

United States
Department of
Agriculture

Forest
Service

Washington
Office

14th & Independence SW
P.O. Box 96090
Washington, DC 20090-0090

Reply To: 4060-3

Date: November 27, 1991

Ronald D. Lindmark
Station Director
USDA Forest Service
North Central Forest
Experiment Station
1992 Folwell Avenue
Saint Paul, Minnesota 55108

Dear Mr. Lindmark:

Enclosed is the approved signed Decision Notice/Designation Order and Establishment Record for the Clustered Bur Reed Bog RNA within Chippewa National Forest, Itasca County, Minnesota.

Sincerely,



STANLEY L. KRUGMAN, Director
Forest Management Research

Clustered Bur Reed

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 Clustered Bur Reed Bog 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 Clustered Bur Reed Bog 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 Clustered Bur Reed Bog 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

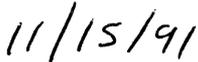
and simultaneously to the Deciding Officer:

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

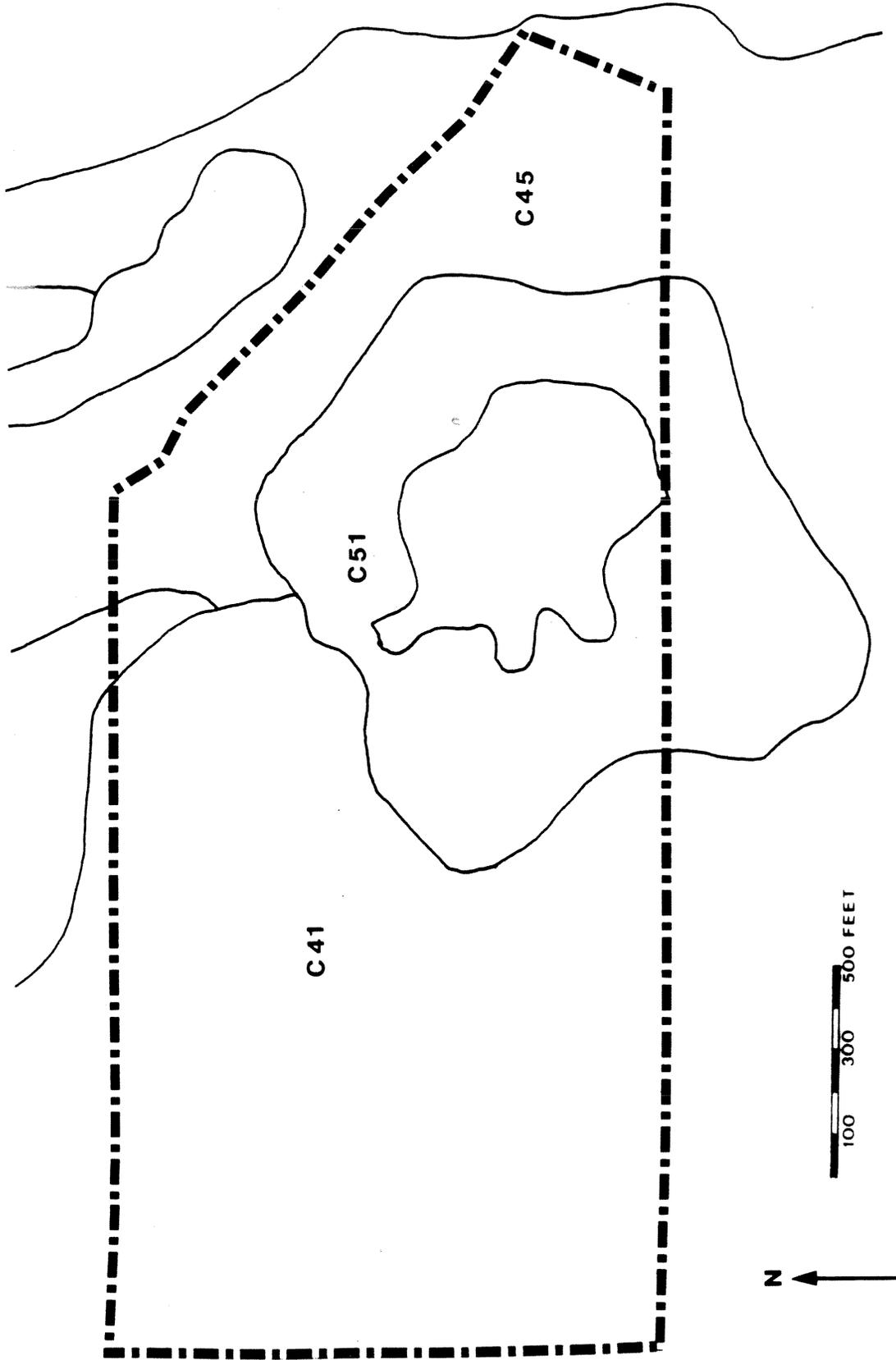
The Notice of Appeal prepared pursuant to 36 CFR 217.9(b) must be submitted within 45 days from the date of legal notice of this decision. Review by the Secretary is wholly discretionary. If the Secretary has not decided within 15 days of receiving the Notice of Appeal to review the Chief's decision, 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

