The 1979 Resources Inventory for Lake Bemidji Bog Scientific and Natural Area Beltrami County, Minnesota

N½, NW¼ Section 24,
Township 147 North, Range 33 West
Turtle River Quadrangle

Prepared by
The Scientific and Natural Areas Section
Division of Parks and Recreation
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December 1979 Draft

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INTRODUCTION

Scope and Organization

This report documents the information collected during a 1979 inventory of Lake Bemidji Bog. The inventory recorded information on climate, geology, hydrology, plant communities, flora, birds, mammals, amphibians, reptiles, and land use history of the natural area. Data supplied by this document will be used by the Minnesota Natural Heritage Program and other evaluators to assess the site as a potential Scientific and Natural Area (SNA). The document can also be used by scientists, educators, and others interested in the area. Should the site be designated an SNA, management plans can be written using this document as a reference.

This report is divided into five sections including: introduction, abiotic, vegetational, and zoological components, and land use history of the site. Methodologies and results are presented for each section.

The inventory of Lake Bemidji Bog was part of a larger 1979 effort in which eighteen natural areas in east central, northwest, and southeast Minnesota were surveyed. Inventory team members were: John Borowske, SNA Planning Coordinator; Cherry Keller, Karen Lustig, Deb Schowalter, and Jeff Weigel, Researcher/Writers; Kathy Bolin, Community Specialist; and Nancy Berlin, Tony Busche, Barbara Eikum, Peter Farrell, Joanne Herman, Laura Hill, Susan Ottoson, Deanna Schmidt, Marianne Severson, Angela Tornes, and James Ziegler, Researchers. Gerald Jensen, Coordinator, Scientific

and Natural Areas Program, and Mark Heitlinger, Coordinator of Preserve Management, The Nature Conservancy, Minnesota Chapter served as inventory advisors. Michael Rees, Project Editor, The Nature Conservancy, provided editorial assistance. Other individuals who assisted in the preparation of the inventory are mentioned in the appropriate sections. Their help is gratefully acknowledged.

Description of Study Area

Lake Bemidji Bog is an 80 acre unit in southern Beltrami County, approximately 5 miles north of Bemidji, Minnesota. The area's climate is mid-continental, relatively cool and moist, with warm summers and cold winters. The preserve is mostly level, though there are some sloping upland areas present. Lake Bemidji Bog is a low, wet site formed by melting and drainage of stagnant ice blocks from the most recent glacial advances. Drainage is generally southwestward through the tract into a small open water area which drains into nearby Lake Bemidji. Mucky organic and sandy mineral soils formed on the natural area under marsh and coniferous forest vegetation. Present vegetation is primarily wet coniferous forest. Smaller open mat and upland coniferous forest areas are also present.

The flora and fauna of Lake Bemidji Bog are mostly typical of natural Minnesota communities. Species observed on the tract include: 140 vascular plants, 37 birds, 8 mammals, 8 amphibians, and 2 reptiles. The tract lies in an area known for pulpwood and lumber production. Evidence of logging is visible on the tract. Other human impacts have been minimal.

Preliminary Assessment of Significance

This section lists features identified by the Minnesota Natural Heritage Program (MNHP) as potential elements[1], and identifies other aspects of the preserve believed by the authors to be important components of Minnesota's natural diversity, or which otherwise might qualify the site for SNA designation. Criteria for SNA evaluation are enumerated in "Minnesota Department of Natural Resources Policy Plan for Scientific and Natural Areas", dated July 6, 1979.

Lake Bemidji Bog is notable as a tract of native vegetation representing various stages of bog succession. The natural area was formed by drainage processes associated with the melting of a glacial sublobe to the north. Two species of national and/or state significance were identified on the site during the 1979 inventory. The Bald Eagle (Haliaeetus leucocephalus) is listed as a threatened species in Minnesota by the U.S. Fish and Wildlife Service.[2] The Minnesota Natural Heritage Program lists the Bald Eagle and the Small Round Leaved Orchis (Orchis rotundifolia) as potential elements of state significance.

The preserve supports a variety of vegetation types in a continuum from open water to dry upland, represented by species such as Sedges (Carex sp.), Blue-Joint Grass (Calamagrostis canadensis), and Small Cranberry (Vaccinium oxycoccus) in open mat areas, and Sage-Leaved Willow (Salix candida), Bog Birch (Betula pumila), and Speckled Alder (Alnus rugosa) in

1 An element is a natural feature of particular interest because it is exemplary, unique, threatened, or endangered on a national or statewide basis.

2 The Bald Eagle was observed on 19 June flying over the tract.

shrubby mat locations. Tamarack (Larix laricina), Black Spruce (Picea mariana), Balsam Fir (Abies balsamea), Red Pine (Pinus resinosa), White Pine (P. strobus), and Paper Birch (Betula papyrifera) are dominant overstory species in other locations ranging from wet to dry. In addition, Lake Bemidji Bog provides habitat for a diverse assemblage of noteworthy herb layer species, including Pitcher Plant (Sarracenia purpurea), Round-Leaved Sundew (Drosera rotundifolia), and Showy Lady-Slipper (Cypripedium reginae).