

JMIS 002

UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE

RESEARCH NATURAL AREA ESTABLISHMENT RECORD

Battle Point Research Natural Area

Chippewa National Forest

Itasca County, Minnesota



Battle Point

Battle Point RNA
Chippewa

DECISION NOTICE/DESIGNATION ORDER

Decision Notice
Finding of No Significant Impact
Designation Order

By virtue of the authority vested in me by the Secretary of Agriculture under regulations at 7 CFR 2.42, 36 CFR 251.23, and 36 CFR Part 219, I hereby establish the Battle Point Research Natural Area. It shall be comprised of lands described in the section of the Establishment Record entitled "Location."

The Regional Forester has recommended the establishment of this Research Natural Area in the Record of Decision for the Chippewa National Forest Land and Resource Management Plan. That recommendation was the result of an analysis of the factors listed in 36 CFR 219.25 and Forest Service Manual 4063.41. Results of the Regional Forester's analysis are documented in the Chippewa National Forest Land and Resource Management Plan and Final Environmental Impact Statement which are available to the public.

The Battle Point Research Natural Area will be managed in compliance with all relevant laws, regulations, and Forest Service Manual direction regarding Research Natural Areas. It will be administered in accordance with the management direction/prescription identified in the Establishment Record.

I have reviewed the Chippewa National Forest Land and Resource Management Plan (LRMP) direction for this RNA and find that the management direction cited in the previous paragraph is consistent with the LRMP and that a Plan amendment is not required.

The Forest Supervisor of the Chippewa National Forest shall notify the public of this decision and mail a copy of the Decision Notice/Designation Order and amended direction to all persons on the Chippewa National Forest Land and Resource Management Plan mailing list.

Based on the Environmental Analysis, I find that designation of the Battle Point Research Natural Area is not a major Federal action significantly affecting the quality of the human environment. (40 CFR 1508.27.)

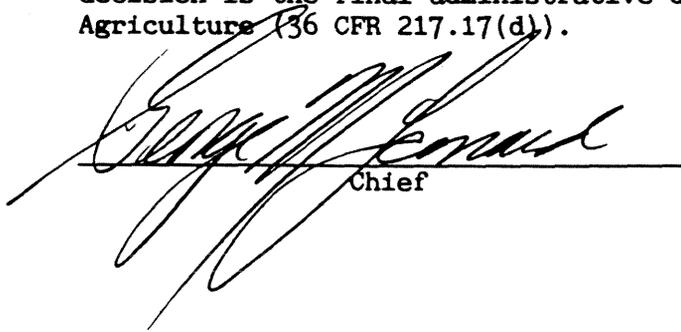
This decision is subject to appeal pursuant to 36 CFR Part 217. A Notice of Appeal must be in writing and submitted to:

The Secretary of Agriculture
14th & Independence Ave., S.W.
Washington, D.C. 20250

and simultaneously to the Deciding Officer:

Chief (1570)
USDA, Forest Service
P.O. Box 96090
Washington, D.C. 20090-6090

The Notice of Appeal prepared pursuant to 36 CFR 217.9(b) must be submitted within 45 days from the date of legal notice of this decision. Review by the Secretary is wholly discretionary. If the Secretary has not decided within 15 days of receiving the Notice of Appeal to review the Chief's decision, appellants will be notified that the Chief's decision is the final administrative decision of the U.S. Department of Agriculture (36 CFR 217.17(d)).



Chief

6/26/91
Date

Figure 2
Chippewa National Forest
Battle Point RNA
Boundaries
Scale 1:24,000

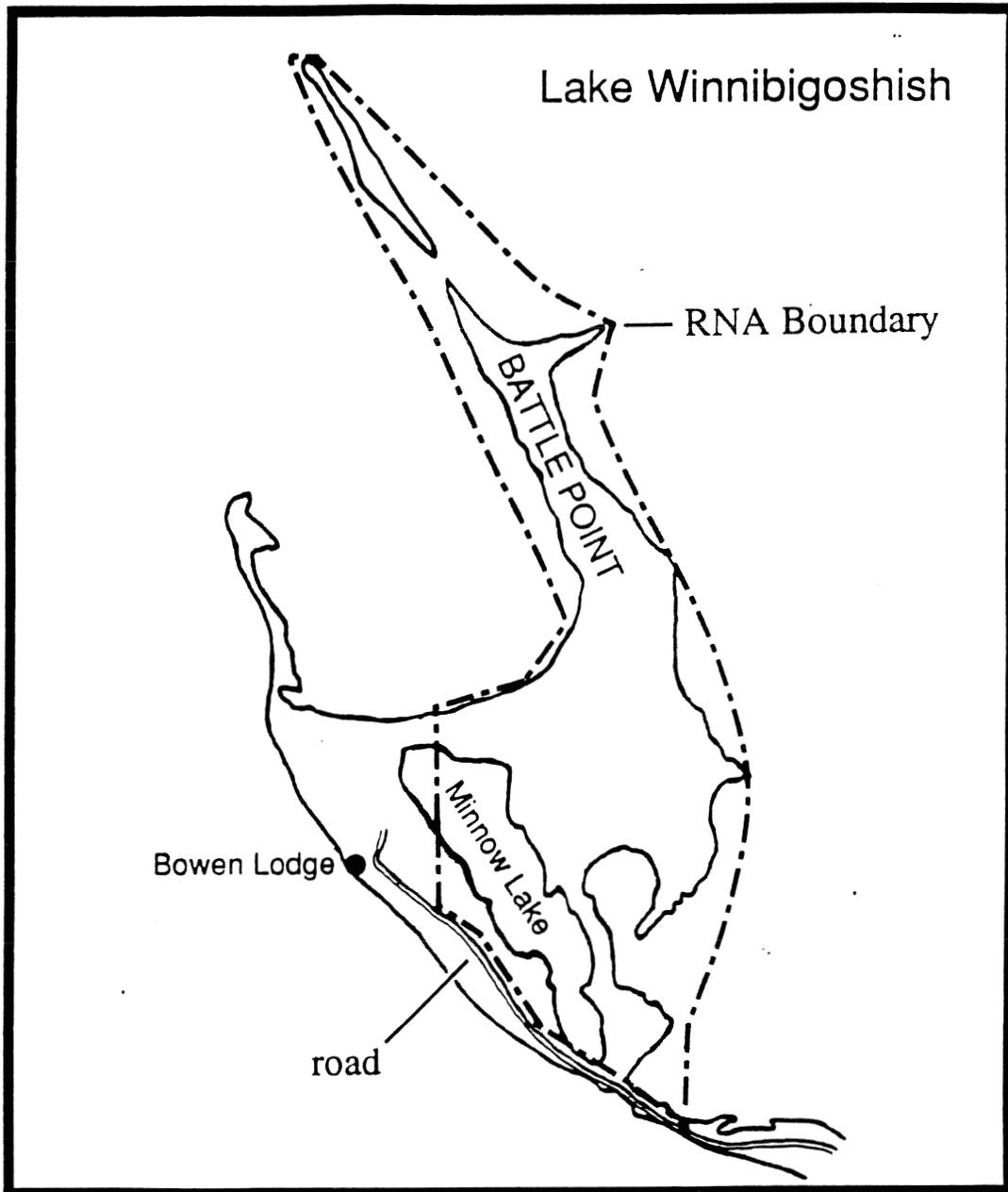
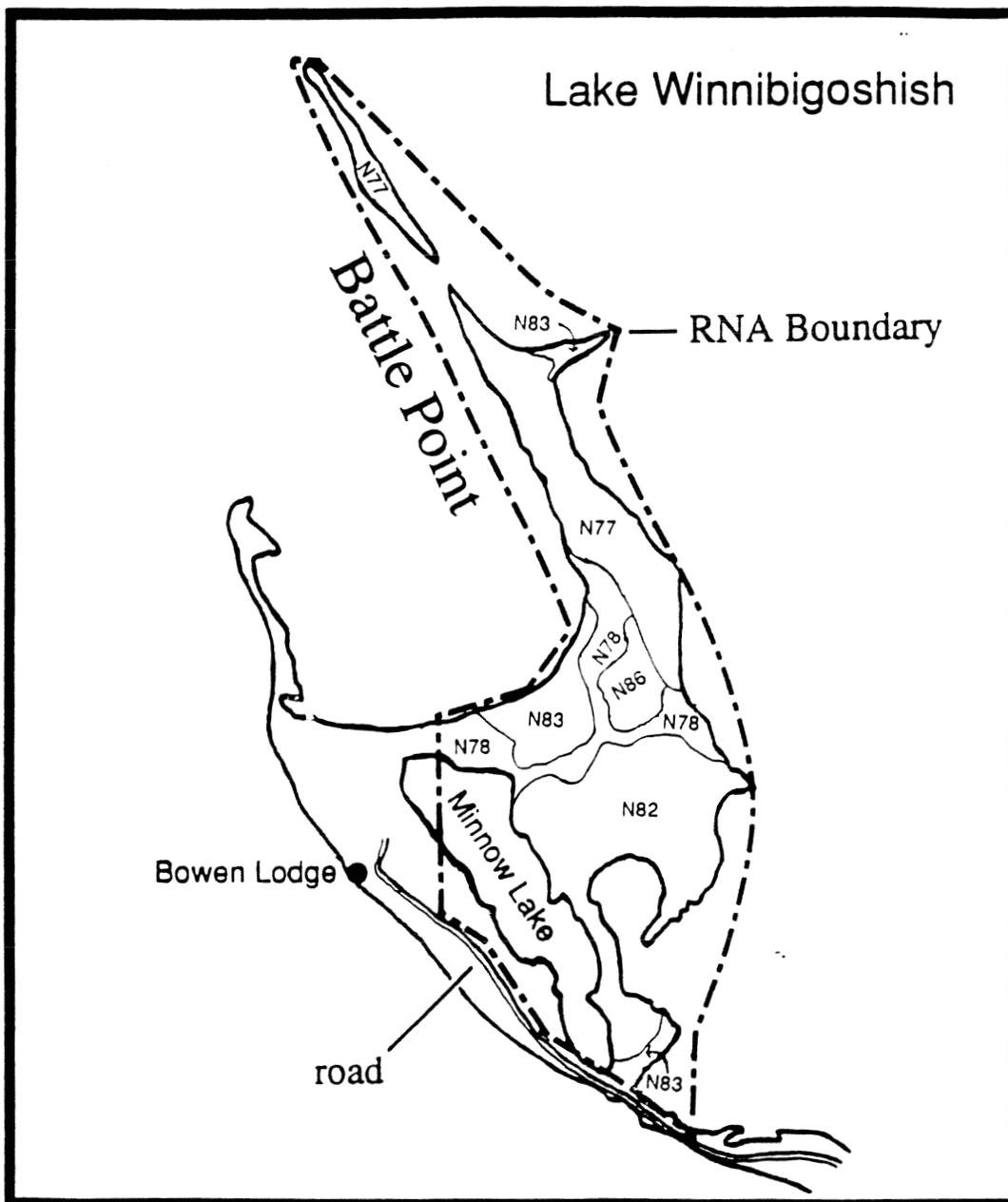


