Blind Sucker Complex ERA Plan

Contents

Administrative Information

- Blind Sucker Complex
  - Blind Sucker Creek Dry Northern Forest ERA
  - Lake Superior Campground Dry Northern Forest ERA
  - Lake Superior Campground Sand and Gravel Beach ERA
- These three ERAs are located on State Forest land in the Newberry FMU. All of the ERAs are within the Deer Park Management Area and Compartment 42004.
- Luce County, McMillan Township, T49N R12W Sections 1, 2, 3, 10, and 11; T50N R12W Sections 33, 34, and 35
- Plan Writer: Josh Brinks, Forest Resource Division (FRD) Acting Inventory and Planning Specialist. Contributors and Reviewers include Sherry Mackinnon (Wildlife Division (WLD)

Wildlife Ecologist), Keith Kintigh (FRD Forest Certification and Conservation Specialist), Kristie Sitar (WLD Wildlife Biologist), Keith Magnusson (FRD Unit Manager), Jason Tokar (FRD Timber Management Specialist), Tori Irving (FRD Inventory and Planning Specialist); Matt Payment, Lester Livermore, Jacob Kriehn, Amy Livermore (FRD Foresters)

- These ERAs are entirely located on State Forest lands administered by Forest Resources Division.
- Adjacent to these ERAs are the Lake Superior and Blind Sucker State Campgrounds.
- The North Country Trail (NCT) runs through the ERAs and provides non-motorized recreational use. There is an MOU between the DNR and the National Park Service on how the NCT is managed/maintained.
- The Blind Sucker Pathway runs through and adjacent to all three of the ERAs in this plan. Portions of this pathway are being developed into a wildlife recreation trail which will include signage and planned activities.
- The area is accessed via the Grand Maris Rd. aka County Rd. 407. There is a two-track road that runs through a portion of the Blind Sucker Creek ERA. Several closed roads are located within these ERAs.
- The Blind Sucker Creek Dry Northern Forest ERA falls within the boundary of the Blind Sucker River Flooding State Wildlife Management Area. There is a Master Plan and a Operation and Maintenance Plan for the flooding. Neither of these plans impact the ERA as their focus is on the flooding itself.
- Most of the area of all 3 ERAs overlap with Critical Dune designation. This does have an implication on how the land can be managed, particularly timber management. Management activities within the Critical Dune habitat are reviewed by the Department of Energy, Great Lake and Energy (EGLE) and require a permit.
- Lake Superior Campground ERAs fall within the Piping Plover Habitat area.
- Lake Superior Beach Biodiversity Stewardship Area

Conservation Values

There are three ERAs which make up the Blind Sucker Complex ERA plan. Two of these ERA are occurrences of Dry Northern Forest community type and the third is an occurrence of a Sand and Gravel Beach community. Both community types have the same global and state ranking of G3, S3. A global ranking of G3 means that these community types are either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range or because of other factor(s) making it vulnerable to extinction throughout its range; in terms of occurrences, in the range of 21 to 100. A state ranking of S3 means that the community type is rare or uncommon in the state with around 21-100 occurrences statewide.

Dry Northern Forest (G3,S3)

Dry northern forest is a pine- or pine-hardwood-dominated forest type that occurs on dry sandy sites lying mostly north of the climatic tension zone. This community occurs principally on sandy glacial outwash and sandy glacial lakeplains, and also commonly on sand ridges within peatlands on glacial outwash or glacial lakeplains. Two distinct variants are included within this community type, one dominated by jack pine (*Pinus banksiana*) or jack pine and hardwoods, and the other dominated by red pine (*P. resinosa*). Prior to European settlement, dry northern forest typically originated in the wake of catastrophic fire. Frequent, low-intensity ground fires maintained red pine systems by removing competing hardwoods.

Both red pine and jack pine dominated sites can contain minor components of northern pin oak. Jack pine dominated sites should include or be managed to promote scattered groups of super canopy red and/or white pine. In both variants, other canopy species can be present only at low levels. These include white pine, paper birch, aspen, red oak, and red maple.

