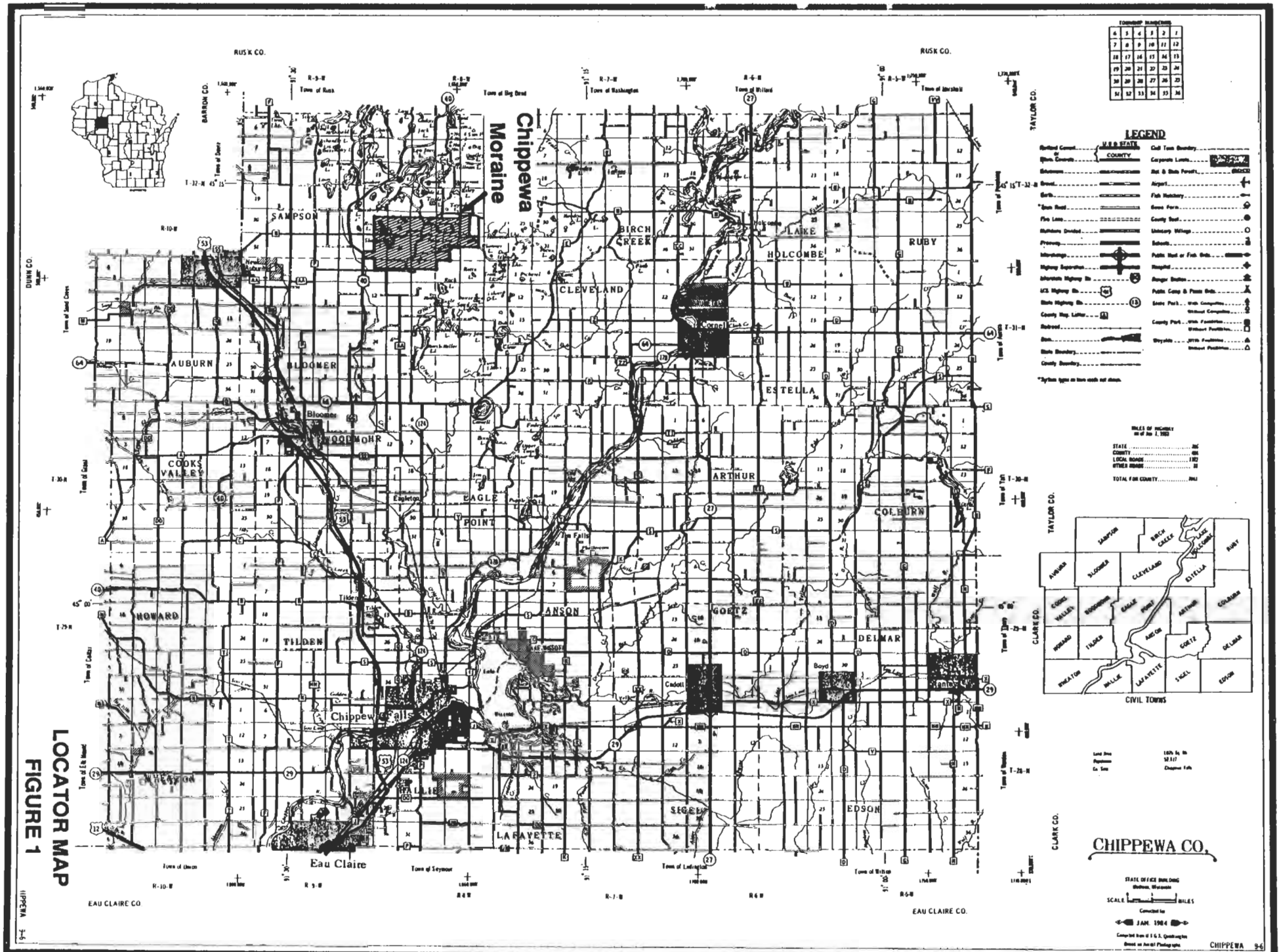
The state may request the township to abandon some short deadend roads, such as Eagle Lane Road or other roads which no longer serve private lands in the state managed areas. Such closure to vehicular traffic is desirable to stop illegal dumping of garbage, reduce partying, and minimize vehicular damage of geological features. People will be able to walk into and use the areas, just not drive vehicles into the areas. There are also a number of private drives which, when purchased by the state, will be closed to vehicular travel.

Because the Chippewa Moraine is dissected by a variety of county and township roads, charging a user fee to use outlying use areas is not anticipated. In addition, these roads will have to be upgraded in order to be utilized for an auto tour route. This, as stated earlier, will take a joint effort of state and local cooperation.

There are approximately 682 acres left to be acquired from private parties within the Chippewa Moraine Unit. These will be purchased when they become available from willing sellers. Presently, some of the unowned acreage hinders the DNR from constructing trails and other use areas. It also complicates the administration of the property.

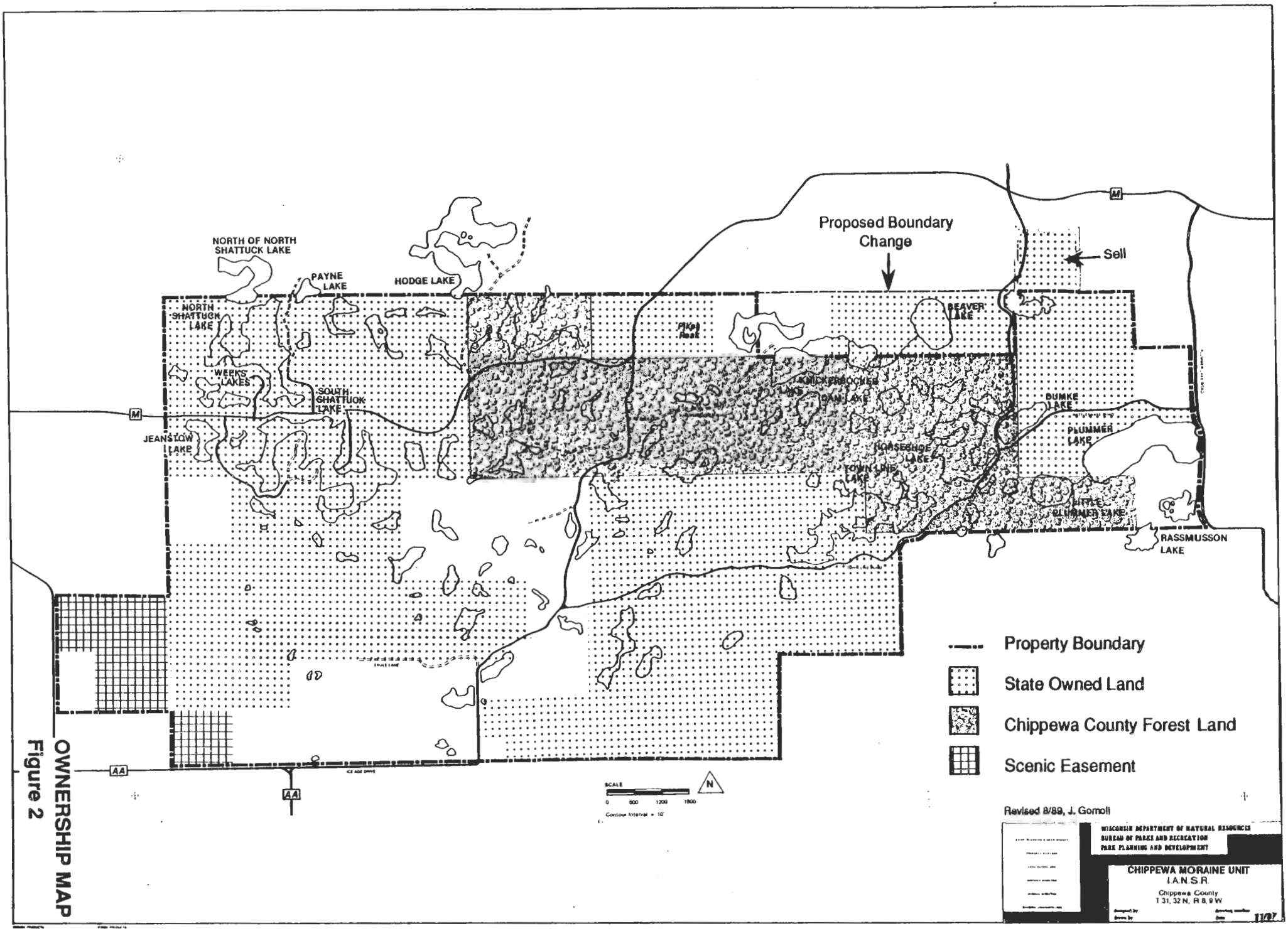
8. Public Involvement in the Master Planning Process

