

Skegemog **Rich Conifer Swamp** ERA Plan

Administrative Information:

- Location within state forest (MA, FMU, compartment, stand, etc.)
 - Traverse City Forest Management Area
 - Williamsburg Moraine Management Area
 - Compartment 61171, Skegemog Lake Wildlife Management Area
- Geo-political location info (county; township, range and section (TRS))
 - Kalkaska County
 - T28N R08W Sections 17-21, 28-33
- Contact information (local plan writer(s), other staff assisting with plan, conservation partners)
 - Plan Writer: Steve Griffith, Wildlife Biologist
 - Local FRD Staff: Katie Armstrong, TCFMU Forester
- Ownership information
 - State of Michigan
- Existing infrastructure/facilities
 - Two parking lots. One off of M-72 and one off of CR-597.
 - Trails along and former rail road corridor and along several closed roads.
 - A wooden observation tower overlooking Skegemog Lake and wooden board walk leading to the tower.
- Other documents related to this ERA:
 - Director's Order DFO-618.90, closing the area to wheeled motorized vehicles.
 - A draft Skegemog Lake Wildlife Area Management Plan dated 11/12/2009.
 - The Skegemog Lake WMA is comanaged by Wildlife, Forest Resources, and Fisheries Divisions within the Michigan Department of Natural Resources and in cooperation with the Grand Traverse Regional Land Conservancy (GTRLC)
 - A Memorandum to the Natural Resources Commission dedicating the Skegemog Lake compartment as a Wildlife Area approved 2/9/1979.
 - Skegemog Swamp: Results of 1982 Survey, dated August 1982.
 - MNFI Element Occurrence Record

Conservation Values

- Description of the natural community occurrence for Skegemog Rich Conifer Swamp:
 - MNFI Element Occurrence #17331, Rank BC, and LASTOBS date 7/25/2009

- The ERA is recognized as a good representative example of the natural community.
- The rich conifer swamp is dominated by northern white-cedar (*Thuja occidentalis*) with canopy associates including balsam fir (*Abies balsamea*), red maple (*Acer rubrum*), Eastern white pine (*Pinus strobus*), tamarack (*Larix laricina*), black spruce (*Picea mariana*), and black ash (*Fraxinus nigra*). Canopy northern white-cedar range in diameter at breast height (DBH) from 10-40 centimeters. Scattered super canopy Eastern white pine occur throughout and range in DBH from 30 centimeters up. Variable, dense stand.
- Stand examiner notes: Edge call does not capture canopy variability. Probably a fully stocked pole-sized cedar stand in many places. Hummocky ground. Wetter toward the lake and higher ground towards east edge. Scattered blowdown. The stand examiner also documented the presence of paper birch (*Betula papyrifera*) and eastern hemlock (*Tsuga Canadensis*).
- High conservation value (HCV) attributes: The ERA includes attributes of regional importance including blocks of contiguous forest larger than 500 acres that have rare species. This Rich conifer swamp is part of a larger wetland complex that includes northern fen, emergent marsh, and submergent marsh. The white cedar is estimated to be 130+ years old and the flora is very diverse.
- A small occurrence (approximately 6 acres) of Northern Fen is found within the larger Rich Conifer Swamp which is approximately 1455 acres.
- Other values for consideration:
 - The presence of Eastern Massasauga Rattlesnake (*Sistrurus catenatus catenatus*), State listed as Special Concern and Federally listed as Threatened, has been documented.
 - The presence of spotted turtles (*Clemmys gutata*), a State Threatened species, was documented in 1947.
 - The presence of bald eagles (*Haliaeetus leucocephalus*), a State Special Concern species, has been documented here.
 - The presence of osprey (*Pandion haliaetus*), a State Special Concern species has been documented here.
 - Recreation: There are several old roads that people use to hike to the lakes edge and a boardwalk crossed through the swamp to an observation tower that overlooks the lake edge and associated bogs.
 - The swamp and fen are part of the Skegemog Lake Wildlife Management Area, that was dedicated in 1979.