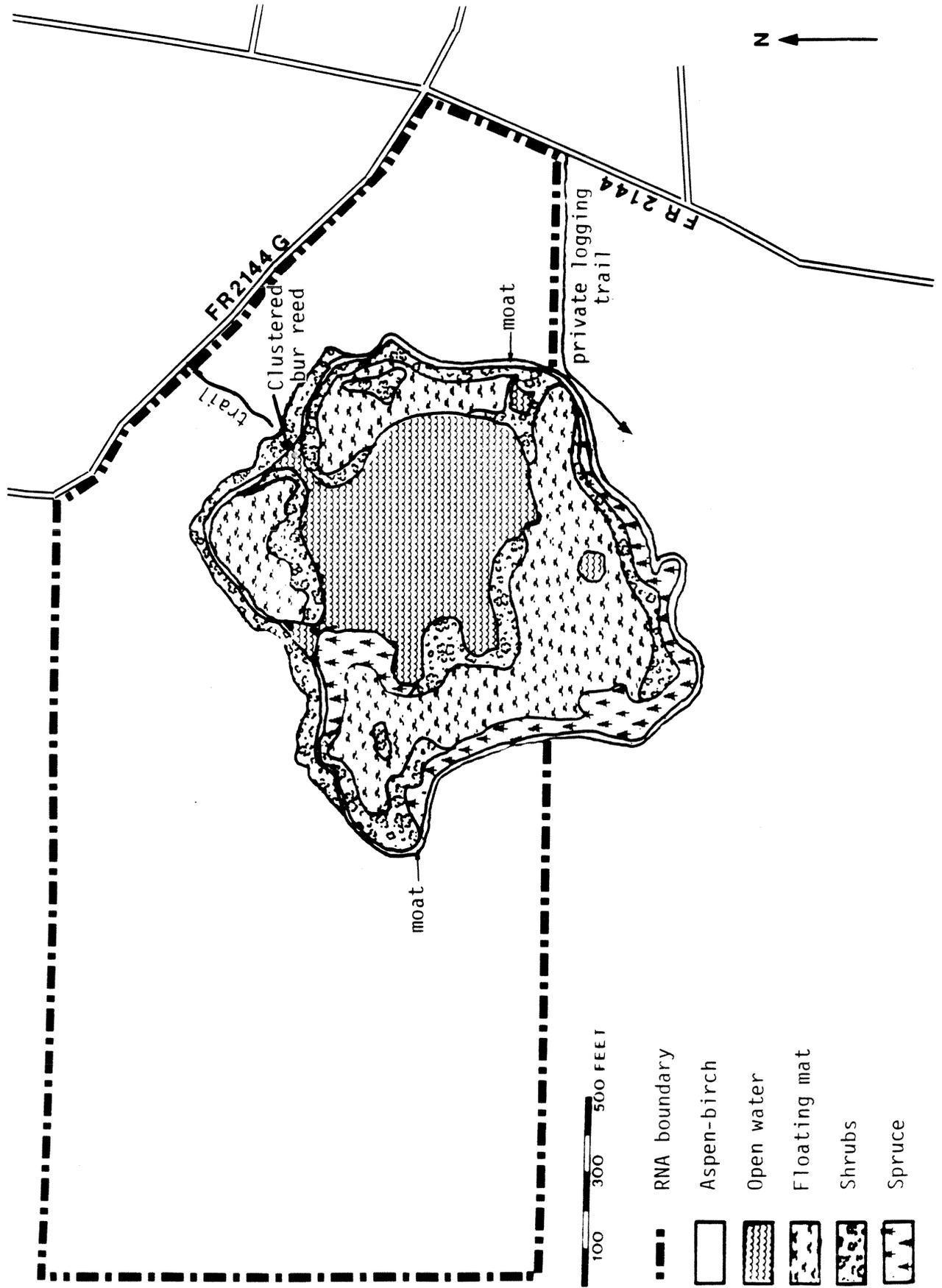


Date

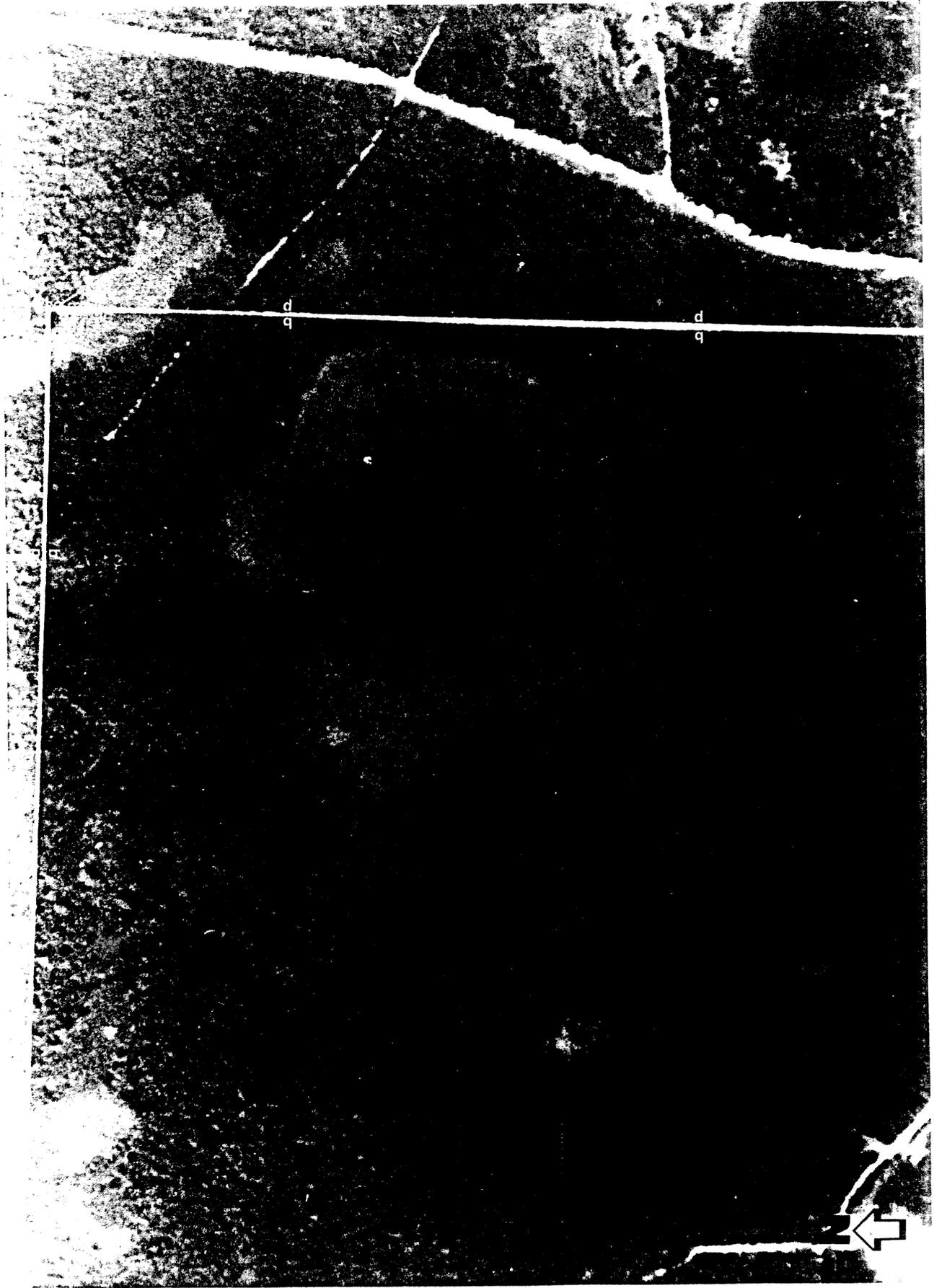


- C41 - Heavy loam, moraine, nearly level to rolling, sugar maple/mountain maple/clinonia.
- C45 - Sandy, moraine, nearly level to rolling, pine/hazel/aster.
- C51 - Deep organic, noncommercial, black spruce/leatherleaf/sphagnum.
- - RNA boundary

Map 4. Soils of Clustered Bur Reed Bog RNA.



Map 5. Vegetation of Clustered Bur Reed Bog RNA.



Map 6. Aerial photo and topography of Clustered Bur Reed Bog RNA

- photo splice

Clustered Bur Reed Bog RNA boundary

PHOTOGRAPHIC RECORD

PHOTOGRAPHER

Nelson French

HEADQUARTERS UNIT

The Nature Conservancy

LOCATION

Minneapolis, MN

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. (1)	PERMANENT NO. (To be filled in by the RO) (2)	SELECTED FOR W.O. PHOTO LIBRARY (3)	DATE OF EXPOSURE (4)	LOCATION (State and National Forest or County) (5)	DESCRIPTION OF VIEW (6)
1			Sept '87	NW NE Sec 19, T57N, R25W	Logging road along section line between sections 18 and 19, leading from FR 2144 to south end of wetland.
2			Sept '87	Clustered Bur Reed Bog RNA NE NW Sec. 19 T57N, R25W	Open forested bog dominated by spruce, south end of wetland.
4			Sept '87	Clustered Bur Reed Bog RNA NE NW Sec. 19 T57N, R25W	Groundlayer of open floating mat, dominated by Carex oligosperma, sphagnum and scattered Sarracenia purpurea
5			Sept '87	Clustered Bur Reed Bog RNA NE NW Sec. 18 T57N, R25W	Characteristic moat vegetation south east side of wetland habitat for clustered bur reed.

PHOTOGRAPHIC RECORD

John Mathisen

HEADQUARTERS UNIT

LOCATION

Chippewa National Forest

Cass Lake, MN

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)
3			July '85	Clustered Bur Reed Bog RNA NE NW Sec. 19 T57N, R25W	Open floating mat dominated by leatherleaf and Carex oligosperma

PHOTOGRAPHIC RECORD

PHOTOGRAPHER

Dan Ruda

HEADQUARTERS UNIT

MN Natural Heritage Prog.

LOCATION

St. Paul, MN

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)
6			Nov. '87	University of Minn. Herbarium	Herbarium specimen of clustered bur reed collected from moat in Figure 5



Figure 1. Private logging road in upland aspen-birch-pine stand located along section line between Sections 18 and 19 from FR 2144 to south end of wetland.



Figure 2. Open forested bog dominated by spruce, south end of wetland.



Figure 3. Open floating mat dominated by leather leaf and *Carex oligosperma*.



Figure 4. Ground layer of open floating mat, dominated by *Carex oligosperma* and *sphagnum* with scattered *Sarracenia purpurea*.