During the planning process which began in the fall of 1987, a number of groups, individuals, and elected officials were consulted regarding tentative proposals to be included in the Chippewa Moraine Master Plan. There have been nearly a dozen meetings with the Chippewa County Forest & Park Administrator, the Forest and Parks Board, and Town of Sampson and Bloomer officials. Over 900 workbooks were distributed to the public and private sector for their review and comment regarding the Chippewa Moraine Master Plan. In addition, there have been telephone lines where people could call in their comments to the Department. All of these comments have been compiled and included in preparation of this Draft Master Plan. A summary of the comments can be found in Appendix C of this report. There was a formal master plan hearing held in Bloomer on November 29, 1989. Comments received were taken into consideration in drafting the plan which is being submitted to the Natural Resources Board.



LOCATOR MAP

FIGURE 1



OWNERSHIP MAP
Figure 2

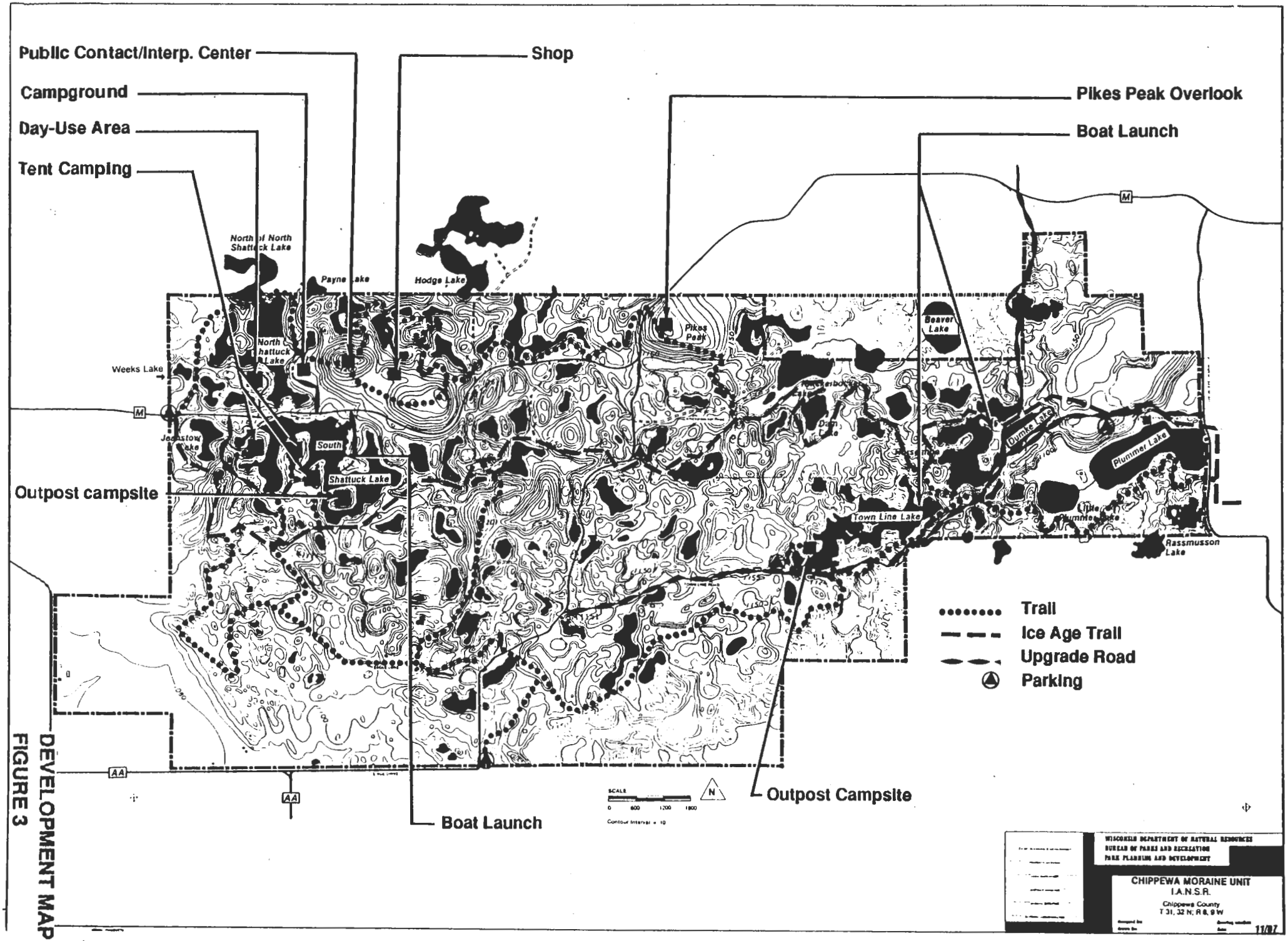
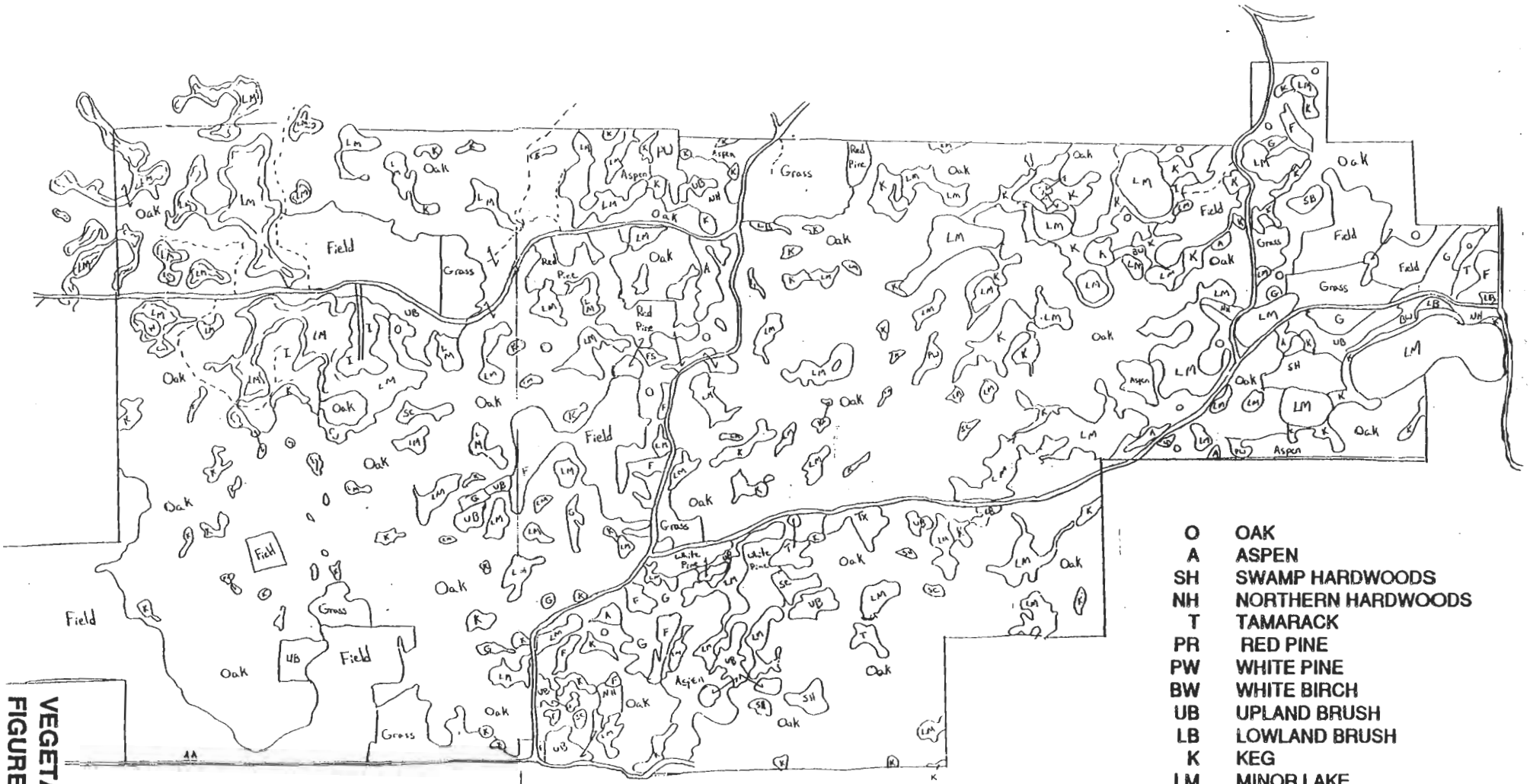