Threat Assessment for Rich Conifer Swamp

- Rich conifer swamp is considered a self-maintaining, stable community that relies on gap dynamics to regenerate long-lived, shade-tolerant, northern white cedar. The community occurs in a region where deer were scarce prior to logging in the mid-1800s. Because northern white cedar is a main winter-staple of deer in northern Michigan, and deer tend to yard in cedar swamps during the winter, historically high deer densities for the region have led to a decline in the community's ability to naturally regenerate.
- The frequent conversion of rich conifer swamp to hardwood-conifer swamp, hardwood swamp, aspen, and alder thicket following logging is a concern. Prescribed burning is recommended following clearcuts in cedar swamp to help setback advanced regeneration of hardwoods and other conifers, and improve seedling establishment by northern white cedar.
- At present, a few exotic invasive species occur within the community. The element occurrence record indicates that narrow leaf cattail (*Typha angustifolia*), St. John's Wort (*Hypericum perforatum*), spotted knapweed (*Centaurea maculosa*), and autumn olive (*Elaeagnus umbellata*). Other exotic invasive plants that occur in rich conifer swamps include marsh thistle (*Cirsium palustre*) and bittersweet nightshade (*Solanum dulcamara*). The exotic species with the greatest potential to alter community structure and function now is glossy buckthorn (*Rhamnus frangula*).

General Management of ERAs

- ERAs will generally not be managed for timber harvest. Management activities or prescriptions in Ecological Reference Areas are limited to low impact activities compatible with the defined attributes and values of the community type, except under the following circumstances:
 - i. Harvesting activities where necessary to restore or recreate conditions to meet the objectives of the ERA, or to mitigate conditions that interfere with achieving the ERA objectives. In this regard, forest management activities (including timber harvest) may be used to create and maintain conditions that emulate an intact, mature forest or other successional phases that may be under-represented in the landscape.
 - ii. Road building only where it is documented that it will contribute to minimizing the overall environmental impacts within the FMU and will not jeopardize the purpose for which the ERA was designated.
 - iii. Existing and new land use activities should be evaluated in the context of whether they detract from achieving the desired future conditions of the natural community for which the ERA was designated. The acceptability of land use activities within DNR administered ERAs will be evaluated using severity, scope, and

irreversibility criteria, as established in DNR IC4199, Guidance for Land Use Activities within DNR Administered Ecological Reference Areas.

iv. Threats such as fire, natural or exotic pests or pathogens may warrant other management measures.

v. Harvesting and other management activities in presently accessible areas located within the peripheral boundary of an ERA that are NOT the natural community of focus and which may or may not be typed as a separate stand or forest type (e.g. an upland island of previously managed aspen within a bog complex) may be prescribed for treatments, contingent upon a determination of no anticipated direct or indirect adverse impact to the defined attributes and values of natural community for which the ERA was designated. The FRD Biodiversity Conservation Program leader shall be consulted regarding the determination of any direct or indirect adverse impact.

vi. Land management activities immediately adjacent to an ERA should consider any anticipated direct or indirect adverse impact to the defined attributes and values of natural community for which the ERA was designated. Management will be adaptive. ERAs will be monitored to determine if implemented management activities are moving the natural communities forward, or maintaining them at their desired future condition. The network of ERAs will be evaluated every five years for their contribution to the overall goal of biodiversity conservation. This review cycle will allow for the potential addition or subtraction of lands from an ERA, designation of new ERAs, or removal of the ERA planning designation.

Management Goals for Rich Conifer Swamp

- Restoration of Rich Conifer Swamp where applicable with specific emphasis on northern white cedar and hemlock regeneration
- Maintain and promote representation of native plants, indicator species, rare species, and promote regeneration of woody species via gap dynamics to maintain a multi-aged forest.
- Assess deer herbivory on plant diversity and regeneration of northern white cedar.
- Prevent environmental damage from vehicles
- Eliminate or maintain absence of invasive species such as marsh thistle (*Cirsium palustre*), bittersweet nightshade (*Solanum dulcamara*), and glossy buckthorn (*Rhamnus frangula*).
- Prevent conversion of Rich Conifer swamp to another cover type.
- Allow natural processes to occur

Management Objectives for Rich Conifer Swamp

Management objectives are the means to achieve the management goals of the specific site and should be time specific if possible.

