

CREP Prioritization: Mapping Sediment Loading Risk in the Saginaw Bay Basin

Background

Michigan State University Extension (MSUE) is collaborating with the State of Michigan and local stakeholders to re-establish the Conservation Reserve Enhancement Program (CREP) in Michigan. To aid in prioritizing lands eligible for CREP enrollment, the Institute of Water Research (IWR) at MSU developed township-scale maps of sediment loading risk for the Saginaw Bay basin. This book organizes those maps at the township scale.

Data

The maps are based upon data from the United States Geological Survey's (USGS) SPATIally Referenced Regression On Watershed attributes (SPARROW) model*. The model uses observations, land use characteristics, and statistical relationships, among other variables, to estimate pollutant loads to streams and rivers. The data in this map book represents incremental sediment load contribution for each small catchment in the basin (see image at right), i.e. the amount of sediment load that originated in a particular area (not the total, accumulated amount moving through the stream in that area).

Contacts

Please direct questions about MSUE's project to:

Sarah Fronczak

Environmental Management Educator

Michigan State University Extension

froncz3@msu.edu

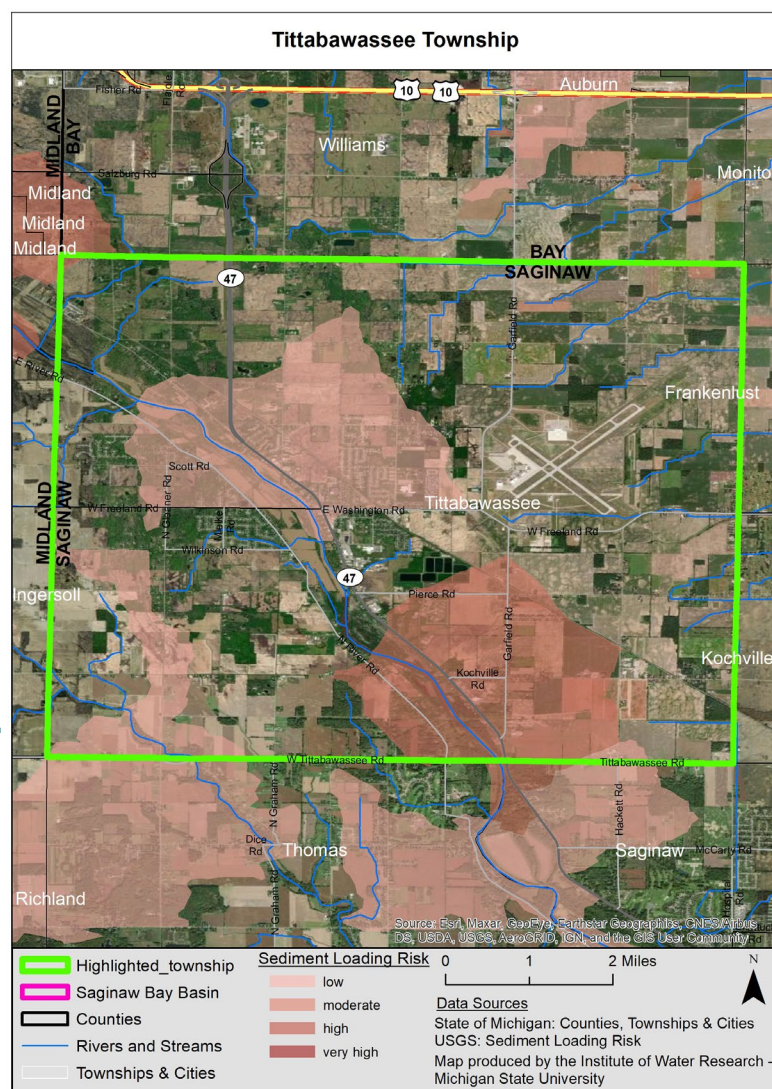
Please use the URL below to learn more about the SPARROW model, and direct questions about the maps to:

Glenn O'Neil

Environmental Scientist

Institute of Water Research - Michigan State University

oneilg@msu.edu



* <https://www.sciencebase.gov/catalog/item/5cbf5150e4b09b8c0b700df3>

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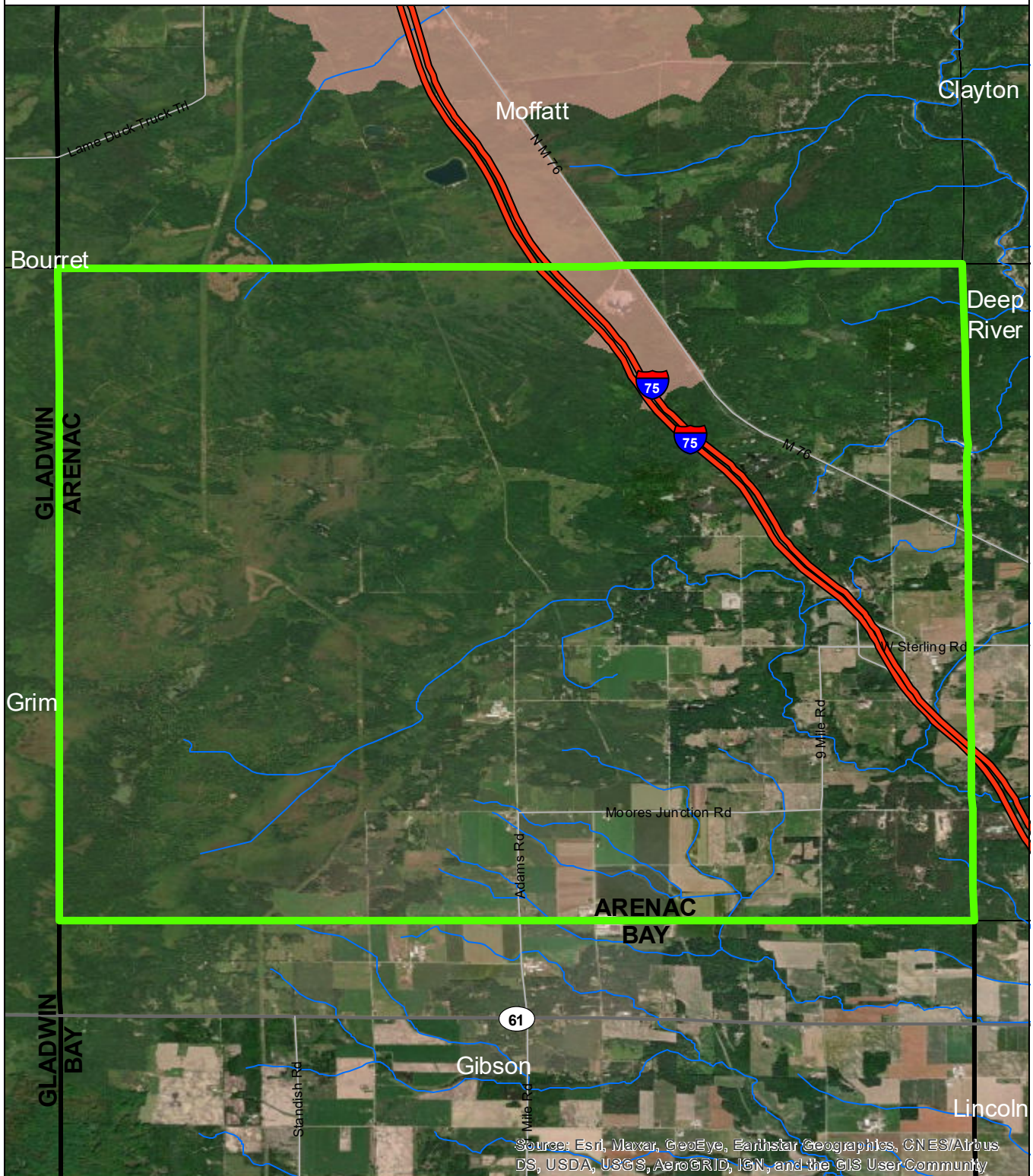
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Adams Township



- Adams Township
- Saginaw Bay Basin
- Counties
- Rivers and Streams
- Townships & Cities