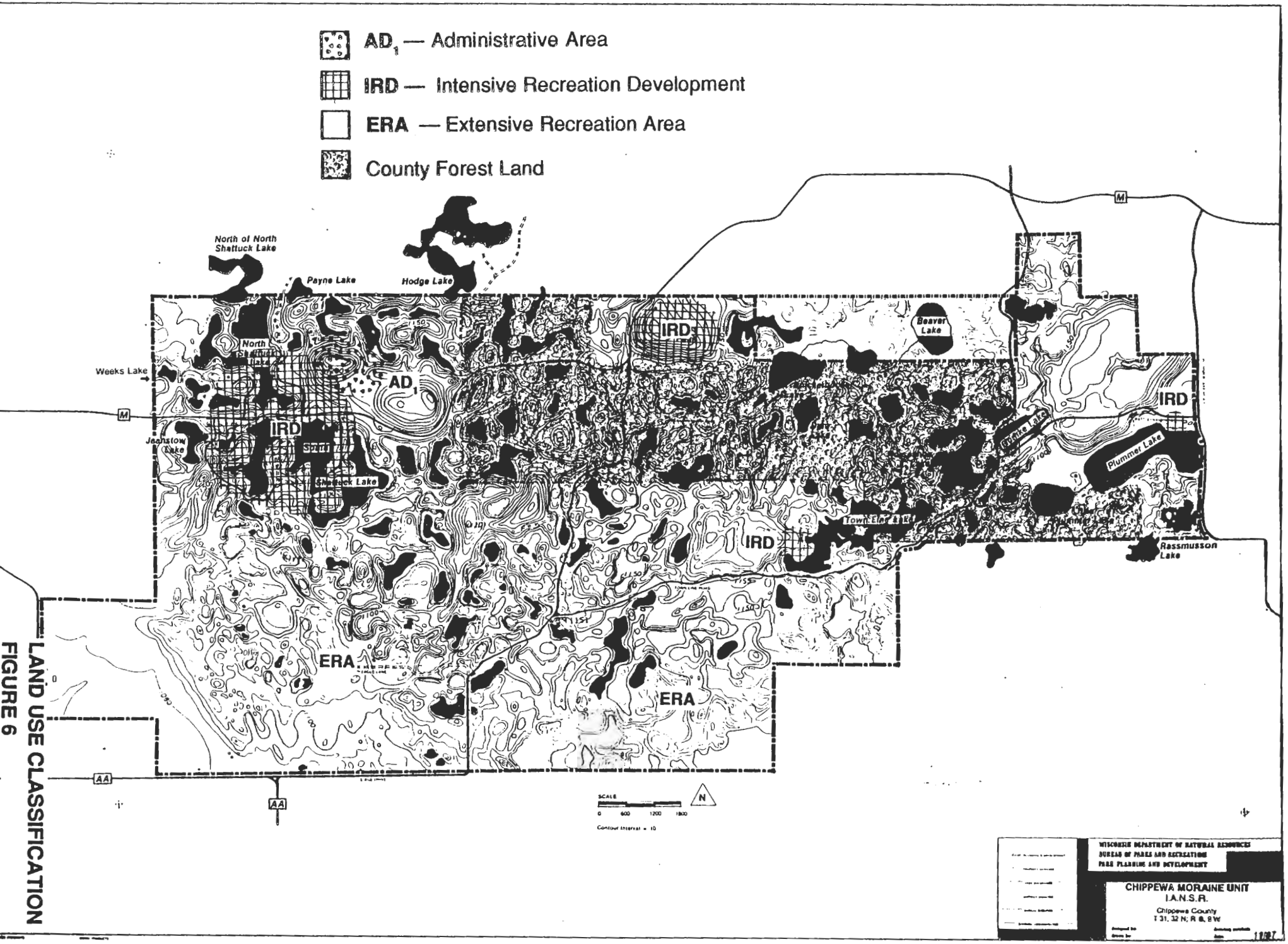
FIGURE 3 DEVELOPMENT MAP



O	OAK
A	ASPEN
SH	SWAMP HARDWOODS
NH	NORTHERN HARDWOODS
T	TAMARACK
PR	RED PINE
PW	WHITE PINE
BW	WHITE BIRCH
UB	UPLAND BRUSH
LB	LOWLAND BRUSH
K	KEG
LM	MINOR LAKE
I	RECREATIONAL AREA
G	GRASS
F	FIELD

VEGETATIVE COVER TYPE
FIGURE 4

FIGURE 5 VEGETATIVE MANAGEMENT MAP



LAND USE CLASSIFICATION

FIGURE 6

II. SUPPORT DATA

A. Background Information

1. Location (Figure 1)

The Chippewa Moraine Unit is located along the terminal moraine in Chippewa County. The moraine is located 8 miles north of the Village of Bloomer, 34 miles north of the City of Eau Claire, and 105 miles east of the Minneapolis/St. Paul Metropolitan area.

2. Regional Context

The major highway artery leading to the Chippewa Moraine Ice Age unit region in northwest Chippewa County is US Highway 53. State Highway 40, which runs north and south, and is practically adjacent to the western boundary of the unit, intersects with County Trunk Highway M which runs through the Moraine. County Trunk Highway AA runs east and west along part of the Unit's southern boundary. A network of town roads are located in the eastern half of the property and provide access to many portions of the Chippewa Moraine Unit.

The Interstate Park Ice Age Unit lies about 75 miles west of the Chippewa Moraine Unit and the Mill Bluff State Park Ice Age Unit lies approximately 130 miles southeast of the Moraine. The Ice Age National Scenic Trail passes through the Chippewa Moraine. The Chippewa Moraine unit is located within a one-hour drive of over 200,000 people, a four-hour drive of nearly 5 million people, and a seven-hour drive of nearly 15 million people.

