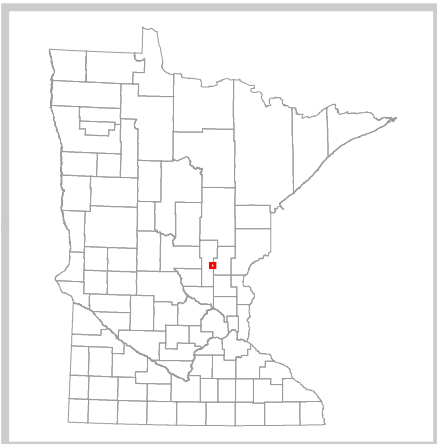
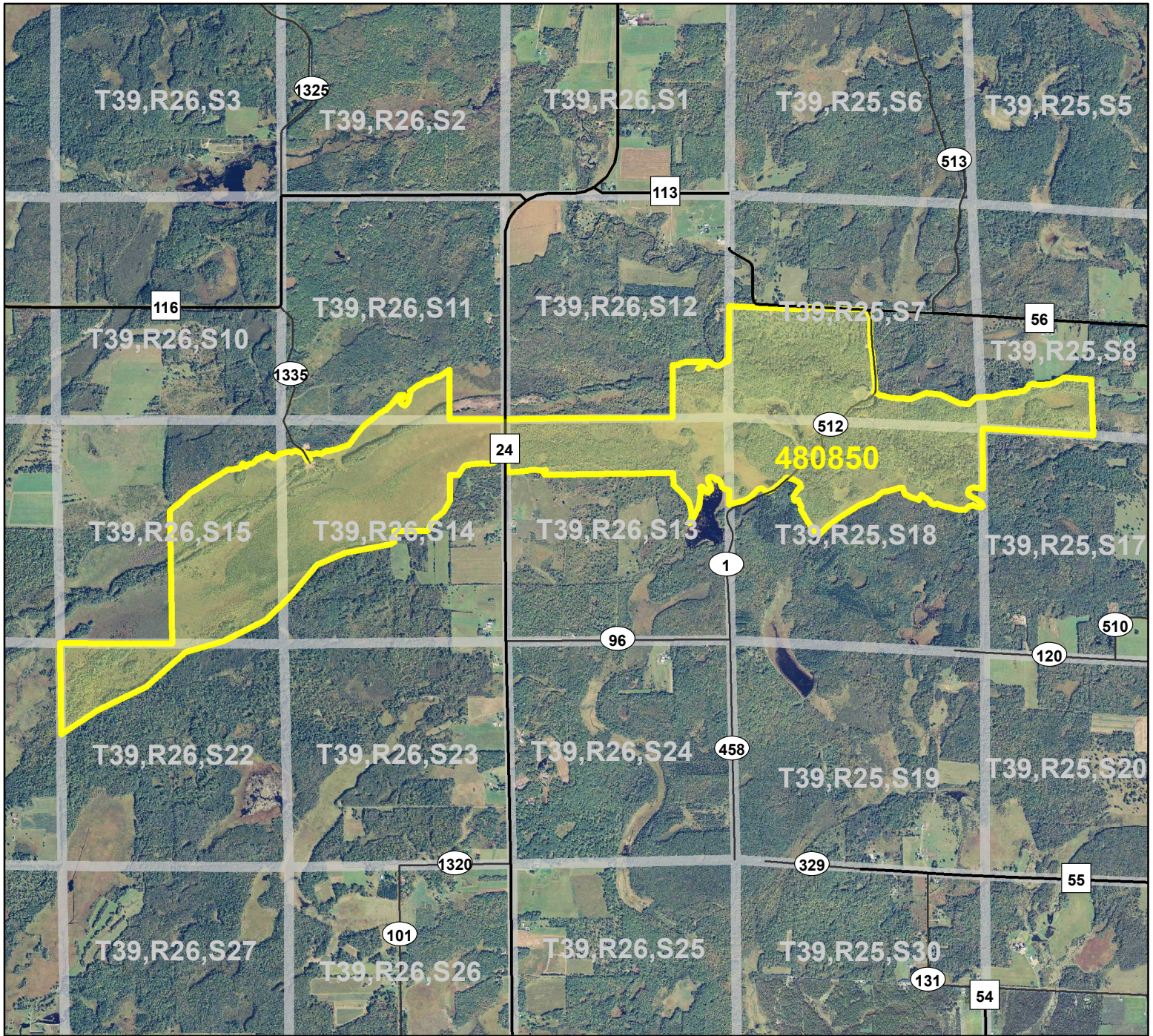