Sediment Loading Risk

- low
- moderate
- high
- very high

0 1 2 Miles

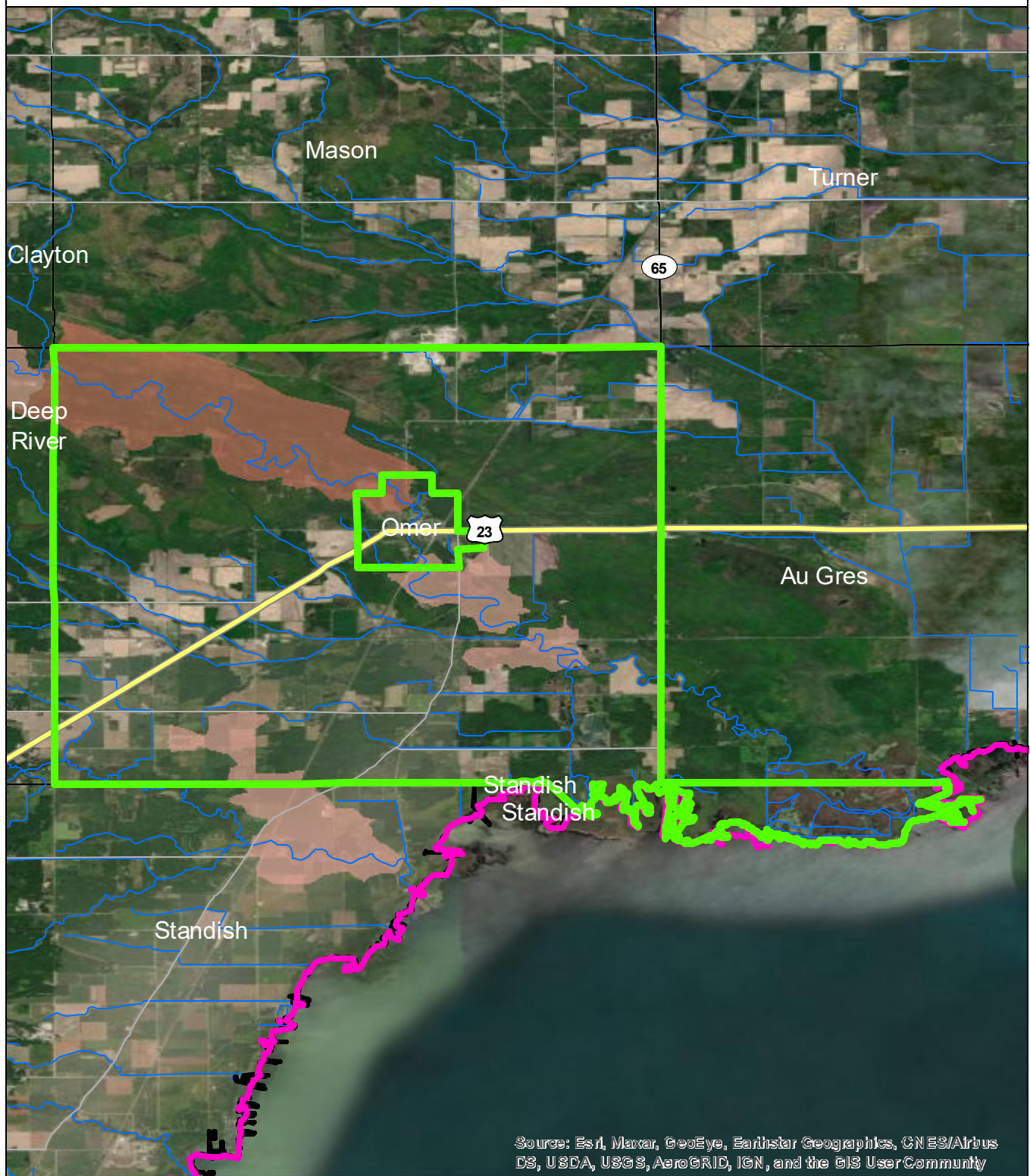
Data Sources

State of Michigan: Counties, Townships & Cities
USGS: Sediment Loading Risk

Map produced by the Institute of Water Research - Michigan State University



Arenac Township



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS UserCommunity

- Arenac Township
- Saginaw Bay Basin
- Counties
- Rivers and Streams
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Sediment Loading Risk

- low
- moderate
- high
- very high

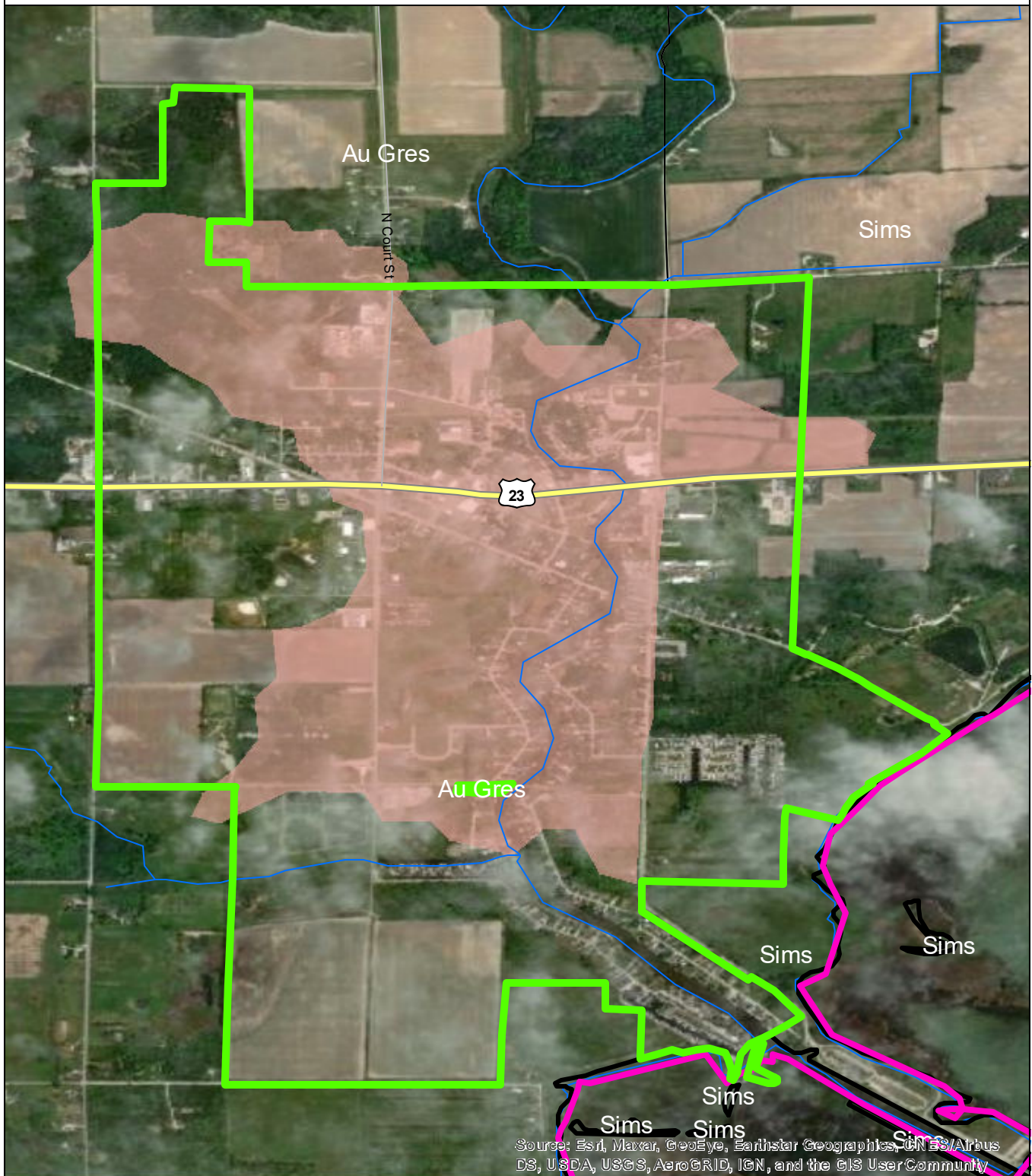
0 1 2 Miles

Data Sources

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City of Au Gres



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS UserCommunity

- City of Au Gres
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Sediment Loading Risk

