United States Department of Agriculture | Forest Service | WO

Reply to: 4060-3 (TMR)

Date: April 27, 1989

Subject: Three Research Natural Areas (RNAs) Approved by Chief

To: Regional Forester, R-9, and Station Director, NC

Congratulations. The Chief approved the Dennison Hollow, Panther Hollow, and McCarthy Lake and Cedars RNAs. This brings to five the number of RNAs approved for Region 9 and four RNAs approved for North Central Station since the first of the year--a year that looks promising. Incidentally, the Panther Hollow RNA became the Forest Service's 200th.

Herewith enclosed are copies of each of the aforementioned Establishment Records for your RNA files. Keep up the good work.

STANLEY L. KRUGMAN, Director
Timber Management Research

Enclosures (3)

McCarthy Lake and Cedars

USDA-FS R-9
RECEIVED
MAY 03 1989
RECREATION, RANGE, WILDLIFE, AND LANDSCAPE MANAGEMENT

DESIGNATION ORDER

By virtue of the authority vested in me by the Secretary of Agriculture under regulations 7 CFR 2.60(a) and 36 CRF 251.23, I hereby designate as the McCarthy Lake and Cedars Research Natural Area, the lands described in the following establishment record prepared by Ron Herman, dated August 2, 1988. These lands shall hereafter be administered as a research natural area subject to the above regulations and instructions issued thereunder.

Chief

4/6/89
Date

RECEIVED IN WO-TMR

APR 7 1989

UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE

ESTABLISHMENT RECORD FOR THE McCARTHY LAKE AND CEDARS RESEARCH NATURAL AREA WITHIN THE CHEQUAMEGON NATIONAL FOREST, ASHLAND COUNTY, WISCONSIN

U. S. GOVERNMENT PRINTING OFFICE : 1980 O - 309-842

FS-6200-7 (10/73)

EXHIBIT 4

USDA-FOREST SERVICE

PHOTOGRAPHIC RECORD

PHOTOGRAPHER: W. Smith

HEADQUARTERS UNIT: Chequamegon NF

LOCATION: Ashland County, Wis.

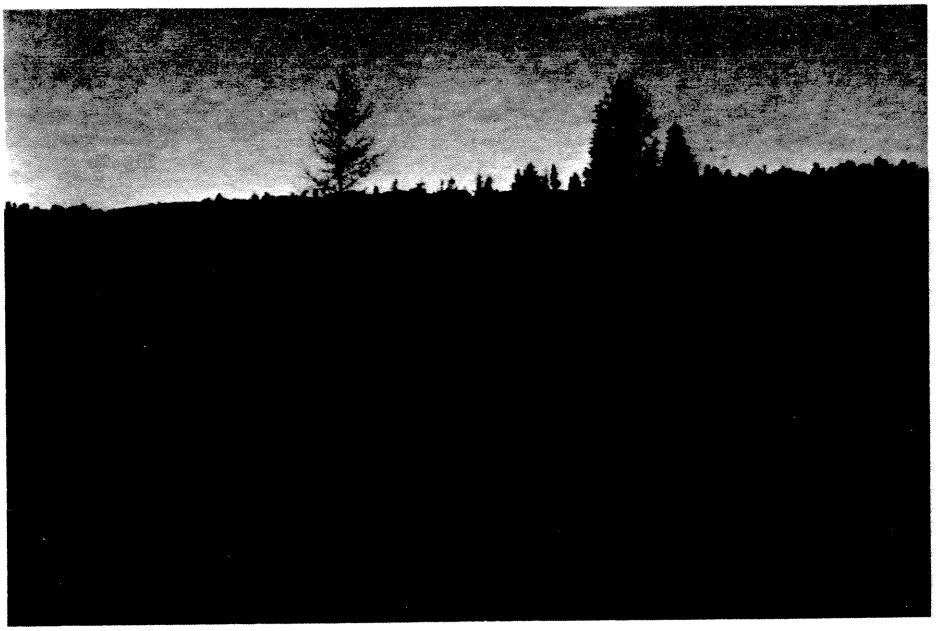
DATE SUBMITTED: March 22, 1988

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.

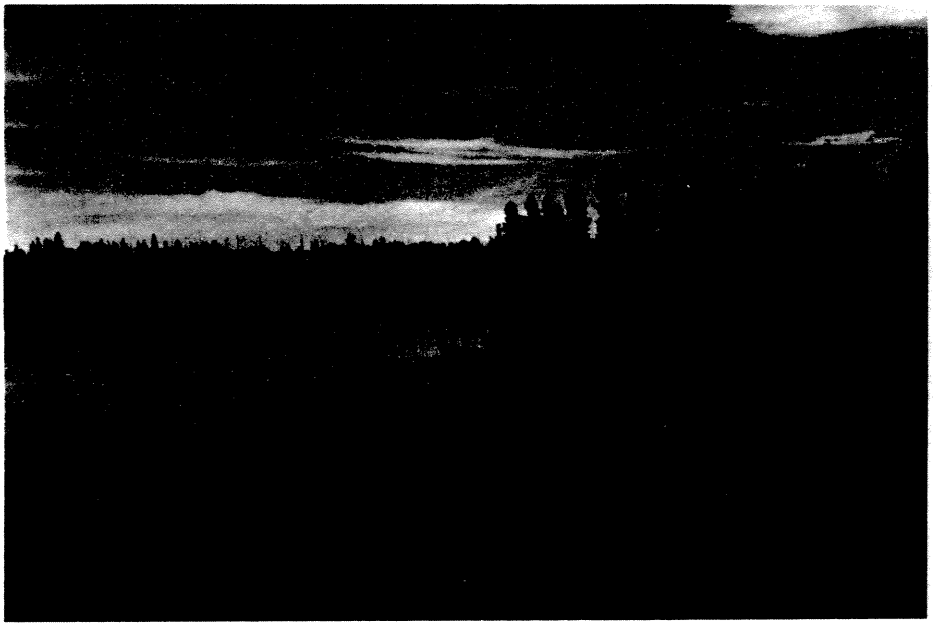
TEMP. NO. (1)	PERMANENT NO. (To be filled in by the WO) (2)	SELECTED FOR W.O. PHOTO LIBRARY (3)	DATE OF EXPOSURE (4)	LOCATION (State and National Forest or County) (5)	DESCRIPTION OF VIEW (6)	NEGATIVE SIZE (7)
1			Sept.86	Chequamegon NF Part of Sec. 7&18 T.43N, R. 3W. Sec. 12,T.43N, R 4W	McCarthy Lake and Cedars Research Natural Area - From south end of lake looking north.	
2			Sept. 86	same as above	McCarthy Lake and Cedars Research Natural Area - Northeast shoreline with old-growth white pines (bald eagle potential nesting sites	
3			Sept. 86	same as above	McCarthy Lake and Cedars Research Natural Area - Ericad bog on south end of lake dominated by ericaceous shrubs and sedges in the genus Carex. Conifers are tamarack and black spruce.	
4			Sept. 86	same as above	McCarthy Lake and Cedars Research Natural Area - South east corner looking north	
5			Sept. 86	same as above	McCarthy Lake and Cedars Research Natural Area - Interior of cedar swamp showing large white cedar and mountain maple. Understory is primarily ferns.	
6			Sept. 86	same as above	McCarthy Lake and Cedars Research Natural Area - Interior of cedar swamp showing white cedar and sapling balsam fir.	
7			Sept. 86	same as above	McCarthy Lake and Cedars Research Natural Area - Sand bottom/boulders along northeast shoreline.	