ERAs should resemble pre-settlement forest conditions. This includes the presence of some larger diameter trees (as described above); a fire-maintained understory with conditions suitable for infrequent canopy fire; a relatively high native plant species density and diversity; and an unaltered (or mimicked) natural disturbance regime. This means a lack of evidence of grazing. In subsections where that the remaining sites have been harvested, ERAs should be recovered from past harvests meaning the age of dominant jack pine should be greater than 70 years, while red pine should be greater than 100 years.

Dry northern forest ERAs should be in areas where they are the dominant community. These areas may also contain a mosaic of dry-mesic northern forest and barrens communities or be represented as small patches (1- 50 acres) within a mosaic of either of the above communities or within peatland ecosystems.

> **Blind Sucker Creek Dry Northern Forest:** EO_ID 14558, LASTOBS: 2021-05-28 Rank B-Good estimated viability. 136 acres of state forest land
>
> Three pockets of dry northern forest on flat to steep terrain separated by wetlands (muskeg, poor conifer swamp, and rich conifer swamp) grading to dry-mesic forest near peatland margins. The forest is characterized by variable topography and aspect throughout with topography ranging from rolling to moderate to steep and species composition and structure varying with topography. Dominance varies between jack pine (Pinus banksiana) and northern red oak (Quercus rubra) on the steepest, driest ridges while red pine (Pinus resinosa) dominates on moderate slopes and red pine (P. resinosa) and white pine (Pinus strobus) are co-dominant in flat to gently rolling areas. Canopy closure ranges from 25-75% with forest structure and tree maturity most pronounced in the western most pocket. The complex is dramatically uneven aged with multiple canopy cohorts. A 59.1 cm red pine was cored and estimated to be over 210 years old. A 63 cm red pine was cored and estimated to be over 350 years old (334 rings counted with a rotten center). A 22.5 cm jack pine was cored and estimated to be over 60 years old. Evidence of recent wildfire occurs throughout the complex with fire scars occurring on red pine, white pine, and northern red oak. Lightning struck red pine

noted throughout the site. Numerous pine snags occur throughout the forest and cavities are prevalent in living and dead trees. Coarse woody debris of various ages and decay classes are common throughout. Site with deep litter and humus soil layers over strongly acidic coarse textured to loamy sands. The soils are characterized by a deep needle litter and humus soil layers over strongly acidic (pH 4.0-4.5), dry, coarse-textured loamy sands. Deeper organic soils (5-10cm) in flatter areas. Blind Sucker Marsh occurs to the south of the site. Beaver are locally felling jack pine saplings.

Lake Superior Campground Dry Northern Forest: EO_ID 18810
LASTOBS:2021-05-28, Rank B- Good estimated viability, 190 acres of state forest land

Dry northern forest occurring on low undulating sand dune ridges adjacent to sand and gravel beach along Lake Superior. Overstory pines likely established following severe crown fire (fire charred stumps noted). Some of the pines have fire scars ranging from 5-9 feet tall. The canopy trees are well over 100 years old. A red pine, 55.4 cm, estimated to be 138 years old. A 58cm red pine was cored and estimated to be over 175 years old. A 32.2 jack pine was cored and estimated to be over 120 years old. There is red and white pine regeneration occurring within light gaps and along margins of dune ridges. Soils characterized by 5-10 cm of acidic (pH 4.5) needle duff over fine textured dune sands pH 5.0-5.5. The forest is characterized by low volumes of coarse woody debris from senescence of early-successional species (i.e., paper birch (Betula papyrifera) and jack pine). Four consecutive years of high water has resulted in the erosion of the forest along the Lake Superior margin with a significant portion of the bluff sloughing off, generating windthrow of trees along the bluff, and the creation of driftwood that has now become a significant structural component of the adjacent sand and gravel beach.

Sand and Gravel Beach (G3,S3)

Sand and gravel beaches occur along the shorelines of the Great Lakes and on some of Michigan's larger freshwater lakes, where wind, waves, and winter ice cause the shoreline to be too unstable to support aquatic vegetation. Because of the high levels of disturbance, these beaches are typically quite open, with sand and gravel sediments and little or no vegetation.

High-quality examples of sand and gravel beach community are those with little human foot or vehicle traffic and sparsely developed vegetation. Greater vegetation cover is acceptable if the shoreline configuration breaks waves and blocks winter ice. Vegetation development typically follows a gradient from virtually no vegetation at the water line to low growing herbs and shrubs farther inland. The important component of optimal sand and gravel beaches is an unstable substrate that is periodically shifted by waves and/or ice.