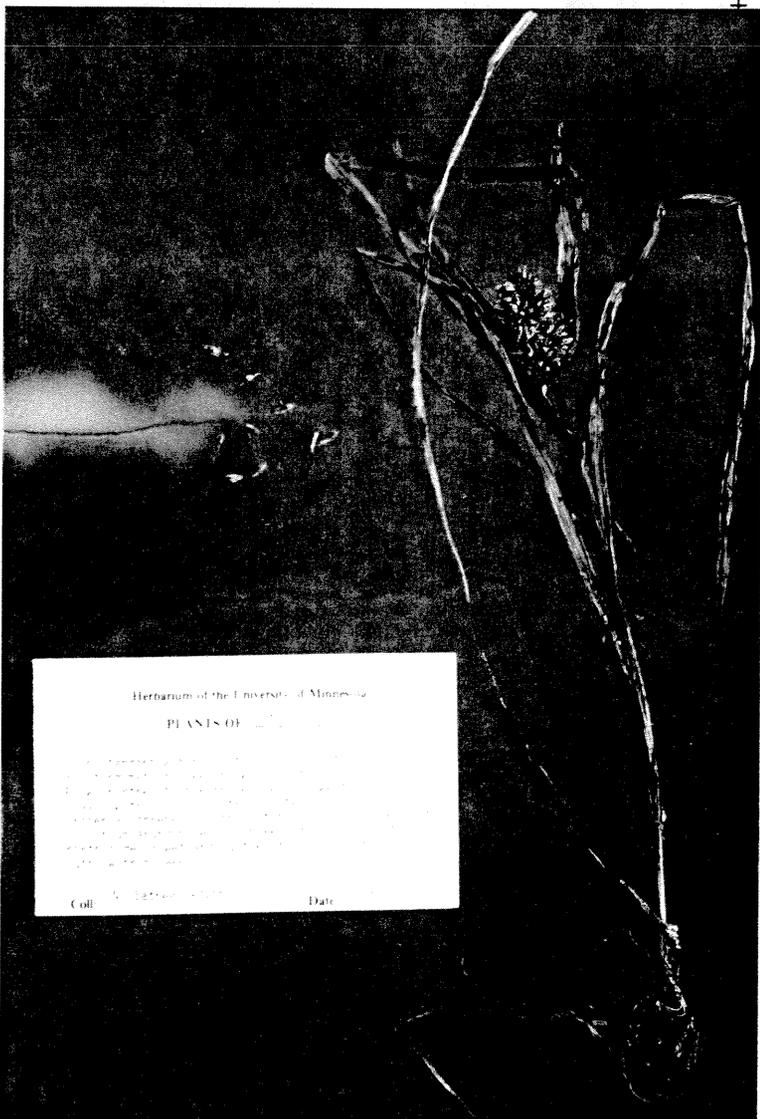
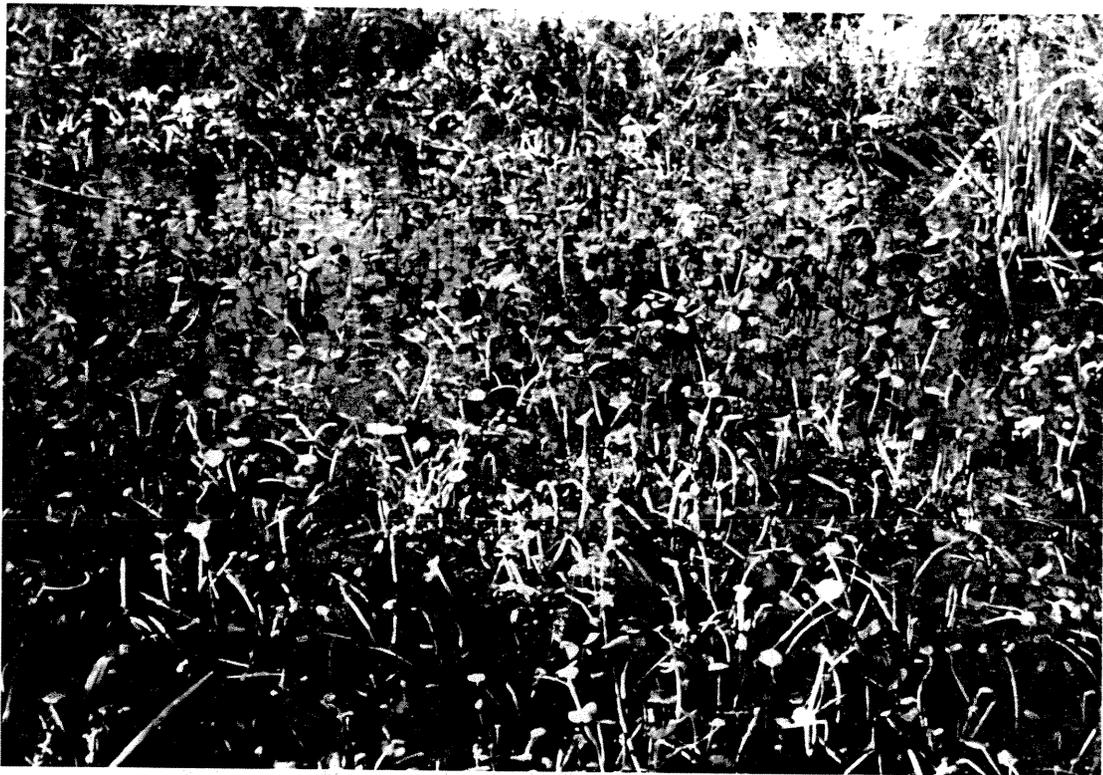


Figure 5. Characteristic moat vegetation southeast side of wetland habitat for clustered bur reed.

Figure 6. Herbarium specimen of clustered bur reed collected from moat in Figure 5.

SIGNATURE PAGE

for

RESEARCH NATURAL AREA ESTABLISHMENT RECORD

Clustered Bur Reed Bog Research Natural Area

Chippewa National Forest, Marcell 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 Nancy Sather Date 7/26/90
Nancy Sather, Botanist, Minnesota Heritage Program

and by David A. Shadis Date 7/24/90
David A. Shadis, Soil Scientist, Chippewa National Forest

Recommended by Paul D. Zeman Date 11/14/90
Howard A. Zeman, District Ranger, Marcell District

Recommended by William F. Spinner Date 11-7-90
William F. Spinner, Forest Supervisor, Chippewa National Forest

Recommended by Floyd J. Marita Date 11-27-90
Floyd J. Marita, Regional Forester, Eastern Region

Recommended by Ronald D. Lindmark Date 12/27/90
Ronald D. Lindmark, Station Director
North Central Forest Experiment Station

ESTABLISHMENT RECORD FOR THE
CLUSTERED BUR REED BOG RESEARCH NATURAL AREA
CHIPPEWA NATIONAL FOREST, MARCELL RANGER DISTRICT
ITASCA COUNTY, MINNESOTA

INTRODUCTION

The Clustered Bur Reed Bog Research Natural Area is within the watershed of a small unnamed lake in SESW section 18, T57N, R25W, 4th PM, Itasca County Minnesota on the Chippewa National Forest. The RNA boundaries encompass 79.2 acres (32.1 ha) of National Forest Land (see maps 1, 2, and 3).

Clustered Bur Reed Bog was visited by Verona Conway in the late 1940's in the course of her study of bogs in Central Minnesota. She reported the site under the name "Grand Rapids, B, T57, R25, 18SW," with the comment "extensive moss heath, some indications of burning." (Conway, 1949). In 1977 Wheeler and Glaser discovered the population of clustered bur reed (Sparganium glomeratum)¹ for which the site is named (Wheeler and Glaser, 1977). In addition to their collection of clustered bur reed these investigators collected vegetation data on the floating mat surrounding the lake (see Appendix I). On the basis of this collection of clustered bur reed, which is documented in the Minnesota Natural Heritage Program's data base, that program recommended in its 1985 comments on the Chippewa National Forest Land and Resource Management Plan that the site be designated an area of special botanical interest (MNDNR, 1985). Clustered Bur Reed Bog was recommended for RNA status by the Chippewa National Forest RNA evaluation committee in 1986, on the condition that the presence of clustered bur reed at the site could be reconfirmed. The area was visited and the Sparganium glomeratum population was relocated by Nancy Sather of the Minnesota Natural Heritage Program on September 5, 1987 (Appendix II).

The Clustered Bur Reed Bog RNA lies east of Pughole Lake, southeast of Doan Lake, and west of Bluewater Lake, approximately 14 miles (22 km) north of Grand Rapids, Minnesota (see maps 1-3). Uplands surrounding the wetland are mature second growth aspen or, in the case of private lands south of the wetland, recently harvested aspen (see map 6). The 28.7 acre (11.6 ha) wetland not only harbors the sole known extant occurrence of clustered bur reed in the United States, but also represents an undisturbed example of classic bog succession.

Land Management Planning

Clustered Bur Reed Bog is included in the Chippewa National Forest Land and Resource Management list of candidate research areas. It lies within management

¹ Source 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.

area 8.2 and will be managed under the Standards and Guidelines of the Forest Plan.

OBJECTIVES

The principal objectives for establishment of the Clustered Bur Reed Bog RNA are as follows:

Preserve the habitat of the only known location of clustered bur reed (Sparganium glomeratum) in the State of Minnesota, as well as a classic example of midwestern bog succession.

Establish a reference area for the study of succession.

Preserve genetic diversity of the clustered bur reed.

JUSTIFICATION STATEMENT FOR ESTABLISHMENT OF AREA

The RNA contains the clustered bur reed, a circumboreal species listed as endangered in Minnesota (MDNR, 1986), rare in Alberta (Argus and White, 1978) and doubtfully native in Quebec (Bouchard, Barabe, Dumais, and Hay, 1983). Two previously known stations near Duluth, Minnesota (Lakela, 1941) have not been confirmed since 1944. Because of the lack of basic ecological information about the species, it is difficult to define its critical habitat for the purpose of establishing RNA boundaries. The one confirmed (fruiting) location of the plant within the RNA (Sather 87-50) lies on the landward edge of the north side of the wetland, just east of the point at which an outflow channel connects the lake with the surrounding moat. Vegetative specimens collected in July 1987 in the moat on the southeastern side of wetland (Sather 87-41) cannot be identified with certainty beyond the genus.