Two state parks, Brunet Island and Lake Wissota, are located in Chippewa County. Brunet Island State Park is located 19 miles east of the City of Bloomer, just north of State Highway 64. Located adjacent to the Chippewa River, the park offers camping (69 sites), boating, swimming, hiking, and picnicking facilities. Lake Wissota State Park is located 25 miles southeast of the unit, northeast of the City of Chippewa Falls on Lakes Wissota. Camping (81 sites), boating, swimming, picnicking, hiking, and other facilities are available.

Nearly 20 other county and private campgrounds are located throughout the county, including the Morris Erickson County Park just east of State Highway 40 on Long Lake, about six miles northwest of the Chippewa Moraine Unit. This park offers 30 campsites, boating, picnicking, and swimming facilities. There are a total of 683 campsites in Chippewa County.

3. Area History

The early history of the Chippewa Moraine Unit is similar to the history of northern Wisconsin. Intensive logging of pine in the 1800's and early 1900's cleared away most of the vegetative cover that existed before the white man settlement. Some land in the unit remained cleared of trees and was utilized as agricultural land. The majority of the land in the unit was allowed to foster second generation vegetative cover. The flat outwash plains were being used for agricultural purposes.

From 1950 through the 1970's, a conversion of agricultural and forestry lands to residential use occurred. New homes for year-round or summer recreational use were being constructed along the shorelines of the many small lakes within and adjacent to the Chippewa Moraine Unit.

Chippewa Moraine is 90% forested with almost 1/3 of the unit comprised of the Chippewa County Forest. Agricultural land is predominantly to the south and west. Timber production and forest/lake oriented recreation are the major uses to the north and east.

No historical and/or archaeological sites are known to exist within the Chippewa Moraine Unit. Inquiries made to the Chippewa County Historical Society revealed that they have no record of any historical significant features in the unit. The State Historical Society was also contacted and the information indicated no significant sites are present.

4. History of the Property

On October 13, 1964, the United States Congress enacted the basic legislation (76 Stat. 1087) authorizing the establishment of the Ice Age National Scientific Reserve for the purpose of assuring the "...protection, preservation, and interpretation of the nationally significant values of Wisconsin continental glaciation, including moraines, eskers, kames, kettleholes, drumlins, swamps, lakes, and other reminders of the ice age."

It was largely through the efforts of the late Raymond T. Zilmer, a Milwaukee, Wisconsin, attorney that the first formal proposal for such an area was formulated in 1958. The proposal urged establishment of Moraine National Park, a continuous corridor park following Wisconsin's terminal moraine. Congressman Henry S. Reuss, Wisconsin, indicated his support for such a proposal by introducing a bill to establish a Moraine National Park. Congress recognized the national significance of the resource, but recommended individual sites in a cooperative venture. A geologic study was undertaken by the National Park Service and Professor Robert F. Black of the University of Wisconsin, Madison, to recommend the areas of continental glaciation which were most worthy of preservation and qualified for inclusion in the Reserve. From this study, the comprehensive study was compiled in 1968 by the National Park Service and the Wisconsin Department of Natural Resources, with assistance from the Geology Department, University of Wisconsin-Madison and Eau Claire. Professor Adam Cahow, UW-Eau Claire, continues to assist the Department of Natural Resources today.

The nine Ice Age units recommended in the comprehensive plan were accepted by the Secretary of the Interior and the Governor of Wisconsin and published in the Federal Register on May 29, 1971. This formally established the Ice Age National Scientific Reserve. The Chippewa Moraine Unit was included because it is an outstanding example of stagnant ice moraine. Many of its glacial features are small and compact which enables easier recognition of the land forms. The dead ice moraine, its associated outwash plain, the subdued hills with a covering of thin drift (i.e., ice walled lake plains) and the kettle lakes are some of the glacial features present.

In subsequent years, land acquisition and preservation have been the main accomplishments for the Department of Natural Resources in the Chippewa Moraine. Buildings purchased that were not needed for future property operations have been removed and the sites restored to a natural condition. Development has been limited. Past Ice Age Reserve dollars have gone to higher priority units as defined in the 1973 "Ice Age National Scientific Reserve Master Plan" document. Other units, because of existing public use pressures and the presence or need for interpretive facilities, have absorbed the available funds.

The Ice Age Trail traverses the Chippewa Moraine Ice Age Unit. A National as well as a State Scenic Trail, the 1000-mile Ice Age Trail will ultimately go from Interstate Park to Potawatomi State Park. The trail is sponsored by two private organizations, the Ice Age Trail Foundation and the Ice Age Trail Council. The Department of National Resources has agreed to assume primary responsibility for the trail on its own properties. That responsibility, which may be exercised through a cooperative agreement with others, includes planning, construction, signing, maintenance, and enforcement. The property manager may close or relocate portions of the trail if management situations so dictate.

A small boat landing was constructed on South Shattuck Lake in 1988. Presently, the Department, with assistance from the National Park Service, is planning an Ice Age interpretive center to be constructed east of North Shattuck Lake.

5. Existing Management and Development

The Chippewa Moraine Ice Age Unit is presently classified a state park and has been since its inception. There are no permanent staff on the Chippewa Moraine. The property is operated from Lake Wissota Work Unit with a very limited budget for supplies and services.

B. Resource Capabilities and Inventory

1. Soils

Amery, Campia, and Santiago are three major soil series within the Chippewa Moraine Ice Age Unit. All are composed of sandy loam and silt loam soils. The soils are well drained, overlying a sandy glacial till. The Santiago soils are also underlain by silty sediments.

Also present are the Rosholt loam, Chetek sandy loam, and Onemia loam series overlying sand and gravel. The latter two occur on terraces and outwash plains. Moderately well-drained Crystal Lake silt loams are formed over layered silt, very fine sand, and a clay on lake beds. Very poorly drained organic soils are represented by the Greenwood peat.

The three main soil series, Amery, Campia, and Santiago, have moderate limitations for camp areas and picnic areas, severe limitations for small buildings and septic tanks, and range from slight, to medium, to severe limitations for paths, trails, and roads. Restrictive features include slope, flooding, excessive humus, ponding, slow percolation, easy erodibility, poor fertility and droughtiness, frost action, and shrink/swell factors.

2. Geology

The Chippewa Moraine Unit contains a segment of the Bloomer or Chippewa Terminal Moraine, which refers to the portion of "dead ice moraine" or "ice stagnation area" of the late Woodfordian or Cary Age. The area is characterized by small, shallow kettle lakes, kettle swamps and dry kettles, but differs from the typical terminal moraine in that it was not formed as a distinct ridge-lake accumulation at the front of an active glacier. Instead, it was formed by the slow disintegration of large masses of stagnated ice. Just prior to the final withdrawal of the Chippewa Lobe, a several-mile wide zone of ice, several hundred feet thick, located along the glacial moraine, stagnated and was covered with a thick layer of glacial sediments. When the Chippewa Lobe finally withdrew, the thick zone of insulated ice remained, and began to melt at an extremely slow rate. This large ice field, with its protective covering of glacial drift, was an ice-core moraine. The slow disintegration of this ice-core moraine left behind the wide array of glacial land forms found at the Chippewa Moraine Unit (Black, 1974).

Some of the most conspicuous features of the area are the ice walled lake plains, which today are large rounded hills with rather flat tops. Their formation process was similar to that of kames, which began with conical depositions in the glacial ice. In the case of the ice walled lake plain, the cone of deposition was the bottom of the lake, whose sides were ice. A hill, known locally as Pike's Peak, is an example of an ice walled lake plain. Some kames are also found within the unit, but they are not a common feature. Two kames are present in sections 31 and 32 (Cahow, unpublished).