Lake Superior Campground Sand and Gravel Beach: EO_ID 18811
LASTOBS:2021-05-28, Rank AB-Excellent or good viability, 55 acres of state forest land

Sand and gravel beach occurs along a two-mile stretch of Lake Superior shoreline west of Lake Superior Campground. Sand and gravel beach is backed by dry northern forest. This sand and gravel beach occurs along the Great Lakes shoreline of Lake Superior, where wind, waves, and winter ice cause the shoreline to be too unstable to support aquatic vegetation. Because of the high levels of disturbance, this beach is typically quite open, with sand and gravel sediments and little or no vegetation. Energy from waves and ice abrasion maintain an open beach. The beach is characterized by a mixture of sands (including some volcanic sands), gravel, and cobble. Driftwood and windfall are common along this stretch of shoreline. The sand and gravel beach is backed by a low foredune that supports dune vegetation. Four consecutive years of high water has resulted in the erosion of the forest along the Lake Superior margin with a significant portion of the bluff sloughing off, generating windthrow of trees, and the creation of driftwood that has now become a significant structural component of the sand and gravel beach. Driftwood along the upper margin of the beach provides a stables substrate behind which sand and soil can accumulate.

High Conservation Value (HCV) Attributes

This ERA is part of a large landscape level forest in northern Luce County. The majority of the shoreline within the ERA is considered critical habitat for the federally endangered Piping Plover and other rare Great Lakes endemic species. A Director's order is in place to help protect nesting plovers and other shorebirds within this High Conservation Value Area.

Additionally, the majority of the ERA is designated as Critical Dune areas which are regulated by Part 353, Sand Dunes Protection and Management, of the Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451 as amended. Critical Dune areas of the state are a unique, irreplaceable, and fragile resource that provide significant recreational, economic, scientific, geological, scenic, botanical, educational, agricultural, and ecological benefits to the people of Michigan.

Multiple recreational opportunities lie within the ERA boundaries including: Lake Superior State Forest Campground, Blind Sucker No. 1 Sate Forest Campground, Blind Sucker Pathway, and the North Country Trail.

Threats Assessment

Northern Dry Forest

Fire suppression can result in failure of pine to regenerate, invasion by shade-tolerant species, and eventual conversion of dry northern forest to more mesic forest types. Numerous invasive plants are common in the ground layer of openings within dry northern forests, especially where fire has been excluded. Prevalent non-native plants include spotted knapweed (Centaurea maculosa), common St. John's-wort (Hypericum perforatum), hawkweeds (Hieracium spp.),

sheep sorrel (Rumex acetosella), Canada bluegrass (Poa compressa), Kentucky bluegrass (P. pratensis), timothy (Phleum pratense), and common mullein (Verbascum thapsus). Efforts to monitor and control invasive species are critical for protecting biodiversity.

Sand and Gravel Beach

Threats include potential nearby shoreline development, motorized and non-motorized recreation, and invasive species. The extremely dynamic energy of this shoreline environment makes it less easily damaged in comparison to other natural communities. Many parks actively maintain open beach conditions by mechanical grooming, eliminating the natural flora and fauna of the beach. Fauna such as the endangered piping plover remain vulnerable to off-road vehicles and high levels of human visitation. Plover nests and young are vulnerable to pets (unleashed dogs) and other predators (raccoons, crows). Off-road vehicles can destabilize beach areas, especially those areas farther from the shore where vegetation is becoming stabilized.

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.

v. 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.

vi. In the conduct of field operations, FRD staff shall follow FRD Guidelines for Decontamination Methods by Risk Level for Terrestrial Activities and Equipment. For operations accomplished by the DNR contractors, these guidelines shall only apply to work in ecologically sensitive areas where control of invasive species is a specified management objective.

Management Goals

Dry Northern Forest

Goals and resulting management objectives to achieve those goals should address the following issues of importance to the specific site.

- Restoration of and/or expansion of the dry northern forest ERA where applicable
- Eliminate invasive species or maintain an absence of, when and where possible
- The ERA has representation of native plants, indicator species, and rare species
- Reduce fragmentation
- Reduce other threats
- Allow natural processes to occur (fire, windthrow, insect epidemics)

Sand and Gravel Beach

Goals and resulting management objectives to achieve those goals should address the following issues of importance to the specific site.

