Seiner's Point Complex

Ecological Reference Area (ERA) Plan

Figure 1. Seiner's Point ERA locator map

Administrative Information:

- Seiner's Point ERA Complex is a linear arrangement of wooded dune and swale, interdunal wetlands, open dunes and limestone cobble shore natural communities along the Lake Michigan coast of the Eastern Upper Peninsula.

- All of the ERA's are located on State Forest land in the Sault Ste. Marie FMU, Lake Michigan Shoreline Management Area, Compartments 174, 175, 176, 197, 198, 199, 200, 201, and 202

- Mackinac County, Newton Township T41N, R12W, sec 1-5, 7, 8, 11; T42N, R12W, sec 32-34, 35; T41N, R11W, sec 2-11; T42N R11W sec 13, 23,24-27, 34-36; T42N R10W sec 4, 7, 8, 17-19; T43N R10N sec 27, 28, 33, 34

- This complex has very little infrastructure though does include a site on Lake Michigan that is leased by Newton Township as a recreation park, The Big Knob State Forest Campground and the Marsh Lake Pathway. This area is popular with local residents and recreationists.

- Large portions of this ERA Complex are part of the Seiner's Point and Crow River Mouth Special Conservation Areas: Non-Dedicated Natural Areas and are included in The Nature Conservancy's Natural Areas Registry.