Linear disintegration ridges were formed either when a crevasse was filled with glacial material or from material that was washed from a stagnant ice mass onto an ice-free area. When the ice melted, the debris took the form of a linear ridge. An example of this glacial feature is located in the east central part of section 31. Related to this land form are stagnant ice ridges termed ice margin linear ramps. These were formed when debris washed off the surface of a stagnant ice mass and was deposited next to that mass on bare ground. When the buried ice melted, a ridge remained, steep on the ice side and gently sloping on the side away from the ice. Ice margin linear ramps are bordered by outwash on their smooth sides. Small hills with concave tops found within the unit are termed circular disintegration ridges. They consist of sediments that were deposited in roughly circular holes that perforated the stagnant ice. When the ice melted, accumulations remained in the form of little circular ridges (Cahow, unpublished).

Probably the most conspicuous of all the glacial land forms within the unit are the ice block basin lakes. Over 70 ponds and lakes are located within the unit, and are oriented in a northwest-southeast or northeast-southwest direction which reflects the fracture patterns present in the stagnant ice before it disintegrated. The present lakes occupy the basins formed when the last buried ice blocks melted away (Cahow, unpublished).

The Chippewa Moraine Unit is underlain by formations of Upper Cambrian sandstone outcrops which can be seen in the bedrock hills just south of the unit (Black, 1974).

3. Water Resources

The water resources of the Chippewa Moraine consist of 53 lakes ranging from less than one acre to 70 acres. There are no major, continually-flowing streams within the Chippewa Moraine boundary. Many of the lakes are subject to winter-kill and/or have little or no fishery value due to their size. Forty-one of the lakes are unnamed. Because of the number of lakes, their poor fishery potential, and the lack of information on these lakes, very little is known about the potential fishery. Major lakes found within the moraine include the following:

Dam Lake is 4.5 acres in size with a maximum depth of 17 feet. The fishery consists of largemouth bass, bluegill, pumpkinseed, bullheads, and northern pike.

Dumpke Lake is 14.5 acres in size with a maximum depth of 25 feet. Fish populations consist of perch, bluegill, pumpkinseed, and bullheads.

Horseshoe Lake, T32N, R8W, section 33, is a 24.3-acre lake with a maximum depth of 29 feet. Fish populations consist of walleye, perch, largemouth bass, northern pike, and bluegills.

Jeanstow Lake is an 8.6-acre lake with a maximum depth of 30 feet. Fish populations consist of largemouth bass, bluegill, pumpkinseed, and bullheads.

Knickerbocker Lake is a 15-acre lake with a maximum depth of 25 feet. Fish populations consist of northern pike, bluegill, pumpkinseed, bullheads, perch, and minnows.

Little Plummer Lake is a 10-acre lake with a maximum depth of 34 feet. The fishery consists of largemouth bass, bluegills, pumpkinseed, northern pike, rock bass, and bullheads.

North Shattuck Lake is a 43.4-acre lake with a maximum depth of 59 feet. Fish populations consist of northern pike, largemouth bass, bullheads, perch, and stunted bluegills.

Plummer Lake is a 49.4-acre lake with a maximum depth of 36 feet. Fish species include northern pike, largemouth bass, bluegill, perch, pumpkinseed, crappie, warmouth, bullheads, white sucker, and minnows.

South Shattuck Lake is the largest lake in the Chippewa Moraine with 70 acres and a maximum depth of 32 feet. The fishery consists of northern pike, largemouth bass, pumpkinseed, perch, and bullheads.

Town Line Lake is a 48.4-acre lake with a maximum depth of 26 feet. The fishery consists of northern pike, largemouth bass, bluegill, crappie, perch, warmouth, pumpkinseed, and bullheads.

Several unnamed lakes may have a fishery potential based on the size and depth; however, little or no information is available on these lakes to determine management needs. These lakes are all in T32N, R8W, and are numbered 5-2, 27-10, 33-4A, and 33-10.

Some general observations: The majority of the lakes in this reserve are classified as kettle lakes. Kettle lakes generally have small surface area to water volume ratios so that compared to the lake volume, relatively little of the lake's surface is exposed to wind conditions necessary for the lake to become thoroughly mixed during turnover conditions. These lakes also have heavily forested steep watersheds surrounding them. These conditions lead to a lack of significant wind mixing so that the lakes do not become fully reoxygenated during spring and fall turnover, resulting in significant oxygen depletion over the winter and also over most of the summer. Many of these lakes are thus subject to winterkill of the fish population as a result of these conditions. Due to these factors, there is little fishery value within the area.

4. Vegetation (Figure 6)

In general, the entire property was a mixture of white pine and oak (predominantly red oak with some white oak) interspersed with small stands of aspen and white birch. The area was heavily logged in the late 1800's and was then acquired by two land companies (most was acquired after it was cut over). Severe fires occurred in this area from 1925 to 1938 and were a prime factor in the regeneration of oak and aspen stands now present. Most trees are now 50-60 years old, with some older "parent oak" still standing. These larger oak (and some white pine) were trees too small for harvest in the 1890's, and yet were large enough to have bark thick enough to protect them from the fires previously mentioned. Fire created an ideal site for oak and aspen to become widely established (both require full sunlight in order to get established and to outgrow competition) over this 4,587-acre area.

Curtis (The Vegetation of Wisconsin, UW Press) identifies 78 species of trees within Chippewa County. This is the largest number of any county in the state. The glacial features (diverse topography, soils, etc.) are a factor.

An acreage summary of four species now present is as follows: (based on aerial photo reconnaissance and on the county forest actual on-the-ground observations).

Commercial Timber Types:

Oak type - state and private lands	1684 acres
County forest lands	431 acres

Primarily red and white oak, 5"-11" in diameter, mixed with larger, older oak up to 15+" in DBH.

Aspen type - state and private lands	180 acres
County forest lands	126 acres

Primarily big tooth aspen, 5"-11", with quaking aspen on lower ground.

White and red pine - state and private lands	71 acres
County forest lands	74 acres

Mostly 5-9" DBH plantation and trees with some 9"-15" DBH stands.

Northern hardwoods - state and private lands	21 acres
County forest lands	15 acres

Composed of red maple, sugar maple, white ash, basswood and oak.

Tamarack - state and private lands	25 acres
County forest lands	5 acres

Mostly saplings less than 5" in diameter with some 5"-9" DBH.

Swamp hardwoods - state and private	24 acres
County forest lands	0 acres

Primarily black oak, 5-15" in diameter.

Fir-spruce - state and private lands	19 acres
County forest lands	0 acres

Mostly wet acres with black spruce less than 5" in diameter.

White birch - state and private	3 acres
County forest lands	15 acres

5-11" diameter trees predominant.

Non-commercial forest types

Select Minor Lakes - state and private	457 acres
County forest	303 acres

Upland brush - state and private	121 acres
County forest	0 acres
Hazel, dogwood, prickly ash, etc.	
Muskeg, marsh - state and private	120 acres
County forest	8 acres
Lowland brush, alder, willow - state & private	5 acres
County forest	5 acres
Non-forest types	
Select grass - state and private	169 acres
Fields - state and private	523 acres
Right-of-way - state and private	27 acres
County forest	15 acres
Total - state and private lands	3,449 acres
County forest lands	997 acres
TOTAL	4,446 acres

*Acreage may vary plus or minus 10% due to photo scale.

There are no unique or rare plant communities known at this time. However, a detailed inventory should be undertaken.

