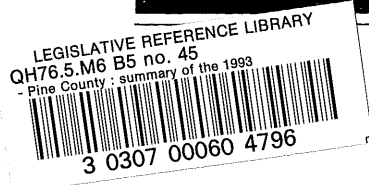
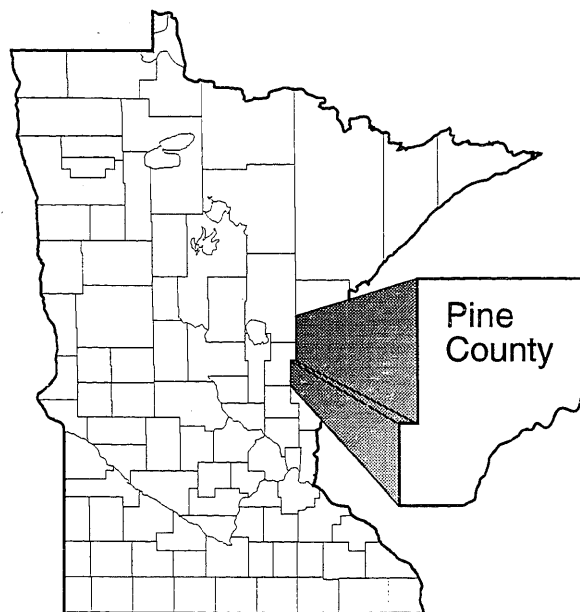


MINNESOTA COUNTY BIOLOGICAL SURVEY

PINE COUNTY: SUMMARY OF THE 1993 FIELD SEASON



In 1993, the Minnesota County Biological Survey (MCBS) completed its first field season in Pine County. The MCBS is a statewide, systematic inventory of rare biological features. The goal of MCBS is to identify significant natural areas and to collect and interpret data on the distribution and ecology of rare plants, rare animals, and natural communities. The information gathered by MCBS serves as a foundation for the conservation of critical components of Minnesota's biological diversity.



MCBS Procedures

In surveying a county, MCBS follows a multi-level process consisting of:

- Identification of potential natural areas using aerial photos. Potential natural areas are places where the land and native vegetation have not been altered significantly by activities such as cultivation, grazing, or recent logging. They are referred to as "MCBS sites."
- Assessment of the condition of MCBS sites using ground surveys. In general, this involves evaluating the quality of the natural communities present at a site.
- Surveys of selected rare species or groups of species.
- Entry of data collected into the Natural Heritage Information System, where it is available for distribution in the form of lists and brief reports.
- Production of interpretive and educational material, including county maps, county summary reports, and evaluation reports of ecologically significant sites.

When identifying and assessing natural areas and their component natural communities, MCBS ecologists rely on *Minnesota's Native Vegetation: A Key to Natural Communities*, produced by the Natural Heritage Program of the DNR. MCBS also obtains information from local naturalists and

resource managers, and incorporates data from previous surveys, such as forest inventories, geologic surveys, wildlife habitat inventories, soil surveys, and the collection locations of specimens in herbaria and museums. In Pine County, MCBS staff produced a map of the bearing trees recorded during the General Land Survey of 1848-70 to determine the vegetation present before Euro-American settlement.

Results

During the 1993 field season in Pine County MCBS personnel:

- Identified over 200 potential natural areas using aerial photographs and forest inventory data.
- Collected 21 relevés in a variety of natural communities. Relevés are vegetation samples that describe the structure and species composition in a standard-sized plot within a natural community or vegetation type.
- Conducted field surveys of natural communities, including the following types:

Black spruce swamp
Black ash swamp
Black spruce bog
Boreal hardwood-conifer forest
Dry cliff
Dry prairie

Floodplain forest
Jack pine barrens
Jack pine forest
Lowland hardwood forest
Maple-basswood forest
Moist cliff

Northern hardwood forest
Oak woodland-brushland
Rich fen
Wet meadow
White cedar swamp
White pine-hardwood forest

Black spruce bog



- Found 184 new locations of 29 rare plant species,* including the following:

Species

A species of moonwort (*Botrychium oneidense*)
 A species of grape-fern (*Botrychium rugulosum*)
 American water-pennywort (*Hydrocotyle americana*)
 Barren strawberry (*Waldsteinia fragarioides*)
 Bog bluegrass (*Poa paludigena*)
 Buttonbush (*Cephalanthus occidentalis*)
 Cliff goldenrod (*Solidago sciaphila*)
 Ginseng (*Panax quinquefolium*)
 Humped bladderwort (*Utricularia gibba*)
 New England violet (*Viola novae-angliae*)
 Olivaceous spike-rush (*Eleocharis olivacea*)
 Purple bladderwort (*Utricularia purpurea*)
 Stemless tick-trefoil (*Desmodium nudiflorum*)
 Vasey's pondweed (*Potamogeton vaseyi*)
 Water-willow (*Decodon verticillatus* var. *laevigatus*)

Minnesota Legal Status

proposed threatened
 proposed threatened
 special concern
 special concern
 endangered
 special concern
 special concern
 special concern
 special concern
 special concern
 threatened
 proposed special concern
 proposed special concern
 special concern
 special concern

*Minnesota's rare plant species are listed and described in *Minnesota's Endangered Flora and Fauna*, edited by Barbara Coffin and Lee Pfannmuller and available in area bookstores.

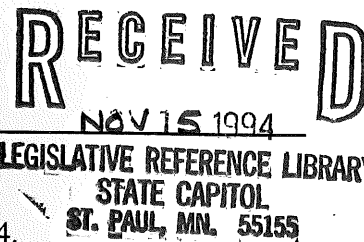
- Found 150 species of vascular plants that had not been recorded previously in Pine County (new county records).

Highlights

One of the most interesting finds of the 1993 field season was dry prairie found on two large islands in the St. Croix River near the mouth of the Kettle River. These prairies, occurring in a narrow band along the south-facing margins of the islands, appear to be the most northerly occurrences of dry prairie in eastern Minnesota.

1994 Field Surveys

Natural area assessment and natural community surveys will continue in 1994.



Minnesota County Biological Survey
Department of Natural Resources, Section of Wildlife
MCBS Supervisor: Carmen Converse

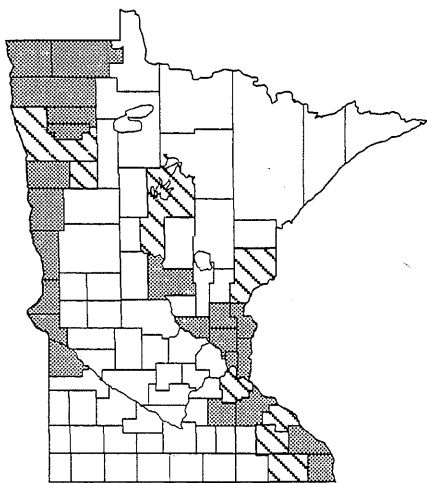
1993 Pine County Field Staff

Norm Aaseng, Plant Ecologist

Temporary Botanist: Karen Myhre

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MCBS Statewide Status



- COUNTY SURVEY COMPLETED 1987-1993
▨ SURVEY IN PROGRESS 1994

For more information contact:

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Section of Wildlife
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Biological Report No. 45

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