- low
- moderate
- high
- very high

0

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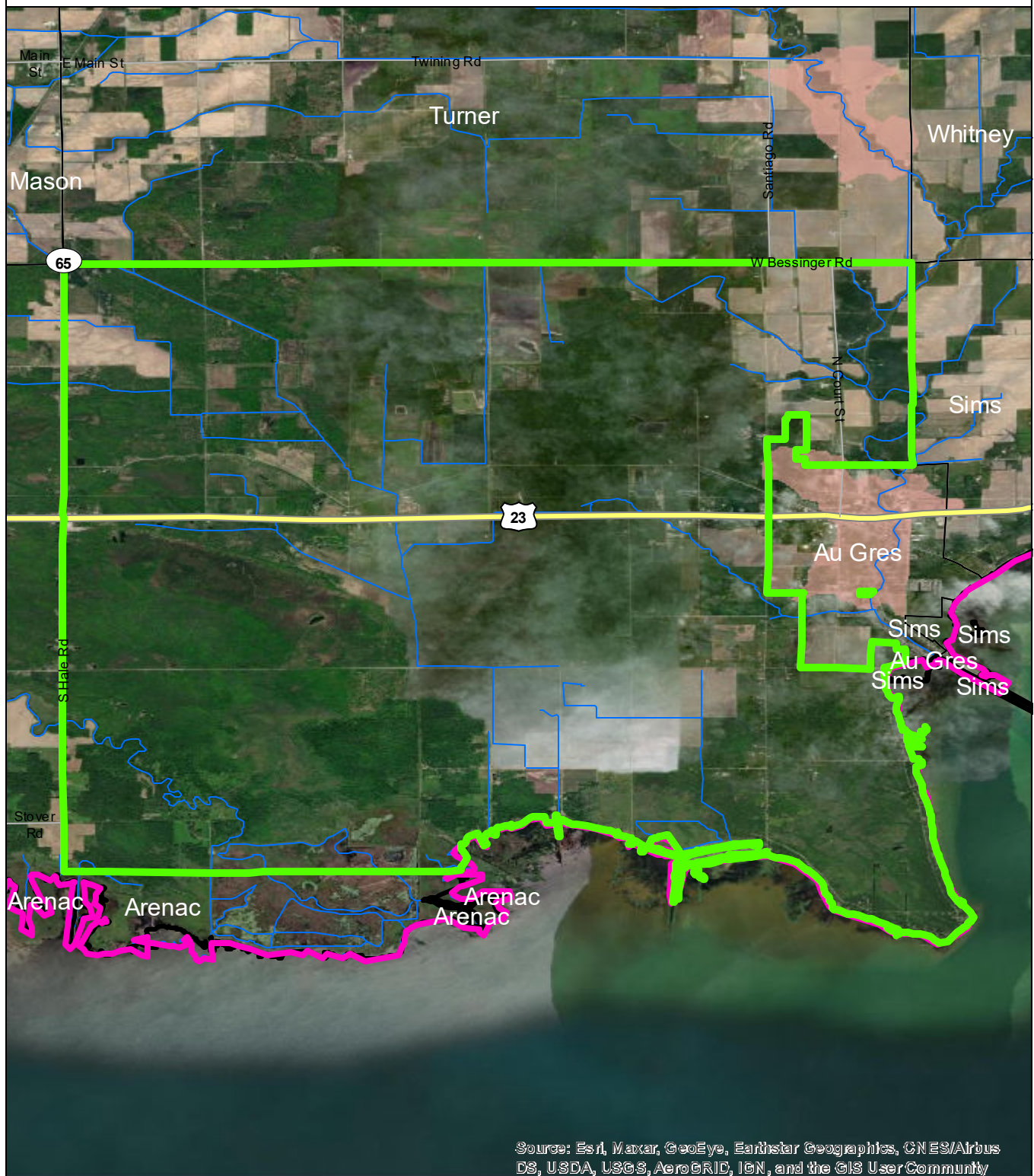
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Au Gres Township



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS UserCommunity

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Sediment Loading Risk

- low
- moderate
- high
- very high

0 1 2 Miles

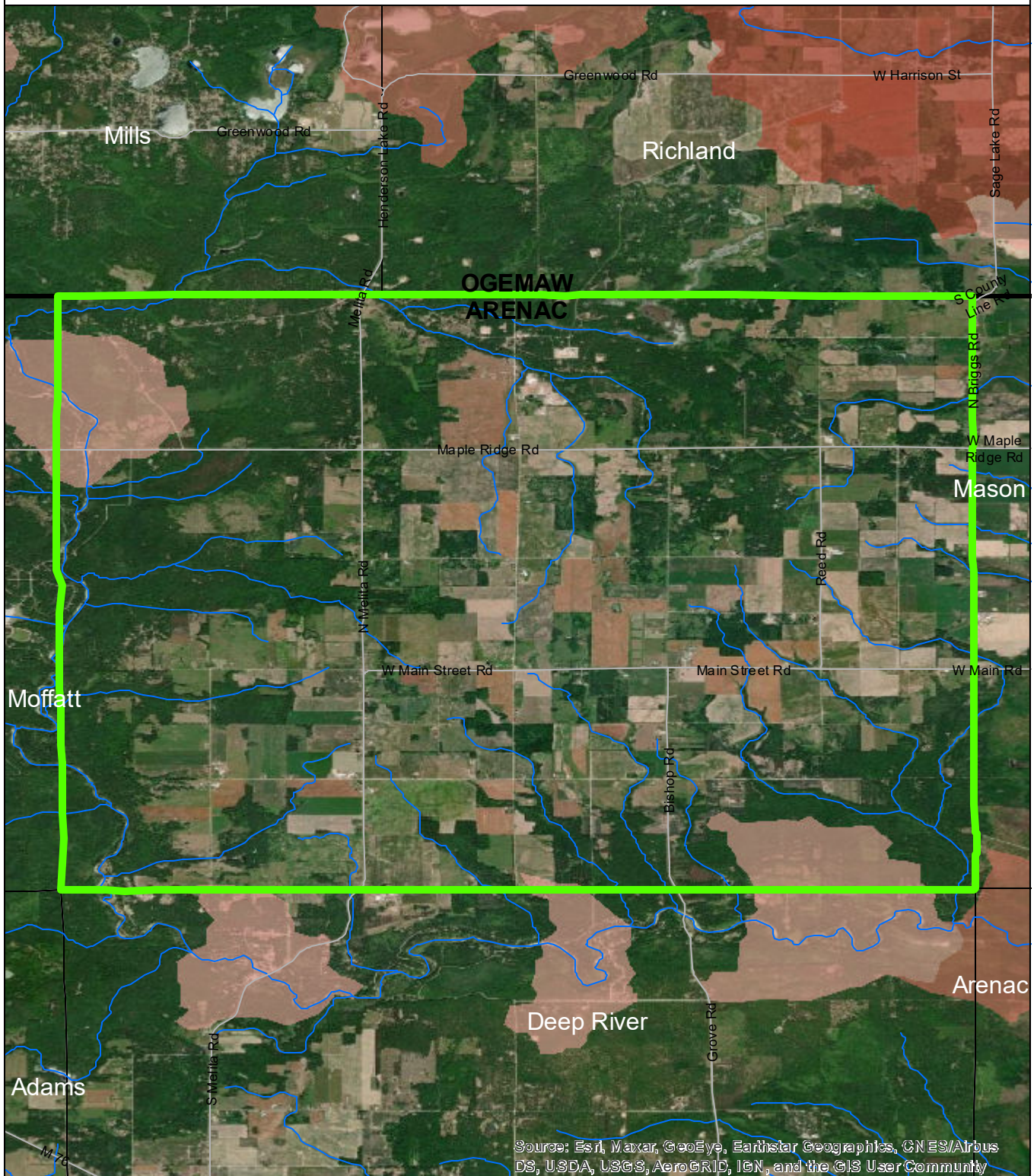
Data Sources

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Clayton Township



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CN ES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