- ERA is free from artificial barriers that inhibit the movement of sand and gravel by natural processes
- Eliminate invasive species or maintain an absence of, when and where possible
- Representation of native plants, indicator species, and rare species
- Threats from Illegal ORV activity and other human activities are reduced

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.

Dry Northern Forest

- 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

Sand and Gravel Beach

- Identify additional sand and gravel beach communities along the Great Lakes shoreline and shores of large inland lakes; priority given to areas adjacent dunes and uplands protected from development.
- Allow natural processes to occur in this community type
- Protection of piping plover habitat with continued coordination between the State Endangered Species Program and the U.S. Fish and Wildlife Service.
- Assess EO quality every 10-20 years
- Work with adaptation specialist to determine threats associated with climate change

Management Actions

(M= Maintenance action, R= Restoration action)

Dry Northern Forest

- If current data/knowledge are not available regarding the management goals, actions may address needed assessments (i.e. surveys may be needed) (M, R)
- Identify vectors of invasive species and reduce their introduction to the site (M, R)
- Remove invasive plants using appropriate control methods for that particular species (hand-pull, herbicide, Rx) (M, R)
- Reintroduction of missing associated native plant species (both canopy and ground flora) using local genotypes (R); particularly mesic conifer species where they have been removed
- Use periodic burning to maintain presence of native plant species, reduce invasives, and to reduce woody encroachment (M, R)

    - ideal/range fire return interval for ground fires is 5-20 years for restored sites to promote herbaceous diversity and stimulate regeneration
    - Summer burning should be employed to simulate naturally occurring lightning season burns.
- Write a wildfire plan to incorporate a “let it burn” policy in ERA where safety concerns allow. (M, R)
- Avoid establishment of new fire lines to reduce invasive species encroachment (M, R)
- For restoration purposes if prescribed fire is not possible, mechanical removal of trees and scarification may be used to mimic stand replacing fires which would occur on a 120-300 year interval for red pine and 10-80 years for jack pine (R)
- Close illegal roads and trails (M, R)
- Install culverts if necessary to restore natural hydrological flow (R)
- Work with MNFI and other experts to update EO inventory (M, R)
- Update plan with additional knowledge as it becomes available (M)

Sand and Gravel Beach

- If current data/knowledge are not available regarding the management goals, actions may address needed assessments (i.e. surveys may be needed) (M, R)
- Remove invasive plants using appropriate control methods for that particular species (hand-pull, herbicide, Rx) (M, R)
- Collaborate with public and private landowners to inform the public about threats to sand and gravel beach and develop educational strategies to prevent degradation of the ERA (M, R)
- Control Illegal ORV access points, maintain ‘no dogs on beach’ signs where applicable, and work with Law Enforcement Division to enforce state land use rules (M, R)
- Remove artificial barriers and invasive tree species that inhibit the movement of sand (R)
- Restoration of degraded sites to include re-introduction of native plant species using local genotypes (R)

Monitoring

Dry Northern Forest

Metric	Current Status	Desired Future Status	Assessment
Representative and rare species – species occurrences	Baseline EO Records; updated when EO's are updated	No decreases	TBD
Presence of rare animals	Baseline EO records	No decrease	TBD
Populations of invasive species – number and scope of species	Non-native species occur along the road margins.	No increase in species within interior. Species along roadways either decreasing or stable.	TBD
Effects of invasive species treatments	None	Removal of non-native species when found. Regular monitoring.	
Continued presence of large diameter, over-mature, super-canopy red pine	Red pine between ~200-400 years old; DBH >= 20 inches	Increasing age and size class	TBD
Changes in EO rank	B	No decrease	TBD