- Identify and eliminate illegal ORV access points when detected
- Identify and prioritize critical areas within the ERA to treat for invasive species
- Assess EO quality every 10-20 years
- Determine if there are impacts to hydrological system
- Work with adaptation specialist to determine threats associated with climate change

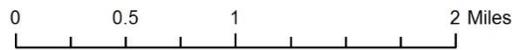
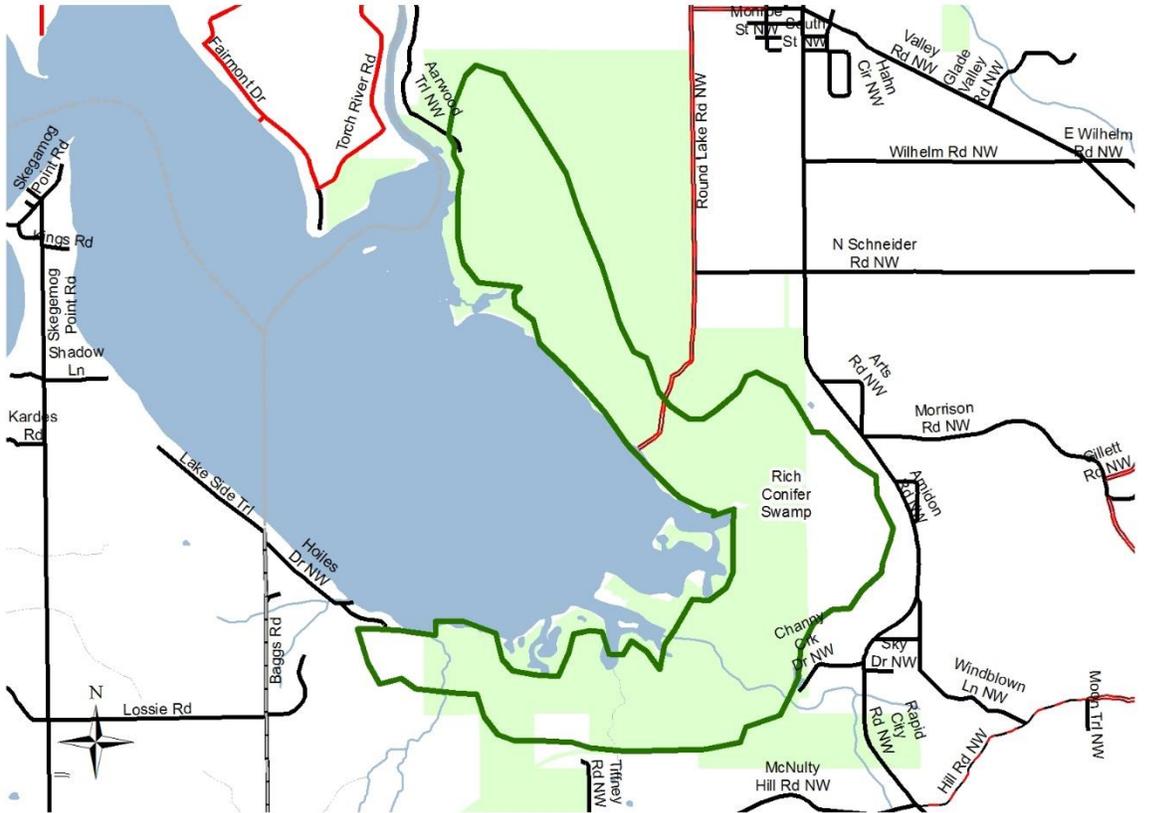
Management Actions

- Close illegal roads and trails (M, R)
- Avoid creating new roads and trails adjacent to ERA
- Install culverts or other structures as needed to mitigate impacts to hydrological system
- Identify vectors of invasive species and reduce their introduction to the site. Partner with local CISMA (M, R)
- Remove invasive plants using appropriate control methods for that particular species (hand-pull, herbicide, Rx) using partnerships where appropriate, develop FTP's and PAP's (M, R)
- Write a wildfire plan to incorporate a "let it burn" policy where safety concerns allow. (M, R)
- Should retain an intact buffer of natural communities surrounding this wetland.
- Work with MNFI and other experts to update EO inventory (M, R)
- Update plan with additional knowledge as it becomes available.

Monitoring

- Monitoring should generally be based upon the 10-year planning cycle, although some issues may need to be addressed in a shorter time period
- Monitoring needs:
 - Representative and rare species occurrences
 - Presence of rare animals
 - Populations of invasive species – number and scope by species
 - Effects of invasive species treatment – growing year post treatment and for two successive years thereafter.
 - Change in EO rank
 - Any illegal ORV activity
 - Any changes in hydrology
 - Any illegal timber harvest activity

- Explore potential to partner with GTRLC and MNFI for monitoring efforts, along with local staff



Signatures & Approval Date:

- Each plan will require formal approval from all relevant resource divisions
- Date of final approval