5. Wildlife

The diversity of vegetation in the Chippewa Moraine Unit has resulted in a wide variety of habitats and many "edges" where the vegetation types overlap. Most mammals common to Wisconsin can be found in the unit. The largest and most common game species in the state, the white-tailed deer, is commonly found in the large expanses of the oak, aspen vegetation cover type within the unit. Areas designated as aspen cover type provide understory that is utilized by many mammals for protection and as a food source. Squirrels are abundant in areas where oaks dominate because of the oak's value as a food source. Furbearers, including muskrat, otter, mink, and beaver inhabit many of the shallow kettle lakes in the unit. The edge effect created between the active and agricultural fields and the wooded areas provides habitat for such animals found in the unit as skunk, raccoon, mink, coyote, and porcupine.

Ruffed grouse and woodcock reproduction is limited due to the absence of lowland brush types. However, bird production is good in the younger stands of aspen. Migrating waterfowl utilize the numerous lakes within the unit, but nesting is limited because these potholes are generally deep and have rapid dropoffs. Since the shorelines have steep banks and are wooded to the edge of the water, there is little aquatic vegetation and only minimal good nesting cover around the lakes. Ducks known to nest in the unit are mallards, blue-wing teal, and woodducks.

No endangered or threatened species are known to reproduce within the Chippewa Moraine Unit, although bald eagles, osprey, and redshouldered hawk may be occasional users of the area. If this situation should change, appropriate actions will be taken.

Maintaining a diversity of cover types and age classes of tree species should provide habitat for a wide variety of mammals and birds. This may be achieved by having a no or limited cut policy on the 3,000+ acres of state regulated land and the normal forestry practices of the county's 1,000 acres of forest land. Please refer to the appendix for a list of animal species found within the unit.

6. Historical and Archaeological Features

No historical or archaeological sites are known to exist within the Chippewa Moraine Unit. Inquiries made to the Chippewa County Historical Society revealed that they have no record of any historical significant features in the unit. The State Historical Society indicates there are no known historic or archaeological sites on the property.

7. Land Use (Figure 6)

In accordance with the Department's land use classification system, lands within the Moraine are classified as extensive recreation area (ERA), intensive recreation development (IRD), and administrative (AD1).

Extensive recreation area accounts for about 4,400 acres of the property and includes most of the scenic lands, such as the kettle holes, marsh, muskeg, and various geologic features. These lands are available for certain forms of recreation such as hiking, cross-country skiing, nature study, and passive pursuits such as berry picking, photography, etc. Of the 4,400 acres of extensive land, approximately 1000 acres should be subtracted for the county forest land which will be managed under their land use practices.

Approximately seven acres are classified as AD1 and include the nature-public contact center and shop facility.

The intensive recreation development area includes the campgrounds, trails, auto tour stops, and boat landing. This encompasses nearly 180 acres of land.

C. Management and Development Problems

Although the Chippewa Moraine is not a developed property, it does have a number of management and future development problems. The first issue is associated with the classification of the property.

Classification

The Chippewa Moraine Unit was established in 1971 and classified as a state park. This designation provided the state the authority to purchase the land and manage it for preservation, education, and recreation. However, small game hunting and trapping is prohibited in conformance with section 29.574, Wis. Stats.

The Chippewa Moraine Unit could be reclassified as a state recreation area under the state park system, as authorized by Statute 23.091 to provide a broader range of uses, including preservation, education, recreation, and small game hunting and trapping. Use zones and/or times could be established to allow people to hunt and trap during specific periods of time. This action could bring state-owned land more closely into conformance with hunting and trapping seasons in effect on county-owned lands and private land adjacent to the moraine. In addition, currently people visiting the Chippewa Moraine can't identify the property boundary. Because of the unknown status of the property's classification, boundary signing has not been completed. There is no way of telling what is state, private, or county land. Maps showing the property boundary, roads, developed lands could be posted at major entrances of the Chippewa

Moraine once the classification is finalized. These maps could also show areas where development is to occur and where extensive areas of the property are. Such boundary signing would assist the public in their use of the property and also be of great aid to the managers of the property to enforce various rules and regulations. In addition, boundary fences could be maintained where needed and all other fences could be removed.

If the property is reclassed from a park to a recreation area to provide for hunting and trapping, there may be a reduction in watchable wildlife. Some people feel that such a reduction is not warranted to accommodate the limited local and regional hunting and trapping interests. Some also feel that there is sufficient hunting and trapping territory outside of this 4,500-acre reserve. Is the property large enough to provide for these diverse uses? Opinions are polarized and intense.

Individuals responding to the planning workbook and public meeting generally favored hunting and trapping. However, there was a third that number of people who expressed opposition to hunting and trapping. If the Department retains the state park classification, no hunting or trapping will be allowed and resource managers will not be able to assess the impact of these two activities on user safety and watchable wildlife. If reclassified, hunting and trapping could be tried and evaluated for its impact. If, for some reason, the Department wanted to end these activities after such review, it could do so under the recreation area classification.

Inholdings

A second problem relates to private inholdings within the property. As with the classification, the boundaries of inholdings are difficult to sign at the present time and, therefore, trespass may occur on private lands. Development is also hindered at the present time because of private inholdings. Trails will either have to be rerouted on the short term to provide a trail system around inholdings or the trails will not be developed at all. Similarly, development of campgrounds or other use areas may be deferred until specific inholdings can be acquired. Conflicting land uses, such as use of ATV's on private lands spilling over onto public lands, is also a problem.

There is always the risk of incompatible developments. Gravel or mineral extraction could destroy the very features for which the Reserve has been established. Also, the waterbodies and wetlands within the Reserve are groundwater sensitive and could be adversely affected by certain uses on adjacent lands.

ORV's

A third problem, somewhat related to the inholdings, is the use of off-road vehicles. Currently, hunters, trappers, and others use abandoned logging roads, fields, and trails to gain access into various portions of the property. Barricading the routes and signing them closed to motor vehicles has been tried in the past. Everything is removed soon after it is installed. The park personnel from Lake Wissota will continue to attempt to close the areas receiving the most damage, but enforcement is not continuous because of lack of support funding. Enforcement will improve when permanent personnel are stationed at Chippewa Moraine. Off-road vehicle use will decrease once recreation users who support the preservation and interpretation aspects of the Moraine begin to use the property. Abandonment and closure of driveways and town roads which no longer provide access to private lands will also reduce this type of problem.

Township Roads

The present condition of township roads also presents a management and development problem. As proposed, the auto tour interpretive routes would use existing county and township roads. As stated, there would be wayside stops with signing and interpreting geological features present at each stop. However, the construction of this auto tour route would necessitate the upgrading of the sand-gravel township roads including possibly widening and asphalting the road system to make them passable for the motoring public. This would call for a combined government project and expenditures of road maintenance and development monies. If the roads are not improved, it is highly unlikely that the interpretive route can be established, as the roads become nearly impassable after rains. This also applies to access drives into existing boat launches and proposed campsites.

County-State Land Use Agreement

In order to insure compatible land use practices within the entire reserve, the county and state should reach an agreement on the forestry, hunting and trapping, recreation and general management and development practices on the county lands within the Reserve. Both agencies have a responsibility to insure the preservation of the unique, nationally significant, geological features within the moraine. The county and state should identify these guidelines in a written agreement. Such cooperation would eliminate any confusion by the general public using the Chippewa Moraine Ice Age Unit and would clarify management

boundaries. This could include both purchase or exchange of property for certain county-owned lands, as well as a Memorandum of Understanding regarding land use practices along the Ice Age Trail and roadways within the moraine. If this does not occur, the county forest and state Ice Age lands could be managed under their present system and not address or resolve any land use or management conflicts which exist or which could arise in the future. However, this would be to the detriment of both managing agencies as well as the general public.

