

Groveland Mines ERA Complex Management Plan



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Administrative Information:

- Location:
 - Crystal Falls Forest Management Unit; Groveland Mines Management Area
Compartments 71, 72
 - Dickinson County: T41N R29W, Sections 1, 2, 3, 10, 11
- Contact Information:

- Plan Writer: [John M. Hamel](#), Inventory and Planning Specialist, Marquette Customer Service Center
- Local Forester(s) & Biologist(s): Jacob Siler, Monica Joseph
- State of Michigan owned lands
- Existing Infrastructure/Facilities: None
- Other Documents Related to This ERA: None

Conservation Values

Describe the natural community occurrence for which the ERA is recognized:

- Dry-mesic northern forest (EO ID 17313), granite bedrock glade (EO ID 17316), granite cliff (EO ID 17315), northern hardwood swamp (EO IDs 17312 and 17317), and northern wet meadow (EO ID 17314), Last observed 2019.
- Dry-mesic northern forests are pine or pine/hardwood dominated communities, principally occurring on sandy glacial outwash, sandy glacial lakeplains, and less often on inland dune ridges, coarse-textured moraines, and thin glacial drift over bedrock. Prior to settlement, it originated in the wake of catastrophic stand replacing fire, and was maintained by frequent, low intensity ground fires. For more detailed information refer to the MNFI Community Abstract. http://mnfi.anr.msu.edu/abstracts/ecology/Dry-mesic_northern_forest.pdf
- Granite bedrock glades are an open forested or savanna community found where knobs of granitic bedrock types are exposed at the surface. The sparse vegetation consists of scattered open-grown trees, scattered shrubs or shrub thickets, and a partial turf of herbs, grasses, sedges, mosses, and lichens. Granite bedrock glades typically occupy areas of steep to stair-stepped slopes, with short cliffs, and exposed knobs of bedrock. Optimal quality granite bedrock glades will occur within an unfragmented forested matrix or undeveloped shoreline and if possible be contiguous between the shoreline and inland natural communities (see granite bedrock lakeshore summary). Granite bedrock glade has characteristic native vascular plant species as described in the MNFI community summary, are not dominated by invasive species, and are protected from mechanized and human degradation. More details can be found in the MNFI community summary: <http://mnfi.anr.msu.edu/communities/community.cfm?id=15978>
- Granite cliff consists of vertical or near-vertical exposures of bedrock with sparse coverage of vascular plants, lichens, mosses, and liverworts. The combination of vertical exposure, thin soils, strong winds, ice, and bedrock exfoliation maintain open conditions on the cliff face. The thin soils and full exposure to wind and sun produce desiccating conditions for many plants. The mosses and lichens establish on more protected rock surfaces, while vascular plants are restricted to crevices, ledges, or moisture-holding depressions in the rock. Granite cliff occurs within an unfragmented, contiguous matrix forest that may include dry-mesic northern forest and/or mesic northern forest and associated granite bedrock glade. Optimal quality granite cliff has

characteristic native vascular plants as described in the MNFI community summary, is not dominated by invasive species, and is protected from mechanized and human degradation.

- Northern hardwood swamp is a seasonally inundated, deciduous swamp forest community dominated by black ash (*Fraxinus nigra*) that occurs on neutral to slightly acidic, hydric mineral soils and shallow muck over mineral soils. Located north of the climatic tension zone, northern hardwood swamp is found primarily in depressions on level to hummocky glacial lakeplains, fine- and medium-textured glacial tills, and broad flat outwash plains. Fundamental disturbance factors affecting northern hardwood swamp development include seasonal flooding and windthrow. Refer to the MNFI Community Abstract for more detailed information.
http://mnfi.anr.msu.edu/abstracts/ecology/Northern_hardwood_swamp.pdf
- Northern wet meadow is an open, groundwater-influenced, sedge- and grass-dominated wetland that occurs in the northern Lower and Upper Peninsulas and typically borders streams but is also found on pond and lake margins and above beaver dams. Soils are nearly always sapric peat and range from strongly acid to neutral in pH. Open conditions are maintained by seasonal flooding, beaver-induced flooding, and fire. ERA's for high-quality northern wet meadows are best conserved in conjunction with associated high quality wetland and upland communities and have a wide variety of native herbaceous plant species as described in the MNFI abstract.
http://mnfi.anr.msu.edu/abstracts/ecology/Northern_Wet_Meadow.pdf
- Other High Conservation Values Present: the Historical Camp Suicide deer yard is found in this area.
- Other Values for Consideration:
 - Recreation- hunting is the primary recreation activity. Public access is general poor.
 - Aesthetics/visual management- The area contains many large diameter white pine.
 - Timber products- Long-term management for timber products will be minimal.