- Clayton Township
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Sediment Loading Risk

- low
- moderate
- high
- very high

0 1 2 Miles

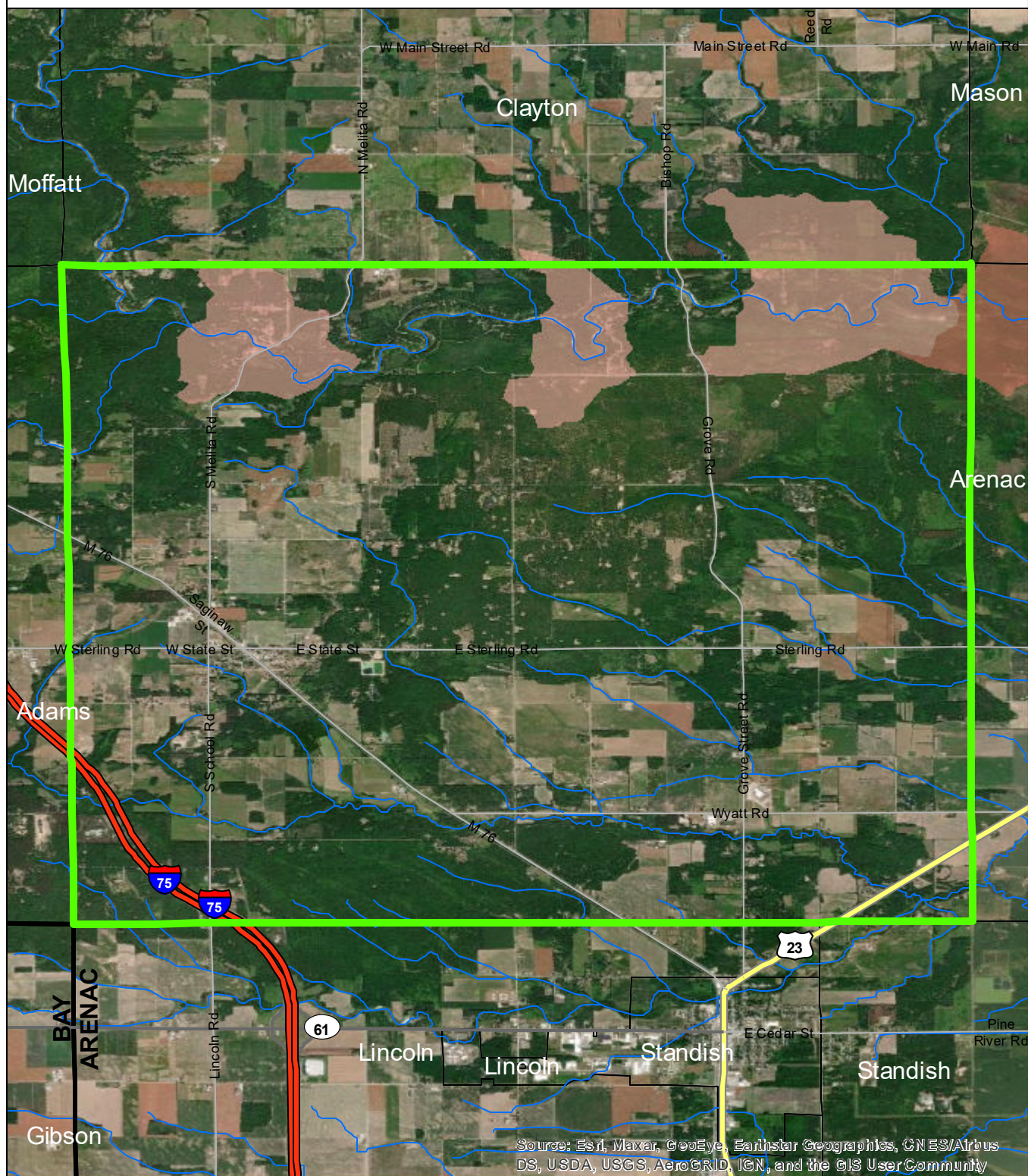
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Deep River Township



- Deep River Township
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Sediment Loading Risk

- low
- moderate
- high
- very high

0 1 2 Miles

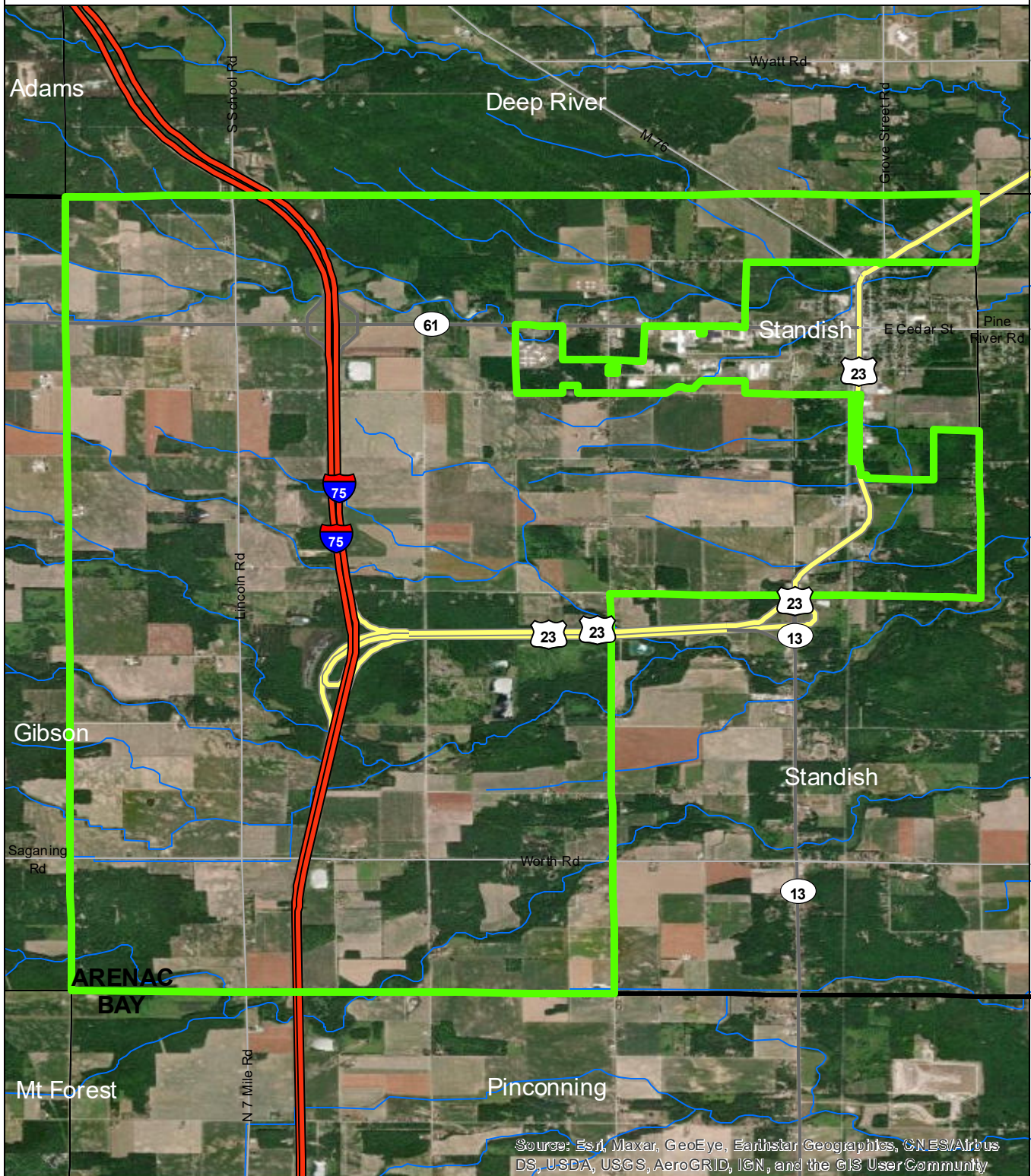
Data Sources

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Lincoln Township



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Sediment Loading Risk

- low
- moderate
- high
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0 1 2 Miles