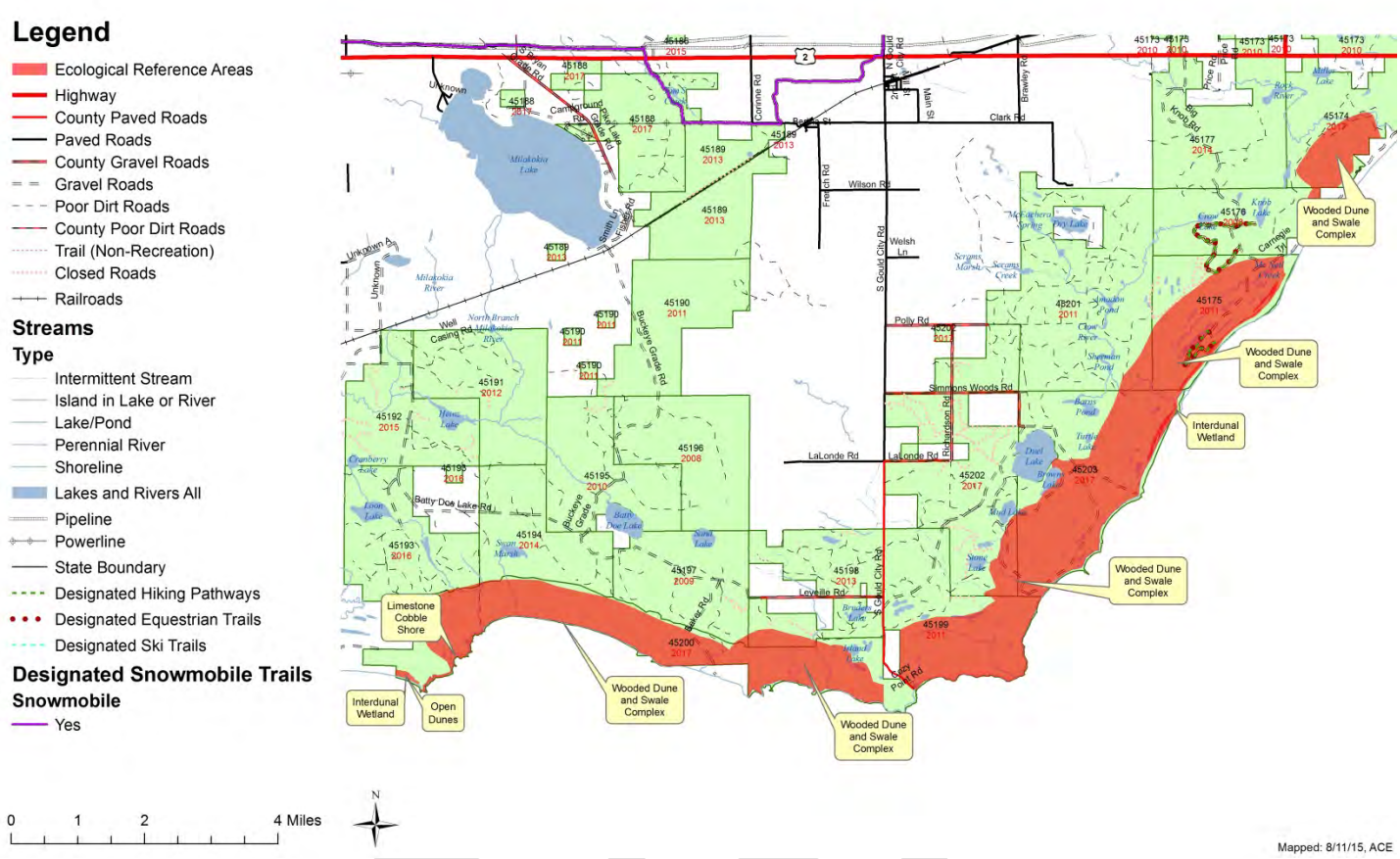
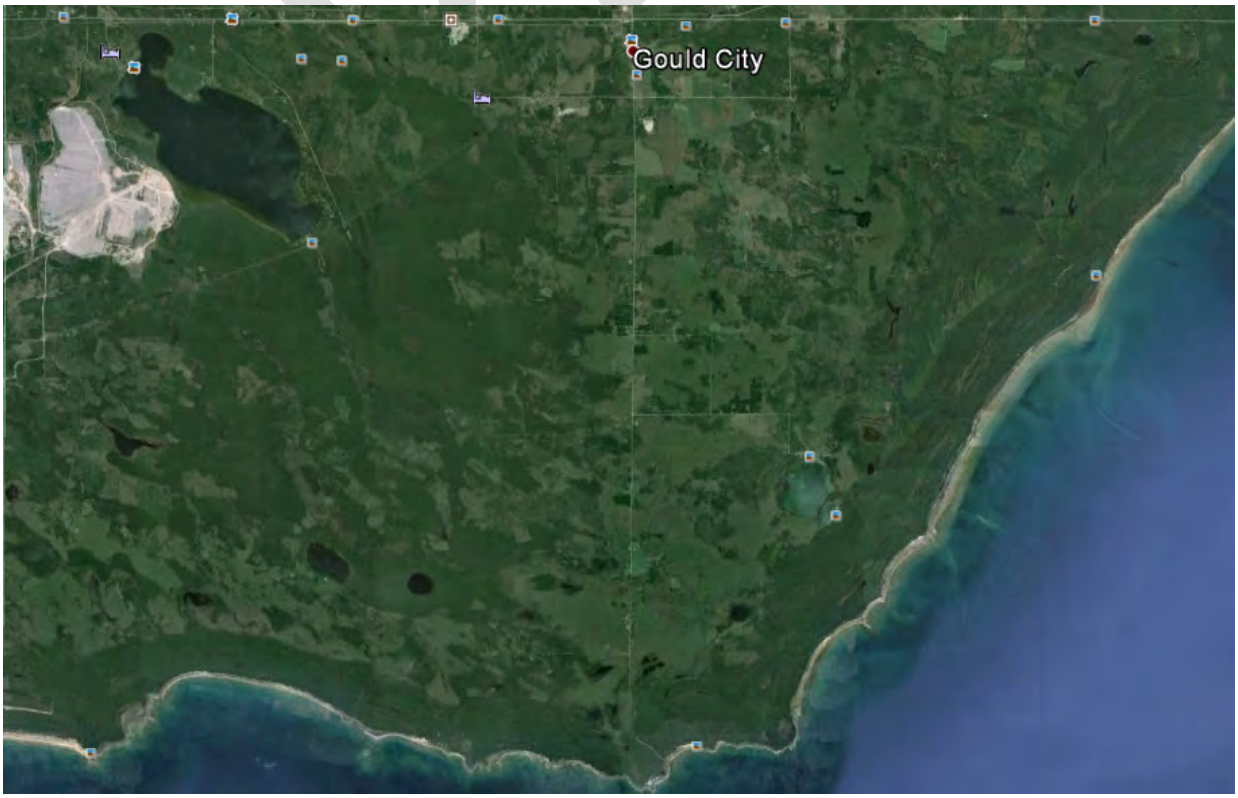


