

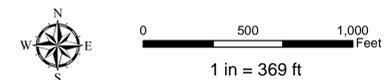
High-Risk Erosion Area Update - 2019

Garfield Township, Mackinac County
T42N, R11W Section 19

North of Fox Point

High-Risk Erosion Areas 30 YR/60 YR Projected Recession Distance (Feet) Average Annual Rate of Recession (FT/YR)

AREA A1: 55/95' (Avg. 1.3 FT/YR)



- Roads
- Transects with Erosion Rates (ft)
-- = Accretion + = Recession
- Sections
- De-Designated Parcels
- 1985 HREAs (approximate)

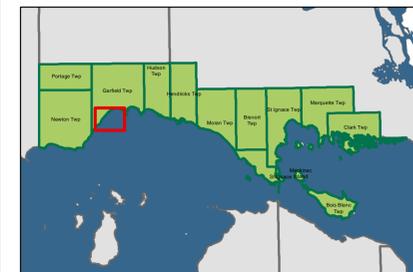
MAP INFORMATION:

This map identifies potential High-Risk Erosion Areas under Part 323, Shorelands Protection and Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. The shaded areas indicate an average rate of recession of at least one foot per year.

Background imagery, as well as roads and survey data were provided by the State of Michigan, Center for Shared Solutions and Technology Partnerships.

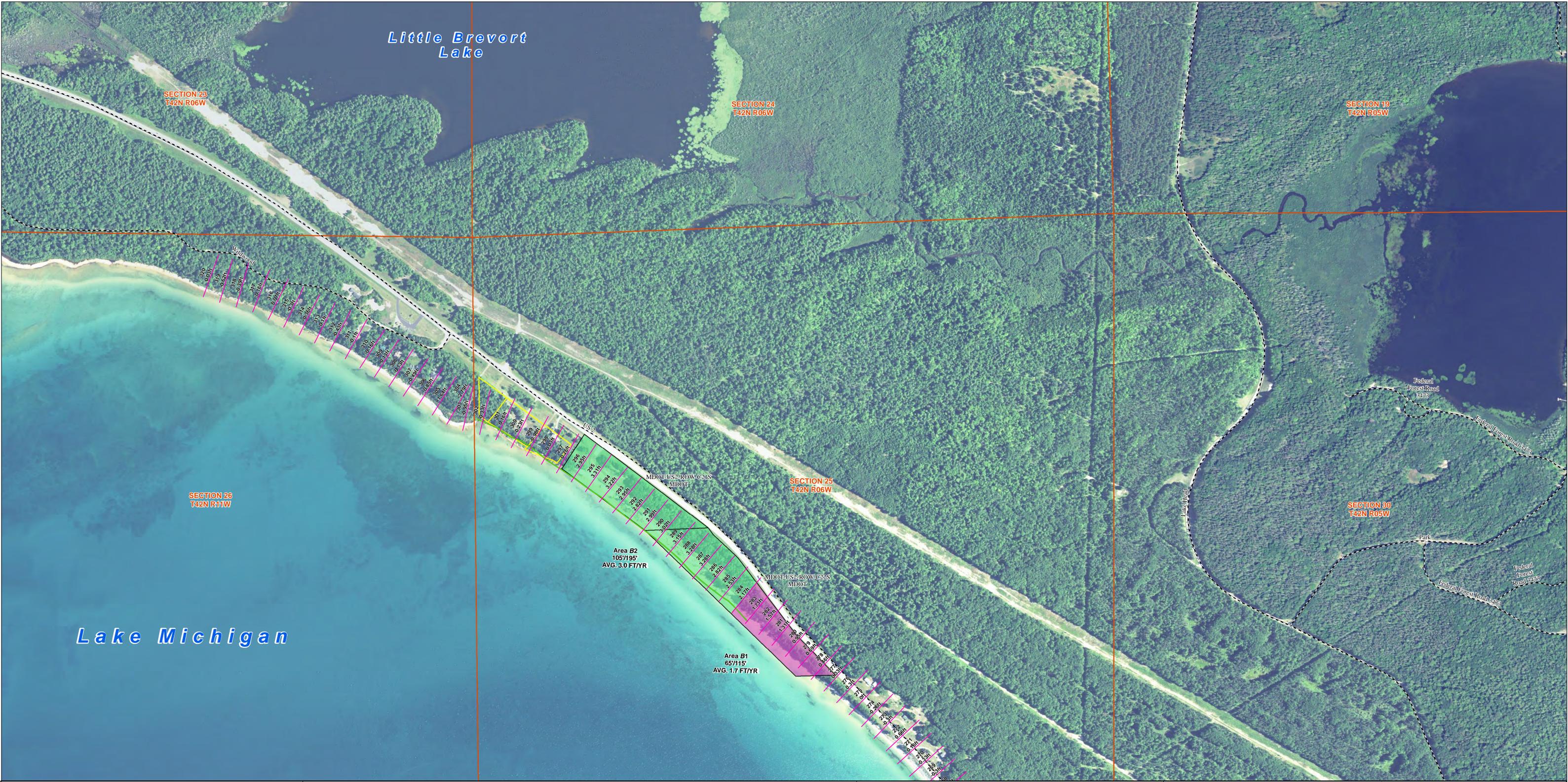
Questions regarding this map should be directed to Environment, Great Lakes, and Energy at 517-290-2757.