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 Land and Resource Management Plan (LRMP) for the Chippewa National Forest (1986). Designation of this RNA is appropriate as provided for in the above-referenced regulations and the LRMP.

PRINCIPAL DISTINGUISHING FEATURES

Clustered Bur Reed RNA provides a classic example of midwestern bog succession (Curtis, 1959; Conway, 1949) and is distinguished by the presence of the sole confirmed U.S. population of Sparganium glomeratum.

The upland boundary was determined to protect the immediate watershed of the wetland. At the present time, uplands immediately adjacent to the known clustered bur reed population are relatively undisturbed second growth aspen.

LOCATION

Clustered Bur Reed Bog RNA is located within the Marcell Ranger District of the Chippewa National Forest in the S 1/2 of section 18, T57N, R25W, 4th Principal Meridian, at latitude 47°25' N and longitude 93°34' W. The area contains 79.2 acres (32.1 hectares) more or less, and can be legally described as follows: The east half of the southwest Quarter of the Southwest Quarter; the Southeast Quarter of the Southwest Quarter; and that part of the Southwest Quarter of the Southeast Quarter lying southwesterly of Forest Road 2144G (road to Doan Lake) and westerly of Forest Road 2144 (County Road 335), all in Section 18, Township 57 North, Range 25 West of the 4th PM.

The elevation of this RNA is approximately 1366 feet (416 meters) above sea level.

To get to Clustered Bur Reed Bog from Grand Rapids, Minnesota proceed north on Minnesota highway 38 approximately 11 miles (18 km) to county route 60, Bluewater Lake Road (see Map 1). Turn east on 60 for just over one mile (1.6 km) to county road 335. Turn north on 335 and bear right at the "Y" in the center of section 19 on FR2144. The south end of Clustered Bur Reed Bog can be reached easily from FR2144 by parking at the side of FR2144 just south of the Forest boundary sign and walking westward along a logging trail that follows the

BOUNDARY DESCRIPTION
FOR
CLUSTERED BUR REED BOG
RESEARCH NATURAL AREA

That part of Government Lot 4, the Southeast Quarter of the Southwest Quarter and the Southwest Quarter of the Southeast Quarter of Section 18, Township 57 North, Range 25 West of the 4th Principal Meridian, Itasca County, Minnesota, described as follows:

Commencing at the southwest corner of said Section 18 as surveyed and perpetuated in 1985 by Kenneth L. Whitehorn, Licensed Land Surveyor, and shown on a Certificate of Survey filed April 17, 1985 as document number 371537 with the Itasca County Recorder, Grand Rapids, Minnesota; thence North 89 degrees 15 minutes 22 seconds East, along the south line of said Section 18 as surveyed in 1985 by Kenneth L. Whitehorn, Licensed Land Surveyor, a distance of 500.04 feet to the point of beginning of the tract to be described; thence northerly along a line that is 500.00 feet easterly of, measured at a right angle to, and parallel with the west line of said Section 18 to the north line of said Government Lot 4; thence North 89 degrees 24 minutes 39 seconds East, along said north line of Government Lot 4 and the Southeast Quarter of the Southwest Quarter as surveyed in 1985 by Kenneth L. Whitehorn, Licensed Land Surveyor, to a point of intersection with a line that is 33.00 feet southwesterly of, measured at a right angle to, and parallel with the center line of Forest Road 2144G; thence southeasterly along said line parallel to Forest Road 2144G to a point of intersection with a line that is 130.00 feet northwesterly of, measured at a right angle to, and parallel with the center line of Forest Road 2144, also known as Itasca County Road 335; thence southwesterly along said line parallel to Forest Road 2144 to the said south line of Section 18; thence South 89 degrees 15 minutes 22 seconds West, along the said south line of Section 18 to the point of beginning.

CERTIFICATION

STATE OF MINNESOTA)
) ss
County of Cass)

I hereby certify that this boundary description of the Clustered Bur Reed Research Natural Area was prepared by me or under my direct supervision.



MICHAEL C. HAYES, Forest Land Surveyor

7/15/91
Date

section line between sections 18 and 19 near the Chippewa National Forest boundary sign of FR2144.

AREA BY COVER TYPES

Approximate acreage in cover types as determined by polar planimeter and USFS compartment records is as follows:

Cover type	SAF	Kuchler	Acres	Hectares
Open Water	no SAF type	no type	9.4	3.804
Open Bog	no SAF type	no type	13.8	5.585
Forested Bog	13 Black spruce- tamarack ²	85 Conifer bog	5.5	2.226
Aspen	16 Aspen	no type*	18.0	7.285
Aspen-Birch	16 Aspen	no type*	31.0	12.546
Red Pine Forest	15 Red Pine	86	1.5	0.607
			<u>79.2</u>	<u>32.053</u> ha.

*Serai component of many Kuchler types.

PHYSICAL AND CLIMATIC CONDITIONS

The proposed Clustered Bur Reed Bog RNA lies on the Nashwauk-Warba moraine.

The nearest weather station to the proposed Clustered Bur Reed Bog RNA is twelve miles south-southwest at Pokegama Dam at an elevation of 1280 ft (390 m) above sea level. Climatic data from 1941 to 1970 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) summer precipitation and 50 to 60 inches (1270-1524 mm) average snowfall. The area has an average of between 85 and 95 days per year with snowcover of more than 6 inches (15.2 cm) and over 60 days of

² Source of common and scientific names of tree species:
 Little, Elbert L. Jr. 1979. Checklist of United States Trees
 (Native and Naturalized). Ag. Handbook No. 541. Washington,
 D.C. USDA 375 p.

snow cover in excess of 12 inches (30.5 cm). Between 1951 and 1980, the average date of first fall frost was September 16, with an average frost free season of 100 days.

DESCRIPTION OF VALUES

Flora

The small lake in the heart of Clustered Bur Reed Bog RNA is surrounded by a floating mat characterized by concentric zones of vegetation successively dominated by Bog Rosemary (Andromeda glaucophylla), Carex and Sphagnum (Carex oligosperma and Sphagnum magellanicum), scattered conifers and leatherleaf (Picea mariana*, Chamaedaphne calyculata) and at the edge of the surrounding natural moat, alder (Alnus rugosa) and marsh vegetation (see maps 5 and 6). It is within the latter vegetation type that clustered bur reed occurs along with such other emergent and emersed circumneutral aquatic species as Carex lacustris, Typha latifolia, Calla palustris, Potentilla palustris, Nuphar variegatum, Brasenia schreberi, and Dulichium arundinaceum.

The moat itself is a natural phenomenon, (Conway, 1949) which often occurs at the interface of upland and floating mat where mineral runoff maintains more nearly neutral waters and the edges of the peat are subject to greater oxidation than within the cold, acid portions of a floating mat. There is no evidence that the moat at Clustered Bur Reed Bog is the result of beaver activity. The vegetation zones within the wetland can be classified into several distinguishable communities which roughly correlate with each other in the following manner:

<u>Almendinger, et al.</u> <u>1990.</u>	<u>Wheeler and</u> <u>Glaser 1977</u>	<u>Conway</u> <u>1949</u>	<u>Cowardin and</u> <u>Johnson 1973</u>
Open Bog	<u>Chamaedaphne</u> <u>calyculata,</u> <u>Vaccinium</u> <u>oxycoccus</u> Association (moss mat), <u>Rhynchospora alba,</u> <u>Carex oligosperma</u> subassociation	Pioneer mat and moss heath	Community 14 acid bog

Forested Bog	<u>Picea mariana</u> , <u>Ledum groenlandicum</u> Association	Bog forest	Community 15 softwood swamp
Shrub swamp	<u>Stellaria longifolia</u> , <u>Rubus strigosus</u> Association	Marginal fen	Community 13 circumnuetral bog ericaceous phase Community 12 circumnuetral bog shrub phase
Marsh	<u>Stachys palustris</u> , <u>Potentilla norvegica</u> Association <u>Calamagrostis canadensis</u> , <u>Acorus calamus</u> Subassociation	Marginal	Community 7 Semi-permanent patchy

At the present time Sparganium glomeratum is the only species on the potential sensitive species list of the Chippewa National Forest Land and Resource Management Plan known to occur at the site. See Appendices I and II for samples of floristic lists for each of the vegetation zones and the upland aspen-birch forest.