Revenue Collection

Revenue collection may be another management and long-term development problem. Due to the scattered location of various use facilities, such as the auto tour waysides, boat launch, and limited day-use facilities, it is not cost effective to charge an admission fee for use of those areas. To charge an admission fee to the Ice Age center also is questionable because we anticipate our main users being the regional school children who are going to come to learn about the ice age and the various natural features and resource programs undertaken in the area. Those individuals coming from long distances could pay an access fee; however, it has become apparent that it would be a definite hindrance to use of the facility by local and regional populations. Therefore, it is proposed that, for now, fees only be charged for the campgrounds, major day-use areas and possibly a future user fee for cross-country skiers to cover the cost of maintenance for grooming the trails. It is anticipated that the moraine will not make more than 25% of its operating cost, and therefore the deficit will have to be made up by other means.

D. Recreation Needs and Justification

Wisconsin's 1986-1991 Statewide Comprehensive Outdoor Recreation Plan (SCORP) needs assessment section sets priority ratings on various outdoor recreational activities to serve as an indicator of needs. For the Eau Claire Area in the Western District which includes St. Croix, Pierce, Dunn, Pepin, Eau Claire, and Chippewa Counties, recreational activities pertaining to the Chippewa Moraine Ice Age Unit ranked as high priority are camping, cross-country skiing, organized sports, playground activities, swimming in a pool, and tennis. Medium priority activities include bicycling, canoeing, fishing, ice fishing, ice skating, picnicking, hiking, backpacking, walking, jogging, motor boating, water skiing, and golfing. Low priority activities include downhill skiing, horseback riding, off-road vehicle cycle riding, off-road vehicle other, snowmobiling, and swimming at a beach.

The Chippewa County Community Outdoor Recreation Plan is presently under revision and is not available for review. The last published document was dated 1977 and is felt to be outdated and not a very good indicator to be used in this report.

Based on the response to the master plan workbooks distributed during 1988-89, the 100+ respondents indicated that they would like a natural, untouched area and recommended a limited amount of recreational development. As far as future recreational uses were concerned, most favored a low-key approach. Hiking, backpacking, tent camping, cross-country skiing, picnicking, nature trails, fishing, hunting, and canoeing were the favored recreational pursuits. Recreational vehicle campground development should be limited, most said. An interpretive auto tour was generally favored. ATV, off-road vehicle, and horse trails were generally not supported. Snowmobile trails were accepted if needed to connect other developed trails in the area.

E. Analysis of Alternatives

1. Management

a. Retain State Park Designation

As a state park, the state has the authority to purchase land and manage it for preservation, education, and recreation. However, small game hunting and trapping is prohibited in conformance with section 29.574, Wis. Stats. This alternative is not recommended because the property has been historically used for small game hunting and trapping. To eliminate this use would be contrary to stated user desires, and it would take away a viable recreational use.

b. Designate as a State Recreation Area

The Chippewa Moraine Unit could be reclassified as a state recreation area as authorized by statute 23.091 to provide a broader range of uses including preservation, education, recreation, and small game hunting and trapping. Use and/or time zones could be established to allow people to hunt and trap during the respective open seasons. In addition, the rules could limit the number of people using any particular zone. This action could bring state-owned land into conformance with hunting and trapping seasons in effect on county-owned land within and adjacent to the moraine, as well as private lands adjacent to the property.

Deer hunting could be allowed under either classification.

2. Development and Acquisition

a. Leave the Property in an Undeveloped Condition

Although a large portion of the property has been acquired within the moraine boundary, this alternative would provide for no further acquisition and development. The Department would merely retain the property for future use. This alternative is not desirable since the property was acquired for protection, education, and recreational purposes, and the public has come to expect some development based on prior master plan proposals. This alternative is also not desirable since the property was acquired for educational and recreational purposes as outlined in the 1974 Ice Age Reserve Master Plan. No additional acquisition within the property boundary could lead to future encroachment of undesirable land uses.

b. Limited Park Acquisition and Development

This alternative would call for the least amount of development possible. The property would be kept much the same as it is right now with limited auto tour stops/interpretive waysides. A very small trail system would be developed around some of the geologic features and have limited signing. In addition, no further acquisition would be undertaken, and all remaining property boundaries would stay the same. This alternative is not desirable because the goal of the original Ice Age National Scientific Reserve Master Plan of which the Chippewa Moraine Unit is a part, could not be met. The IANSR plan called for an office/interpretive building, interpretive waysides, and trail systems to interpret the ice age features of the property. Being an Ice Age Reserve unit would mean bringing additional people into the area to learn of and study the ice age features. The existing facilities or small increases to them would not accommodate this use. Therefore, this alternative is not viable.

c. Moderate Development and Improvement of the Chippewa Moraine facilities.

This third alternative would provide for an Ice Age interpretive center, trails, auto tour waysides with interpretive facilities, and limited camping facilities. The Ice Age interpretive center would provide an initial stopping point to gain information and learn of the ice age features of the moraine, as well as of the other units within the state. This facility would provide space for operations and support facilities, such as a public contact office/interpretive space and service building. The day-use areas would have minor development in conjunction with existing boat launches, waysides, and auto interpretive route stops. The proposed backpack, tent camping, and limited wheeled vehicle camping would accommodate the short-term visitor as well as those who come to the moraine for a longer period of time. Support facilities such as water, toilets, information, etc. would be provided to accommodate all individuals regardless of their physical or mental capabilities. Intensive recreational development such as resorts, motels, hotels, or intensively developed RV campsites would be promoted at the private sector level and not be developed on the Chippewa Moraine property. This alternative is recommended as the most feasible, as it complies with federal, state, and local recreation plans, the National Ice Age Scientific Reserve Program, and stated user needs and desires as compiled during the master planning process.

PK/Chippewa.mrz

Appendix A

1. Wildlife species known to be present or observation may be anticipated:

A. Birds:

Pied-Billed Grebe
Green Heron
American Bittern
Mallard
Black Duck
Gadwall
Blue-Winged Teal
Green-Winged Teal
American Widgeon
Wood Duck
Ring-Necked Duck
Lesser Scaup
Common Goldeneye
Bufflehead
Hooded Merganser
Turkey Vulture
Goshawk
Sharp-Shined Hawk
Red-Tailed Hawk
Red-Shouldered Hawk
Broad-Winged Hawk
Rough-Legged Hawk
Common Raven
Common Crow
Black-Capped Chickadee
White-Breasted Nuthatch
Red-Breasted Nuthatch
Brown Creeper
House Wren
Cat Bird
Brown Thrasher
Robin
Veery
Eastern Bluebird
Golden-Crowned Kinglet
Great Blue Heron
Northern Shrike
Cedar Waxwing
Starline
Yellow-Throated Vireo
Solitary Vireo
Red-Eyed Vireo
Warbling Vireo
Black-and-White Warbler
Nashville Warbler
Yellow Warbler
Ovenbird
Bald Eagle
Harrier
Osprey
Kestrel
Ruffed Grouse
Sandhill Crane
American Coot
Killdeer
Common Snipe
Mourning Dove
Screech Owl
Great Horned Owl
Barred Owl
Pileated Woodpecker
Red-Headed Woodpecker
Hairy Woodpecker
Downy Woodpecker
Eastern Phoebe
Traill's Flycatcher
Eastern Wood Peewee
Tree Swallow
Blue Jay
Yellow Throat
America Redstart
House Sparrow
Redwinged Blackbird
Baltimore Oriole
Common Grackle
Brown-Headed Cowbird
Scarlet Tanager
Cardinal
Rose-Breasted Grossbeak
Indigo Bunting
Purple Finch
Pine Grosbeak
Hoary Redpoll
Pine Siskin
American Goldfinch
Slate-Colored Junco
Tree Sparrow
Chipping Sparrow
Field Sparrow
Swamp Sparrow
Song Sparrow
Snow Bunting
Chestnut-Sided Warbler