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Map Created by: Jeremy Jones
Environmental Quality Analyst
Water Resources Division
Environment, Great Lakes, Energy
9/23/2019

Recession/Accretion values for each area were calculated using the Digital Shoreline Analysis System from the USGS (Thieler, E.R., Himmelstoss, E.A., Zichow, J.L., and Ergul, Arhan, 2017, Digital Shoreline Analysis System (DSAS) version 4.0: An ArcGIS extension for calculating shoreline change (ver.4.4, July 2017); U.S. Geological Survey Open-File Report 2008-1278)

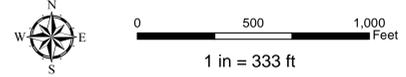


High-Risk Erosion Area Update - 2019

Moran Township, Mackinac County
T42N, R06W Section 25
Old MDOT Brevort Scenic Turnout

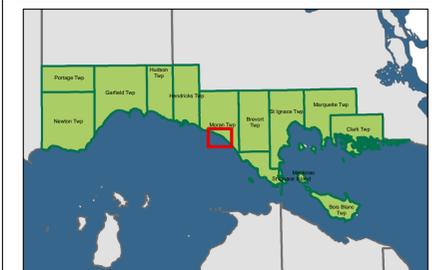
High-Risk Erosion Areas 30 YR/60 YR Projected Recession Distance (Feet) Average Annual Rate of Recession (FT/YR)

- AREA B1: 65/115' (Avg. 1.7 FT/YR)
- AREA B2: 105/195' (Avg. 3.0 FT/YR)



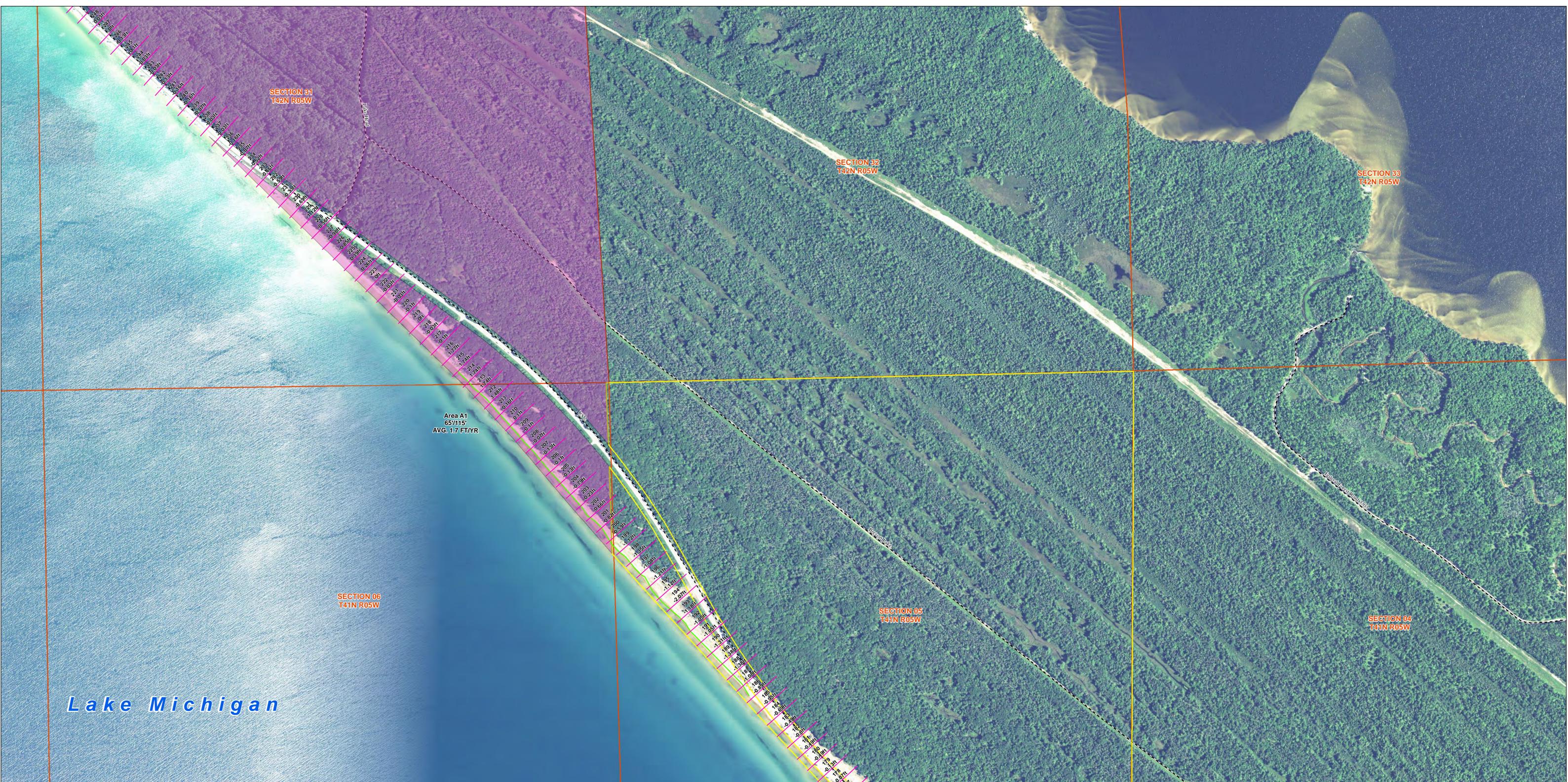
- Roads
- Sections
- Parcels
- Transects with Erosion Rates (ft)
- = Accretion + = Recession
- 1985 HREAs (approximate)
- De-Designated Parcels