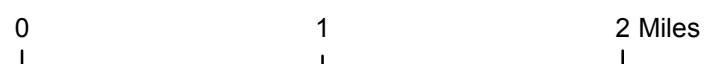
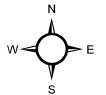
HCVF Site 480850

Mille Lacs Esker, Mille Lacs County



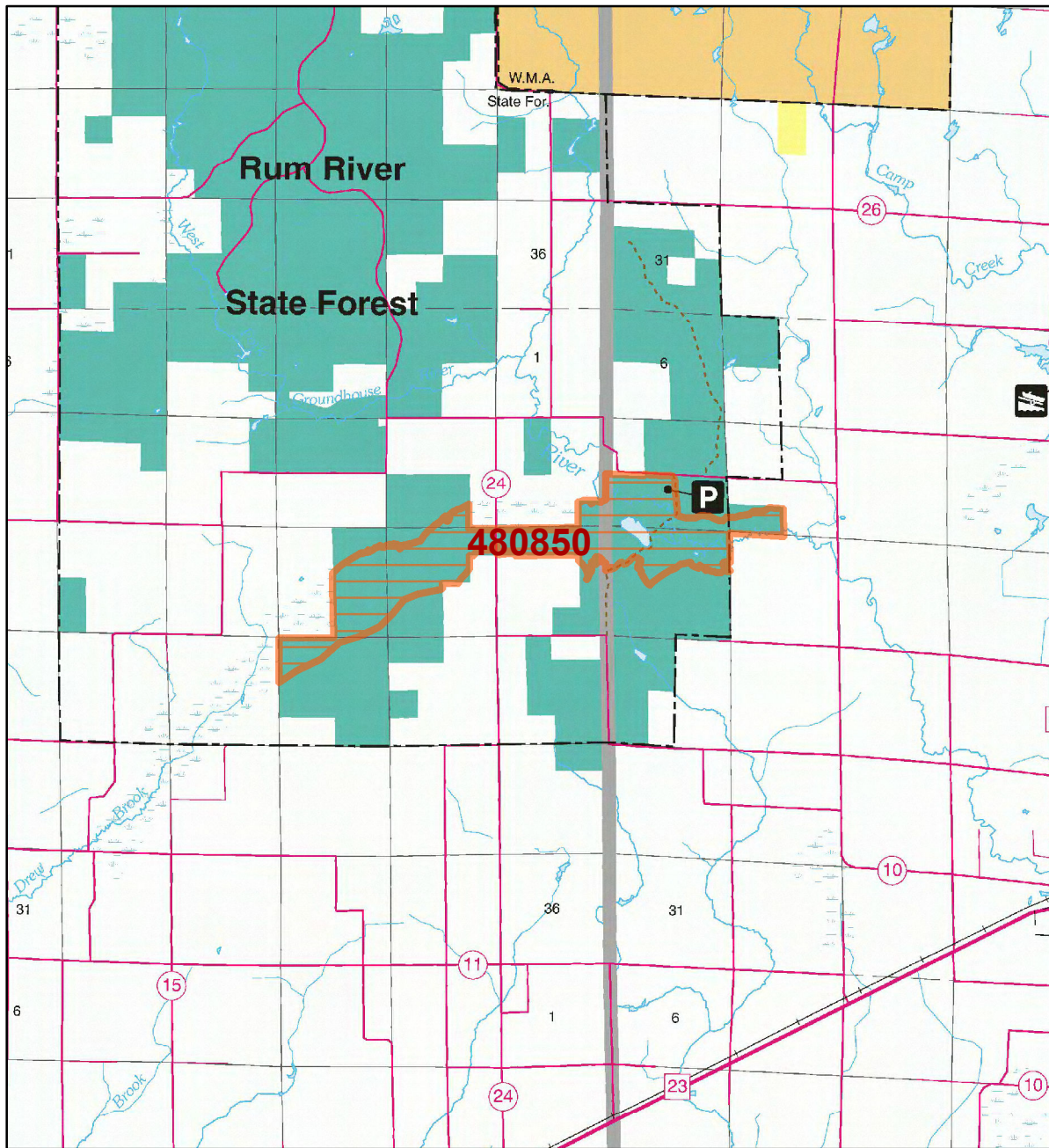
Legend

-  County Highways
-  Municipal, Township or Other Roads
-  HCVF Site
-  PLS Sections



HCVF Site 480850

Mille Lacs Esker, Mille Lacs County



LEGEND

HCVF Site

- HCVF Site (orange outline)

MAP EXPLANATION

LAND OWNERSHIP

- County Land (yellow)
- Recreation Area under 40 acres (black square with 'R')
- State Forest Land (green)
- State Park and Recreation Land (brown)
- State Wildlife Management Area Land (orange)
- W.M.A.'s under 40 acres (black square with 'W')
- State Scientific & Natural Area Land (purple)
- S.N.A.'s under 40 acres (black square with 'S')
- National Waterfowl Production Area (cyan)
- N.W.P.A.'s under 40 acres (black square with 'N')
- National Forest, Park, Wildlife Refuge & Recreation Land (light green)
- Bureau of Indian Affairs Land (red)

BOUNDARIES

- County Unit Boundary (dashed line)
- State Unit Boundary (dotted line)
- National Unit Boundary (dash-dot line)

TRAILS AND FOREST ROADS

- State Trail (solid brown line)
- State Forest Road (dashed brown line)

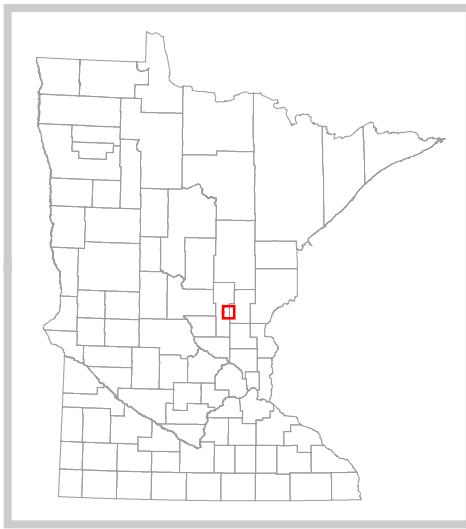
DESIGNATED WATERWAYS

- State Trout Stream (solid blue line)
- State Canoe and Boating Route (dashed blue line)
