

# Mesic Northern Forest ERA Plan

## Walloon Lake Mesic Northern Forest



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### Administrative Information

- Location:
  - This Ecological Reference Area is located within Compartment 38, Stands 1, 2 and 3; in the Chandler Hills Management Area of the Gaylord Forest Management Unit.
  - It is in Township 33N, Range 06W, Sections 10 and 11; Charlevoix County, MI.
- Contact Information:
  - Plan Writers: Matt Foster, Forester, Gaylord Field Office; Keith Kintigh, Forest Conservation and Certification Specialist.
  - Local Forester(s) & Biologist(s): Lucas Merrick, Unit Manager; Jennifer Kleitch, Wildlife Biologist.
- State of Michigan lands – State forest

## Conservation Values

- The EO\_ID is 10687, with an EO Rank of “B - Good estimated viability/ecological integrity.” It was last surveyed by Michigan Natural Features Inventory on September 1, 2006 and is 31 acres in size.
- Mesic northern forest is a forest type of moist to dry-mesic sites lying mostly north of the transition zone, characterized by the presence of northern hardwoods, particularly sugar maple (*Acer saccharum*) and American beech (*Fagus grandifolia*). Conifers such as hemlock (*Tsuga canadensis*) and white pine (*Pinus strobus*) are frequently important canopy associates. This community type breaks into two broad classes: northern hardwood forest and hemlock-hardwood forest. It is primarily found on coarse-textured ground and end moraines, and soils are typically loamy sand to sandy loam. The natural disturbance regime is characterized by gap-phase dynamics; frequent, small windthrow gaps allow for the regeneration of the shade-tolerant canopy species. Catastrophic windthrow occurred infrequently with several generations of trees passing between large-scale, severe disturbance events. Historically, mesic northern forest occurred as a matrix system, dominating vast areas of mesic uplands in the Great Lakes region. These forests were multi-generational, with old-growth conditions lasting many centuries.
- This ERA Element Occurrence is a Mesic Northern Forest. The site occurs on the shores of Walloon Lake, and contains structural and compositional attributes of an uneven-aged old-growth forest driven by gap phase dynamics. The forest, dominated by large diameter hemlock, sugar maple, and beech, is characterized by numerous canopy gaps, high volume of large-diameter snags and coarse wood of varying species and states of decomposition, and pit and mound microtopography. The well-developed pit and mound topography indicates that the site has supported forest cover for thousands of years. Diameters of canopy dominants, snags, and coarse woody debris ranged widely from 16 “(40 cm) to 36” (90 cm). Two canopy-dominant hemlocks were cored using an increment borer to estimate their age. A 24 “(62 cm) hemlock was estimated to be 285 years old, while a 25” (64 cm) hemlock was estimated to be 254 years old. Old trees in the canopy, large-diameter coarse woody debris of late-successional species and advanced decomposition classes and well-developed pit and mound topography from small-scale windthrow events suggest that old-growth conditions have existed at this site for several centuries.
- Intensive and pervasive anthropogenic disturbance during the past 150 years had altered the structure, extent and species composition of mesic northern forest. Mesic northern forest, especially old growth and late successional forest with hemlock, have been drastically reduced in acreage. Large tracts of primary old growth forest presently cover less than 0.2% of Michigan, making it imperative to maintain the integrity of old growth mesic northern forest where remnant patches persist. The Walloon Lake mesic northern forest is the only example of old-growth forest on the mainland found on state forest land in the Northern Lower Peninsula and the only example on the mainland that is B-ranked.
- This area will be maintained for visual management and for its ecological integrity.

### High Conservation Value (HCV) Attributes

- The site likely meets criteria for Type 1 or Type 2 Old Growth.

### Threats Assessment

- The area surrounding the old road is characterized by a concentration of non-native plants and weedy natives.
- Currently, anthropogenic disturbance is associated with two dispersed camping areas, the old road leading to the lake, and the residential areas to the north and south. In the area surrounding the northern campsite, people have been harvesting wood for campfires, including cedar and hemlock saplings and coarse woody debris. The old road has been cleared of downed trees to maintain access.
- Failure to control access or additional development such as recreation trails or new roads, will likely reduce the acreage of the old growth forest, decrease the amount of coarse woody debris on the site, and lead to increased encroachment by invasive species and native weeds.
- Emerald Ash Borer and Beech Bark Disease have severely impacted the structure and composition of this area.

### 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:

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

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 Objectives**

The following Management Objectives describe the measures necessary to ensure the maintenance and/or enhancement of the ERA site or sites. Objectives and associated actions will be prioritized and implemented based upon available resources.

- Identify and prioritize critical areas within the ERA to treat for invasive species.
- High diversity of native plants is desirable.
- Allow blowdown/windthrow, fire, and insect mortality to occur without salvage harvest.
- Assess forest regeneration within the planning period.
- Assess EO quality every 10-20 years.
- Work with adaptation specialist to determine threats associated with climate change.

### **Management Actions**

- Remove small inclusions of non-native plants that occur along the old road.
- Work with LED to maintain and enforce road closure to prevent yard waste dumping.
- Prevent illicit camping and removal of firewood, especially regenerating conifers.
- Consider increasing size by eliminating active management within surrounding northern hardwoods.
- Work with MNFI and other experts to update EO inventory.
- Update Plan with additional knowledge as it becomes available.

### **Monitoring**

- Monitoring is expected to generally occur on a 10-year frequency to match the 10-year planning cycle – deviations to this will be noted in individual plans.

Additional Resources:

Cohen, J.G. 2006. Natural Features Survey and Management Recommendations for Walloon Lake Mesic Northern Forest. Report Number 2006-11. MNFI PO Box 30444, Lansing MI, 48909. 14pp.

MNFI Natural Community Abstracts: <http://mnfi.anr.msu.edu/pub/abstracts.cfm#Communities>

Michigan Department of Natural Resources Forest Certification Work Instruction 1.4:  
[http://www.michigan.gov/documents/dnr/WI\\_1.4BiodMgt\\_320943\\_7.pdf](http://www.michigan.gov/documents/dnr/WI_1.4BiodMgt_320943_7.pdf)

## Pictures



*Shoreline of Walloon Lake forest area*

# Site Map

