

Habitat

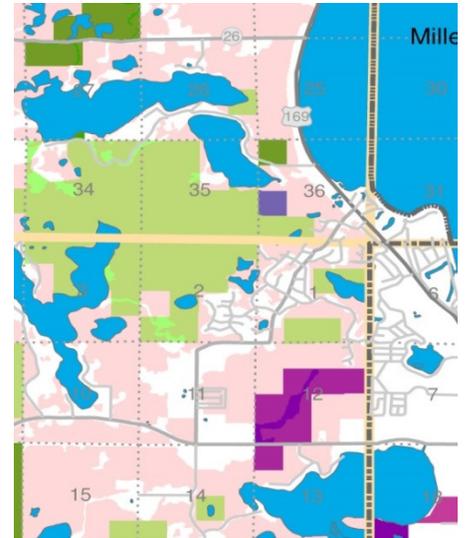
Land and Water Stewardship Services Project Profile

ECOLOGICAL INVENTORY

Mille Lacs Moraine Scientific and Natural Area

Crow Wing County, Minnesota

For The Minnesota Department of Natural Resources (MDNR)



Mille Lacs Moraine Scientific and Natural Area (SNA) is a 320 acre protected area containing mature stands of mesic hardwood forest along with ten other native plant communities and a pristine 20 acre lake. The variety of upland native plant communities provide habitat for two state special concern birds, the Red-Shouldered Hawk (*Buteo lineatus*) and Cerulean Warbler (*Setophaga cerulean*).

- Ecological background information provided by the MDNR's Natural Heritage and Nongame Research Program and the County Biological Survey including Species of Greatest Conservation Need (SGCN) and their key habitats, rare species, and remnant native plant communities was gathered and mapped using Geographic Information Systems (GIS).
- Site topography, geology, soils, and hydrology was inventoried and mapped using information gathered from the Minnesota Geological Survey's County Atlas, USGS 1:24,000 topography maps, Natural Resources Conservation Service soil survey mapping, and Minnesota DNR hydrologic GIS data.
- Historical background information includes Marshner's Pre-Euro American vegetation maps and Public Land Survey descriptions taken from the 1908 field notes. A review of a series of historic aerial photos assisted in the determination of historic land use and vegetation patterns.
- Existing conditions of the remnant native plants communities was field surveyed using the Minnesota Department of Natural Resource's The Laurentian Mixed Forest Province Field Guide to Native Plant Communities of Minnesota. Invasive species, erosion, earth worm degradation, and other human induced disturbance such as conversion of natural habitat to agricultural fields, logging, trails, and dumping were field surveyed, described and mapped using GIS.
- The landscape context was reviewed and mapped to provide a broader view of the relationships between the surrounding landscape and the SNA.