

# Duck Lake Intermittent Wetland ERA Plan



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## Administrative Information

- Duck Lake Ecological Reference Area (Intermittent Wetland Infertile Pond/marsh, Great Lakes Type)
- Hammond Bay Lake Plain, Atlanta Management Unit, Compartment 169, Stand 9
- Cheboygan County T37N R01E Section 8
- Ryan Zimmerman, Forester, Onaway Field Office
- State of Michigan Owned Lands
- 6 mi S of Cheboygan on Black River Rd. Take Orchard Rd. E 4 mi across Alpena State Rd. 1 mi to Duck Lake.
- Other documents related to this ERA (pre-existing plans at a different scale, species specific management/conservation plans, MOU/MOAs with partners, reports with area specific information, etc.)
  - (1) MNFI Intermittent Wetland – Community Abstract
  - (2) Intermittent Wetland element Occurrence Record EO ID: 3851 EO NUM: 6

(3) Natural Community Surveys of Potential Ecological Reference Areas on State Forest Land.

## Conservation Values

- Description of the natural community occurrence for which the ERA is recognized:
  - Intermittent Wetland, EO ID 3851, EORANK AB, Last Observation 6/22/2020, Dominants: *Juncus militaris*, *Chamaedaphne calyculata*, *Kalmia polifolia*, *Eleocharis*, & *Eriocaulon septangulare*. Several other species present. Soil mucky peat sand substrate.
  - The Duck Lake ERA is recognized for being a representative example of the natural community.
  - Intermittent wetland in shallow basin on sandy lakeplain. Fluctuating water levels evident - small open water lake surrounded by saturated muck with aquatic plants (*Brasenia sch*, *Nymphaea odo*) that grades into a zone of patchy vegetation (*Dulichium aru*, *Cx. flava*, *Cx. olgio*, *Deschampsia fle*, *Lycopus uni*) and dried cracked mud flats (with sparse *Juncus mil*, *J. can*, *Drosera rot*, *Eriocaulon sep*). Outer ring of wetland with well-developed sphagnum hummock/hollow topography dominated by shrubs (*Chamaedaphne cal*, *Kalmia pol*, *Vaccium spp.*, *Gaylussacia bac*). Soils of varying depths of fibric (pH 5.0) hemic (pH 6.5), and sapric (pH 5.5-6.0) peats over moist sand. Bands of light-colored sand occasionally intermixed in soil profile indicating water levels fluctuations.  
(Element Occurrence)
- Identify any of the following high conservation value (HCV) attributes represented in this plan's ERA(s), if previously identified through an assessment that included consultation with qualified specialists:
  - Flanking bog zone characterized by scattered and stunted conifers including *Pin stro*, *Lar lar*, *Pin ban*, *Pic mar* with canopy coverage ranging from 5-10%. In addition to these conifers, prevalent species in the tall shrub layer (5-15%) include *Bet pum*, *Aronia pru*, and *Nem muc*. The low shrub layer (90% cover) is dominated by *Cham cal* with ericaceous associated including *And gla*, *Rho groe*, *Kal pol*, and *Vac ang*. Characteristic species of the ground cover include *Vac oxy*, *Dul aru*, *Cal can*, *Cx oligosperma*, *Clad mar*, *Cx lasio*, and *Gua pro*. The majority of the wetland contains submergent marsh with prevalent species including *Nymphaea odo* and *Bra sch* with vegetative cover ranging from 25-50%.  
(Element Occurance)

The following HCV attributes are taken directly from Appendix F of the FSC-US Forest Management Standard:

- ERA is part of a large *landscape level forest*, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance – this would be a relatively contiguous area of forest (may be crossed by land management roads, public roads or ownership boundaries) that is of size that makes it significant within the ecoregion – typically this will mean a forest that is thousands or tens of thousands of acres in size, but a smaller contiguous forest may be considered significant if the natural forests in the region are highly fragmented
- Identify other values in area (to be considered as the ERA management plan is developed and actions are implemented, but not as a primary focus of planning or management for the ERA)
  - Recreation for ORV's in this area is important. There are many trails running throughout.
  - There are a lot of forest management activities throughout this area, mostly dominated by aspen and red pine. Proper buffer zones (100-200 feet) should be applied adjacent to Duck Lake.

### Threats Assessment

- Primary threats include off-road vehicle traffic, especially during the late season and dry years, could degrade the site quality dramatically by causing rutting and altering the hydrology. Reed canary grass (*Phalaris arundinacea*) could potentially negatively impact the wetland's species composition and structure. (Natural Community Survey) ORV use impacts the northern part of the ERA. Large boulders could be placed to try and deter ORV damage.
- Resources for Threat Assessments:
  - Constant monitoring should be done in this area to make sure invasive species and ORV damage do not become a major issue.
  - The natural community management guidance documents provide information on threats that are typically associated with a particular natural community, but there may be additional threats that are unique to an ERA/complex

### Management Goals

- Manage for intact and functioning hydrology.
- Allow natural ecological processes to occur.
- Maintain a forested buffer surrounding the intermittent wetland.
- Reduce threats.
- Resources for Goal Development:
  - <https://mnfi.anr.msu.edu/reports/MNFI-Report-2008-04.pdf>

## Management Objectives

- Identify and eliminate illegal ORV access points.
- Identify and prioritize critical areas within the ERA to treat for invasive species.
- Determine if there are impacts to hydrological system.
- Allow natural fires to burn through the area.
- Assess EO quality every 10-20 years.

## Management Actions

Actions should be specific items that identify how the objectives will be achieved.

- Identify vectors of invasive species and reduce their introduction to the site.
- Remove invasive plants using appropriate control methods for that particular species. using partnerships where appropriate, develop FTPs and PAPs.
- Use periodic burning to maintain the presence of native plant species as well as to express the seed bank.
- Write a wildfire plan to incorporate a “let it burn” policy where safety concerns allow.
- Avoid establishment of new fire lines to reduce invasive species encroachment.
- Close illegal roads and trails.
- Work with DNR Law Enforcement Division to increase patrols for illegal ORV activity and enforce state land use rules.
- Work with MNFI and other experts to update EO inventory.
- Update plan with addition 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 may include:
  - Ongoing vegetation/animal inventory needs that will provide baseline information about the ERA and help to determine appropriate management goals.
  - Measurement of indicators to help determine if management goals are on track or being achieved.
  - Follow-up on management actions to determine their effectiveness (particularly if this information is needed more quickly than the 10-year plan review)
- Work with MNFI and other experts to update EO inventory.
- Resources for Monitoring Development:
  - This kind of information may be drawn from personal and expert knowledge and/or other sources .

- The natural community management guidance documents provide suggestions for monitoring that may be appropriate for typical management goals associated with a particular natural community, but these will not always be needed and there may be additional monitoring needs that are unique to a plan's ERA(s).
- Indicators provide information on the state or condition of something that is linked to a management goal and produce trend information used for surveillance of the ERA
  - Indicators:
    - Wetlands – Number of blockages to flowing surface waters upstream of the wetland: current is 2, and desired future is 0.

### Imagery

ERA boundaries are derived from the underlying Natural Community EO boundary which are mapped using NatureServe standards. EO Boundaries are informed by vegetation and other site characteristics including soils, landform, and/or historic aerial imagery.