Fauna

Clustered Bur Reed Bog RNA provides potential nesting or over wintering habitat for on the order of 50 species of birds known from the Chippewa National Forest (see Appendices III and IV), 5 of which are on the state list of endangered and threatened species³. The RNA lies outside of areas designated

³ Source of listing of endangered and threatened species: Coffin and Pfannmuller. 1988. Minnesota's Endangered Flora and Fauna. Minnesota Dept. of Natural Resources. University of Minnesota Press, Minneapolis, MN 473 p.

as essential habitat for federally-threatened bald eagles⁴ in the Chippewa National Forest Land and Resource Management Plan, but lies within 2 miles of Osprey nests on Long Lake in S23, T57N, R26W (Minnesota Natural Heritage Program, 1987) In addition to the Osprey, the American bittern, Short-eared owl, and Red-shouldered hawk are state listed as Species of Special Concern. (3.3 km²)

There are Itasca County records for 10 species of reptiles and amphibians (Appendix V), 2 of which are listed on the Minnesota list of Endangered, Threatened and Special Concern species⁵. These species are the snapping turtle and eastern hognose snake. No special standards and guidelines for habitat management are specified in the Chippewa National Forest Land and Resource Management Plan for these species.

A total of 27 mammal species are recorded for Itasca County (Hazard, 1982) (see Appendix VI). Of these only the timber wolf or gray wolf (Canis lupus), is listed as state and federally threatened.

Geology

The Clustered Bur Reed Bog RNA lies on the Nashwauk-Warba moraine, a calcareous clay-loam till laid down during the retreat of the St. Croix phase of the Rainy ice lobe and perhaps reworked and redeposited during the retreat of the St. Louis sublobe of the Des Moines lobe (University of Minnesota, Agriculture Experiment Station, 1971; Wright et al. 1969).

Soils

Soil information for the RNA is available from the Chippewa National Forest Ecological Classification System (see map 4). Soils within the lowland are characterized as the deep organic, noncommercial, black spruce/leatherleaf/sphagnum type. The surrounding upland to the east of Clustered Bur Reed Bog is comprised of soils of the heavy loam, moraine, nearly level to rolling sugar maple/mountain maple/Clintonia type.

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

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

Lands

Lands in the Clustered Bur Reed Bog RNA lie within the Chippewa National Forest and were acquired under the Weeks act. The E1/2SWSW and the SESW Sec. 18, T57N, R25W was acquired in 1935 with the landowner reserving all mineral rights. Mineral rights reverted to the U.S. Forest Service in 1985. At the present time there are no outstanding mineral rights on this parcel.

SWSE Sec. 18, T57N, R25W was acquired in 1934 with a third party reserving the mineral rights in perpetuity.

Cultural Resources

A surface reconnaissance survey for cultural resources within the boundaries of Clustered Bur Reed Bog RNA was completed by Forest Service cultural resource paraprofessionals during October 1990. No evidence of archaeological or historic values was discovered. Archaeological site locational models for this geomorphic area suggest low potential for the presence of archaeological sites within the RNA.

IMPACTS AND POSSIBLE CONFLICTS

Mineral resources

No commercially exploitable mineral resources are presently known in Clustered Bur Reed Bog RNA.

Grazing

Clustered Bur Reed Bog RNA has no grazing potential.

Timber

Affected timber within the Chippewa National Forest lies within Compartment 131, Marcell Ranger District.

The entire 79.2 acres (32.1 hectares) within this RNA were withdrawn from the timber producing base during development of the Chippewa NF Land and Resource Management Plan. The forested area totals 56 acres (22.7 hectares), broken down as follows:

<u>SAF Cover Type</u>	<u>Acres</u>	<u>Hectares</u>
13 Black spruce- tamarack	5.5	2.2
15 Red pine	1.5	0.6
16 Aspen	49.0	19.8

Only the red pine and aspen acreage would be potentially suitable for timber production because of soil conditions and productivity. Thus, 50.5 acres (20.4 hectares) of Commercial Forest Land are affected.

Watershed Values

The watershed of Clustered Bur Reed Bog RNA appears to be wholly self contained but is not entirely included within the RNA boundaries because the portion of the wetland lying in section 19 remains in private ownership. Ongoing timber harvest on adjacent uplands in section 19 could increase the amount of mineral runoff into the wetland. The potential impact of such a change in water quality on the population of clustered bur reed is presently unknown. Generally, designation as an RNA should help maintain its watershed condition.

Recreation Values

Clustered Bur Reed Bog RNA does not appear to serve any recreational purpose at the present time. However, the proximity of a private logging road extending eastward from the wetland along the section line to FR2144 makes the wetland accessible for snowmobiling. The potential hydrological impact of possible compaction of the mat by snowmobiling is unknown.

Wildlife and Plant Values

Clustered Bur Reed Bog's major wildlife and plant values are those related to its unusual flora (see flora section). A loon was observed on the lake on Sept. 4, 1987 (Sather, see Appendix II). Maintaining the integrity of the watershed should be sufficient to protect the bur reed population.

Special Management Area Values

The Clustered Bur Reed Bog RNA is not in a designated Wilderness, Wild and Scenic River System, or National Recreation Area.

Transportation Plans

During early consideration of the potential impacts of designating this area as an RNA, it was realized that access to lands in Section 13, T57N, R26W would involve construction of a road from FR2144G westward along the northern portion of the RNA. In order to avoid this impact on the RNA, a tract in SESW Section 13 has been acquired by The Nature Conservancy. This is one of several small tracts involved in a land exchange between The Nature Conservancy (TNC), the Superior NF and the Chippewa NF. This property will soon become part of the Chippewa NF, eliminating the need for an access road across the northern edge of the RNA, by providing an alternate route.

Except for the above described situation, establishment of this RNA will have minimal effect on the forest transportation system.

MANAGEMENT PRESCRIPTION

As designated in the Forest Plan and the Opportunity Area plan, the principal objective of the Clustered Bur Reed Bog RNA is:

To protect the population and habitat of Sparganium glomeratum within the site.

Transportation

The RNA will be closed to all motorized traffic including ATVs. No fences are planned within or around the RNA.

Vegetative Management

No manipulation of vegetation is envisioned in this RNA. No salvage operations will be permitted. This applies at all times, including the event of severe damage from wind, insects, disease or wildfire.

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

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.

Recreation

Low levels of dispersed recreation, primarily hiking and hunting, occur within the RNA seasonally, and do not threaten the values of the RNA. The Forest Service will discourage additional recreational use. Boundaries of the area will be signed, prohibiting non-pedestrian entry of the area.

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 prepared 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 heavy earth-disturbing equipment will be used within the RNA boundaries.

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 from mineral entry, that portion on which the U.S. Government owns the mineral rights.

Research

When use of the RNA for research is desired, a proponent must contact the District Ranger, Marcell Ranger District, the Forest Supervisor or the Director of the North Central Forest Experiment Station. All requests will be referred to the Station Director, North Central Forest Experiment Station and must outline the planned research activity. Station Directors approve study plans proposed by non-Forest Service scientists and execute cooperative agreements, where appropriate. When approved, the Station Director shall execute a cooperative agreement of special use permit to cover the planned research activity.

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 Clustered Bur Reed Bog 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 the University of Minnesota herbarium.

Monitoring

The Marcell Ranger District is responsible for monitoring the condition of this RNA. Monitoring will be completed by foot on an annual basis. The initial inspection will document the location, type and condition of dispersed recreation sites, existing condition of vegetation, access, etc.

If later inspections reveal evidence of additional or environmentally disturbing use, it will be evaluated by an interdisciplinary team which includes a botanist from either the Nature Conservancy or the Minnesota Natural Heritage Program, a research scientist from North Central Forest Experiment Station and Ranger District personnel.

Also, if exotic plants or animals have been introduced, the Station Director and Regional Forester shall exercise control measures in keeping with established management principals 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.