Sand and Gravel Beach

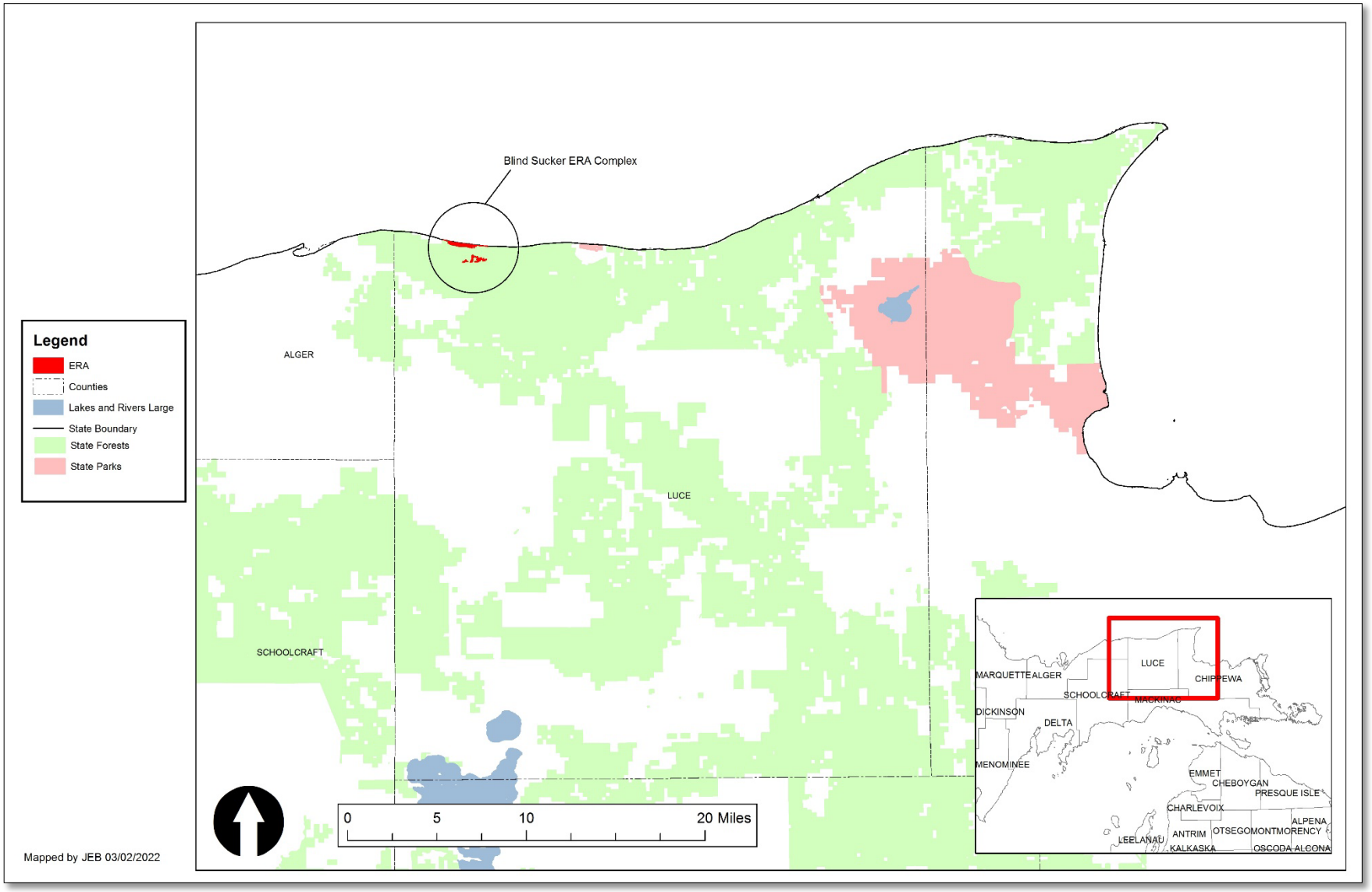
Metric	Current Status	Desired Future Status	Assessment
Representative and rare species – species occurrences	Baseline EO Records; updated when EO's are updated	No decreases	TBD
Populations of invasive species – number and scope of species	Currently no non-native species identified within ERA. Non-natives occur along road margins.	No increase in species within interior. Species along roadways either decreasing or stable.	TBD
Effects of invasive species treatments	None	Removal of non-native species when found. Regular monitoring.	TBD
Illegal ORV activity – more frequent monitoring may be necessary.		Prohibit off-road vehicle use.	TBD
Changes in EO rank	AB	No decrease	TBD