1 McCarthy Lake and Cedars Research Natural Area - From south end of lake looking north.

2 McCarthy Lake and Cedars Research Natural Area - Northeast shoreline with old-growth white pines (bald eagle potential nesting sites).



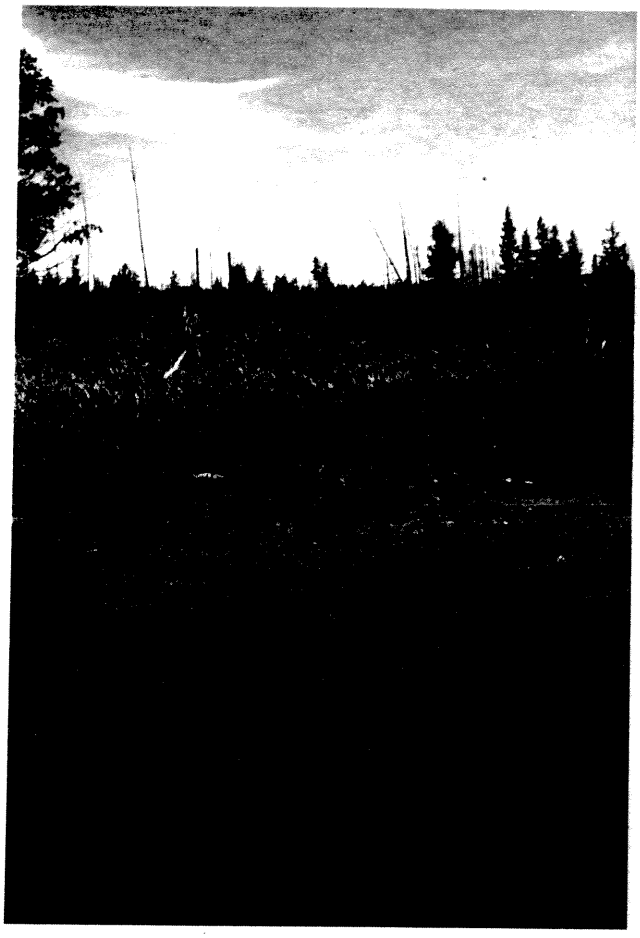
3 McCarthy Lake and Cedars Research Natural Area-Ericad bog on south end of lake dominated by ericaceous shrubs and sedges in the genus Carex. Conifers are tamarack and black spruce.



4 McCarthy Lake and Cedars Research Natural Area - South east corner looking north

5 McCarthy Lake and Cedars Research Natural Area - Interior of cedar swamp showing large white cedar and mountain maple. Understory is primarily ferns.

6 McCarthy lake and Cedars Research Natural Area - Interior of cedar swamp showing white cedar and sapling balsam fir.



7 McCarthy Lake and Cedars Research Natural Area-
Sand bottom/boulders along northeast shoreline

SIGNATURE PAGE

FOR

RESEARCH NATURAL AREA ESTABLISHMENT RECORD

McCARTHY LAKE AND CEDARS RESEARCH NATURAL AREA

CHEQUAMEGON NATIONAL FOREST

ASHLAND COUNTY WISCONSIN

The undersigned certify that all applicable land management planning and environmental analysis requirements have been met in arriving at this recommendation.

Prepared by: Ron Herman Date 8-17-88
Ron Herman, Forester

Recommended by: Elizabeth Ohlrogge Date 8-17-88
Elizabeth Ohlrogge, District Ranger, Glidden District

Recommended by: John C. Wolter Date 8-17-88
John C. Wolter, Forest Supervisor, Chequamegon National Forest

Recommended by: Jim Jerman Date 8-26-88
Floyd J. Marita, Regional Forester, Eastern Region

Recommended by: R. D. Lindmark Date 10/7/88
Ronald D. Lindmark, Station Director, North Central Forest Experiment Station

TITLE PAGE

ESTABLISHMENT RECORD FOR THE McCARTHY LAKE AND CEDARS RESEARCH NATURAL AREA WITHIN THE CHEQUAMEGON NATIONAL FOREST, ASHLAND COUNTY WISCONSIN

ESTABLISHMENT RECORD FOR McCARTHY LAKE AND CEDARS RESEARCH NATURAL AREA WITHIN THE CHEQUAMEGON NATIONAL FOREST ASHLAND COUNTY WISCONSIN

INTRODUCTION

The 363 acre (145.2 ha) RNA is located entirely on lands owned by the Forest Service in Ashland County Wisconsin. A topographic map, vegetative map (Map 3) and color photographs (Exhibit 4) are attached to this report.