Figure 4
Chippewa National Forest
Battle Point RNA
Ecological Types
Scale 1:24,000

- N77 Fine Sandy Outwash Plain
- N78 Course Sandy Outwash Plain
- N82 Silty Lacustrine Plain
- N83 Somewhat Poorly Drained Outwash Plain
- N86 Very Poorly Drained Organic Closed System



PHOTOGRAPHER
Keith Wendt

PHOTOGRAPHIC RECORD

HEADQUARTERS UNIT
Chippewa Nat'l For.

LOCATION

DATE SUBMITTED
November 1987

INSTRUCTIONS: Submit to Washington Office in quadruplicate. Permanent numbers will be assigned and the forms will be distributed as follows: (1) Washington Office, (2) RO or Station, (3) Forest or Center and (4) Photographer.

TEMP. NO.	PERMANENT NO. (To be filled in by the FO)	SELECTED FOR W.O. PHOTO LIBRARY	DATE OF EXPOSURE	LOCATION (State and National Forest or County)	DESCRIPTION OF VIEW
(1)	(2)	(3)	(4)	(5)	(6)
1			8/87	T146N, R27W SW1/4 Sec. 2 Chippewa N.F. Itasca Co. Minn.	Mature Sugar Maple/Basswood SAF cover type with large red oaks.
2			8/87	T146N, R27W SE1/4 SE1/4 Sec. 3	Mature Sugar Maple/Basswood SAF cover type. Site of releve' 0111.
3			8/87	T146N, R27W NW1/4 NW1/4 Sec. 2	Camping activity along shoreline of Battle Point.
4			8/87	T146N, R27W NE1/4 NE1/4 Sec. 3	Narrow sand beach shoreline along west side of Battle Point looking north.
5			8/87	T146N, R27W SW1/4 NW1/4 Sec. 2	Open bog bordering small lake.



Photograph 1. Mature sugar maple/basswood SAF cover type.



Photograph 2. Mature sugar maple/basswood SAF cover type, site of releve no. 0111.



Photograph 3. Camping activity along shoreline of Battle Point.



Photograph 4. Narrow sand beach along west side of Battle Point looking north.



Photograph 5. Open bog bordering small lake.

SIGNATURE PAGE

for

RESEARCH NATURAL AREA ESTABLISHMENT RECORD

Battle Point Research Natural Area

Chippewa National Forest, Deer River Ranger District

Itasca County, Minnesota

The undersigned certify that all applicable land management planning and environmental analysis requirements have been met and that boundaries are clearly identified in accordance with FSM 4063.21, Mapping and Recordation and FSM 4063.41 5.e(3) in arriving at this recommendation.

Prepared by Keith M. Wendt Date 8/6/90
Keith Wendt, Plant Ecologist
Minnesota Natural Heritage Program

and by Kurt A. Rusterholz Date 8/6/90
Kurt A. Rusterholz, Plant Ecologist
Minnesota Natural Heritage Program

and by Mary B. LaPlant Date 8/9/90
Mary B. LaPlant, Forester, Chippewa National Forest

and by David A. Shadis Date 8/8/90
David A. Shadis, Soil Scientist, Chippewa National Forest

Recommended by Garry W. Frits Date 8/9/90
Garry W. Frits, District Ranger, Deer River District

Recommended by William F. Spinner Date 8/29/90
William F. Spinner, Forest Supervisor
Chippewa National Forest

Recommended by Floyd J. Marita Date 9/6/90
Floyd J. Marita, Regional Forester, Eastern Region

Recommended by Ronald D. Lindmark Date 11/15/90
Ronald D. Lindmark, Station Director
North Central Forest Experiment Station

ESTABLISHMENT RECORD FOR THE
BATTLE POINT RESEARCH NATURAL AREA

Chippewa National Forest
Deer River Ranger District

Itasca County, Minnesota

INTRODUCTION

The proposed Battle Point Research Natural Area (RNA) is located entirely within the Chippewa National Forest. It is found on the northeast shore of Lake Winnibigoshish and the south shore of Cut Foot Sioux Lake, an arm of Lake Winnibigoshish and encompasses approximately 329 acres (133.2 hectares) of National Forest System land. A small private resort (the Bowen Lodge) lies along the western border of the Battle Point RNA (Figure 1 and 2).