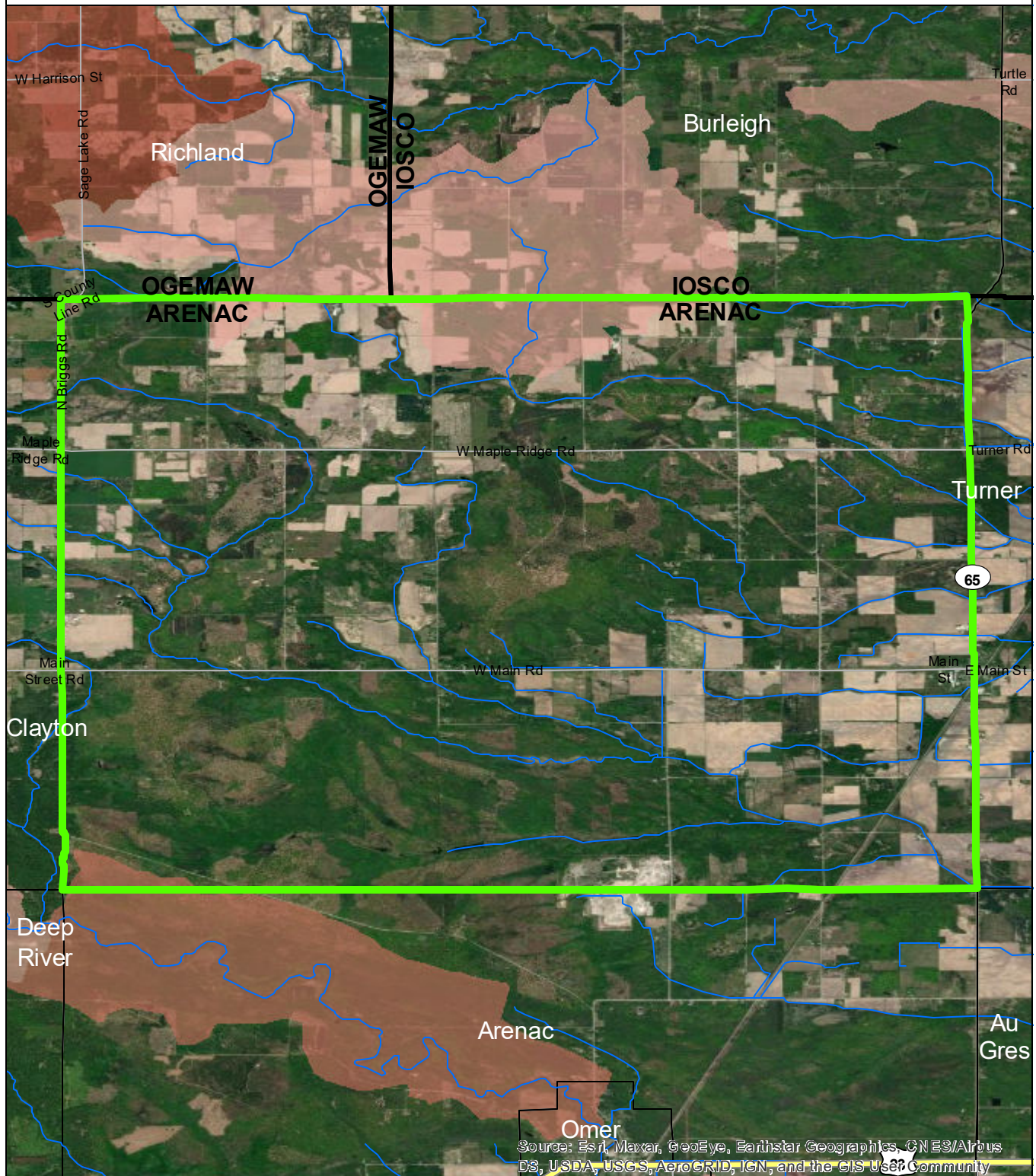
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Mason Township



- Mason Township
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Sediment Loading Risk

- low
- moderate
- high
- very high

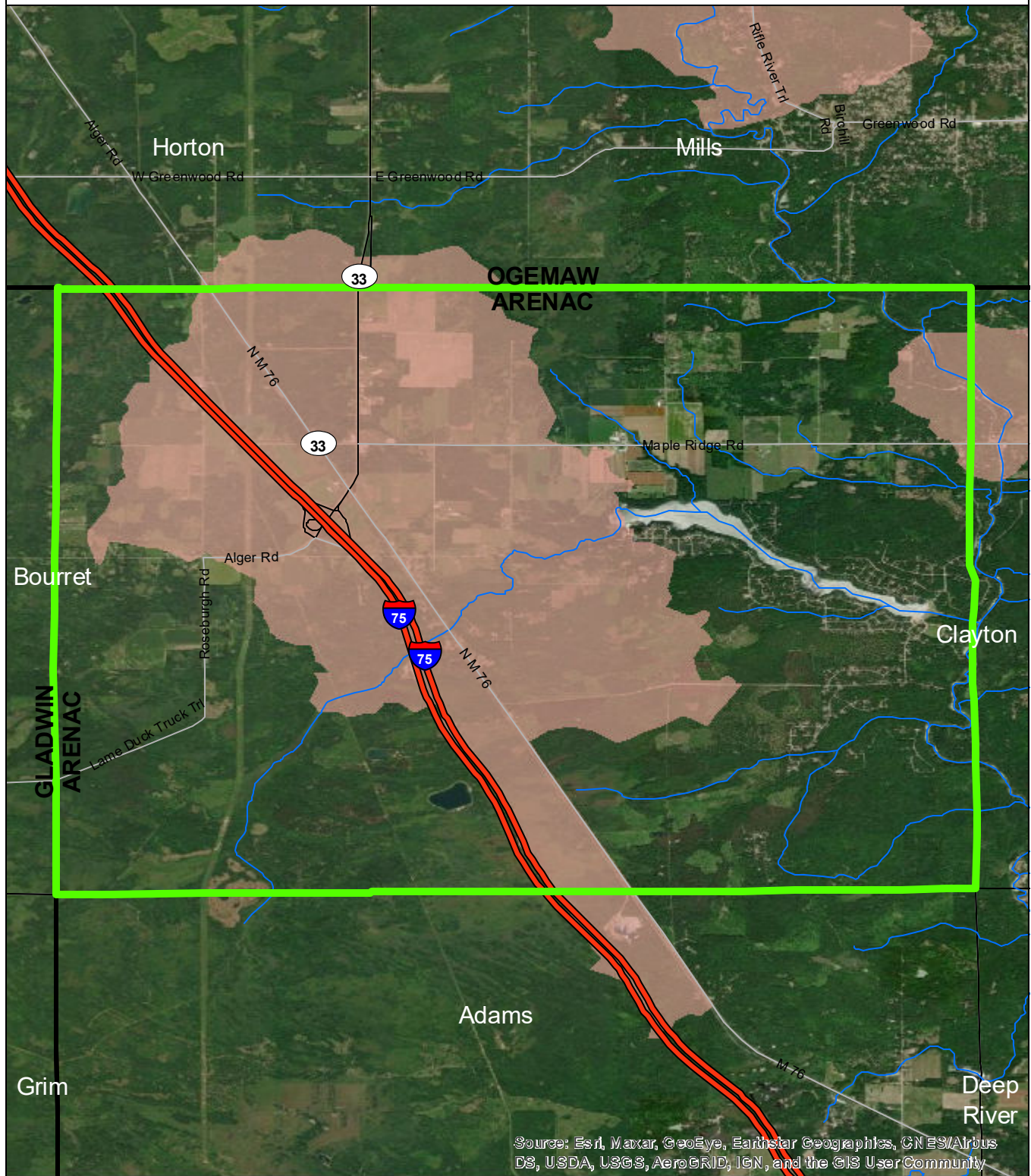
0 1 2 Miles

Data Sources

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Map produced by the Institute of Water Research - Michigan State University