The significant natural qualities of this 363 acre (145.2 ha) area, were first documented in 1980 by Wisconsin Department of Natural Resources (WDNR) biologists conducting an inventory of natural areas in Ashland County Wisconsin. A June 1980 survey confirmed further that the area did possess natural features of high-quality and would merit RNA status. McCarthy Lake and Cedars RNA was inspected during the summer of 1986 by biologists of WDNR's Natural Heritage Program to update and expand existing information on the area's biota, assess the overall condition and quality of the area's major natural features, and make recommendations for appropriate protective status and/or management actions.

The WDNR has given this biotic natural area a state-wide significance classification which is their highest classification level. This site was recommended for protection by the Wisconsin DNR's Natural Areas Program because it would protect the 42 acre (16.8 ha) shallow, softwater drainage lake (Photo 1) essentially in undisturbed condition, two warm, slow, softwater streams, and the headwaters of a third stream. The large white cedar (*Thuja occidentalis*) swamp, southeast of the lake, is characterized as old growth. It is the largest of its type known in the Chequamegon National Forest. (Photo 6)

The white cedar cover type fits into the Society of American Foresters (SAF) Northern White-Cedar cover type no. 37 and Kuchler Conifer Bog cover type no. 85. The 5 acre (2 ha) eastern white pine (*Pinus strobus*) cover type would fit into Society of American Foresters (SAF) Eastern White Pine cover type no. 21 and Kuchler Great Lakes Pine Forest cover type no. 86.

McCarthy Lake and Cedars RNA was included in the Chequamegon National Forest Plan. A field survey of the site conducted in 1986 confirmed that the RNA site exhibited few signs of past disturbance.

LAND MANAGEMENT PLANNING

The McCarthy Lake and Cedars RNA comes under Management Goal 8 in The Regional Guide for the Eastern Region which emphasizes the preservation of unique ecosystems for scientific purposes.

The McCarthy Lake and Cedars RNA is included in Goal 8.4 (Exhibit 3) of the Chequamegon National Forest Forest Plan. Forest-wide standards, and Goal 8.4,

Management and Prescriptions, are designed to protect the character of the RNA and provide opportunity for education and scientific research in RNA's.

OBJECTIVES

The objectives of establishing the McCarthy Lake and Cedars RNA are to:

1. Preserve a spectrum of a pristine representative area that typify an important cedar forest type and shallow softwater lake.
2. Serve as reference areas for the study of succession.
3. Serve as baseline areas for measuring long-term ecological changes.
4. Protect from serious environmental disruptions.

JUSTIFICATION

The establishment of the McCarthy Lake Research Natural Area would protect a 42 acre (16.8 ha) shallow, softwater drainage lake, essentially in undisturbed condition; two warm, slow, softwater streams, and the headwater portion of a third such stream. These two aquatic community types are currently not represented in the western zone of the Northern Highland Natural Division of Wisconsin's State Natural Area System. Also protected would be a large ericad bog and a good quality northern sedge meadow. (Photo 3) Despite a series of beaver (Castor canadensis) dams on the outlet stream below the lake, the water level has apparently not fluctuated. This makes the lake somewhat atypical, and, perhaps, more natural in an area of current high beaver density. The RNA status will protect a pristine representative of a shallow softwater lake.

Also protected would be the large white cedar (Thuja occidentalis) swamp which is characterized as old growth; the stand is the largest of its type known in the Chequamegon National Forest. (Photo 5) The RNA status would protect the cedar swamp which can be used to study long-term succession and long-term ecological changes. A 5 acre (2 ha) stand of old-growth white pine (Pinus strobus) and several acres of moderate quality second-growth northern hardwoods would be protected.

Animal diversity of the area, inclusive of the recommended additions, is high and includes bald eagle (Haliaeetus leucocephalus) - federally threatened, state endangered, red-shouldered hawk (Buteo lineatus) - state threatened, and black-backed woodpecker (Picoides arcticus) - state special concern.

PRINCIPAL DISTINGUISHING FEATURES

The primary natural features of the RNA are the undisturbed headwater wetlands, streams, and lake system. The open wetlands are dominated by ericad bog and northern sedge meadow. These areas are drained by two slow, softwater streams which flow into McCarthy Lake. The lake itself is shallow, with a muck bottom and a shoreline primarily of wetland. However, the shoreline of the northeast

quarter of the lake is upland, forested, with old-growth white pine. (Photo 7) The lake bottom in this area is firm and sand strewn with many large boulders. The lake's outlet flows through a field of large boulders and is, to some extent, subterranean and densely overgrown with alders. As a result, the outlet has been spared impoundment by the numerous beaver in the area, and water levels are apparently stable. Aquatic vegetation in the lake is generally sparse except near the inlet streams. The species composition of the rea is described in the section on flora.

Bird diversity is apparently quite high with several raptor, waterfowl, and passerine species noted during a breeding season survey. The wetlands form a portion of the headwaters of the Iron River which eventually becomes a trout stream and drains into Lake Superior. (See the section on fauna for more detailed animal species information). Threatened and endangered species are known to inhabit the RNA.