Battle Point, the northern most portion of the RNA, receives its name from the historic half-day battle fought between the Ojibwe and Sioux Indians on the banks of the First River at Lake Winnibigoshish, which was located one-half mile to the west of the area at that time. Indian legend about this 1748 battle states that Ojibwe scouts encountered Sioux scouts while portaging the narrow portion of Battle Point, and the first shots of the battle were fired here. The Ojibwe were victorious and took control of the region after this battle.

Both the Northwest Fur Company and later the American Fur Company had fur trading posts on the First River near the area of the battle for Cut Foot Sioux Lake. This area also is now under water as a result of the damming of Lake Winnibigoshish in 1884.

In 1874, P. H. Congor, government surveyor, recorded an Ojibwe sugarbush within Sections 2 and 3. Today some of the older sugar maples in this area exhibit butt swelling typical of that caused by injury associated with tapping of maple for sugaring operations.

The original red and white pines were removed from this point between 1911 and 1915. By an act of Congress in 1902, Indian Reservation pine stumpage was sold at auction, and it was from these timber sales held in 1910 that loggers operated in the region. McAvity was one of the operators in this region, and McAvity Bay is named for him (see Figure 1 and Figure 3). No hardwood has ever been cut and no other timber management is known to have occurred in this area. Although red and white pines were once interspersed throughout the hardwoods, present vegetation is very similar to presettlement vegetation.

The Ojibwe used this area for their sugarbush; some maple within the neighboring resort property have definitely been scarred by tapping by the Ojibwe over 100 years ago. Also found here are a few pig nut hickory, supposedly planted by the Indians.

In the 1930s, Bowen's Lodge was constructed on private lands west of Minnow Lake (Figure 2). It was also during this era that two summer home cabin leases were established in the Sugarbush Point Summer Home Group. The leases were discontinued during the 1950s and the buildings were removed. Bowen's Lodge has a special use permit for boat docks, a boat ramp, and parking lot on National Forest System lands north of the resort on Cut Foot Sioux Lake, outside of the RNA.

A cabin was built on the south shore of Minnow Lake (see Figure 2), possibly around the time Bowen's Resort was established. Today this cabin is nothing more than a collapsed pile of boards and tarpaper. The areas used by the historic Ojibwe and the two cabin sites on Sugarbush Point are now revegetated to mixed hardwood, with little structural evidence remaining of these sites.

There are no other known historic uses of this area and no timber sales have been sold since the original pine was cut. In 1959, E. F. Creech examined the portion along the southwest shore of McAvity Bay for the potential of developing a campground, but no development was ever done.

Present developments on the peninsula include the access road, telephone cable and powerline to the Bowen Lodge resort, the wharf and parking lot under a special use permit to the resort, and the closed, unimproved woods road along the east side of Minnow Lake. Twenty-one waterfowl nesting boxes have been installed along the shoreline within the proposed RNA, but they do not have any impact on the features which the RNA was selected to represent.

The general area receives heavy recreation use as compared to other parts of the National Forest, but it is primarily water-based (fishing) and has little impact on surrounding terrestrial communities. Camping is dispersed along the shorelines and occurs primarily during the opening week of fishing season. It consists of up to 6 dispersed sites and quickly drops off to only an occasional weekend camper during the rest of the summer. Hunting pressure is extremely limited due to the small size of the area and the mature condition of the forest. There is little evidence of recreational use within the area away from the shoreline. (See Management Plan)

Bob and Bill Heig, the owners of Bowen Lodge, are supportive of the designation of Battle Point as an RNA.

LAND MANAGEMENT PLANNING

Approved regional guides and the Chippewa National Forest Land and Resource Management Plan and Environmental Impact Statement (1986) included the proposed Battle Point Research Natural Area. The environmental analysis conducted as part of the planning process supports the recommendation to establish the Research Natural Area whose primary use shall be the protection and maintenance of an example of the mature sugar maple-basswood community type (SAF Type 26) on an unusual landform.

OBJECTIVES

The primary objective for establishing the Battle Point RNA is to protect an intact example of the sugar maple-basswood forest type (SAF Type 26) at the westernmost edge of its range. The site is one of the few remaining examples of old-growth northern hardwoods forest¹ occurring within the Chippewa National Forest. Establishment of the proposed RNA will play a crucial part in meeting the Forest's objective of maintaining natural diversity and monitoring the effects of resource management techniques on national forest land as required by the National Forest Management Act (NFMA) of 1976.

¹For purposes of this document, the term "northern hardwoods" means Upper Great Lakes hardwood forests which includes SAF cover types (27)sugar maple, (25)sugar maple-beech-yellow birch, (26)sugar maple-basswood, and (39)black ash-American elm-red maple.

JUSTIFICATION STATEMENT FOR ESTABLISHMENT OF AREA

The presettlement northern forest of Minnesota was characterized by a complex mosaic of vegetative communities. Fires, of varying frequency and intensity, largely created this mosaic and prevented, over large areas, long term development toward "climax" associations such as the maple-basswood type. The sugar maple-basswood type developed and persisted in areas where natural disturbances, particularly fire, were relatively rare. The most conspicuous area occupied by these forests was a narrow belt along the North Shore Highlands of Lake Superior that stretched from Duluth to the Canadian border. (Flaccus and Ohmann, 1964). Scattered stands were also found in fire-protected niches inland as far west as Cass Lake. Today, after a century of intensive logging, slash fires, crop clearing, and development, mature old-growth stands of the northern hardwood forest type are rare and are considered by the Minnesota Natural Heritage Program to be state threatened.

The Natural Heritage Program conducted a survey of old-growth (150 years or older) northern hardwood-conifer forest stands occurring in the North Shore Highlands during the summers of 1982, 1983, and 1984. This survey found intact examples of this forest type in only isolated, remnant tracts (Coffin and Engstrom, unpublished). Partial surveys westward in the Sugar Hills moraine area and in the Chippewa National Forest confirm the rarity of the northern hardwood forest. Today, only two stands of presettlement quality northern hardwoods are known for the Chippewa National Forest, these are the proposed Battle Point and Stony Point RNA's. Both these stands are located at the western edge of the range for northern hardwood forest type in North America.

The National Forest Management Act (NFMA) of 1976 calls for multiple resource land management by requiring the maintenance of natural diversity on national forest lands. The National Forest System Land and Resource Management Planning regulations state that National Forest System management shall:

"...provide for diversity of plant and animal communities and tree species consistent with the overall multiple-use objectives of the planning area." (219.26)

"...preserve and enhance the diversity of plant and animal communities...so that it is at least as great as that which would be expected in a natural forest..." (219.27(g)).