MAP INFORMATION:
This map identifies potential High-Risk Erosion Areas under Part 323, Shorelands Protection and Management, of the Natural Resources and Environmental Protection Act, 1964 PA 451, as amended. The shaded areas indicate an average rate of recession of at least one foot per year.
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High-Risk Erosion Area Update - 2019

Moran Township, Mackinac County
 T42N, R05W Section 31 & T41N, R05W Sections 5&6
 USFS Lake Michigan Campground

High-Risk Erosion Areas 30 YR/60 YR Projected Recession Distance (Feet) Average Annual Rate of Recession (FT/YR)

AREA A1: 65/115' (Avg. 1.7 FT/YR)

W N E S

0 600 1,200 Feet

1 in = 380 ft

--- Roads

--- Transects with Erosion Rates (ft)
 - = Accretion + = Recession

--- Sections

--- 1985 HREAs (approximate)

--- De-Designated Parcels

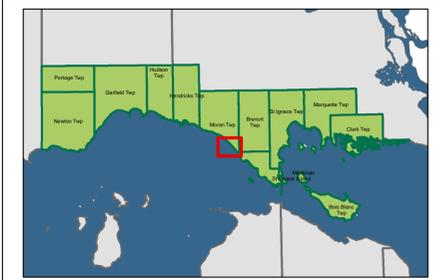
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MICHIGAN DEPARTMENT OF
 ENVIRONMENT, GREAT LAKES, AND ENERGY

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 Environmental Quality Analyst
 Water Resources Division
 Environment, Great Lakes, and Energy
 9/23/2019

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Parcels in High Risk Erosion Areas of Mackinac County

Date of Designation: September 30, 2019

Site	Parcel Identification No.	Rate (feet/year)	30 yr PRD*	60 yr PRD*
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Garfield Township

North of Fox Point	49-004-999-004-00 Shoreline beginning 2,900 ft from North boundary line and ending 750 ft from South boundary line +/-; MDNR	1.3	55	95
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Moran Township

Old MDOT Brevort Scenic Turnout	49-008-MDOT-US2-ROW-C22S	1.7	65	115
Old MDOT Brevort Scenic Turnout	49-008-MDOT-US2-ROW-C22S Northern 900 ft of shoreline	3.0	105	195
Old MDOT Brevort Scenic Turnout	49-008-MDOT-US2-ROW-C21S	3.0	105	195
USFS Lake Michigan Campground	49-008-034-006-00 Northern 230 ft of shoreline	1.7	65	115
USFS Lake Michigan Campground	49-008-044-031-00 Southern 460 ft of shoreline	1.7	65	115

HREA* - Some parcels may be in multiple HREAs due to their large size.

30 yr PRD* is the Projected Recession Distance (feet) landward from the Erosion Hazard Line for readily moveable structures including those structures 3,500 square feet or less and built on a basement, crawlspace or pilings. Additional restrictions may apply per Administrative Rules 281.21-22.

60 yr PRD* is the Projected Recession Distance (feet) landward from the Erosion Hazard Line for non-readily moveable structures such as large structures and septic systems.

Designation runs with the land including subsequent splits. Absence of a property number does not guarantee the property is located outside of an HREA. Contact Great Lakes Shorelands staff, Water Resources Division, EGLE in Lansing or the local EGLE field office for assistance.