B. Mammals:

Masked Shrew
Water Shrew
Pygmy Shrew
Short-Tailed Shrew
Little Brown Myotis
Snowshoe Rabbit
Eastern Cottontail
Woodchuck
Thirteen-Lined Ground Squirrel
Eastern Chipmunk
Gray Squirrel
Red Squirrel
Flying Squirrel
Deer Mouse
Gapper's Red-Backed Mouse
Pine Vole
Meadow Jumping Mouse
Porcupine
Red Fox
Gray Fox
Black Bear
Raccoon
Fisher
Ermine
Least Weasel
Long-Tailed Weasel
Mink
Striped Skunk
River Otter
Bobcat
White-Tailed Deer
Beaver
White-Footed Mouse
Meadow Vole
Muskrat
Woodland Jumping Mouse
Coyote

C. Reptiles:

Snapping Turtle
Painted Turtle
Five-Lined Skink
Red Bellied Snake
Eastern Hognose Snake
Smooth Green Snake
Box Turtle
Spiny Softshell
Common Water Snake
Common Garter Snake
Eastern Ringneck
Fox Snake

D. Amphibians

Mudpuppy
Newt
Spring Peeper
Chorus Frog
Wood Frog
Pickerel Frog
Jefferson Salamander
Four-Toed Salamander
Gray Tree Frog
Green Frog
Leopard Frog

Appendix B

23.091 Recreation areas. (1) DESIGNATION. The department may acquire, develop, operate and maintain state recreation areas. State lands and waters may be designated as state recreation areas that are environmentally adaptable to multiple recreational uses, or are so located to provide regional or urban recreational opportunities or for preservation.

(2) MASTER PLAN. The department may designate a recreational area only after a master plan for use and management of the area is prepared, public hearings on the plan are held in the county where the largest portion of land in the project is located, the procedures prescribed in s. 1.11 are complied with, and the plan is approved by the natural resources board.

(3) USE ZONES. The department may establish use zones within state recreation areas providing for the full range of recreational uses, including hunting and fishing. It may promulgate rules to control uses within zones and may limit the number of persons using any zone. Such use zones shall be consistent with the activities identified in the master plan formulated under sub. (2).

History: 1977 c. 29; 1985 a. 332 s. 251 (1); 1987 a. 298.

Appendix C

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

February 1, 1989 File Ref: 2510

Carroll D. Besadny
Secretary

Dear Concerned Citizen:

During the past six months, approximately 900 workbooks outlining areas of interest in the Chippewa Moraine Unit of the Ice Age National Scientific Reserve have been distributed for public review and comment. Ninety-five responses, including 15 that were phoned to our Department, have been received and compiled. Thank you to all who have taken the time to help in this project.

Many people have a keen interest in the Chippewa Moraine. This was demonstrated by the number of detailed comments received and excellent ideas presented. Most respondents view the Chippewa Moraine as a wilderness-like area recommending that limited recreational development should occur.

Management of a property depends, to a great extent, on its designation. Should the Chippewa Moraine Unit be classified as a recreation area or a state park? People's preference in this category corresponded with the type of recreation they sought. That Recreation Area classification was preferred more often than the State Park classification, reflects the desire of many to be able to hunt small game and trap various species in this area. Deer hunting could be allowed under either classification. Those who favored the State Park classification were seeking a place for recreation without the possibility of hunting conflicts.

An interpretive facility was favored by many respondents. A variety of educational information highlighting on-site examples of geology, ice age features, lumbering, and wildlife could be provided.

A large number of respondents suggested a wilderness-like setting. However, they did indicate that some timber cutting or vegetative management may be needed. In addition, forest management and forest production were promoted by local individuals and businesses. While some viewpoints opposed forest management and favored no cutting or limited cutting of unsafe trees, most proposed cutting for vista management.

Most agreed that the county and state should adopt similar guidelines regarding forestry, hunting and trapping, recreation and general development features to ensure preservation of unique geological features. Such cooperation, noted in a written agreement, would help avoid confusion by the general public using the Chippewa Moraine. A slightly smaller number favored state ownership or control by easement of all lands within the Chippewa Moraine Ice Age Unit.

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Chippewa Moraine Master Plan

Public Meeting Concerns of November 29, 1989, Bloomer, Wisconsin

and written comments received by the December 15 closing date

M. Ries - 12/22/89

Comments:

Can I keep on farming my private land?

Can I deer hunt on my private land?

The topography is unique in the world.

This is a legacy for future generations.

We need volunteers for trail development.

Map has some lack in detail of private land.

Will you develop camp on private property?

Will you charge me to go to my own property?

You won't make enough $$ to operate from property revenue.

Suggest you be more cost effective.

Would develop swimming pools, etc.?

When will you negotiate with County Forestry Committee?

Will this be direct competition with private campgrounds?

We hunt, fish, trap the area - don't want a lot of outside people coming in.

Don't want to lose hunting privileges.

Don't want to see Indian Treaty spear fishing.

Why closing deadend roads?

Could we have small trails for horses? ATV's?

Want to reassure our future hunting/fishing rights. Is plan contingent upon reclass to recreation area to allow hunting/fishing?

If this is not reclassified, hunting would then be restricted because State Park states would continue wildlife refuge status.

Prefer forestry plantings to nature center development.

What about waterskiing?

Someone will turn this land over to Indians.

Why wasn't building built at Wissota Park?

At Wissota, snowmobile trail was paid for by snowmobile $$ but then it was designated X-country skiing and snowmobiles were moved elsewhere - not fair.

Don't take away from private business.

Some of us do favor preservation of the area.

Chippewa Rod and Gun Club - didn't get copies of information.

Bringing people in will change this (the area).

As people come you'll want to change designation to restrict our hunting.

Support change to Rec. Area.

Can we have progress report meetings?

Compliment you on making yourselves available.

Should have a horse trail.

Will there be any local funding needed?

Can people of Chippewa County vote on if they want this property?

Leave it in natural state and don't build buildings.

Why are we going over the original acreage goals?

How much tax base will townships lose?

Change to recreational area.

Include law enforcement in plan.

Don't develop campground.

Loss of gas tax when roads are closed.

Cost to township to upgrade roads.

Problem with camping in undesignated areas for free.

Lower admission fees to increase camping which will help private campgrounds.

Where is money coming from to develop this land?

County keep its land and don't trade with DNR.

Why haven't old dumps been cleaned up?

Will old barn at S. Shattuck be taken down?

Why wasn't this and other meeting better publicized?

How will camping rates be set?

Keep park status.

No hunting or trapping.

No 20-unit large vehicle campground.

State should purchase Chippewa County forest land.

Want recreation area.

Allow hunting.

No motors on lakes.

No off-road vehicles.

Tents only, want walt and cart-in sites.

Want nature center.

No logging.

Want hunting after fall color.

Worried about being shot.

Want snowmobiling and ATV's.

Keep trails rustic.

Close logging roads.

Close deadend township roads.

Want horse trails.

Buy land.

Have backpack campsites only.

Don't close roads, access for disabled/elderly.

Doesn't favor Ice Age Plan.

Why spend money with present shortfall?

NOTE: Eighty people attended the meeting in Bloomer. Seventy-three people sent in letters, and five called in. Over 90 percent of the correspondence came from the Chippewa Falls - Eau Claire area. The remaining comments came from throughout the surrounding counties and state.

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