Threats Assessment

- Primary threats include nearby and within-stand logging; fire suppression; development; motorized and non-motorized recreation; excessive browsing by deer; invasive species; hydrological impacts such as drainage for agriculture, or sedimentation; shrub encroachment.

Management Goal(s)

- Eliminate invasive species if found
- ERA's have representation of native plants, indicator species, and rare species
- Reduce forest fragmentation

- Reduce threats from, ORV's, excessive foot and mountain bike traffic.
- Protect areas susceptible to erosion from logging and other human activities.
- Prevent shrub encroachment

Management Objectives

- Identify and prioritize critical areas within the ERA to treat for invasive species.
- Maintain a high diversity of native plants.
- Allow blowdown/windthrow, fire, and insect mortality to occur without salvage harvest.
- Determine if there are impacts to hydrological system.
- Assess forest regeneration within the planning period.
- Assess EO quality every 10-20 years.
- Identify and eliminate illegal ORV access points.
- Identify areas of excessive foot and mountain bike traffic.

Management Actions

- Identify vectors of invasive species and reduce their introduction to the site.
- Remove invasive plants using appropriate control methods for that particular species.
- Write a wildfire plan to incorporate Minimum Impact Suppression Tactics (Mist) where safety concerns allow.
- Avoid establishment of new fire lines to reduce invasive species encroachment.
- Close illegal roads and trails
- Work with LED to increase patrols for illegal ORV activity and enforce state land use rules.
- Use periodic burning to maintain presence of native plant species, reduce invasives, and to reduce woody encroachment
- Install culverts necessary to restore natural hydrological flow.
- Prohibit the cutting of timber in the ERA for any reason.

Monitoring Dry-mesic Northern Hardwood

Indicator	Current Status	Desired Future Status	Summary Assessment
Presence of Invasive Species	Present	None	MNFI Assessment
Effects of invasive species treatment	Unknown	Eradicated	Treatment report and surveys
Natural Pine regeneration	Medium to low Density	High to Medium Density	MIFI Inventory
EO Rank	B	AB	MNFI Assessment

Monitoring Granite Bedrock Glade

Indicator	Current Status	Desired Future Status	Summary Assessment
Presence of Invasive Species	Present	None	MNFI assessment
Effects of invasive species treatment	Unknown	Eradicated	Treatment report and surveys
EO Rank	B	AB	MNFI assessment
Illegal ORV activity	Unknown	None	LED data and observations

Monitoring Granite Cliff

Indicator	Current Status	Desired Future Status	Summary Assessment
Presence of Invasive Species	None	None	MNFI assessment
Effects of invasive species treatment	Unknown	Eradicated	Treatment report and surveys
EO Rank	AB	AB	MNFI assessment
Illegal ORV activity	Unknown	None	LED data and observations
Illegal rock-climbing activity	Unknown	None	LED data and observations