The concept of natural diversity was used as an organizing principle for forest planning in the U.S. Forest Service document, Land and Resource Management Plan for the Chippewa National Forest (1986). Intact northern hardwood stands are a rare and important diversity component of the Chippewa National Forest. The establishment of Research Natural Areas (Management Area 8.2) within the Chippewa National Forest is an excellent method for maintaining the northern hardwood type and complying with the diversity requirement of the NFMA.

Battle Point Research Natural Area can serve other purposes. It can be used to conduct basic studies of ecosystem processes and functions of fauna and flora in an undisturbed northern hardwood environment. It can serve as a baseline area for measuring long-term ecological changes, and can help us monitor the effects of resource management techniques and practices on similar lands. These features assist in our compliance with the monitoring provisions of the NFMA.

PRINCIPLE DISTINGUISHING FEATURES

The Battle Point Natural Area is a fine example of the presettlement character of the northern hardwoods vegetation type. Minnesota's northern hardwood forests are the westernmost expressions of that vegetation type (Eyre, 1980).

Due to the landscape configuration of the Battle Point Research Natural Area - a peninsula jutting into Lake Winnibigoshish and Cut Foot Sioux Lake - the area has been protected from frequent fires. This has allowed the development and persistence of a late successional northern hardwoods forest in a region where similar sandy soil sites are typically occupied by early successional hardwood and pine communities. The sugar maple - basswood forest type (SAF Type 26) on Battle Point appears to be very old and displays many old growth characteristics such as (1) closed overstory canopy of old growth (100 years or older) mesophytic trees, (2) presence of old tip-up mounds with large trees growing on them and (3) presence of standing dead trees and old decaying tree boles on the forest floor.

LOCATION

The Battle Point Research Natural Area is located within the Deer River Ranger District of the Chippewa National Forest at latitude 47°30' and longitude 94°5'. Approximately 329 acres (133.1 hectares) in size, it is bounded by McAvity Bay on the east, Cut Foot Sioux Lake on the north, Bowen's Bay also on the north, Bowen's Lodge on the west, and Forest Road 2363 on the south. Elevation ranges from approximately 1300 feet (396.2 m) at the shore of Lake Winnie to 1335 feet (407 m) within the interior of Battle Point.

The area can be legally described as follows: the northwest quarter of the southwest quarter, government lot four, government lot six and government lot seven of Section two; the southeast quarter of the southeast quarter, government lot one, government lot two and government lot three of Section three; all that portion of the east half of the northeast quarter lying north and east of Forest Road Number 2363 in Section 10; and government lot four, and all that portion of the southwest quarter of the northwest lying north and east of Forest Road number 2363 in Section 11; all in Township 146 North, Range 27 West, 5th Principal Meridian; government lot 13 of Section twenty-seven; government lot eleven and government lot twelve of Section thirty-four; and government lot 14 of Section thirty-five; all in Township 147 North, Range 27 West, 5th Principal Meridian, except portions of the area described above which are below the high water level of Lake Winnibigoshish and Cut Foot Sioux Lake.

To get to Battle Point from Deer River, Minnesota, take State Highway 46 (NW) 15 miles (24.1 km) to Forest Road 2363. Forest Road 2363 is a short road (approximately 3.5 miles or about 5.6 km long) ending at Bowen's Lodge near the southwestern corner of the RNA.

Battle Point can be found on the Chippewa National Forest general map, (1985), and on U.S. Geological Survey 7.5 minute quadrangle maps "Little Winnibigoshish Lake" and "Max", (1971). It can also be seen on aerial photos taken by Itasca County, MN on August 4, 1978 (Strip 14, numbers 178-301, 302, 303, 304). These maps and photos are available at the Chippewa National Forest Supervisor's Office in Cass Lake, MN.

AREA BY COVER TYPES

1. Society American Foresters (SAF) Types

The proposed Battle Point RNA contains four SAF cover types. The northern hardwood community is comprised of two SAF types, Sugar maple-basswood and Northern red oak.

	<u>SAF Type</u>	<u>Acres</u>	<u>Hectares</u>
26	Sugar maple-basswood	121	49.0
55	Northern red oak	68	27.5
15	Red Pine	42	17.0
16	Aspen	11	4.4

2. Kuchler Types (Kuchler, 1964)

Using the more generalized Kuchler classification system, the Battle Point RNA falls within the Great Lakes Spruce-fir Forest (Picea-Abies). The northern hardwood community at Battle Point, however, better fits Kuchler's Maple-Basswood Forest (Acer-Tilia) type. The aspen and red pine stands better fit into the Great Lakes Pine Forest (Pinus) type.

	<u>Kuchler Type</u>	<u>Acres</u>	<u>Hectares</u>
90	Maple-Basswood (Acer-Tilia)	189	76.5
86	Great Lakes Pine Forest (Pinus)	53	21.4

In addition to the above forest cover types, the Battle Point Natural Area contains 64 acres (25.9 ha) of open water and marsh, and 23 acres (9.3 ha) of lowland brush (there is no Kuchler designation for this type).

3. A summary of cover types is as follows:

	<u>Acres</u>	<u>Hectares</u>
Forest Types	242	99.9
Lowland Brush	23	9.3
<u>Marsh and Open Water</u>	<u>64</u>	<u>25.9</u>
Total Area	329	135.1

A cover type map of the proposed Battle Point RNA is found in Figure 3.

PHYSICAL AND CLIMATIC CONDITIONS

The Battle Point RNA is located within the Bemidji Sand Plain and Aitkin Lacustrine Sand Plain geomorphic units (University of Minnesota, 1980). Soils throughout the area are well drained, fine sand with interspersions of low-lying, organic soil areas. Topography is level to gently rolling. Battle Point itself appears to be part of an esker system that dips under Cut Foot Sioux Lake and reappears as Seelye Point to the north-northwest. Much of the esker has been covered by wind blown sands during a drought period four to eight thousand years ago. The southeast portion of the proposed RNA is composed of layered silts and fine sands more characteristic of deposition in lacustrine environments.

A summary of climatic data for 1900 - 1989 recorded at the Winnibigoshish Dam weather station 3 miles (4.8 km) south of Battle Point indicates that the area has a typical continental climate with average annual precipitation of 25 inches (635 mm) per year, with 11 inches (279 mm) average summer precipitation and 50-60 inches (127-152.4 cm) average winter snowfall. The area has an average of 110 days per year with snow cover of more than 6 inches (15.2 cm), and between 60 and 70 days of snowcover in excess of 12 inches (30.5 cm). The average date of last spring frost is May 27 and the average date of first fall frost is on September 16 (Baker and Strub, 1963a,b; 1966, 1967). Lake Winnibigoshish has an ameliorating influence on the local climate.

DESCRIPTION OF VALUES

Flora

The vegetation communities on the proposed Battle Point RNA are mapped and described in Figure 3. Vegetation data describing in more detail the composition and structure of the northern hardwood type was also taken. Two 20x20 meter plots were sampled using the Braun-blanquet Relieve' system (Van der Maarel and Westhoff 1975). These plots were located within the featured sugar maple-basswood stand (SAF Type 26). The results (Appendix A and B) provide a list of plants² found in the stand, describe percent cover and abundance of each species, and summarize the structural layers of the vegetation. In addition to the releves, tree diameters and numbers³ were taken in each of the plots.