Moffatt Township



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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Sediment Loading Risk

- low
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0 1 2 Miles

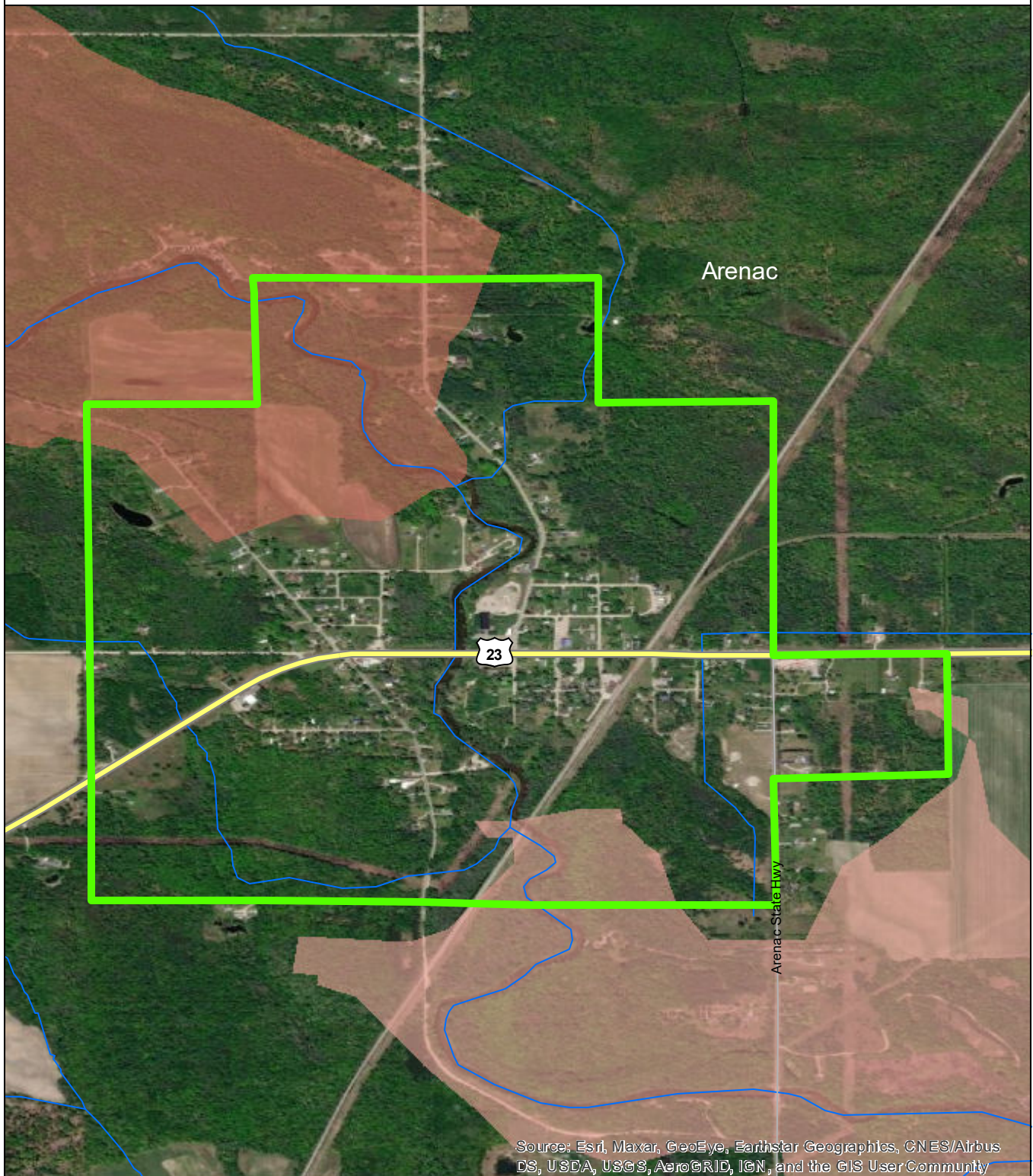
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Map produced by the Institute of Water Research - Michigan State University



City of Omer



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS UserCommunity

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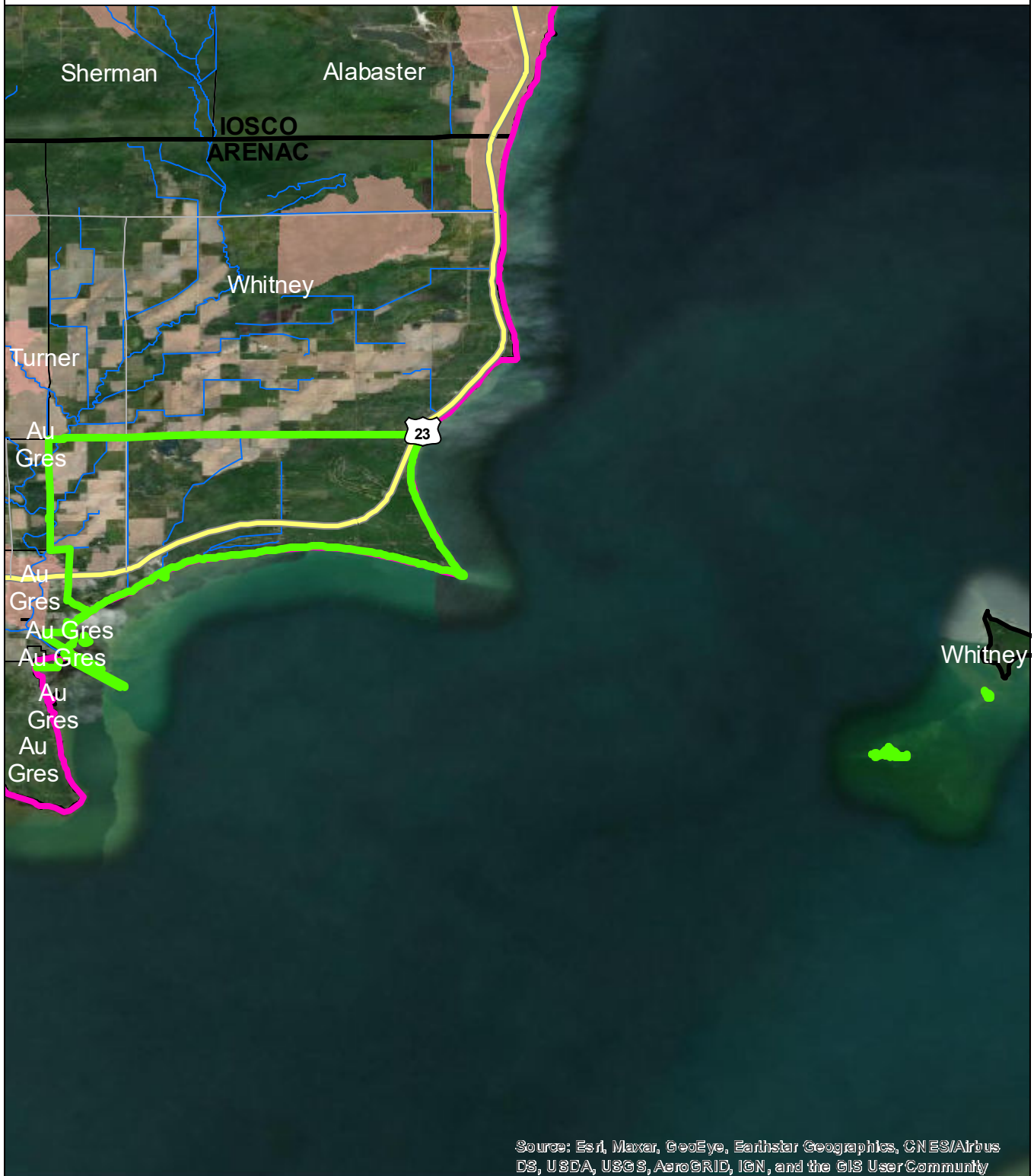
Map produced by the Institute of Water Research - Michigan State University