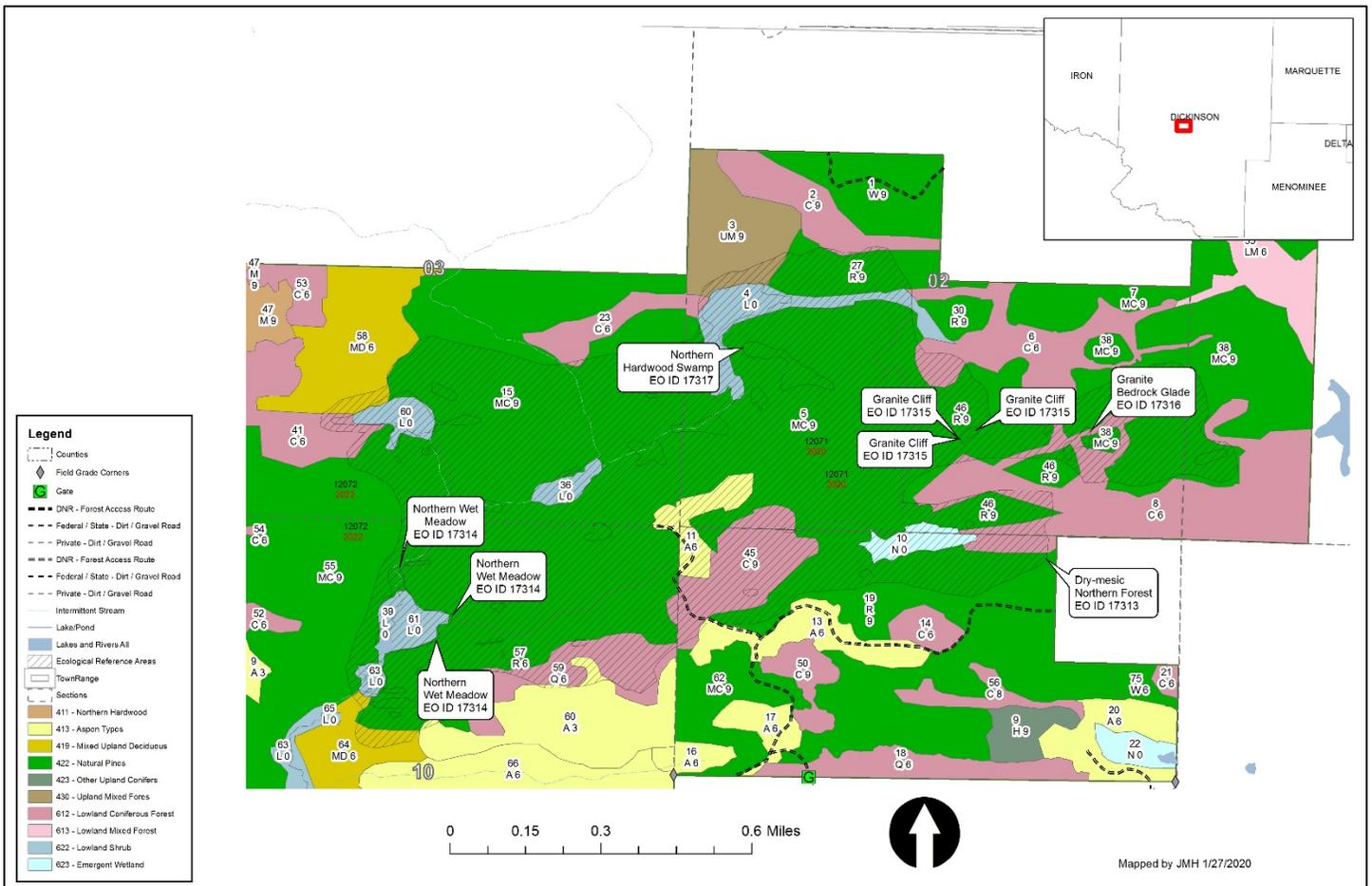
Monitoring Northern Hardwood Swamp

Indicator	Current Status	Desired Future Status	Summary Assessment
Presence of Invasive Species	None	None	MNFI assessment
Effects of invasive species treatment	Unknown	Eradicated	Treatment report and surveys
Presence of Ash Regeneration	Present	Present	MIFI Inventory
Presence of Emerald Ash Bore (EAB)	None	None	MNFI assessment, Forest health Surveys
EO Rank	B	B	MNFI assessment
Illegal ORV activity	Unknown	None	LED data and observations

Monitoring Northern Wet Meadow

Indicator	Current Status	Desired Future Status	Summary Assessment
Presence of Invasive Species	None	None	MNFI assessment
Effects of invasive species treatment	Unknown	Eradicated	Treatment report and surveys
Shrub encroachment	Low to Medium	None to low	MIFI Inventory
EO Rank	AB	AB	MNFI assessment

Site Map:



Pictures:

Groveland dry-mesic northern forest (EO ID 17313). Photo by Joshua G. Cohen.



Groveland granite bedrock glade (EO ID 17316). Photo by Joshua G. Cohen.



Groveland granite cliff (EO ID 17315). Photo by Joshua G. Cohen.



Groveland granite bedrock glade (EO ID 17316). Photo by Joshua G. Cohen.



Groveland northern hardwood swamp (EO ID 17317). Photo by Joshua G. Cohen.



Groveland northern wet meadow (EO ID 17314). Photo by Joshua G. Cohen.