²Source for common and scientific names of non-tree plant species:
Fernald, M. L., 1970. Gray's Manual of Botany. Eighth edition. B. VanNostrand Co., NY 1632 p.

³Source of common and scientific names of tree species:
Little, Elbert L. Jr. 1979. Checklist of United States Trees (Native and Naturalized). Agric. Handbook No. 541. Washington, DC: USDA 375p.

Fauna

Old-growth northern hardwoods are important to many wildlife species, especially nongame. The red-shouldered hawk (Buteo lineatus)⁴, goshawk (Accipiter gentilis), and hermit thrush (Hylocichla guttata) are typical of this community. The Battle Point area also contains depressions with surface water, seasonally or permanently. These provide important breeding habitats for puddle ducks such as mallards (Anas platyrhynchos), wood ducks (Aix sponsa) and blue-winged teal (Anas discors). The proposed site and surrounding area has been identified in the Land and Resource Management Plan of Chippewa National Forest as essential habitat for the nationally threatened Bald Eagle.

Other rare animals depend on the northern hardwood community for habitat:

<u>Animal</u>	<u>Status in Minnesota</u> ⁵
Gray Wolf (<u>Canis lupus</u>) ⁶	Threatened
Keens Myotis (<u>Myotis keenii</u>)	Special Concern
Bald Eagle (<u>Haliaeetus leucocephalus</u>)	Threatened
Red-shouldered Hawk (<u>Buteo lineatus</u>)	Special Concern
Osprey (<u>Pandion haliaetus</u>)	Special Concern

Any or all of these animals could be found in this RNA.

Geology

The topography of the Battle Point Research Natural Area is level to gently rolling. Battle Point itself appears to be part of an esker system that dips under Cut Foot Sioux Lake and reappears as Seelye Point to the north-northwest. Much of the esker is sand and gravel that has been covered by wind blown sands during a drought period four to eight thousand years ago. The southeast portion of the proposed RNA is composed of layered silts and fine sands more characteristic of deposition in lacustrine environments.

⁴Source for common and scientific names of birds:
Peterson, Roger T. 1947. A field Guide to the Birds. Houghton Mifflin Company, Boston, MA.

⁵Coffin and Pfannmuller. 1988. Minnesota Endangered Flora and Fauna. MN Dept. of Natural Resources. Univ. of Minnesota Press, Minneapolis, MN. 473p.

⁶Source for common and scientific names of mammals:
Hazard, Evan. 1982. The Mammals of Minnesota. Univ. of MN Press, Minneapolis, MN.

Soils

Soil information for the Battle Point Natural Area is available from the Chippewa National Forest Ecological Classification System for the Land Type Association (LTA) and the Ecological Type (ET) levels (see Figure 4). Soils are well drained, fine sands west of Minnow Lake, medium and coarse sands on Battle Point and layered sands and silts between Minnow Lake and Mc Avity Bay. Several low-lying, organic soils areas also occur within the RNA boundaries.

Lands

All acreage within the proposed RNA is National Forest System lands.

Cultural

The Battle Point Research Natural Area has four archeological sites which are potentially eligible for the National Register of Historic Places. These are:

Site No. 104	Sugarbush
Site No. 782	Minnow Lake Cabin
Site No. 783	Minnow Lake Habitation
Site No. 797	Battle Point Burials

(Johnson, Harrison and Schaaf, 1977; Forest Service Cultural Resource Inventory, unpublished)

The burial area on the northernmost tip of Battle Point is recorded as a cemetery and some human remains have become exposed by the erosion of the point. These remains have been re-buried as close as possible to their original site (Caine, pers. comm.). Since the soil type and the extreme natural erosion disturbance makes it difficult to locate burial sites, there may be additional burial sites that haven't been recorded.

The sugarbush is located in the sugar maple-basswood stand (SAF Type 26) (see Figure 3), and the two Minnow Lake sites are on the west shore of that lake.

IMPACTS AND POSSIBLE CONFLICTS

Mineral Resources

Sand and gravel are the only commercially exploitable mineral resources presently known in the Battle Point Research Natural Area. All lands within the area are in the public domain and the United States of America owns all of the mineral rights.

Grazing

The Battle Point natural area has not been grazed and there is no anticipated demand for grazing in the area in the future. No grazing will be permitted.

Timber

Two hundred forty-two (242) acres (97.9 hectares) were withdrawn from timber producing base during development of the Forest Plan. Affected timber lies within Compartment 86, Deer River Ranger District and is broken down by SAF Cover Type listed below.

<u>SAF Cover Type</u>	<u>Acres</u>	<u>Hectares</u>
(15) Red Pine	42	17.0
(55) Northern Red Oak	68	27.5
(26) Sugar Maple/Basswood	121	49.0
(16) Aspen	11	4.4

Watershed Values

The proposed RNA is bounded by McAvity Bay on the east, Cut Foot Sioux Lake on the north, and Lake Winnibigoshish on the west. Minnow Lake and several small marshes are within the proposed RNA. Designation as an RNA will protect watershed values.

Recreation Values

This general area receives heavy recreation use. Common forms of recreation include hunting, fishing, auto and ORV touring, pleasure boating, swimming (on undesignated beaches), wildlife observation, and some dispersed camping and picnicking. Several potential recreation sites have been identified in the NFRS Atlas (Creech and Close, unpublished). The Cut Foot-Winnie area supports a productive and favored walleye fishery. However, recreation uses within the RNA boundary are largely confined to shoreline and foot-trail use. There is little evidence of recreational use in the RNA away from the trails or shoreline. The boundary of the RNA has been located so that the important interior stand of hardwoods for which the area was chosen is buffered from the influence of peripheral recreation activities. Camping disturbance shown in photograph 3, was found within the proposed RNA boundaries along the shoreline of Battle Point. Since this photo was taken, the trail leading to this site has been closed and the camping equipment has been removed.

Both Sugarbush Point and the stand just across McAvity Bay from Battle Point are the sugar maple-basswood community (SAF Type 26). They are in management area 8.3 in the Chippewa National Forest Plan (1986) which allows recreational use. Since they are the same community type as the featured stand on Battle Point, visitors can fulfill their recreational desires by visiting these areas without entering the Research Natural Area. The area east of McAvity Bay contains an established trail system which ties into a public access site. This area, because of access and the trail system, is more desirable to most forest users than the RNA for general forest recreation. In this way, these stands function as a "buffer" to the highlighted stand in Battle Point Research Natural Area.

In addition, Minnow Lake provides an effective buffer along the western portion of the RNA from most impacts which would originate at the Bowen Lodge.

Wildlife and Plant Values

Maintaining the integrity of the old growth northern hardwoods community at Battle Point should be sufficient to protect the distinctive flora and fauna of the area.

Special Management Area Values

The Battle Point Research Natural Area is not presently part of any congressionally designated area, and it does not appear to have any value as Wilderness, as part of the Wild and Scenic River System or as a National Recreation Area.

Transportation Plan

Access to Battle Point from Deer River, Minnesota is via State Highway 46, 15 miles (24.1 kilometers) northwest to Forest Road 2363. Forest Road 2363 is a short road (3.5 miles or 5.6 kilometers) ending at Bowen's Lodge, southwest of the Battle Point Research Natural Area. F.R. 2363 is passable by sedan except during winter months. An unimproved wood road along the east side of Minnow Lake is closed and gated. No new roads are planned in the area.