LOCATION

The 363 acre (145.2 ha) McCarthy Lake and Cedars RNA is located on the Glidden District of the Chequamegon National Forest in Ashland County Wisconsin. The location starts at Section corners 12, 13, T43N, R4W, and Section corners 7, 8, T43N, R3W, as point of beginning, thence N86°E, 594', thence N44°E, 264', thence N17°E, 198', thence N49°E, 132', thence S27°E, 495', thence N59°E, 495', thence S62°E, 132', thence S22°E, 363', thence S11°E, 858', thence S30°W, 198', thence S35°E, 264', thence S18°W, 396', thence N70°W, 330', thence S50°W, 924', thence S0°W, 363', thence S35°E, 198', thence S0°W, 330', thence S78°E, 330', thence N52°E, 528', thence N32°E, 264', thence N13°E, 396', thence N84°E, 528', thence N37°E, 792', thence S90°E, 132', thence N37°E, 495', thence N67°E, 627', thence N20°E, 1056', thence S90°W, 396', thence N0°E, 790', thence N55°W, 330', thence N55°W, 990', thence N82°E, 429', thence S70°W, 462', thence S88°W, 726', thence N81°W, 726', thence S52°W, 396', thence S67°E, 363', thence N37°E, 594', thence N3°E, 759', thence N30°E, 792', thence N30°W, 594', thence N15°E, 363', thence N42°W, 1122', thence S48°W, 495', thence S89°W, 429', thence S53°W, 1320', thence S17°W, 792', thence S18°W, 660', thence S0°W, 990', thence S31°E, 1089', thence N63°W, 390', to point of beginning. Latitude of the RNA is 46°14'30" north. Longitude is 90°47' west. Additional details of location may be found on the 7.5' USGS topographic quadrangle (Clam Lake NE), and Ashland County plat book. (Maps 1-4)

To access the RNA, take Highway 13, 8 mi (12.8 km) north from Glidden, then east 2 mi (3.2 km) on FR 356, then east 2.2 mi (3.5 km) on FR 354, then northwest 2 mi (3.2 km) on FR 183, then 1 mi (1.6 km) on FR ~~383~~ 353 to RNA. (Map 1)

AREA BY COVER TYPES (Map 3)

1. Society of American Foresters Cover Types

The conifer swamps south and east of the lake are composed of white cedar, balsam fir, and yellow birch.

SAF no. 37: Northern White Cedar 106 acres (42.4 ha)

The swamp conifers east of the lake are composed of cedar, black spruce, and tamarack.

SAF no. 13: Black Spruce-Tamarack 21 acres (8.4 ha)

The yellow birch and hemlock stand located southeast of the lake is composed of mainly yellow birch and hemlock.

SAF no. 24: Hemlock-Yellow Birch 14 acres (5.6 ha)

The aspen stand is east of the lake.

SAF no. 16: Aspen 26 acres (10.4 ha)

The black spruce swamp lies southeast of the lake.

SAF no. 12: Black Spruce 42 acres (16.8 ha)

The red pine plantation adjacent to the lake.

SAF no. 15: Red Pine 6 acres (2.4 ha)

The large eastern white pine stand lies adjacent to the east side of the lake.

SAF no. 21: Eastern White Pine 5 acres (2 ha)

The upland forest lying northeast of the lake is composed predominately of yellow birch and sugar maple.

SAF no. 25: Sugar Maple-Beech-Yellow Birch 13 acres (5.2 ha)

There is no SAF cover type for lowland brush and sedge meadows.

Non forested Lowland Brush-Sedge Meadow 85 acres (34 ha)

2. Kuchler Cover Types

The swamp conifers lying south and east of the lake are composed of white cedar, balsam fir, tamarack, black spruce, yellow birch, and black ash.

Kuchler no. 85: Conifer Bog 169 acres (67.6 ha)

The yellow birch and hemlock stand lies southeast of the lake.

Kuchler no. 99: Northern Hardwoods-Spruce Forest 14 acres (5.6 ha)

The aspen forest type is east of lake.

Kuchler no. None: Aspen 26 acres (10.4 ha)

The red pine plantation and the large eastern white pine stand lie east of the lake. Both are adjacent to the lake.

Kuchler no. 86:	Great Lakes Pine Forest	11 acres	(4.4 ha)

The upland forest lying northeast of the lake is composed predominately of yellow birch and sugar maple.

Kuchler no. 97:	Northern Hardwoods-Spruce Forest	13 acres	(5.2 ha)

There is no Kuchler cover type for lowland brush and sedge meadows.

Nonforested	Lowland Brush, Sedge Meadow	85 acres	(34 ha)

3. Aquatic Features

WDNR's Natural Heritage Inventory classifies lakes according to water source, depth, and alkalinity.

Shallow, Softwater, Drainage Lake	42 acres	(16.8 ha)

Streams are classified by temperature, gradient, and alkalinity.

Warm, Slow, Softwater Stream	3 acres	(1.2 ha)

PHYSICAL AND CLIMATIC CONDITIONS

1. Physical

The 42 acre (16.8 ha) shallow lake has maximum depth of 5 feet (1.5 m) and 1.08 miles (1.74 km) of shoreline. The water is slightly alkaline with a pH of 7.1. The shoreline is generally low and wet. The white cedar swamp is wet most of the year.

2. Climate

The climate is continental, characterized by long, snowy, often severely cold winters and relatively short summers with warm days and cool nights. Springs and falls are often short with the transition from winter to summer and summer to winter quite rapid. Changes in weather from late fall to early spring can be expected every few days as frequent storms pass through the area along the Colorado and Alberta weather tracts. Prevailing winds are northwest to westerly late fall to early spring and from the south the rest of the year. Snowfall of over one inch (2.5 cm) can be expected, on the average, by the second week of November and there is a 90 percent probability of snow on the ground during the winter months. Although occasional deep snow years occur, the major snow belt lies to the north along the Penokee Range and Lake Superior.

Frost can be expected occasionally during any of the summer months, especially in low-lying areas. The average date of the last freeze is the last week in May to the first week in June, and the first freeze of the fall occurs in the last week in August to the first week in September. The

mean annual precipitation is 33.9 inches (84.8 cm) of which 85 inches (212.5 cm) is snowfall.

The nearest weather station is in Mellen, Wisconsin, approximately 8 miles (12.8 km) to the northeast. The RNA has an elevation of 1450 feet (435 m) and the weather station 1515 feet (454.5 m). Their weather data is based on the previous 20 years of actual measurements.