Figure 2 and 3. Seiner's Point ERA area map (EO ID# would be useful in labels) and Google Earth Image (2009)



Conservation Values

- This site has all the characteristic and significant features of northern Great Lakes shores: dunes, interdunal wetland, cobble beach, Great Lakes Endemic plants, and rare shorebirds. The interdunal swales are among the longest known and an excellent example of this uncommon natural community which is restricted to Great Lakes shorelines. This site is one of the longest stretches of Lake Michigan shoreline not bounded by roads and cottages; an example of shoreline that was mostly as it was at the time of European settlement.

- This ERA complex is recognized for four natural communities; wooded dune and swale, interdunal wetland, limestone cobble shore and open dunes. It is recognized for both having natural communities that are rare as well as those representative examples being of high quality.
    - Wooded Dune and Swale communities include the following 5 Element Occurrences (running from east to west):
        1. EO_ID: 18841, EORANK: BC, LASTOBS: 2011-08-15
        2. EO_ID: 6497, EORANK: AB, LASTOBS: 2014-08-17
        3. EO_ID: 6496, EORANK: B, LASTOBS: 2007-06-22
        4. EO_ID: 4993, EORANK: AB, LASTOBS: 2007-06-04
        5. EO_ID: 9523, EORANK: B, LASTOBS: 2007-06-06
    - Interdunal Wetland communities include the following 2 Element Occurrences:
        1. EO_ID: 12340, EORANK: B, LASTOBS: 2007-06-05
        2. EO_ID: 11037, EORANK: AB, LASTOBS: 2007-06-08
    - Open Dunes Element Occurrence:
        1. EO_ID: 1910, EORANK: B, LASTOBS: 2007-06-05
    - Limestone Cobble Shore Element Occurrence:
        1. EO_ID: 3957, EORANK: AB, LASTOBS: 2007-06-06

- Dune ridges within the Wooded Dune and Swale complex are dominated by dry-mesic northern forest (white pine, jack pine, red pine, red maple, paper birch, big-toothed aspen, eastern hemlock and white spruce). Closer to the shore, the canopy consists primarily of coniferous species and inland, deciduous species become more prevalent in the canopy. Understory species include balsam fir, black spruce, and maple. Canopies in the forest swales consist of tree species found in rich conifer swamp communities (northern white cedar, tamarack, white pine, paper birch and black spruce). The understory of forested swales is dominated by balsam fir, northern white cedar, alder, and winterberry; while the low shrub layers are composed of northern white cedar seedlings (common below the snow line), Labrador tea, and Vaccinium spp. Narrow swales are often shrub dominated by dense thickets of alder with winterberry, and open swales are dominated by sphagnum hummocks and sedges. The five different Wooded Dune and Swale complexes range from excellent/good estimated viability (AB Rank) to Good/Fair estimated viability (BC Rank) depending on the amount of human disturbance which seem to be directly related to road and trail density. In some areas, particularly those where timber harvest has occurred, damage related to deer browsing was noted. This entire

ERA complex is contained within a deer wintering complex and deer travel many miles and concentrate to spend winter months in lowland conifer dominated stands so this may be unavoidable without a severe reduction in deer numbers, which may not be socially acceptable.