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Sims Township



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS UserCommunity

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Sediment Loading Risk

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0 1 2 Miles

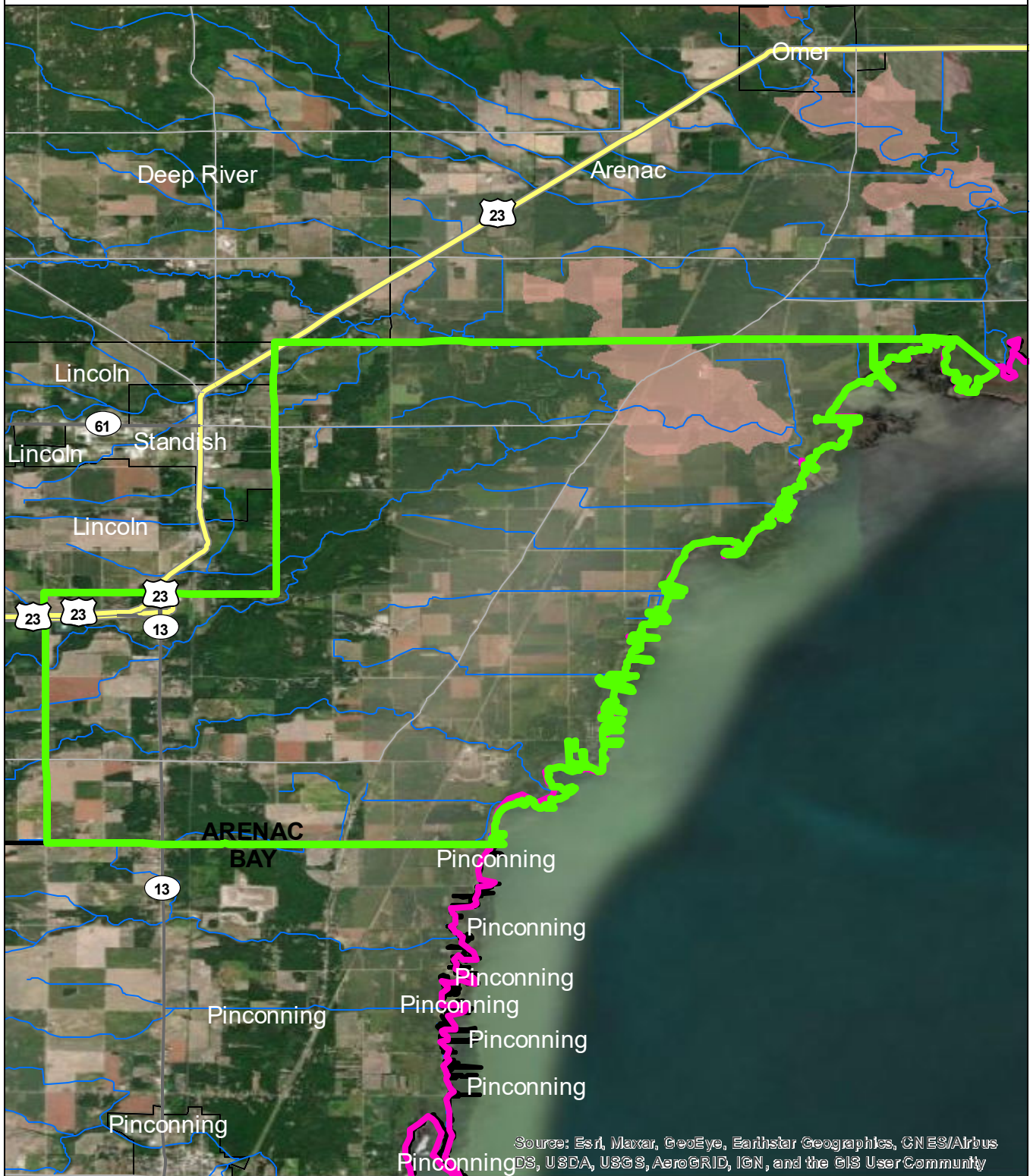
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Standish Township



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS UserCommunity

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Sediment Loading Risk

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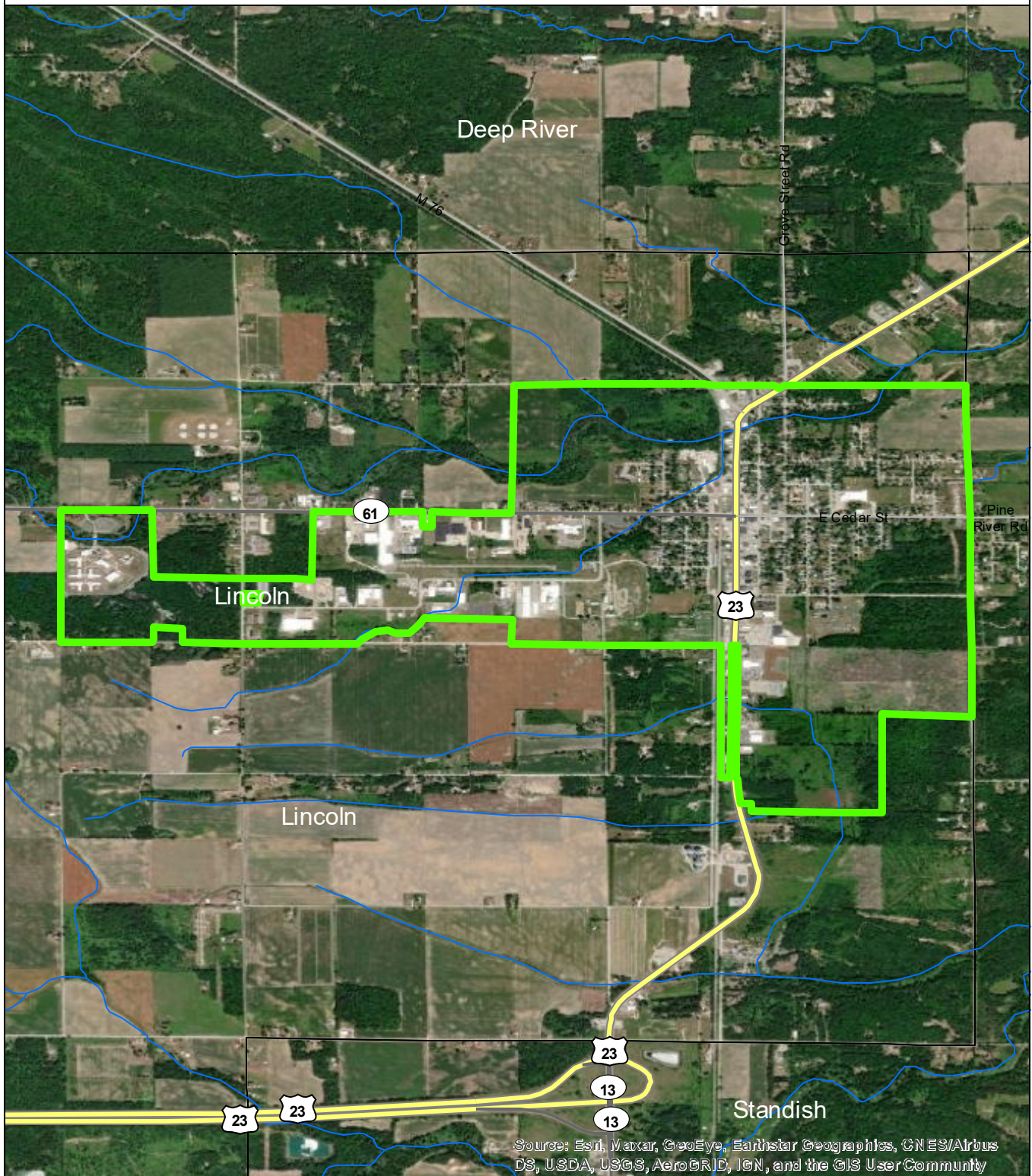
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City of Standish