ADMINISTRATION RECORDS AND PROTECTION

The administrator of this area is:

District Ranger
USDA - FS
Chippewa National Forest
Marcell, Minnesota 56657
(218) 832-3161

The research coordinator is:

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

Herbarium vouchers are maintained by:

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

Vegetation and botanical data are enclosed as Appenices to this report and are also available from:

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

REFERENCES

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TABLE B-11
RELVEE 10

DATE: July 12, 1977
 LOCATION: SE½SW¼ Sec. 18 T57N R25W. NE quadrant of study area. Edge of floating bog facing open water. Kettle depression on Nashauk-Marba Moraine Complex.
 HABITAT: Sunny, very wet Andromeda hummocks growing out into water and very wet hollows. Common signs of beaver activity.
 PROFILE: Complete profile not seen; water table at surface. Sphagnum peat with rootlets of sedges and ericaceous shrubs.
 SAMPLE PLOT: 5 sq m (10 m x 0.5 m)

Herb layer, cover 75%

Dulichium arundinaceum +:1
Triadenum fraseri 1:1
Lychnis cf. thyriflora +:1
Andromeda glaucophylla 2:2
Chamaedaphne calyculata 2:2
Rhynchospora alba 1:2
Carex oligosperma 1:2
Kalmia polifolia 1:2
Vaccinium oxycoccos 1:2
Drosera rotundifolia 1:2
Drosera intermedia 1:2
Calla palustris +:2
Utricularia intermedia 1:1
Carex limosa +:3
Scheuchzeria palustris +:1
Polygona sparganioides +:2
Brassica schreberi r:1
Bidens connata +:1
Lycopus uniflorus +:1

TABLE B-12
RELVEE 11

DATE: July 13, 1977
 LOCATION: SE½SW¼ Sec. 18 T57N R25W. NE quadrant of study area. Flooding bog in kettle depression on the Nashauk-Marba Moraine Complex.
 HABITAT: Sunny, wet Sphagnum-mat with occasional hummocks.
 PROFILE: Complete profile not seen; water table at surface. Sphagnum peat with rootlets of sedges and ericaceous shrubs.
 SAMPLE PLOT: 100 sq m

Herb layer, cover 100%

Andromeda glaucophylla 2:2
Chamaedaphne calyculata 1:1
Vaccinium oxycoccos 1:2
Picea mariana +:2
Sarracenia purpurea +:1
Scheuchzeria palustris 1:2
Rhynchospora alba 1:2
Carex limosa 1:2
Carex oligosperma 1:2
Drosera rotundifolia 1:1
Kalmia polifolia +:1

Appendix II. Field notes from visit to Clustered Bur Reed Bog by Nancy Sather, July 29, 30 and Sept 4-5, 1987.

July 29

Entered wetland from FR2144G via an old logging trail which becomes overgrown before it reaches the slope down to the wetland. At this point I bore slightly eastward and crossed the moat on a fallen log. I worked eastward and southward around the edge of the moat searching the alder zone and open moat area for Sparganium but was unsuccessful in locating any fruiting plants. Worked as far southeastward to the pool of open water on the east side where the mat became too spongy to traverse.

July 30

Re-entered the wetland using the logging road that follows the National Forest boundary along the section line between sections 18 and 19 (see figure 1 and map 5). Entered the wetland just north of the red pine bearing tree at the south margin of bog and south of the bearing post marking the section boundary at its halfway point (see figure 5). Searched moat from this point all the way around the west side until a patch of open water on the northwest prevented any further walking on mat. Conducted releves in the alder-moat, black spruce-leatherleaf and floating mat communities (see attached releve data).

The following plant collections were made at Clustered Bur Reed Bog. Voucher specimens will be deposited at the herbarium of the University of Minnesota

collection number	date	species	associated community
87-34	7/29/87	<u>Carex oligosperma</u>	moatside and mat
87-35	7/29/87	<u>Scirpus cyperinus</u>	moatside
87-36	7/29/87	<u>Rhynchospora alba</u>	mat
87-37	7/29/87	<u>Drosera rotundifolia</u>	mat
87-38	7/29/87	<u>Juncus brevicaudatus</u>	moatside, SE
87-39	7/29/87	<u>Lysimachia terrestris</u>	moatside
87-40	7/29/87	<u>Osmunda cinnomomea</u>	alder shrub
87-41	7/29/87	<u>Sparcanium</u> sp	moat, SE side of wetland
87-42	7/29/87	<u>Carex rostrata</u>	moatside
87-43	7/29/87	<u>Carex paupercula</u>	mat
87-44	7/29/87	<u>Carex lacustris</u>	moatside
87-45	7/29/87	<u>Mitella nuda</u>	moatside
87-46	7/29/87	<u>Calopogon pulchellus</u>	mat, east side USFS land
87-47	7/29/87	<u>Scheuchzeria palustris</u>	mat
87-48	7/29/87	<u>Eriophorum virginicum</u>	moatside
87-49	7/29/87	<u>Carex leptalea</u>	moatside
87-50	9/4/87	<u>Sparcanium glomeratum</u>	moatside
87-51	9/4/87	<u>Dulichium arundinaceum</u>	moatside
87-52	9/4/87	<u>Glyceria canadensis</u>	moatside
87-53	9/4/87	<u>Andromeda glaucophylla</u>	mat
87-54	9/4/87	<u>Calamagrostis canadensis</u>	moatside
87-55	9/4/87	<u>Ledum groenlandicum</u>	conifer bog, moatside mat
87-56	9/4/87	<u>Bidens connata</u>	moatside
87-57	9/4/87	<u>Vaccinium oxycoccos</u>	mat
87-58	9/4/87	<u>Spiraea alba</u>	moatside
87-59	9/4/87	<u>Betula pumila</u>	moatside, conifer bog
87-60	9/4/87	<u>Potentilla palustris</u>	moatside
87-61	9/4/87	<u>Calla palustris</u>	moatside
87-62	9/4/87	<u>Aster ciliolatus</u>	aspen-birch
87-63	9/4/87	<u>Lonicera canadensis</u>	aspen-birch
87-64	9/4/87	<u>Solidago</u> cf <u>canadensis</u>	aspen-birch
87-65	9/4/87	<u>Viola</u> cf <u>pubescens</u>	aspen-birch
87-66	9/4/87	<u>Amelanchier</u> sp	aspen-birch
87-67	9/4/87	<u>Galium labradoricum</u>	moatside
87-68	9/4/87	<u>Sanicula marilandica</u>	aspen-birch
87-69	9/4/87	<u>Prunus virginiana</u>	aspen-birch
87-70	9/4/87	<u>Acer saccharum</u>	aspen-birch
87-71	9/4/87	<u>Fraxinus pennsylvanica</u>	aspen-birch
87-72	9/4/87	<u>Corylus cornuta</u>	aspen-birch
87-73	9/4/87	<u>Rubus idaeus</u> v. <u>striosus</u>	aspen-birch
87-74	9/4/87	<u>Cornus rugosa</u>	aspen-birch
87-75	9/4/87	<u>Epilobium leptophyllum</u>	aspen-birch
87-76	9/4/87	<u>Nuphar variegatum</u>	moat
87-77	9/4/87	<u>Brasenia schreberi</u>	moat
87-78	9/4/87	<u>Salix</u> cf <u>pedicellaris</u>	moatside
87-79	9/4/87	<u>Salix</u> cf <u>hebbiana</u>	moatside
87-80	9/4/87	<u>Salix</u> cf <u>discolor</u>	moatside
87-81	9/4/87	<u>Lycopus uniflorus</u>	moatside

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		Sociability
r	single occurrence	1 growing singly
+	<5% occasional	2 grouped, few plants
1	<5% plentiful	3 large group, many plants
2	5-25% very numerous	4 small colonies, extensive patches, broken mat
3	25-50% any number of plants	5 extensive mat
4	50-75% any number of plants	
5	75-100% any number of plants	

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	Condition	Miscellaneous
DY dying	BU budding	GR grazed
DD dead	BR browsed	MS multiple stemmed
EX being driven out	DF defoliated	MW mowed
OO poor vitality	FL flowering	CG open grown
LU luxurious growth	FR fruiting	PF past fruiting
	FS fire scarred	SE present as seed
	GE germinating	ST sterile
		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.

RELEVE REPORT FORM, MINNESOTA VEGETATION DATABASE

OMNR RELEVE NUMBER: 0120

DATE: 30 JUL 1987

BY: Nancy P. Sather

Itasca County, MN

Quadrangle Code: [I15A]

MINNESOTA NATURAL HERITAGE PROGRAM

Department of Natural Resources

Box 7, 500 Lafayette Road

St. Paul, Minnesota 55148

(612) 296-3344

Site Name: Clustered Bur Reed Bog RNA

Location: SE of SW of S. 18, T. 059N, R. 25W

Heritage Community Element: Shrub Swamp

Element Occurrence Size (a.): ., Rank: , Site Size (a.): .

Soil Atlas Mapping-Unit: ,

Other Data Collected:

PLOT CHARACTERISTICS

Releve Size (sq. m): 400, Elev. (ft.): ., Slope (deg./aspect):

shape of releve limited by extent of community, moatside community just north of bearing tree, extends 20m to east and west, width of community only 10m between water and mat

Broadleaf Evergreen, Height: 2-3, Cover: P

1.2 *Chamaedaphne calyculata* (L.) Moench

+1 *Kalmia polifolia* Wang.

+2 *Ledum groenlandicum* Oeder

Broadleaf Deciduous, Height 4, Cover I

2.2 *Alnus incana* (L.) Moench

+1 *Salix* sp.