Interdunal wetlands are broad stretches that occur behind the foredune and are characterized by Great Lakes marsh vegetation with Baltic rush, tussock sedge, and green bulrush. The foredune supports marram grass and sand reed grass along with balsam poplar seedlings and silverweed. Swales behind the second and third dune ridges are much narrower and are more variable in composition. Numerous ponds occur within the swales and are dominated by submergent vegetation. The western most EO (EO_ID 12340) is ranked as good estimated viability (B) and the eastern EO (EO_ID 11037) as excellent/good estimated viability (AB). They are very large interdunal complexes with high species diversity. Large populations of Houghton's Goldenrod (Federal/State threatened) are known from these sites, and Lake Huron Tansy (state threatened) and Pitcher's thistle (Federal/State threatened) are prevalent along the dune ridges. Dwarf lake iris (state threatened) occurs sporadically on the more forested dune ridges.

The Limestone Cobble Shore element occurrence is characterized by areas of sparsely vegetated cobble beach typically 50-100 meters wide. The sparse vegetation is found growing between limestone cobbles of various sizes (10-40 cm diameter) in a thin layer of alkaline muck. Prevalent species include Baltic rush, silver weed, grass leaved goldenrod, shrubby cinquefoil and seedlings of northern white cedar. Sand flats adjacent to the lake have a heavier cover of rushes and sedges. Shallow pools and scattered patches of willows are prevalent. Large boulders are scattered throughout and driftwood provides important habitat for small animals and insects. The EO record indicates that this site has excellent/good viability (AB) and is characterized by diverse ecological zonation and moderate to high species diversity. ORV activity occurs all along the shoreline and has caused rutting and subsequent pooling in wetter areas in years of low Lake Michigan waterlevels.

The Open Dunes element occurrence is grass and shrub dominated located on wind deposited sand formation, which is strongly affected by lake-driven winds. It is a mile long stretch of open dunes with 3-4 successive dune ridges that are separated by long, parallel running high quality interdunal wetlands. The dune ridges are just under 100 feet tall and approximately 0.1 miles wide. The foredune is dominated by marram grass and sand reed grass along with willow, balsam poplar, and Lake Huron Tansy (state threatened). Pitcher's thistle (Federal/State endangered) occurs scattered throughout the high dunes. Dwarf lake iris (Federal/State threatened) is found along the forest edge to the west. White pine and white spruce occur in the scattered, stunted canopy in the barrens behind the open dunes. Interdunal swales are dominated by Baltic rush, Canadian rush, silverweed and shrubby cinquefoil. Piping Plover (Federal/State endangered) have been recorded nesting in the interdunal wetlands adjacent to these open dunes. The EO record indicates this is a site with good estimated viability (B). The primary threat to the site is ORV damage, which can cause dune erosion, de-vegetation, and allow for the introduction of invasive species.

High Conservation Value (HCV) Attributes:

- The Seiners Point ERA complex is approximately 8,900 acres and is part of a large landscape level forest with minimal road density and management activity and contains nearly 14 miles of intact shoreline. It is characterized by complex ecological patterning, which results in high species and community diversity in spite of anthropogenic impacts. Natural ecological processes (windthrow, beaver flooding,

senescence, etc.) are the dominant factors structuring patterning and driving succession. There are numerous single windthrow gaps as well as multiple treefall gaps with windthrow being most prevalent near the lakeshore. Dead and down logs are prevalent in swales and coarse woody debris is prevalent. Sphagnum hummocks and hollow micro topography is prevalent in forested swales. There is evidence of fire occurring throughout the ERA complex with charring and fire scars occurring on the boles of trees. (MNFI EO Records). Fluctuation in Lake Michigan water levels can change the character and nature of the site from one year to the next.