Images

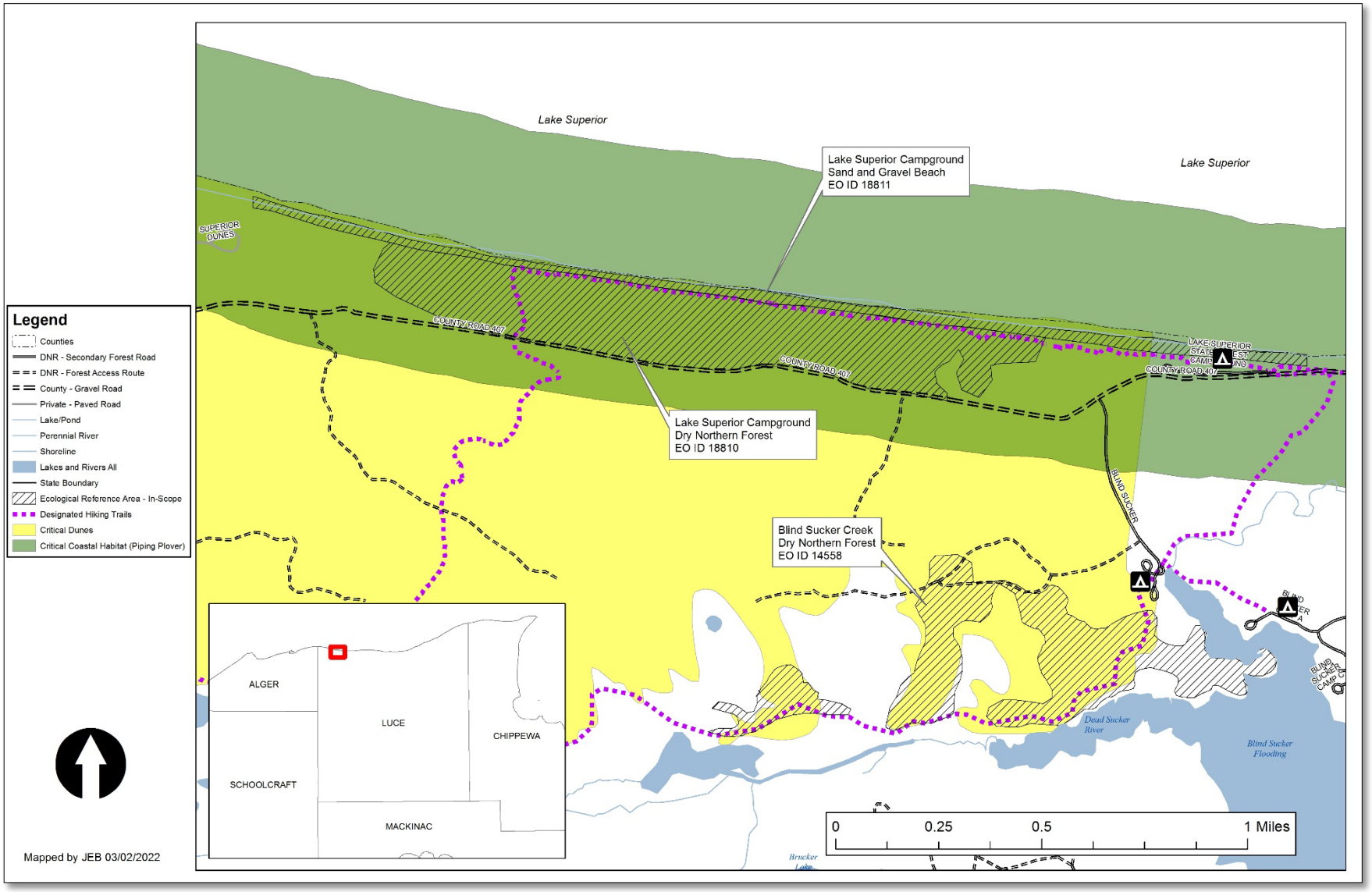
ERA boundaries are derived from the underling Natural Community EO boundary which are mapped using NatureServe standards. EO Boundaries are informed by vegetation and other site characteristics including soils, landform, and/or historic aerial imagery. As a result, it is not uncommon for EO/ERA boundaries to differ from forest inventory stand boundaries. If these difference result in potential conflicts with proposed forest activities, consult with the Forest Conservation and Certification Specialist to request a boundary evaluation by Michigan Natural Features Inventory.