- State Wild, Scenic & Recreational River (also designated Canoe & Boating Route) (solid cyan line)
- National Wild, Scenic & Recreational River (also designated Canoe & Boating Route) (dashed cyan line)

FACILITIES

- D.N.R. Office (black square with 'D')
- Travel Information Center (black square with 'T')
- Rest Area (with facilities) (black square with 'R')
- Rest Area (limited facilities) (black square with 'R')
- Campground (black square with 'C')
- Watercraft Camping (black square with 'W')
- Equestrian Camping (black square with 'E')
- Water Access (black square with 'W')
- Carry-in Access (black square with 'C')
- Dam (on designated canoe route) (black square with 'D')
- Fishing Pier (black square with 'F')
- Overlook (black square with 'O')
- Parking (black square with 'P')
- Historic Site (black square with 'H')
- Geologic Feature (black square with 'G')
- Fish Hatchery (black square with 'F')
- Forestry Nursery (black square with 'N')
- National Great River Road (black square with 'N')
- State Great River Road (black square with 'S')

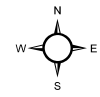
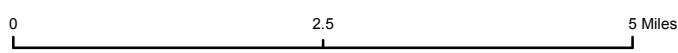
NOTE: Some of the features defined in this map explanation may not occur on the map.



The PRIM series was developed using funds provided through the Legislative Commission on Minnesota Resources (LCMR).