- There are many recreational, cultural, and intrinsic values associated with this ERA complex. Although much of the shoreline receives little recreation us, the township park is popular with local residents and visitors for swimming and picnicking, and in some cases illegal ORV use. Within this area are traditional fishing areas, and areas of pre-historic, historic and current Native American use. In the pre-settlement period of history the shoreline was important to early French trappers and the fur trade. Simmons Woods was associated with the Blaney Park tourist community and was a lumbering town in the early 1900's. The interdunal wetlands are important feeding areas for migrating shorebirds, waterfowl, and songbirds in the spring and important foraging areas for waterfowl in the fall. Limestone cobble shore provides rich protein in the form of midges, stoneflies and mayflies to spring migrating warblers. Open dunes provide habitat for rare animal species such as the Lake Huron Locust (Federal/State endangered) and Great Lakes endemic plants. Wooded dune and swale complexes provide habitat for more than twenty rare plant and animal species including the Great Lakes Piping Plover (Federal/State endangered).

  High Conservation Value Areas (HCVA's) within the ERA complex include: Seiner's Point and the Crow River Mouth non-dedicated natural areas, Newton Township Coastal Environmental Area, Garfield Township Coastal Environmental Area, Simmons Woods Core Interior Forest Habitat, Simmons Woods Dedicated management area, and piping plover critical habitat. Special Conservation Areas (SCA's) include an extensive wintering deer complex, archeology sites, possible type 1 or 2 old growth (near the Big Knob Campground), Big Knob Campground, Seiner's Point Wild Area and the Crow River Mouth non-dedicated natural areas, and verified type 2 old growth (Scott's Point and Seiner's Point). This area is managed to preserve these biodiversity attributes, threatened and endangered habitats, natural communities and natural areas.

  <u>Threats Assessment</u>

- Wooded Dune and Swale Complex

  Primary threats to the wooded dune and swale complexes within this ERA complex include impacts from illegal ORV use, invasive species, and excessive deer herbivory. Illegal ORV use was noted in all of the EO records and is of primary concern along the shoreline. There is evidence of chronic ORV use on aerial imagery and upon a 2015 site visit. Invasive species are introduced along roads and trails; so far they are limited to spotted knapweed and ox-eye daisy and don't appear to pose an imminent threat. Where the complexes meet the shoreline, non-native Phragmites is a bigger

issue. Treatment for non-native Phragmites was done by aerial helicopter application in 2014 and the vast majority of the plants were killed. The EO records state that in many areas northern white cedar and hemlock regeneration is restricted to the low shrub layer which may indicate that deer browse is limiting recruitment of those species.

- Interdunal Wetland

  The primary threat to this community type is posed by ORV damage, which would lead to rutting, hydrologic alteration, and introduction of invasive species. Small changes to topography within these sensitive systems can have large impacts on wetland dependent species. There is evidence at the sites of ORV rutting, though this does not seem to be widespread. Non-native Phragmites occurs where the interdunal wetland meets the Lake Michigan shoreline. Treatment for non-native Phragmites was done by aerial helicopter application in 2014 and the vast majority of the plants were killed.

- Limestone Cobble Shore

  The primary threat to this community at this site is ORV damage, which could lead to the introduction of invasive species. There is evidence that ORV's are accessing this site, but damage does not appear to be widespread. Invasive species include a small patch of purple loosestrife and spotted knapweed behind the EO. Zebra mussel shells have accumulated along portions of the shoreline and may threaten successional, depositional, and erosional processes.

- Open Dunes

  The primary threat to this natural community is ORV damage which can cause dune erosion, devegetation, and allow for the introduction of invasive species. ORV's have accessed this site but as it is a long way down the beach from state land access it doesn't appear to be widespread. Port Inland quarry is adjacent to this site so access is limited, and during the summer months the beach is regularly visited by Piping Plover monitors who inform noncompliant citizens of the error of their ways. Spotted knapweed is present along the backdune but is not dominant.

A general assessment of potential threats associated with climate change for these natural communities would be a useful management tool for long range management goals.