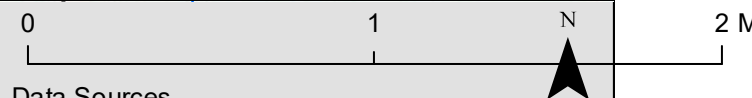


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Sediment Loading Risk

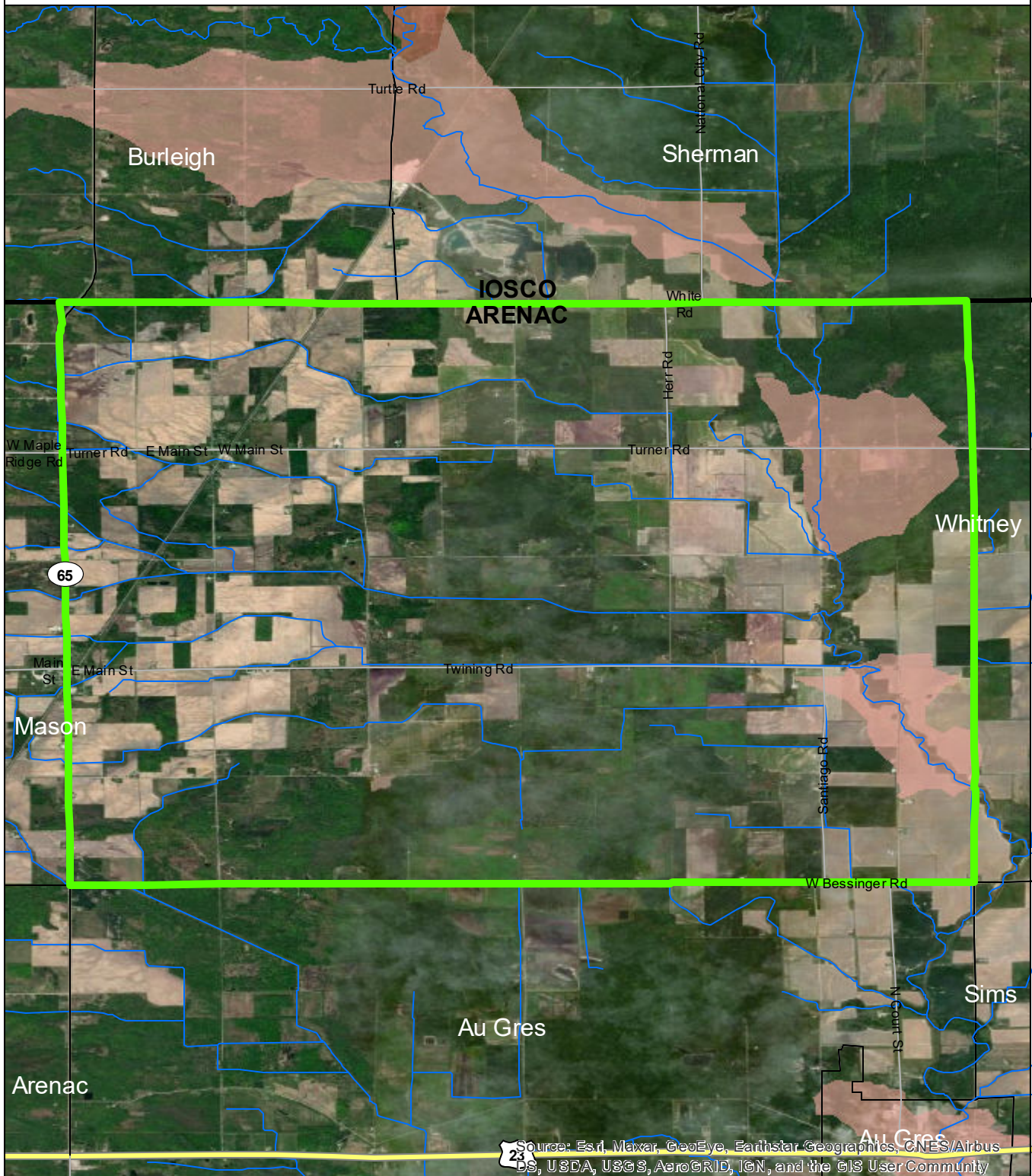
- low
- moderate
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Data Sources

State of Michigan: Counties, Townships & Cities
 USGS: Sediment Loading Risk
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Turner Township



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Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

- Turner Township
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- Counties
- Rivers and Streams
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Sediment Loading Risk

- low
- moderate
- high
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0 1 2 Miles

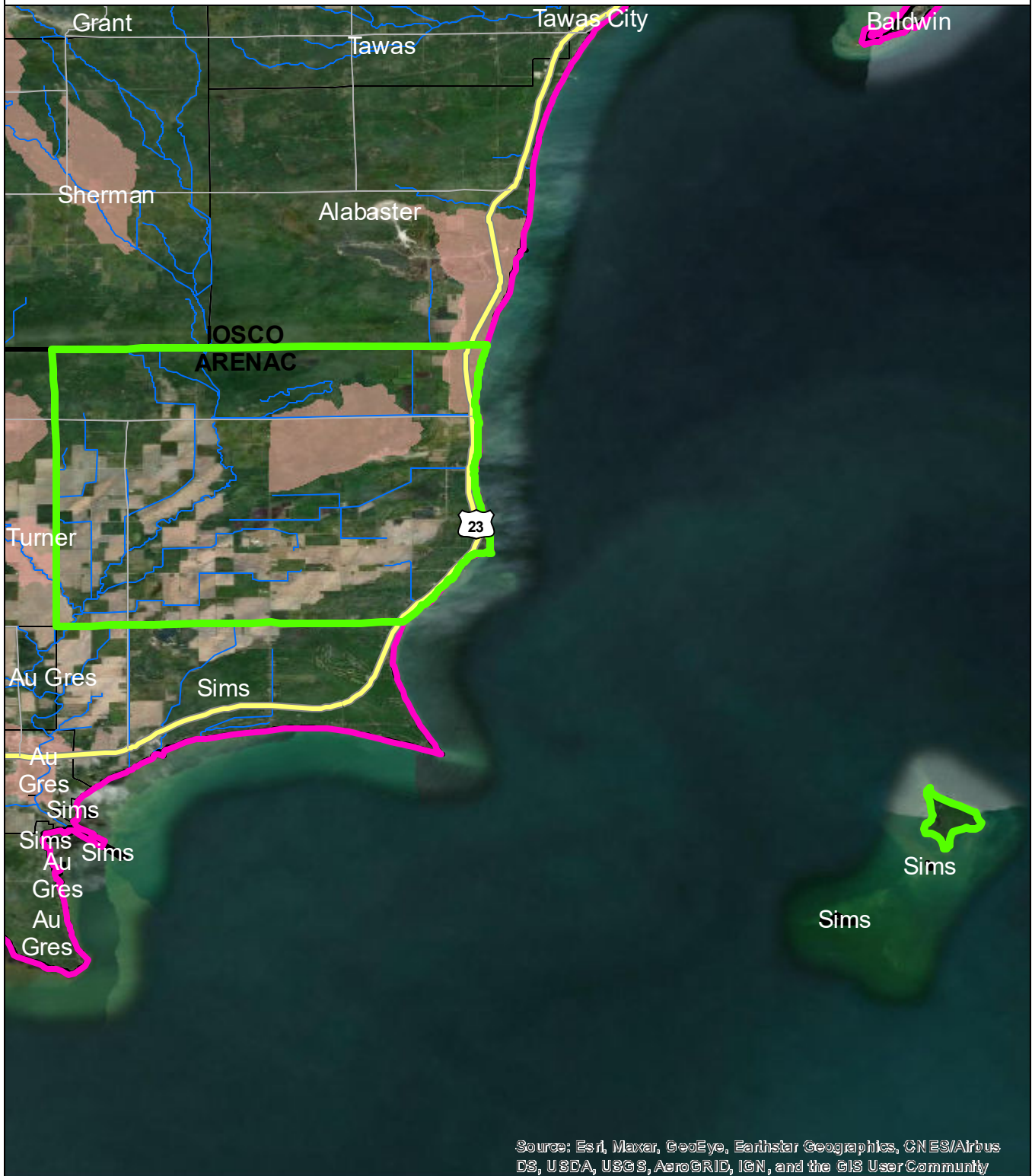
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Whitney Township



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