Base information was compiled from 1:100,000 series U.S. Geologic Survey planimetric maps.

Facility and ownership information was compiled from the following sources: Minnesota Department of Natural Resources, Minnesota Department of Transportation, State Planning Agency, Minnesota Historical Society and the respective counties.



Land ownership categories on this map are in some cases outdated. HCVF sites are on DNR-managed land only; DNR HCVF sites have not been identified on other ownerships.



HCVF Informational Report

Report Run: September 3, 2013

General Information

HCVF #: 480850

HCVF Name: Mille Lacs Esker

Acres of HCVF site: 1408.00

County: Mille Lacs

Data edited by: Region 3 HCVF Team

Role: Region 3 HCVF Team

Date edited on: 2013-07-24

Corresponding Land Administrator(s): FOR

Management Unit Name(s) (if applicable): Rum River State Forest

HCVF Summary

This site provides a good example of a prominent esker and tunnel valley and includes some of the best quality, most intact natural areas in Rum River State Forest. Mesic hardwood native plant communities include Red Oak-Basswood Forest (MHc36a), Central Dry-Mesic Oak-Aspen Forest (MHc26), and Basswood-Black Ash Forest (MHc47a). Forested wetland plant communities include Rich Tamarack Swamp (FPn72a), Black Ash-Silver Maple Terrace Forest (FFn57a), Black Ash-Yellow Birch-Red Maple-Alder Swamp (WFn64b), Black Ash-Yellow Birch-Red Maple-Basswood Swamp (WFn55b), Poor Tamarack-Black Spruce Swamp (APn81b). Open wetland plant communities include Low Shrub Poor Fen (APn91a), Graminoid Poor Fen (APn91b), Willow-Dogwood Shrub Swamp (WMn82a), Northern Mixed Cattail Marsh (MRn83), and Sedge Meadow (WMn82b). The Groundhouse River flows through a gap in an esker within this block. The wetland communities are likely little changed since presettlement times and uplands were likely logged of at least the pines around the turn of the 20th century. Rare features include Butternut, Blanding's turtle, and Wood's sedge, all of which fill gaps for the WSU Section. Gravel mining is a primary concern regarding the long-term quality of this site.

HCVs known to be present that factored into HCVF designation.

FSC expects DNR to maintain HCVs within designated HCVFs. Because HCVF boundaries are not the same as the larger, multi-ownership MBS Sites, this list will differ from the values identified during the MBS Survey.

HCV1b (S1 or S2 species): one reptile/amphibian species, butternut (*Juglans cinerea*). HCV1g (Outstanding Key Habitats Examples): mixed hardwood-pine forests. HCV2-LMFa (Large habitat block): - 1400 acres both forest and wetland. HCV2-LMFbii (blocks with rare species): yes. HCV3b (S1 or S2 plant community): MRn83. HCV3c (Special S3 plant community): FFn57a, FPn72a, APn91b, MHc47a, WFn55b, Mesic hardwood forest native plant communities (NPCs) on esker, & wetland NPCs in tunnel valley.

Management Considerations

Overall management objectives for the entire HCVF:

Maintain natural hydrologic processes, avoid any disturbance to wetlands. Manage Mesic Hardwood Forests with minimal canopy opening. Minimize recreational use. Prohibit gravel mining.

Management direction from the following sources was considered in developing the above recommendations:

No information entered.

Are the HCVs within this HCVF likely to benefit from coordination with adjacent landowner(s)?

Yes

This HCVF was flagged by the Regional HCVF Team as warranting cross-ownership coordination efforts. The specific HCVs likely to benefit from such coordination with adjacent landowners are identified below.

Potential for coordination with private landowners. Esker and tunnel valley continue many miles - could determine major landowners and offer technical assistance.

General Comments

No information entered.

Reference to rare plants and animals, Minnesota Biological Survey Sites of Biological Significance and mapped native plant communities are records maintained in the Minnesota DNR's Natural Heritage Information System (NHIS). A date of information is associated with each record. The NHIS is continually updated as new information becomes available. The lack of data listed for any geographic area should not be construed to mean that no significant features are present.

... Report End ...