DESCRIPTION OF VALUES

1. FLORA

The aquatic flora of McCarthy Lake and Cedars RNA consists primarily of submerged macrophytes in the pondweed family (Potamogetonaceae). Blunt-leaved pondweed (Potamogeton obtusifolius) is frequent throughout the lake. Ribbon-leaved pondweed (Potamogeton epihydrus), common pondweed (Potamogeton natans), coontail (Ceratophyllum demersum), and bullhead pond lily (Nuphar variegatum) are also present.

The bog and northern sedge meadow adjoining the lake are of moderate diversity and dominated by, respectively, typical bog species, ericaceous shrubs, and Sphagnum moss, and sedges in the genus Carex.

The cedar swamp in the RNA is primarily old second-growth, dominated by white cedar (Thuja occidentalis), with lesser amounts of yellow birch (Betula allehaniensis), paper birch (Betula papyrifera), white spruce (Picea glauca), and red maple (Acer rubrum). Cedars are mostly 5"-10" d.b.h. (12.5-25 cm) with occassional trees exceeding 20" d.b.h. (50 cm) present. Blowdowns of small cedar and balsam fir (Abies balsamea) are frequent with canopy gaps filled with sapling paper birch, black ash (Fraxius nigra) and balsam fir. Speckled alder (Alnus rugosa) and mountain maple (Acer spicatum) are abundant in the shrub layer. Characteristic ground layer species include Canada mayflower (Maianthemum canadense), bluebead lily (Clintonia borealis), goldthread (Coptis groenlandicum), and bunchberry (Cornus canadensis).

The cedar swamp has recovered well from past disturbance. White cedar seedlings are frequent on fallen, rotted tree trunks. Very few of these are likely to reach sapling size because of the current high population of white-tailed deer (Odocoileus virginianus).

Exhibit 2 is a list of vascular plants in the RNA's boundary. Nomenclature generally follows Gleason and Cronquist (1963), Fernald (1950), or Little (1979). No state or federally endangered or threatened plant species are presently known to occur on the tract.

2. FAUNA

Exhibit 1 is a list of the birds known to inhabit the McCarthy Lake area. Migratory waterfowl use, including Canada geese (Branta canadensis), is high as is nesting of black ducks (Anas rubripes), blue-winged teal (Anas discors), and wood duck (Aix sponsa).

An immature bald eagle was flying over the lake on June 24, 1986. The large white pines on the northeast side of the lake may provide potential nest sites for bald eagles. Other raptors seen include sharp-shinned hawk (Accipiter striatus) and state-threatened red-sholdered hawk (Buteo lineatus). Other species, characteristic of wetlands, were present including sedge wren (Cistothorus platensis), swamp sparrow (Melospiza georgiana), and common yellowthroat (Geothlypis trichas).

On June 29, 1986, a breeding bird census of the cedar swamp was conducted. A summary sheet of the results are attached. (Exhibit 1) Species characteristic of the stand include Nashville warbler (Vermivora ruficapilla), hermit thrush (Catharus mustelina), black-and-white warbler (Mniotilta varia), northern parula warbler (Parula flaviventralis). In addition, the relatively uncommon black-backed woodpecker (Picoides arcticus) was noted. Nomenclature follows Robbins, Bruun, and Zim, (1966).

Although a winterkill condition exists, the lake supports bluegill (Lepomis macrochirus), yellow perch (Perca flavescens), finescale dace (Phoxinus neogaeus), Johnny darter (Etheostoma nigrum), and other forage fish. Mollusks present include the floater (Anodonata grandis) and fingernail clams.

Mink frogs (Rana septentrionalis) and green frogs (Rana clamitans) are among the anphibians known to inhabit the area.

3. GEOLOGY

The area is located in the southern part of the Superior Upland Physiographic Province. Precambian granite bedrock, a part of the Canadian shield, underlies this area. Landforms are the result of continental glaciation of the late Wisconsinan ice age. The landscape is young in geologic age and characterized by a deranged type of drainage pattern.

4. SOIL

Tawas series consist of poorly and very poorly drained soils formed in woody organic sediments over sand in depressions within outwash plains, lake plains, and moraines. Slope gradients are less than 2 percent. The soils in the nearby uplands are predominately sands. Surface runoff and internal drainage is very slow. Permeability is moderately slow to moderately rapid in the organic part. Much of this soil is in woodland and has 16 inches (40 cm) of peat. Vegetation is dominated by black ash and cedar or other less acid tolerants.

Padus series consists of sandy loam and course sands well drained, 5 to 15 percent slope. This unit consists of strongly sloping soils that are well drained. Textures include a sandy loam, fine sandy loam, or silt loam over medium and course sands. The underlying sands may have some gravel mixed in with it, but a layer that is predominately gravel is usually less than 2 feet (.6 m) thick in this unit. The unit occurs on large drumlinoid features that have an outwash core.

5. LANDS

The lands were acquired from several owners in 1934, 1935, 1938, and 1940 under the Weeks Act. The mineral rights on several parcels have been retained by the previous owners. No known mineral leases have been signed in the vicinity of the RNA. It is unknown if there are any mineral deposits on the RNA.

6. CULTURAL RESOURCE

A cultural resource inventory has not been completed for the area and no cultural resource sites have been identified in the RNA. Completing an inventory of this area is a low priority as there will be no ground disturbing activities occurring in the area. Eventually, all areas of the Forest will be inventoried.

7. WATER

McCarthy Lake has a surface area of 42 acres (16.8 ha), a maximum depth of 5 feet (1.5 m) and 1.08 miles (1.74 km) of shoreline. The water is slightly alkaline with a pH of 7.1 and methyl purple alkalinity (MPA) of 45 ppm. Water color is light brown.

The Iron River and a small feeder stream enter McCarthy Lake from the south. The Iron River exits the lake at the north end with an estimated normal flow of 2.0 cubic feet per second. Below the lake, the river averages 0.8 feet (0.2 m) in depth and 14 feet (4.3 m) in width with an average gradient of 7 feet (2.1 m) per mile. The dark brown water has a pH of 6.4 and MPA of 19 ppm (Sather and Threinen 1966).