Broadleaf Deciduous, Height 2-3, Cover B

+1 *Alnus incana* (L.) Moench

Needleleaf Evergreen, Height 4, Cover B

+1 *Larix laricina* (DuRoi) Koch

+1 *Picea mariana* (Mill.) B.S.P.

Graminoids, Height 1-2, Cover I

1.2 *Carex oligosperma* Michx.

1.2 *Dulichium arundinaceum* (L.) Britt.

1.1 *Glyceria canadensis* (Michx.) Trin.

R.1 *Juncus brevicaudatus* (Engelm.) Fern.

+1 *Calamagrostis canadensis* (Michx.) Nutt.

+2 *Carex lacustris* Willd.

+2 *Carex leptalea* Wahlenb.

+1 *Carex rostrata* Stokes

+1 *Eriophorum virginicum* L.

EXAMPLE RECORD

! Cover.Sociability Genus Species Author Variety Author Remark !

Releve Number 0120 Continued, Page .

Forbes, Height 1-2, Cover P

- 2.2 Calla palustris L.
- 1.2 Iris versicolor L.
- 1.2 Lemna minor L.
- 1.2 Lycopus uniflorus Michx.
- 1.2 Menyanthes trifoliata L.
- 1.1 Triadenum fraseri (Spach) Gleason.
- 1.2 Typha latifolia L.
- R.1 Lysimachia terrestris (L.) BSP.
- +1.1 Osmunda cinnamomea L.
- +2.2 Potentilla palustris (L.) Scop.
- +1.1 Sarracenia purpurea L.
- +1.1 cf. Stellaria longifolia
- +2.2 Trientalis borealis Raf.

EXAMPLE RECORD

| Cover. Sociability Genus Species Author Variety Author Remark |

RELEVE REPORT FORM, MINNESOTA VEGETATION DATABASE

DNV RELEVE NUMBER: 0121

DATE: 30 JUL 1987

BY: Nancy P. Sether

Itasca County, MN

Quadrangle Code: 4709345 (I15A)

MINNESOTA NATURAL HERITAGE PROGRAM

Department of Natural Resources

Box 7, 500 Lafayette Road

St. Paul, Minnesota 55148

(812) 298-3344

Site Name: Clustered Bur Reed Bog RNA

Location: SE of SW of S. 18, T. 059N, R. 25W

Heritage Community Element: Open Bog

Element Occurrence Size (a.): 28, Rank: , Site Size (a.): 113

Soil Atlas Mapping-Units: ,

Other Data Collected:

PLOT CHARACTERISTICS

Releve Size (sq. m): 100, Elev. (ft.): 1388, Slope (deg./aspect): FLAT

open floating mat on south side of lake, similar community on northeast side of lake

Broadleaf Evergreen, Height: 2-3, Cover: B

1.2 *Chamaedaphne calyculata* (L.) Moench

+3 *Andromeda glaucophylla* Link

Needleleaf Evergreen, Height 2-3, Cover B

+3 *Picea mariana* (Mill.) B.S.P.

Graminoids, Height 1-2, Cover I

2.2 *Carex pauciflora* Lightf.

1.2 *Carex oligosperma* Michx.

+1 *Carex paupercula* Michx.

+1 *Rhynchospora alba* (L.) Vahl

Forbs, Height 1-2, Cover B

2.2 *Vaccinium oxycoccus* L.

+1 *Drosera rotundifolia* L.

+1 *Saxifraga purpurea* L.

+1 *Scheuchzeria palustris* L.

Lichens and Mosses, Height 1, Cover C

5.5 *Sphagnum*

EXAMPLE RECORD

1 Cover.Sociability Genus Species Author Variety Author Remark 1

RELEVE REPORT FORM, MINNESOTA VEGETATION DATABASE

DATE RELIEVE NUMBER: 0122

MINNESOTA NATURAL HERITAGE PROGRAM

DATE: 30 JUL 1987

Department of Natural Resources

BY: Nancy P. Sather

Box 7, 500 Lafayette Road

Itasca County, MN

St. Paul, Minnesota 55148

Quadrangle Code: 4708345 (I15A)

(812) 298-3344

Site Name: Clustered Bur Reed Bog RNA

Location: SE of SW of S. 18, T. 059N, R. 25W

Heritage Community Element: Conifer Swamp

Element Occurrence Size (a.): 9, Ranks , Site Size (a.): 113

Soil Atlas Mapping-Unit: Nashwauc-Warbe Moraine, XLWL

Other Data Collected:

PLOT CHARACTERISTICS

Relieve Size (sq. m): 100, Elev. (ft.): 1388, Slope (deg./aspect): FLAT

open tamarack spruce community, southwest end of lake

Broadleaf Deciduous, Height: 4, Cover: B

+2 Alnus incana (L.) Moench

Broadleaf Deciduous, Height 2-3, Cover I

- 3.2 Ledum groenlandicum Oeder
- 1.2 Chamaedaphne calyculata (L.) Moench
- +2 Alnus incana (L.) Moench
- +1 Andromeda glaucophylla Link
- +1 Kalmia polifolia Wang.

Needleleaf Evergreen, Height 4, Cover P

- 2.2 Larix laricina (DuRoi) Koch
- 1.2 Picea mariana (Mill.) B.S.P.

Needleleaf Evergreen, Height 2-3, Cover P

- 1.2 Larix laricina (DuRoi) Koch
- R.1 Picea mariana (Mill.) B.S.P.

Graminoids, Height 1-2, Cover I

- 3.2 Carex oligosperma Michx.
- +2 Carex lacustris Willd.
- +1 Carex pauciflora Lightf.
- +2 Rhynchospora alba (L.) Vahl
- +1 Carex leptalea Wahlenb.
- +1 Eriophorum virginianum

Relays Number 0122 Continued, Page 2

Forbes, Height 1-2, Cover B

- 1.1 *Sarracenia purpurea* L.
- 1.2 *Scheuchzeria palustris* L.
- 1.2 *Silphium*
- 1.1 *Vaccinium oxycoccus* L.
- +1 *Calla palustris* L.
- +2 *Cornus canadensis* L.

Lichens and Mosses, Height 1-2, Cover C

- 3.4 *Sphagnum*
- +2 *Cladonia*

EXAMPLE RECORD

! Cover, Sociability Genus Species Author Variety Author Remark !

Relève Number 0124 Continued, Page 2

Bremiaoids, Height 1-2, Cover B

Forbes, Height 1-2, Cover C

- 3.4 Aster macrophyllus L.
- 2.2 Aralia nudicaulis L.
- 2.1 Streptopus roseus Michx.
- 1.2 Fragaria virginiana Duchesne
- 1.2 Maianthemum canadense Desf.
- 1.2 Rubus pubescens Raf.
- +1 Aster ciliolatus Lindl.
- +1 Diervilla lonicera Mill.
- +2 Galium triflorum Michx.
- +1 Lathyrus venosus Muhl. ex Willd.
- +2 Osmorhiza claytonii (Michx.) Clarke
- +1 Sanicula marilandica L.
- +1 Solidago cf. canadensis L.
- +1 Vaccinium angustifolium Ait.
- +1 Viola cf. pubescens Ait.

EXAMPLE RECORD

! Cover, Sociability Genus Species Author Variety Author Remark !

RELEVE REPORT FORM, MINNESOTA VEGETATION DATABASE

DNR: RELEVE NUMBER: 0123

DATE: 04 SEP 1987

BY: Nancy P. Sather

Itasca County, MN

Quadrangle Code: 4709345 (I15A)

MINNESOTA NATURAL HERITAGE PROGRAM

Department of Natural Resources

Box 7, 500 Lafayette Road

St. Paul, Minnesota 55148

(612) 298-3344

Site Name: Clustered Bur Reed Bog RNA

Location: SE of SW of S. 18, T. 059N, R. 25W

Heritage Community Element: Submergent Marsh

Element Occurrence Size (a.): 1, Rank: , Site Size (a.): 113

Soil Atlas Mapping-Unit: Nashwauk-Warba Moraine, XLWL

Other Data Collected:

PLOT CHARACTERISTICS

Relve Size (sq. m): 98, Elev. (ft.): 1368, Slope (deg./aspect): FLAT

Relve size is extent vegetation type where clustered bur reed occurs. Landward side most 12m long (e-w), 8m wide (n-s). 7 dominant species, each occupy ca. 1/7 total plant cover, open to 50% of area.

Broadleaf Deciduous, Height: 3-4, Cover: R

- +2 *Alnus incana* (L.) Moench
- +2 *Salix cf. discolor* Muhl.