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

- Allow natural ecological processes to occur
- Manage for unfragmented forest
- Manage to reduce/control current invasive species and prevent new invasive species from becoming established
- Manage for presence of trees >120 years old in older aged forests
- Eliminate/Reduce ORV activity
- Manage for the full suite of representative and rare species

Management Objectives

- Identify and eliminate illegal ORV access points on state forest land (continuous)
- Identify and prioritize critical areas within the ERA complex to treat for invasive species by 2020
- Write and implement a fire plan for the ERA complex that allows for wildfire to occur with minimal suppression in this planning period in areas where feasible.
- Allow blowdown/windthrow to occur without salvage harvest
- Assess pine regeneration during this planning period
- Assess northern white cedar and hemlock regeneration during this planning period
- Assess EO quality every 10-20 years
- Determine additional threats to ERA complex (continuous)
    - Work with Climate change specialist to determine threats associated with climate change

Management Actions

- Partner with UP RC&D and the Three Shores CISMA to map and treat priority invasive species using the best methodology for the species; develop FTP's and PAP's
- Work with LED to increase patrols for illegal ORV activity and enforce state land use rules
- Work with Newton Township and local residents to eliminate illegal ORV activity
- Close any illegal trails/roads
- Develop educational materials about the ERA's natural communities and natural processes to distribute or display at the Township Park and the Big Knob Campground.
- Where forest regeneration is found to be inadequate:
    - In pine types, consider use of prescribed fire as a management option using existing natural firebreaks to avoid introduction/spread of invasive species
    - In cedar and/or hemlock, determine if lack of regeneration is caused by deer herbivory and if so, consider limiting winter cutting intended to feed deer adjacent to the ERA and explore other potential solutions
- Work with MNFI and other experts to update EO inventory
- Update plan with additional knowledge as it becomes available