IMPACTS AND POSSIBLE CONFLICTS

1. Mineral Resources

There are no mining or exploration activities in the area. The Forest Service does not entirely own the mineral rights. Presently there are no known mineral resources in the area and we would not attempt to obtain the RNA's mineral rights.

2. Grazing

There is no grazing resource located within or close to the RNA. No fencing is necessary for the protection of the RNA.

3. Timber

Two hundred forty two acres (96.8 ha) of commerical forest land will be withdrawn from timber production, thereby reducing the harvestable timber now and in the future.

In order to protect the cedar regeneration any type of timber harvest (e.g. aspen (*Populus tremuloides*) regeneration) that would benefit white-tailed

deer should be avoided on the uplands adjacent to the cedar swamp. The white pines at the northeast end of the lake will be maintained as potential bald eagle nesting sites.

The management prescription for the aspen type adjacent to the RNA will be adjusted to protect the RNA. The Forest management practices in the adjacent timber types will be modified so they do not have a negative impact on the conifer swamp and bog.

4. Watershed Values

The RNA and adjacent timber stands do have unique watershed values. They protect the water quality of Iron River and a small feeder stream entering McCarthy Lake. The timber types also protect water quality of McCarthy Lake.

5. Recreation

Because of its remoteness and difficult access, recreational use of the McCarthy Lake area is light. The lake does not support a productive fishery, because of winter-kill conditions. Hunters and trappers may use the area, however that minimal use would not adversely impact the educational or scientific elements for which the area is being designated as an RNA.

6. Wildlife and Plant Values

McCarthy Lake and the adjacent forested and open wetlands support a diversity of game and non-game birds including federally and state listed threatened species. The flora is diverse and composed of native species. The beaver activity on the Iron River near the lake will be monitored periodically. Dams that have a negative impact on the cedar swamp will be removed.

7. Wilderness, Wild and Scenic River, or National Recreation Area Values

The RNA is not in any congressionally designated wilderness. Wilderness legislation was passed for Wisconsin in 1984. The Forest Plan has not identified any potential wildernesses.

The Forest Plan has identified three study rivers, none of which are located in or near the RNA.

The Forest Plan has not identified any potential National Recreation Areas in the Chequamegon National Forest.

8. Transportation Plans

A woods road, FR 353, is located to the north of the RNA. Another woods road, FR 1333 is located to the southwest of the RNA. There are no plans to improve the woods roads, or to construct new roads in the vicinity of the RNA.

MANAGEMENT PLAN

The Chequamegon National Forest Plan has the following Forest-wide standards for existing RNA's.

1. Prohibit all management activities except fire suppression and protection from insect and disease epidemics.
2. Allow natural processes of ecological change to continue.
3. Prohibit public use that threatens to modify area natural processes.
4. Encourage no-impact types of research studies through cooperative agreements with educational institutions.

The Management Prescription 8.4 will be used as a guideline. (Exhibit 3) Specific Standards and Guidelines will have to developed.

The beaver activity on the Iron River will be monitored periodically and any dams having a negative impact on the RNA will be removed.

Fire suppression and insect and disease control using least destructive means will occur if needed to achieve the management objectives for the area.

Light public recreation will be tolerated but not be encouraged in the area.

It is also recommended the forest outside the RNA be managed to protect the RNA.

Protection of the RNA requires no manipulation of the vegetation.

The Chequamegon National Forest Land and Resource Management Plan was issued in 1986 under Record of Decision dated August 11, 1986. Management prescription 8.4, Special Areas, provides for designation of unique areas for their scientific and biological significance. This is one of the ten areas identified in the Forest Plan. The ten areas are also State of Wisconsin research natural areas.

ADMINISTRATIVE RECORDS AND PROTECTION

The administrator and protector of this area is:

District Ranger
Chequamegon National Forest
P.O. Box 126, Highway 13
Glidden, Wisconsin 54527

The research coordinator of this area is:

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

The research data file is maintained by:

Wisconsin Department of Natural Resources
Bureau of Endangered Resources
Natural Heritage Section
Box 7921
Madison, Wisconsin 53707

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

Forest Supervisor
Chequamegon National Forest
1170 4th Avenue South
Park Falls, Wisconsin 54552

REFERENCES

Behler, J.L., 1979. Audubon Society Field Guide to North America Reptiles and Amphibicans, Published by Alfred A. Knoff, N.Y. 719 pp.

Eyre, F. H. (ed.), 1980. Forest Cover Types of the United States and Canada; Society of American Foresters, Washington, DC.

Fernald, M. L., 1950. Gray's Manual of Botany; American Book Co., New York, NY.

Gleason, H. A. and A. Cronquist, 1963. Manual of Vascular Plants of Northeastern United States and Adjacent Canada; Van Nostrand Co., New York, NY

Jordon, D., Evermann, B., 1969. American Food and Game Fishes, Dover Publicatioins, Inc. N.Y. 574 pp.

Kuchler, A. W., 1964. Potential Natural Vegetation of the Conterminous United States; American Geographical Society, New York, NY.

Little, Elbert L. Jr. 1979. Check list of United States Trees (Native and Naturalized), Agriculture Handbook No. 541, Forest Service, U.S. Department of Agriculture.

Robbins, C.S., Bruun, B., Zim, H.S., 1966. A Guide to Field Identification of Birds of North America, Golden Press, 340 pp.

Sather, L. M., and C. W. Threinen, 1966. Surface Water Resources of Ashland County Wisconsin, Department of Natural Resources, Madison, WI.

Scott, W.B., Crossman, E.J., 1973. Freshwater Fishes of Canada, Fisheries Research Board of Canada Ottawa. 966 pp.