Cultural Resources

The Forest Service and the Leech Lake Indian Reservation have agreed that the long peninsula of Battle Point will be maintained as a cemetery, left in a natural vegetative state. This means that there are no plans for further evaluation plots, and the RNA shouldn't interfere with any legal obligations. However, any human remains which become exposed as the result of erosion will be re-buried as close as possible to the original site. Re-burial would involve a one-time digging of a hole approximately 2.5 ft. (0.76 m) in all directions (Caine, pers. comm.) which will not affect the RNA values.

As required by law, cultural resource sites within this RNA are to be evaluated. This normally involves digging standard evaluation plots; probably 10 to 20 per site, each one meter square. This would be done with the least possible impact, by requiring the archeologists to camp outside of the RNA, avoid creating trails and to leave the area as it was found, as much as possible. This can be accomplished without harming the values for which this RNA is set aside.

None of these sites will be interpreted to the general public, even if found significant enough to be listed on the National Register of Historic Places.

MANAGEMENT PRESCRIPTION

Objective

As designated in the Chippewa National Forest Land and Resource Management Plan, approved by Regional Forester Larry Henson, the objective of the Research Natural Areas is:

To preserve and maintain areas on the Forest which possess special or unique, biotic, aquatic, or geologic values appropriate for research, study, observation, genetic conservation, monitoring and educational activities.

The specific objective for Battle Point RNA is:

To protect and sustain an example of the mature sugar maple-basswood community (SAF Type 26) type on an unusual landform site.

Transportation

The wood road which runs through the site has been closed to all motorized traffic, including ATVs, at the boundary of the RNA. The existing transportation plan will have no effect on the RNA.

Vegetation Management

No direct management is needed to maintain the ecologic conditions of this Sugar Maple-Basswood forest. This late successional forest will perpetuate itself under natural conditions.

There is no anticipated need for prescribed fire or other manipulative management.

In order to perpetuate the old-growth nature of the northern hardwoods stand, no salvage operations will be permitted. This applies at all times, including the event of severe damage from wind, insects, disease or wildfire.

Infestation of indigenous forest insects and disease will be allowed to follow their natural course without chemical or biological control. Introduced exotic species may be controlled as explained under Monitoring.

Protection/Education

The neighboring resort, Bowen's Lodge, occasionally directs visitors through the RNA to help educate them about the uniqueness of the area. The route includes an abandoned roadbed which helps minimize the impact on the area. This helps visitors appreciate the area and thus helps protect the RNA. This use is permitted to continue with the following guidelines:

1. Groups are guided through the area by a naturalist who is aware of the purpose for, philosophy behind, and uniqueness of the Battle Point RNA.
2. No signs are posted within the boundary. Signs at the entrance do not solicit curiosity or in any way encourage unsupervised use of the area.
3. No motorized traffic is permitted.

Any deviation from these guidelines will either be corrected immediately or this use will be terminated until the guidelines are met. The Deer River District Ranger is responsible for enforcing these guidelines.

No fences are planned within or around the RNA.

Soils

There will be no shoreline stabilization on the Battle Point or at any other point within the RNA. Erosion will proceed naturally.

Cultural Resources

All cultural resource management activities will be conducted in a manner that will not impact RNA objectives.

Cultural resource surveys and evaluations will be limited to those essential to comply with legal requirements for protection to cultural values.

Human remains which become exposed as a result of natural erosion of the Battle Point shoreline will be re-buried as close as possible to the original burial site.

Significant structural remains of old cabins not deemed to be important cultural resources will be removed when the RNA is designated.

Wildfire

Staffing and mobilization will be the same as for the predominant Management Prescription in the surrounding area. Wildfires will be extinguished as quickly as possible when they involve or threaten the RNA. Natural fires will be permitted to burn only if a prescribed fire plan has been approved which calls for the use of fire to accomplish management objectives, and then only within prescription guidelines.

In general, wildfire will be suppressed using aerial or hand methods only, with preference given to aerial methods. No chemical retardants will be used in aerial drops; aerial drops will be limited to lake water. No heavy earth-disturbing equipment will be used at any time within the RNA boundaries because this could disturb the protected vegetation and could destroy archeological sites.

Recreation

Dispersed recreation, including hiking, camping, fishing, and hunting, occurs within the RNA seasonally at low levels, and does not threaten the values of the RNA. The Forest Service will discourage additional recreational use. The west and southwest boundaries will have signs to prohibit all motorized vehicles, horses, llamas, pack stock, and all non-pedestrian entry. Dispersed recreational use could increase in spite of these efforts, and some increase may be accepted. If recreational use threatens or interferes with the objectives for which the RNA is established, such use will be prohibited.

Minerals

The Forest Service will not consent to any mineral activity within the area. If established as an RNA, the Forest Supervisor will request that the Regional Forester ask the Bureau of Land Management to withdraw the area from mineral entry.

Research

When use of the RNA is desired for research, a proponent may contact personnel at the Ranger District, Supervisors Office or the North Central Forest Experiment Station. All requests will be referred to the Station Director, North Central Forest Experiment Station, and must outline the activity planned. The Station Director approves study plans proposed by Forest Service and non-Forest Service scientists and executes cooperative agreements, where appropriate. Access to the Research Natural Area by parties external to the Forest Service is approved by the District Ranger.

Forest Service scientists shall cooperate in research conducted by scientists from outside of the Forest Service, whenever possible, to keep informed as to the nature and progress of the work and to ensure that Research Natural Area values are maintained. All scientists conducting research on a Research Natural Area must file copies of all research data, reports, and other pertinent documents with the Station, Region, and Forest.

All researchers conducting investigations which involve the collection of flora and/or fauna in the Battle Point Research Natural Area must, as a condition of approval by the Station Director to use the area:

1. Obtain appropriate permits from State and Federal agencies. If a Special Use Permit is required, it will be issued by the Forest, upon approval by NCFES.

2. Carefully control collection of endangered, threatened, or rare plants.
3. Deposit a voucher sample of each plant collected in University of Minnesota herbarium.

Monitoring

The Deer River Ranger District is responsible for monitoring the condition of this RNA. Monitoring will be completed by foot on an annual basis as directed by the District Ranger. The initial inspection will document the location, type and condition of dispersed sites; along with the existing condition of the vegetation, cultural resources sites and recreation use.

In later inspections, evidence of additional or environmentally disturbing recreation use (i.e., campsites, trails, garbage, motorized use...) will be evaluated by an interdisciplinary team which includes a botanist from either the Nature Conservancy or the Minnesota Heritage Program, a research scientist from North Central Forest Experiment Station and Chippewa NF personnel.

If exotic plants or animals have been introduced, the Station Director and Regional Forester shall exercise control measures in keeping with established management principles and standards to eradicate them, when practical.

Any significant change noticed during monitoring inspections will be dealt with in accordance with the Forest Service Manual.