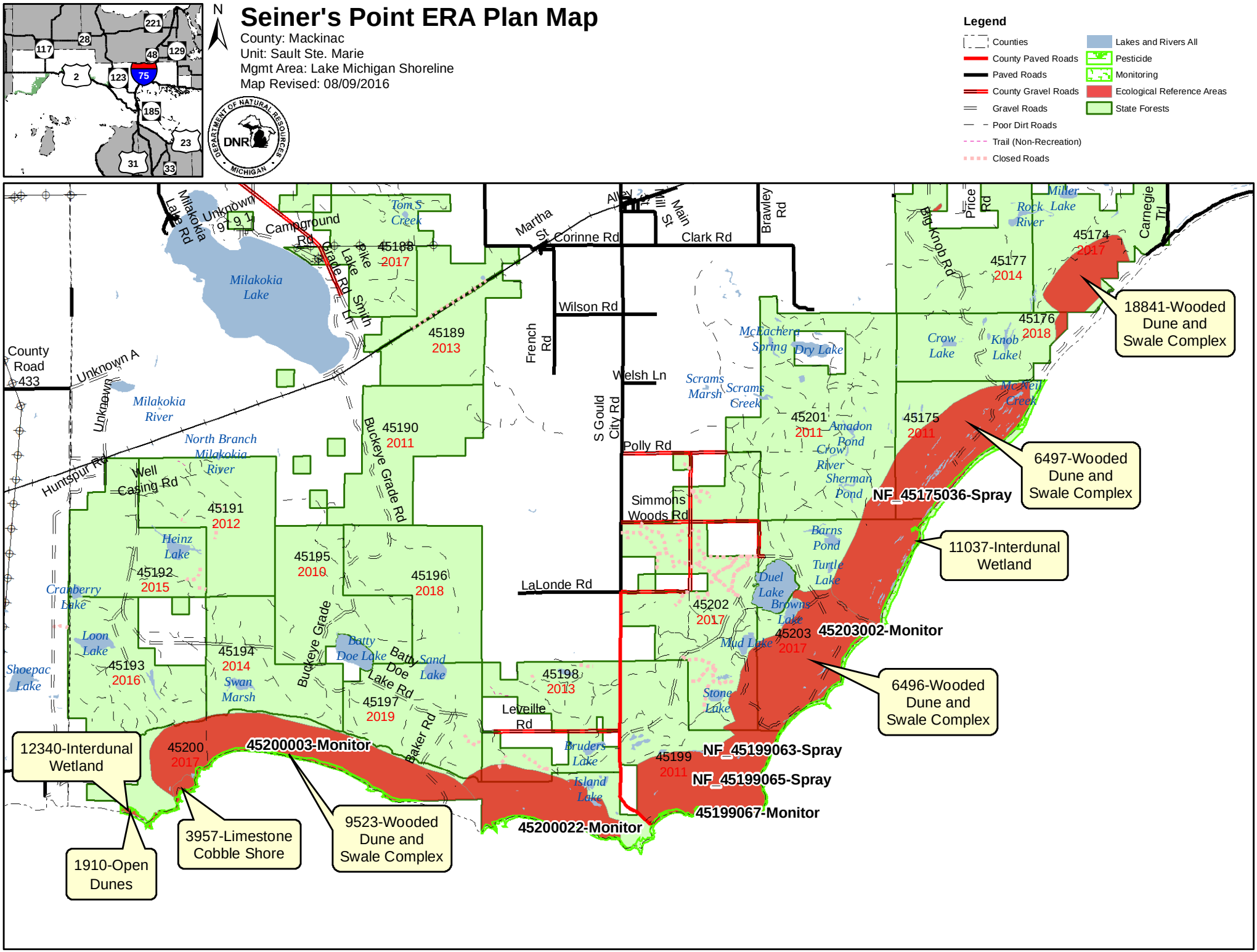
Monitoring

Metric	Current Status	Desired future status	Assessment
Illegal ORV activity- number of new instances and number of citations issued	Moderate; monitored via patrols, reports or opportunistically	Eliminated/fewer occurrences	
Populations of Invasive Species- number and scope by species	Severity unknown (with the exception of non-native Phragmites); treatments should be monitored appropriately; detection monitoring opportunistically or every five years maximum	Eliminated/fewer occurrences	
Representative and rare species- species occurrences	Baseline EO Records; updated when EO's are updated every 10-20 years or opportunistically	No decreases	
Presence/Absence of trees >120 years old	Baseline inventory data taken every decade	Increasing in age	
Forest Regeneration- regeneration by species	Baseline inventory data taken every decade	Regeneration falls within acceptable ranges by species	

Additional Resources

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


Seiner's Point ERA Plan Map
County: Mackinac
Unit: Sault Ste. Marie
Mgmt Area: Lake Michigan Shoreline
Map Revised: 08/09/2016
N
Legend
Counties
County Paved Roads
Paved Roads
County Gravel Roads
Gravel Roads
Poor Dirt Roads
Trail (Non-Recreation)
Closed Roads
Lakes and Rivers All
Pesticide
Monitoring
Ecological Reference Areas
State Forests
18841-Wooded Dune and Swale Complex
6497-Wooded Dune and Swale Complex
NF_45175036-Spray
11037-Interdunal Wetland
45203002-Monitor
6496-Wooded Dune and Swale Complex
NF_45199063-Spray
NF_45199065-Spray
45199067-Monitor
45200022-Monitor
9523-Wooded Dune and Swale Complex
45200003-Monitor
3957-Limestone Cobble Shore
12340-Interdunal Wetland
1910-Open Dunes
45188 2017
45189 2013
45190 2011
45191 2012
45192 2015
45193 2016
45194 2014
45195 2010
45196 2018
45197 2019
45198 2013
45199 2011
45200 2017
45201 2011
45202 2017
45203 2017
45174 2017
45175 2011
45176 2018
45177 2014
Milakokia Lake
Milakokia River
North Branch Milakokia River
Tom S Creek
Heinz Lake
Cranberry Lake
Loon Lake
Shoepac Lake
Swan Marsh
Batty Doe Lake
Sand Lake
Bruders Lake
Island Lake
Stone Lake
Scrams Marsh
Scrams Creek
McEachera Spring
Dry Lake
Crow Lake
Knob Lake
McNeil Creek
Amadon Pond
Crow River
Sherman Pond
Barns Pond
Turtle Lake
Duel Lake
Browns Lake
Mud Lake
Rock River
Miller Lake
Unknown 9
Campground Rd
Milakokia Lake Rd
Grade Lake Rd
Spike Smith Ln
Martha St
Alley
Main St
Corinne Rd
Clark Rd
Brawley Rd
Price Rd
Carnegie Trl
Big Knob Rd
Wilson Rd
French Rd
Welsh Ln
S Gould City Rd
Polly Rd
Simmons Woods Rd
LaLonde Rd
Leveille Rd
Buckeye Grade Rd
Batty Doe Lake Rd
Baker Rd
Well Casing Rd
Hunspur Rd
Unknown A
Unknown
County Road 433