Stanabery, D.H., Borror K.G., 1983. A List of Freshwater Bivalve Mollusks of The Holarctic Region, The Ohio State University of Museum of Zoology Reports for 1983, Number 2.

Whiteaker, John Jr., 1988. The Audubon Society Field Guide to North American Mammals, Published by Alfred Knopf Inc. N.Y., 745 pp.

1986. Land and Resource Management Plan, Chequamegon National Forest, Park Falls, WI.

McCarthy Lake Comprehensive Bird Species List

EXHIBIT 1

SUMMARY SHEET – BREEDING BIRD SURVEY
Department of Natural Resources
Scientific Areas Preservation Council
Box 7921 Madison, Wisconsin 53707

Area _____
Date _____
Total # Species _____
Total # Individuals _____

Observer's Name _____
Address _____
Phone # _____

USE BACK FOR MORE COMMENTS

WEATHER: See back of this sheet for categories.

	Start	Finish
Temperature F.		
Wind Speed		
Sky		
Time		

Species	Visit A	B	C	D
Common Loon				
Pied-billed Grebe				
Double-cr. Cormorant				
Great Blue Heron	X			
Green Heron	X			
Great Egret				
Black-cr Night Heron				
Eastern Least Bittern				
American Bittern				
Canada Goose				
Black Duck	X			
Mallard	X			
Gadwall				
Pintail				
Green-winged Teal				
Blue-winged Teal	X			
Northern Shoveler				
Wood Duck				
Redhead				
Ring-necked Duck				
Lesser Scaup				
Common Goldeneye				
Ruddy Duck				
Hooded Merganser				
Common Merganser				
Red-breast. Merganser				
Turkey Vulture				
Goshawk				
Sharp-shinned Hawk	X			
Cooper's Hawk				
Red-tailed Hawk				
Red-shouldered Hawk	X			
Broad-winged Hawk				
Bald Eagle	X			
Marsh Hawk (Harrier)				
Osprey				
American Kestrel	X			
Ruffed Grouse	X			
Prairie Chicken				
Sharp-tailed Grouse				
Bobwhite				
Ring-necked Pheasant				
Gray Partridge				
Sandhill Crane				
King Rail				
Virginia Rail				
Sora Rail	X			
American Coot				
Killdeer				
American Woodcock				
Common Snipe	X			
Upland Sandpiper				
Spotted Sandpiper				
Herring Gull				
Ring-billed Gull				
Bonaparte's Gull				
Forster's Tern				
Common Tern				
Caspian Tern				
Black Tern				
Rock Dove				
Mourning Dove				

Species	Visit A	B	C	D
Yellow-billed Cuckoo				
Black-billed Cuckoo				
Screech Owl				
Great Horned Owl				
Barred Owl				
Whip-poor-will				
Common Nighthawk				
Chimney Swift				
Ruby-thr. Hummingbird				
Belted Kingfisher	X			
Common Flicker	X			
Pileated Woodpecker				
Red-bell. Woodpecker				
Red-headed Woodpecker				
Yellow-b. Sapsucker				
Hairy Woodpecker				
Downy Woodpecker				
Eastern Kingbird				
Crested Flycatcher				
Phoebe				
Yellow-b. Flycatcher	X			
Acadian Flycatcher				
Willow Flycatcher				
Alder Flycatcher				
Least Flycatcher	X			
Wood Pewee				
Olive-sided Flycatcher				
Horned Lark				
Tree Swallow				
Bank Swallow				
Rough-winged Swallow				
Barn Swallow				
Cliff Swallow				
Purple Martin				
Gray Jay	X			
Blue Jay	X			
Northern Raven				
American Crow				
Black-capped Chickadee				
Tufted Titmouse				
White-breast. Nuthatch				
Red-breasted Nuthatch				
Brown Creeper	X			
House Wren				
Winter Wren	X			
Marsh Wren				
Sedge Wren	X			
Gray Catbird				
Brown Thrasher				
American Robin	X			
Wood Thrush				
Hermit Thrush	X			
Veery				
Eastern Bluebird				
Blue-gray Gnatcatcher				
Golden-crowned Kinglet	X			
Ruby-Cr. Kinglet				
Cedar Waxwing				
Loggerhead Shrike				
Starling				
White-eyed Vireo				
Yellow-throated Vireo				

Species	Visit A	B	C	D
Solitary Vireo	X			
Red-eyed Vireo	X			
Warbling Vireo				
Black & White Warbler	X			
Prothonotary Warbler				
Golden-winged Warbler				
Blue-winged Warbler				
Nashville Warbler	X			
Northern Parula	X			
Yellow Warbler				
Magnolia Warbler				
Yellow-Rumped Warbler				
Bl.-thr. Green Warbler	X			
Cerulean Warbler				
Blackburnian Warbler	X			
Chestnut-sided Warbler	X			
Pine Warbler				
Ovenbird	X			
Northern Waterthrush				
La. Waterthrush				
Kentucky Warbler				
Mourning Warbler				
Common Yellowthroat	X			
Canada Warbler	X			
American Redstart	X			
House Sparrow				
Bobolink				
E. Meadowlark				
W. Meadowlark				
Yellow-head. Blackbird				
Red-winged Blackbird				
Northern Oriole				
Brewer's Blackbird				
Common Grackle				
Br.-headed Cowbird				
Scarlet Tanager	X			
Cardinal				
R-breasted Grosbeak	X			
Indigo Bunting				
Dickcissel				
Evening Grosbeak				
Purple Finch				
American Goldfinch				
Red Crossbill				
R-sided Towhee				
Savannah Sparrow				
Grasshopper Sparrow				
Henslow's Sparrow				
Vesper Sparrow				
Lark Sparrow				
Northern Junco				
Chipping Sparrow				
Clay-colored Sparrow				
Field Sparrow				
White-throated Sparrow	X			
Lincoln's Sparrow				
Swamp Sparrow	X			
Song Sparrow				
Additional Species:				
Black-backed woodpecker	X			