ADMINISTRATIVE RECORDS AND PROTECTION

The administrator and protector of this area is:

District Ranger
USDA - Forest Service
Deer River, Minnesota 56636

The research coordinator is:

Director
North Central Forest Experiment Station
1992 Folwell Avenue
St. Paul, Minnesota 55108

Herbarium vouchers are maintained at:

Herbarium
Department of Botany
University of Minnesota
St. Paul, Minnesota

Vegetation data are included as Appendices A and B and are also available from:

Minnesota Natural Heritage Program
DNR, Box 7
500 Lafayette Road
St. Paul, Minnesota 55155-4007

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APPENDIX A

RELEVE REPORT FORM, MINNESOTA VEGETATION DATABASE

DNR RELEVE NUMBER: 0110
DATE: 07 JUN 1987
BY: Keith M. Wendt
Itasca County, MN
Quadrangle Code: 4709441 (I13A)

MINNESOTA NATURAL HERITAGE PROGRAM
Department of Natural Resources
Box 7, 500 Lafayette Road
St. Paul, Minnesota 55148
(812) 298-3344

Site Name: *Battle Point Natural Area*
Locations: NW of NW of S. 11, T. 148N, R. 27W
Heritage Community Element: Northern Hardwood - Conifer Forest
Element Occurrence Size (a.): 485, Rank: B, Site Size (a.): 731
Soil Atlas Mapping-Units: Bemidji Sand Plain, SSWL
Other Data Collected: Forestry

PLOT CHARACTERISTICS

Relieve Size (sq. m): 400, Elev. (ft.): 1330, Slope (deg./aspect): FLAT

Relieve in mature forest on mesic soils, with large boles on forest floor and occasional snags. Representative of least disturbed maple-basswood sites.

Broadleaf Deciduous, Height: 7, Cover: C

5.1 *Tilia americana* L.
+.1 *Acer saccharum* Marsh.

Broadleaf Deciduous, Height 5-6, Cover P

3.1 *Acer saccharum* Marsh.

Broadleaf Deciduous, Height 4, Cover R

2.1 *Acer saccharum* Marsh.
+.1 *Prunus serotina* Ehrh.
+.1 *Ulmus rubra* Muhl.

Broadleaf Deciduous, Height 1-3, Cover R

2.1 *Acer saccharum* Marsh.
1.1 *Ulmus rubra* Muhl.
R.1 *Carya cordiformis* (Wang.) K. Koch
+.1 *Acer rubrum* L.
+.1 *Fraxinus*
+.1 *Prunus*
+.1 *Sambucus pubens* Michx.

Graminoids, Height 1-2, Cover A

+.1 *Oryzopsis asperifolia* Michx.

Forbs, Height 1-2, Cover P

2.1 *Caulophyllum thalictroides* L. (Michx.)

EXAMPLE RECORD

I	Cover	Sociability	Genus	Species	Author	Variety	Author	Remark	I
I		+.2	<i>Epigaea</i>	<i>repens</i>	L.	var. <i>glab.</i>	Fern.	fl ##	I

FOR CODES. SEE RELEVÉ CODE SHEET OR RELEVÉ MANUAL

Forbs, Height 1-2, Cover P

- 1.1 *Arisaema triphyllum* (L.) Schott
- R.1 *Gynocarpium* cf. *dryopteris* (L.) News.
- +1 *Actaea rubra* (Ait.) Willd.
- +1 *Chelidonium majus* L.
- +1 *Circaea lutetiana* L. ssp. *canadensis* (L.) Asch. & Magnus
- +2 *Dryopteris intermedia* (Muhl.) Gray
- +1 *Galium boreale* L. ssp. *septentrionale* (Roem. & Schult.) Iltis
- +1 *Meianthemum canadense* Desf.
- +1 *Osmorhiza claytonii* (Michx.) Clarke
- +1 *Parthenocissus quinquefolia* (L.) Planch.
- +2 *Sanguinaria canadensis* L.
- +1 *Smilax* cf. *herbacea* L.
- +1 *Smilacina racemosa* (L.) Desf.
- +1 *Streptopus roseus* Michx. var. *longipes* (Fern.) Fassett
- +1 *Thalictrum dioicum* L.
- +1 *Uvularia grandiflora* Sm.
- +1 *Viola*

EXAMPLE RECORD

Cover	Sociability	Genus	Species	Author	Variety	Author	Remark
	+2	<i>Epigaea</i>	<i>repens</i>	L.	var. <i>glab.</i>	Fern.	fl ##

FOR CODES, SEE RELEVE CODE SHEET OR RELEVE MANUAL

1987

AA

----- RELEVÉ DATA SHEET -----
 TREE DENSITY AND DIAMETER

Surveyor's Relevé Number: NH2 Surveyor's Name: KEITH NENDT
 MN County: Itasca Township, Range, Section: TIKEN R27W N17RN sec.
 Date: 6/17/87 Relevé Size (sq. m): 400 Site name: Battle Point
 Tree/Sapling cutoff DBH (3" or 7.6 cm suggested): 7.6 cm
 Sapling/Seedling cutoff DBH (1" or 2.5 cm suggested): 2.5 cm

TREE DIAMETERS

SPECIES NAME	cm. DBH	REMARKS	SPECIES NAME	cm. DBH	REMARKS
<i>Acer saccharum</i>	22.5		<i>Tilia americana</i>	43	
	25.5			41	MS
	23.0			29.5	
	12.5			22.5	
	19.5			36	
	25.5			45.5	
	5.5			49.5	R
	16.5	dead		45	
	10.5			39.5	MS
	10			26	
	9			60	MS
	8.5			57	
	8			29	
	12.5				
	8.0				
	22				
	19.5				
	22.0				

SAPLING TALLY

SPECIES NAME	TALLY	SPECIES NAME	TALLY
<i>Acer saccharum</i>	111 111 1		

Use relevé code sheet for remark codes. Commonly used codes for this data sheet are as below.
 D, dying; DD, dead; OG, open grown; FS, fire scarred; MS, multiple-stemmed; DF, defoliated

x coded at

APPENDIX B

RELEVE REPORT FORM, MINNESOTA VEGETATION DATABASE

DNR RELEVE NUMBER: 0111	MINNESOTA NATURAL HERITAGE PROGRAM
DATE: 07 JUN 1987	Department of Natural Resources
BY: Keith M. Wendt	Box 7, 500 Lafayette Road
Itasca County, MN	St. Paul, Minnesota 55148
Quadrangle Code: 4709441 (I13A)	(612) 298-3344

Site Name: *Battle Point Natural Area*
 Location: SE of SE of S. 03, T. 148N, R. 27W
 Heritage Community Element: Northern Hardwood - Conifer Forest
 Element Occurrence Size (a.): 485, Rank: B, Site Size (a.): 731
 Soil Atlas Mapping-Unit: Bemidji Sand Plain, SSWL
 Other Data Collected: Forestry

PLOT CHARACTERISTICS

Relève Size (sq. m): 400, Elev. (ft.): 1310, Slope (deg./aspect): 04SW

Relève located on uneven ground created by old tip-up mounds. Representative of least disturbed maple-basswood sites. Photos: 21, 20, 19. Relatively flat, < 4% slope to SW.

Broadleaf Deciduous, Height: 7, Cover: P

- 3.1 *Quercus rubra* L.
- 2.1 *Quercus macrocarpa* Michx.

Broadleaf Deciduous, Height 8, Cover C

- 4.1 *Acer saccharum* Marsh.
- 2.1 *Tilia americana* L.
- R.1 *Acer rubrum* L.
- R.1 *Prunus serotina* Ehrh.
- +1 *Quercus macrocarpa* Michx.

Broadleaf Deciduous, Height 4-5, Cover P

- 3.1 *Acer saccharum* Marsh.
- +1 *Prunus*
- +1 *Tilia americana* L.