Maps

Blind Sucker Complex ERA Locator Map
Blind Sucker Complex ERA Area Map
Blind Sucker Creek Dry Northern Forest Map
Lake Superior Dry Northern Forest and Sand & Gravel beach ERAs



Michigan Department of Natural Resources, Forest Resources Division.
Michigan.gov/Forestry. 2022



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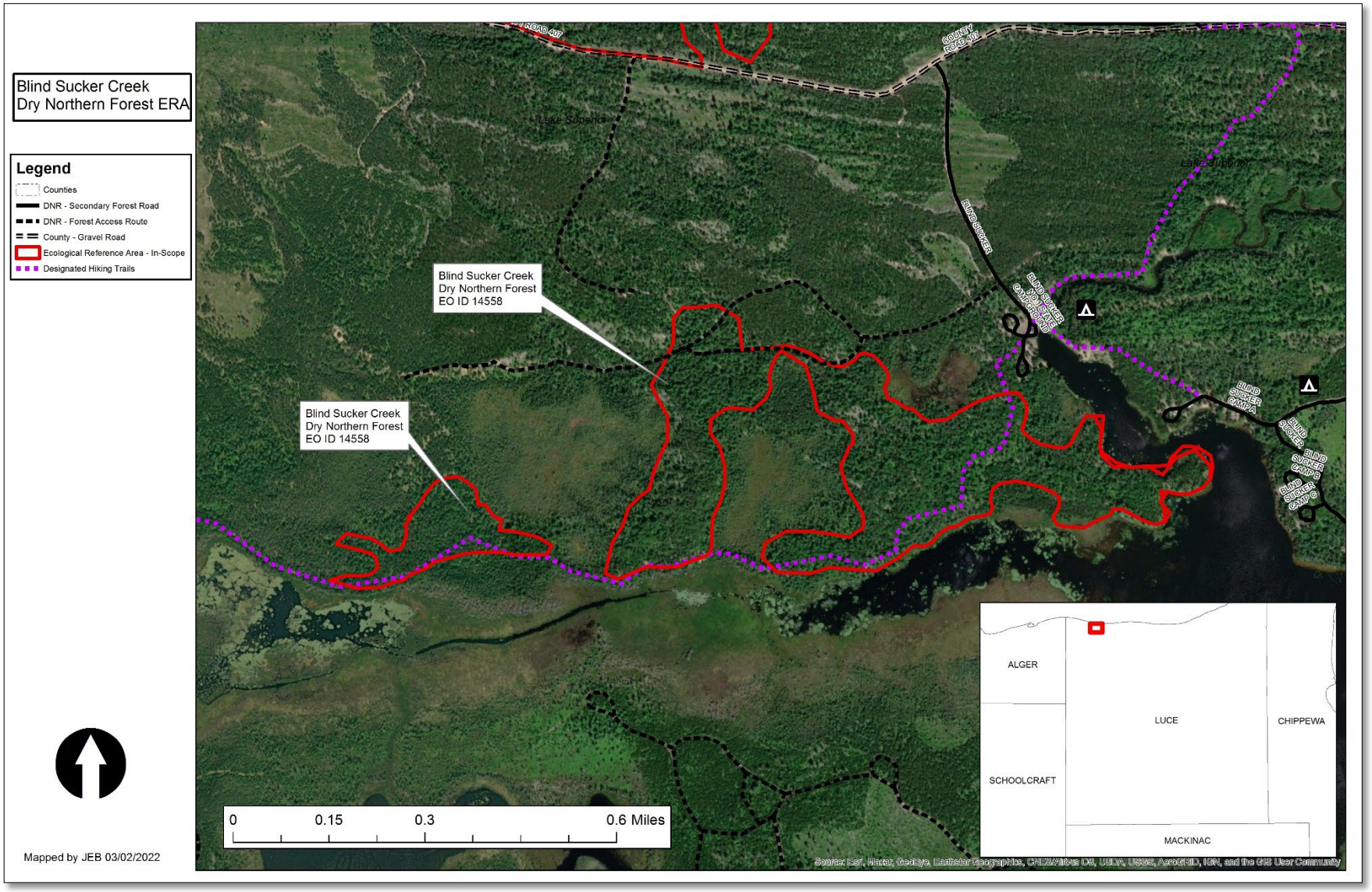
Michigan.gov/Forestry. 2022