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EXHIBIT 2

SCIENTIFIC NAME	COMMON NAME
Abies balsamea	Balsam Fir
Acer rubrum	Red Maple
Acer spicatum	Mountain Maple
Alnus rugosa	Speckled Alder
Amelanchier sp	Juneberry
Aralia nudicaulis	Wild Sarsaparilla
Aster macrophyllus	Big Leaved Aster
Betula alleghaniensis	Yellow Birch
Betula papyrifera	Paper Birch
Botrychium virginianum	Rattlesnake Fern
Carex crinita	Fringed Sedge
Carex disperma	
Carex intumescens	Swollen Sedge
Carex lacustris	
Carex spp	Sedge
Carex trisperma	
Ceratophyllum demersum	Hornwort
Clintonia borealis	Bluebead
Coptis trifolia groenlandica	Goldthread
Corallorhiza trifida	Early Coral Root
Cornus canadensis	Bunchberry
Cornus stolonifera	Red Osier Dogwood
Corylus cornuta	Beaked Hazelnut
Cypripedium acaule	Moccasin Flower
Dryopteris cristata	Crested Wood Fern
Dryopteris intermedia	Intermediate Wood Fern
Equisetum fluviatile	Water Horsetail
Equisetum sylvaticum	Woodland Horsetail
Eupatorium maculatum	Spotted Joe Pye Weed
Fragaria virginiana	Wild Strawberry
Fraxinus nigra	Black Ash
Galium triflorum	Sweet Scented
Gaultheria hispidula	Creeping Snowberry
Gaultheria procumbens	Wintergreen
Geum rivale	Purple Avens
Goodyera tesselata	Tesselated Rattlesnake
Gymnocarpium dryopteris	Oak Fern
Habenaria hyperborea huronensis	Tall Northern Bog Orchid
Habenaria obtusata	Blunt-leaf Orchid
Ilex verticillata	Winterberry
Impatiens biflora	Orange Jewelweed
Iris versicolor	Blue Flag
Larix laricina	Tamarack
Ledum groenlandicum	Labrador Tea
Lemna minor	Small Duckweed
Linnaea borealis	Twinflower
Lonicera canadensis	American Fly Honeysuckle
Luzula acuminata	Hairy Wood Rush
Lycopodium dendroideum	Round-branched Clubmoss
Lycopodium lucidulum	Shining Clubmoss
Maianthemum canadense	Canada Mayflower
Mitella nuda	Small Bishop's Cap
Moneses uniflora	One-flowered Pyrola
Monotropa uniflora	Indian Pipe
Nemopanthus mucronata	Mountain Holly

Nuphar variegatum	Bull-head Pond Lily
Onoclea sensibilis	Sensitive Fern
Osmunda cinnamomea	Cinnamon Fern
Osmunda regalis spectabilis	American Royal Fern
Oxalis montana	Wood Sorrel
Phegopteris connectilis	Long Beech Fern
Picea glauca	White Spruce
Pinus resinosa	Red Pine
Pinus strobus	White Pine
Polygonum sp	Knotweed
Populus tremuloides	Quaking Aspen
Potamogeton epihydrus	Ribbon-leaved Pondweed
Potamogeton natans	Common Pondweed
Potamogeton obtusifolius	
Pyrola elliptica	Large-leaved Shinleaf
Pyrola secunda	One-sided Shinleaf
Ranunculus abortivus	Small-flowered Buttercup
Ribes hudsonianum	Canadian Black Currant
Ribes lacustre	Bristly Black Currant
Rubus pubescens	Dwarf Raspberry
Saxifraga pensylvanica	Swamp Saxifrage
Smilacina trifolia	Swamp False Solomon's Seal
Spirodela polyrhiza	Great Duckweed
Streptopus roseus longipes	Twisted Stalk
Thalictrum dasycarpum	Purple Meadow Rue
Thuja occidentalis	Arbor Vitae
Trientalis borealis	Starflower
Trillium cernuum	Nodding Trillium
Tsuga canadensis	Hemlock
Utricularia vulgaris	Great Bladderwort
Vaccinium myrtilloides	Canada Blueberry
Viola macloskeyi pallens	Smooth White Violet

EXHIBIT 3

MANAGEMENT PRESCRIPTION 8.4

The purposes of Management Prescription 8.4 are to:

- Preserve the natural character of the Moquah Research Natural Area
- Provide opportunities for education and scientific research. (Ref. Forest Service Manual 4063)
- Provide management opportunities for all 10 candidate Research Natural Areas and for all future Research Natural Areas designated by the Chief of the Forest Service.

AREA LANDFORM DESCRIPTION

The Moquah Research Natural Area (T48N, R7W, S.23 is primarily pitted outwash. The topography is rolling to hilly. Slope gradients are 5-20% but can range up to 35%. Topographic relief is due to depression "pits" in the plain. The soils are very sandy.

8.4

DESIRED CONDITION OF THE LAND

The Moquah Research Natural Area is characterized by undulating topography and droughty soils. The prescription for this area will result in the dominant tree species of aspen, jack pine, and northern red oak. Tree sizes range from seedlings to mature trees. A few small, natural openings are present.

Forest visitor density in this area is low. Forest management activities are not permitted except for fire protection activities. Facilities, structures, and utility corridors are not present.

The Moquah Research Natural Area is bisected by Forest Road 236. Forest Road 407 cuts the southwest corner of the area, and is open to vehicular travel. The area is in a roaded natural setting.

STANDARDS AND GUIDELINES FOR PRESCRIPTION 8.4

1900 Land and Resource Management Planning	
Vegetative Management	Vegetative composition will evolve through natural succession.
2200 Range Management	Grazing is not permitted.
2300 Recreation Management	
Recreation Use Administration	Feature semi-primitive, nonmotorized recreation opportunities.
Visual Resources	Meet the visual quality objective of preservation.
7700 Transportation Systems	

Develop no additional roads. Maintain or upgrade existing local roads as needed to comply with special area management objectives.

8.