Broadleaf Deciduous, Height 2-3, Cover R

- 2.1 *Acer saccharum* Marsh.
- +1 *Acer rubrum* L.
- +1 *Cornus rugosa* Lam.
- +1 *Corylus cornuta* Marsh.
- +1 *Prunus*
- +1 *Tilia americana* L.

Broadleaf Deciduous, Height 1, Cover R

- 2.1 *Acer saccharum* Marsh.

EXAMPLE RECORD

	Cover, Sociability	Genus Species	Author	Variety	Author	Remark	
	+2	<i>Epigaea repens</i>	L. var. <i>glab.</i>	Fern.	fl	##	

FOR CODES, SEE RELEVE CODE SHEET OR RR D/E MANUAL

Broadleaf Deciduous, Height 1, Cover R

- +1 *Acer rubrum* L.
- +1 *Amelanchier*
- +1 *Amelanchier*
- +1 *Cornus alternifolia* L. f.
- +1 *Lonicera dioica* L.
- +1 *Populus grandidentata* Michx.
- +1 *Quercus rubra* L.
- +1 *Tilia americana* L.
- +1 *Ulmus*
- +1 *Viburnum rafinesquianum* Schultes

Graminoids, Height 1-2, Cover R

- +1 *Carex*
- +1 *Equisetum*

Forbs, Height 1-2, Cover R

- 1.1 *Anemone quinquefolia* L. var. *bifolia* Faw.
- 1.1 *Aster macrophyllus* L.
- +1 *Aquilegia canadensis* L.
- +1 *Aralia nudicaulis* L.
- +1 *Aralia racemosa* L.
- +1 *Circaea lutetiana* L. ssp. *canadensis* (L.) Asch. & Magnus
- +1 *Corallorhiza trifida* Chat.
- +2 *Dryopteris intermedia* (Muhl.) Gray
- +1 *Galium boreale* L. ssp. *septentrionale* (Roem. & Schult.) Iltis
- +2 *Maianthemum canadense* Desf.
- +1 *Osmorhiza claytonii* (Michx.) Clarke
- +1 *Parthenocissus quinquefolia* (L.) Planch.
- +1 *Polygonatum pubescens* (Willd.) Pursh
- +1 *Prenanthes*
- +1 *Pteridium aquilinum* (L.) Kuhn var. *latiusculum* (Desv.) Underw.
- +1 *Rhus radicans* L.
- +1 *Ribes*
- +1 *Sanicula merilandica* L.
- +1 *Smilax* cf. *herbacea* L.
- +1 *Smilacina racemosa* (L.) Desf.
- +1 *Streptopus roseus* Michx. var. *longipes* (Fern.) Fassett
- +1 *Thalictrum dioicum* L.
- +1 *Trientalis borealis* Raf.
- +1 Unknown or Indeterminable Plant
- +1 *Urtica dioica* L. ssp. *gracilis* (Ait.) Selander
- +1 *Uvularia grandiflora* Sm.
- +2 *Viola*

EXAMPLE RECORD

Cover	Sociability	Genus	Species	Author	Variety	Author	Remark
1	+2	<i>Epigaea</i>	<i>repens</i>	L.	var. <i>glab.</i>	Fern.	fl ##

FOR CODES, SEE RELEVÉ CODE SHEET OR RELEVÉ MANUAL

88

----- RELIEVE DATA SHEET -----
 TREE DENSITY AND DIAMETER

Surveyor's Relieve Number: NH3 Surveyor's Name: KEITH WENDT
 MN County: Itasca Township, Range, Section: T146N R27W SE1/4 SE1/4 S23
 Date: 6/7/87 Relieve Size (sq. m): 400 Site name: Battle Point
 Tree/Sapling cutoff DBH (3" or 7.6 cm suggested): 7.6 cm
 Sapling/Seedling cutoff DBH (1" or 2.5 cm suggested): 2.5 cm

TREE DIAMETERS

SPECIES NAME	CM. DBH	REMARKS	SPECIES NAME	CM. DBH	REMARKS
<i>Quercus borealis</i>	32.5		<i>Acer rubrum</i>	29	
	48.0				
	46.5	*	<i>Quercus macrocarpa</i>	18	
	34.5			29	} MS
	34.0			12	
				27	
<i>Acer saccharum</i>	8			40	
	17.5				
	24.5		<i>Tilia americana</i>	14	
	11			31	
	12.5				
	11		<i>Prunus serotina</i>	14.5	
	12.5				
	10				
	13				
	10.5				
	15				

* cored at 98 rings to center

SAPLING TALLY

SPECIES NAME	TALLY	SPECIES NAME	TALLY
<i>Acer saccharum</i>	IIII 11 (IIII) -MS		
<i>Tilia americana</i>	III		

\ relieve code sheet for remark codes. Commonly used codes for this data sheet are as below.
 U, dying; DD, dead; OG, open grown; FS, fire scarred; MS, multiple-stemmed; DF, defoliated

RELEVE CODE SHEET

RELEVE PHYSIOGNOMY, KUCHLER'S PHYSIOGNOMIC SYSTEM

LIFE-FORM CATEGORIES

STRUCTURAL CATEGORIES

Woody Plants		Herbaceous Plants		Height	Coverage		
B	broadleaf evergreen	G	graminoids	8	>35 m	c	>75% continuous
D	broadleaf deciduous	H	forbs	7	20-35 m	i	50-75% interrupted
E	needleleaf evergreen	L	lichens, mosses	6	10-20 m	p	25-50% parklike, patchy
N	needleleaf deciduous			5	5-10 m	r	5-25% rare
			Special Life Forms	4	2-5 m	b	1-5% barely present
		C	climbers (lianas)	3	.5-2 m	a	<1% almost absent
		K	stem succulents	2	.1-.5 m		
		X	epiphytes	1	<.1 m		

RELEVE FLORISTICS

BRAUN-BLANQUET'S FLORISTIC SYSTEM

Cover/Abundance

r	single occurrence
+	<5% occasional
1	<5% plentiful
2	5-25% very numerous
3	25-50% any number of plants
4	50-75% any number of plants
5	75-100% any number of plants

Sociability

1	growing singly
2	grouped, few plants
3	large group, many plants
4	small colonies, extensive patches, broken mat
5	extensive mat

CODE FOR RELIABILITY OF IDENTIFICATION

- 0 Name assigned without qualification (variety certain or understood)
- 1 Species identification is certain, but variety is in doubt
- 2 Species identification is certain, but named varieties not distinguished
- 3 Species complex or species aggregate
- 4 Genus identification is certain, but species identification is in doubt
- 5 Genus identification is certain, but species not distinguished
- 6 Genus identification is uncertain
- 7 Unknown or indeterminable, but only one species is probably included

CODE FOR SELECTED REMARKS

Vitality

DY	dying
DD	dead
EX	being driven out
OO	poor vitality
LU	luxurious growth

Condition

BU	budding	GR	grazed
BR	browsed	MS	multiple stemmed
DF	defoliated	MW	mowed
FL	flowering	OG	open grown
FR	fruiting	PF	past fruiting
FS	fire scarred	SE	present as seed
GE	germinating	ST	sterile

Miscellaneous

IN	introduced in Minn.
RA	rare in Minn.
OP	just outside plot
##	any two-digit number means that a specimen was collected

The above codes and classes have been adopted as standard for releves collected by the Minnesota Natural Heritage staff. The above was largely copied from a form created by Edward J. Cushing for student use at the University of Minnesota.