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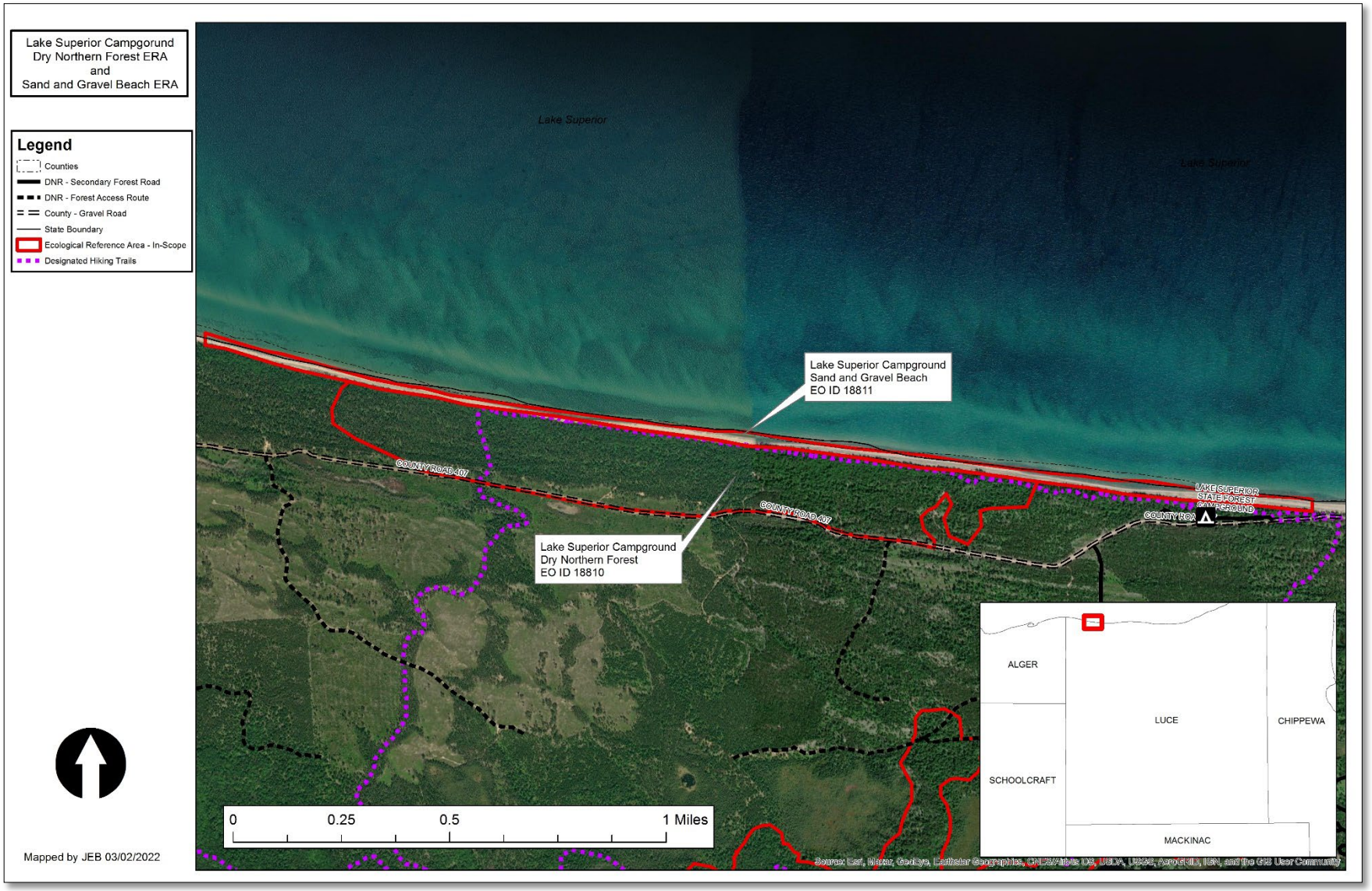

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Blind Sucker Creek Dry Northern Forest

Lake Superior Campground Dry Northern Forest

Lake Superior Campground Sand and Gravel Beach