Broadleaf Deciduous, Height 1-2, Cover B

- +1 *Spiraea alba* Du Roi

Graminoids, Height 1-2, Cover P

- 2.5 *Carex lacustris* Willd.
- 2.4 *Dulichium arundinaceum* (L.) Britt.
- 2.2 *Glyceria canadensis* (Michx.) Trin.
- 2.3 *Sparganium glomeratum* Laest.
- 2.3 *Typha latifolia* L.
- 1.2 *Calamagrostis canadensis* (Michx.) Nutt.
- 1.2 *Scirpus cyperinus* (L.) Kunth

Forbes, Height 1-2, Cover P

- 2.4 *Bressania schreberi* Gmel.
- 2.4 *Calla palustris* L.
- 2.5 *Nuphar luteum* (L.) Sibth. & Sm.
- 2.4 *Potentilla palustris* (L.) Scop.
- 2.4 *Utricularia* UN
- +1 *Bidens connata* Willd.
- +1 *Epilobium leptophyllum* Raf.
- +1 *Galium labradoricum* (Wieg.) Wieg.
- +1 *Triadenum fraseri* (Spach) Gleason
- +2 *Lycopus uniflorus* Michx.
- +1 *Stellaris longifolia* Muhl.

EXAMPLE RECORD

1 Cover Availability Species Species Author Vascular Author Species

RELIEVE REPORT FORM, MINNESOTA VEGETATION DATABASE

DNR RELIEVE NUMBER: 0124
DATE: 08 SEP 1987
BY: Nancy P. Sather
Itasca County, MN
Quadrangle Code: 4708345 (I15A)

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

Site Name: Clustered Bur Reed Bog RNA
Location: SE of SW of S. 18, T. 059N, R. 25W
Heritage Community Element: Aspen-Birch Forest
Element Occurrence Size (a.): 82, Rank: , Site Size (a.): 113
Soil Atlas Mapping-Unit: Nashwaak-Warba Moraine, XLWL
Other Data Collected:

PLOT CHARACTERISTICS

Relieve Size (sq. m): 400, Elev. (ft.): 1380, Slope (deg./aspect): 355

relieve is directly uphill of clustered bur reed location in a facies with more continuous shrub layer than the area a few meters west, disturbed area, logged in 1927.

Broadleaf Deciduous, Height: 6-7, Cover: I

3.3 *Betula papyrifera* Marsh.

Broadleaf Deciduous, Height 5, Cover B

R.1 *Acer saccharum* Marsh.
R.1 *Fraxinus pennsylvanica* Marsh.

Broadleaf Deciduous, Height 3-4, Cover C

3.3 *Cornus rugosa* Lam.
3.3 *Corylus cornuta* Marsh.
1.2 *amelanchier*

Broadleaf Deciduous, Height 2, Cover I

2.2 *Rubus strigosus* Michx.
1.2 *Amelanchier*
R.3 *Ribes cynosbati* L.
+.1 *Acer saccharum* Marsh.
+.1 *Lonicera canadensis* Marsh.
+.1 *Prunus virginiana* L.
+.1 *Viburnum rafinesquianum* Schultes

Needleleaf Evergreen, Height 8, Cover B

+.2 *Pinus resinosa* Ait.

Graminoids, Height 1-2, Cover B

+.1 *Oryzopsis asperifolia* Michx.

EXAMPLE RECORD

1 Cover Sociability Genus Species Author Variety Author Remark 1

Appendix III. Bird species of northern Minnesota forests and wetlands for which Bera Bog RNA may provide suitable habitat (sources: USDA - Birds of the Chippewa National Forest; MDNR - Breeding Bird Census; Green and Janssen, 1975; Pfanmuller, 1987. (State Status is noted in parentheses).

	Common loon (seen on RNA, Sept. 1987)	Savannah sparrow
(SC)	American bittern	LeContes sparrow
	Turkey vulture	Sharp-tailed sparrow
	Great horned owl	Vesper sparrow
(SC)	Short eared owl	Slate-colored junco
(T)	Bald eagle	White-throated sparrow
(SC)	Osprey (nests known within 2 miles)	Lincoln's sparrow
	American rough-legged hawk	Vesper sparrow
	Red-tailed hawk	Song sparrow
	Kestrel	Lapland longspur
	Broad-winged hawk	Snow bunting
(SC)	Red shouldered hawk	
	Sharp-tailed grouse	
	Ruffed grouse	
	American woodcock	
	Common flicker	
	Pileated woodpecker	
	Dowry woodpecker	
	Hairy woodpecker	
	Yellow-bellied sapsucker	
	Eastern kingbird	
	Great crested flycatcher	
	Least flycatcher	
	Alder flycatcher	
	Eastern wood pewee	
	Blue jay	
	Black-capped chickadee	
	White-breasted nuthatch	
	House wren	
	Sedge wren	
	American robin	
	Veery thrush	
	Red-eyed vireo	
	Chestnut-sided warbler	
	Mourning warbler	
	Canada warbler	
	Ovenbird	
	American redstart	
	Brown-headed cowbird	
	Rose-breasted grosbeak	
	Indigo bunting	
	American goldfinch	

Appendix IV. Fauna of open heath bog (source: Chippewa National Forest, Marcell Ranger District, 1987).

SPECIES NAME	12	29	30	31	32	33	34	35	36	37	38	39	40	41	42
Great-blue Heron	F		S		S		R						S		
Ring-necked Duck	B	12	S											G	I
Red-tailed Hawk	F	13	S		S	E									
Red-shouldered Hawk	F	22	S		S	E	R								
Merlin	F	9	S		S	E	R					S			
Spruce Grouse	F	25	P			E		D						G	
Sharp-tailed Grouse	X	13	P			E								G	
Sandhill Crane	F	10	M									S			
Great-horned Owl	F	17	P		S	E									
Long-eared Owl	F	19	S		S	E	R								
Hawk Owl	F	13	W		S	E									
Boreal Owl	F	12	M												
Saw-whet Owl	F		P		S										
Alder Flycatcher(Trail's)	X	11	S			E	R								
LeConte's Sparrow	X	10	S												
Tree Swallow	F		S	M	S	E	R								
Common Raven	F		P		S										
Common Crow	F		S												
American Magpie	F		P			E									
Short-billed Marsh Wren	X	10	S												
Tennessee Warbler	X		S			E									
Yellow Warbler	X	11	S			E	R								
Chimney Swift	X	11	S												
Northern Water Thrush	X	27	S				R	D							
Yellow-throat	X	11	S			E	R								
Connecticut Warbler	X	24	S			E									
Wilson's Warbler	F	11	M				R								
Canada Warbler	F	11	S				R								
Bobolink	X	13	S												
Red-winged Blackbird	X	9	S				R								
Rusty Blackbird	F	13	M												
Common Redpoll	F	11	W			E			M						
Hoary Redpoll	F	11	W			E			M						
Tree Sparrow	F	12	M												
White-crowned Sparrow	F	14	M			E									
Lincoln's Sparrow	X	11	S			E	R								
Mink Frog	F	8	P				R								
Green Frog	F	8	P				R								
American Toad	F	9	P				R	D							
Wood Frog	X	9	P				R	D							
Spring Peeper	F	6	P				R	D							
Leopard Frog	F	6	P				R								
Mink	F	9	P			E	R	D		B				G	
Long-tailed Weasel	X		P		S		R	D							
Least Weasel	X	13	P		S		R	D				S			
Short-tailed Weasel	X		P		S		R	D							
Raccoon	F	16	P	M	S	E	R		M					G	
Bay Wolf	F		P			E	R			B		T			I
Coyote	F		P			E	R			B				G	
Southern Bog Lemming	X	12	P				R						S		
Northern Bog Lemming	X	12	P				R						S		
Meadow Vole	X	13	P			E									
Heather Vole	X	12	P			E	R						S		

Appendix V. Reptiles and Amphibians of Itasca County (Source: Records
Committee, Minnesota Herpetological Society).

Tiger salamander
American toad
Common gray treefrog
Green frog
Northern leopard frog
Mink frog
Wood frog
Snapping turtle
Redbelly snake
Eastern hognose snake

Appendix VI. Mammals of Itasca County for which Clustered Bur Reed Bog RNA provides appropriate habitat (source: Hazard, 1982). Minnesota status (T = threatened, S = special concern) is noted for listed animals.

Masked shrew
Water shrew
Arctic shrew
Short-tailed shrew
Star-nosed mole
Little brown bat
Snowshoe hare
Eastern chipmunk
Ground hog
Red squirrel
Northern flying squirrel
Beaver (no sign of current beaver work)
Woodland deer mouse
White-footed mouse
Southern red-backed vole
Southern bog lemming
Meadow jumping mouse
Porcupine
T Gray or timber wolf
Red fox
Black bear
Raccoon
Short-tailed weasel
Long-tailed weasel
Mink
River otter
White-tailed deer