Seiner's Point ERA -- Treatments

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
36	NF_45175036-Spray	121.7	710 - Sand, Soil	Nonstocked			Pesticide	Hand Application		Unspecified	Draft Field Boundary

Habitat Cut: No **Site Condition:**

Prescription Specs: Spray invasive species of phragmites found along beach. Choose appropriate herbicide based on site, work instructions, and manufactures recommendations.

Next Step Treatments:

Acceptable Regen:

Other Comment: Possible Phragmites patches along beach. Control through appropriate methods. Old next step comments: Spray as needed to control invasive species.

Proposed Start Date: 12/30/1899

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
67	45199067-Monitor	46.8	720 - Exposed Rock	Nonstocked			Monitoring	Other - Specify	720 - Exposed Rock		Proposal

Habitat Cut: No **Site Condition:**

Prescription Specs: Monitor for phragmites or other invasive plants and spray if needed.
Monitor for illegal ORV use.

Next Step Treatments:

Acceptable Regen: native plants

Other Comment:

Proposed Start Date: 10/01/2010

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
63	NF_45199063-Spray	11.9	710 - Sand, Soil	Nonstocked			Pesticide	Hand Application		Unspecified	Draft Field Boundary

Habitat Cut: No **Site Condition:**

Prescription Specs: Spray invasive species of phragmites found along beach. Choose appropriate herbicide based on site, work instructions and manufacturer recommendations.

Next Step Treatments:

Acceptable Regen:

Other Comment: Possible phragmites patches along beach. Old next step comments: Check for success of herbicide. Follow up with herbicide or other methods deemed necessary if needed.

Proposed Start Date: 12/30/1899

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
65	NF_45199065-Spray	4.4	623 - Emergent Wetland	Nonstocked			Pesticide	Hand Application		Unspecified	Draft Field Boundary

Habitat Cut: No **Site Condition:**

Prescription Specs: Spray invasive species of phragmites found along beach. Choose appropriate herbicide based on site, work instructions and manufacturer recommendations.

Next Step Treatments:

Acceptable Regen:

Other Comment: Possible phragmites patches along beach. Old next step comments: Check for success of herbicide. Follow up with herbicide or other methods deemed necessary if needed.

Proposed Start Date: 12/30/1899

Seiner's Point ERA -- Treatments

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
3	45200003-Monitor	141.9		Nonstocked		Unspecified	Monitoring		710 - Sand, Soil		Proposal

Habitat Cut: No **Site Condition: Natural/Quiet/Wilderness Area**

Prescription Specs: Monitor for phragmites and other invasive plants and spray if needed.

Monitor for illegal ORV use.

Next Step Treatments:

Acceptable Regen: native plants

Other Comment:

Proposed Start Date: 10/01/2016

Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
2	45203002-Monitor	140.3	710 - Sand, Soil	Nonstocked		Unspecified	Monitoring	Other - Specify	710 - Sand, Soil		Proposal

Habitat Cut: No **Site Condition: Other Dept./Div. Processes**

Prescription Specs: Monitor for phragmites and other invasive plants and spray if needed.

Monitor for illegal ORV use.

Next Step Treatments:

Acceptable Regen: native plants

Other Comment:

Proposed Start Date: 10/01/2016

Total Treatment Acreage Proposed: 467