

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.

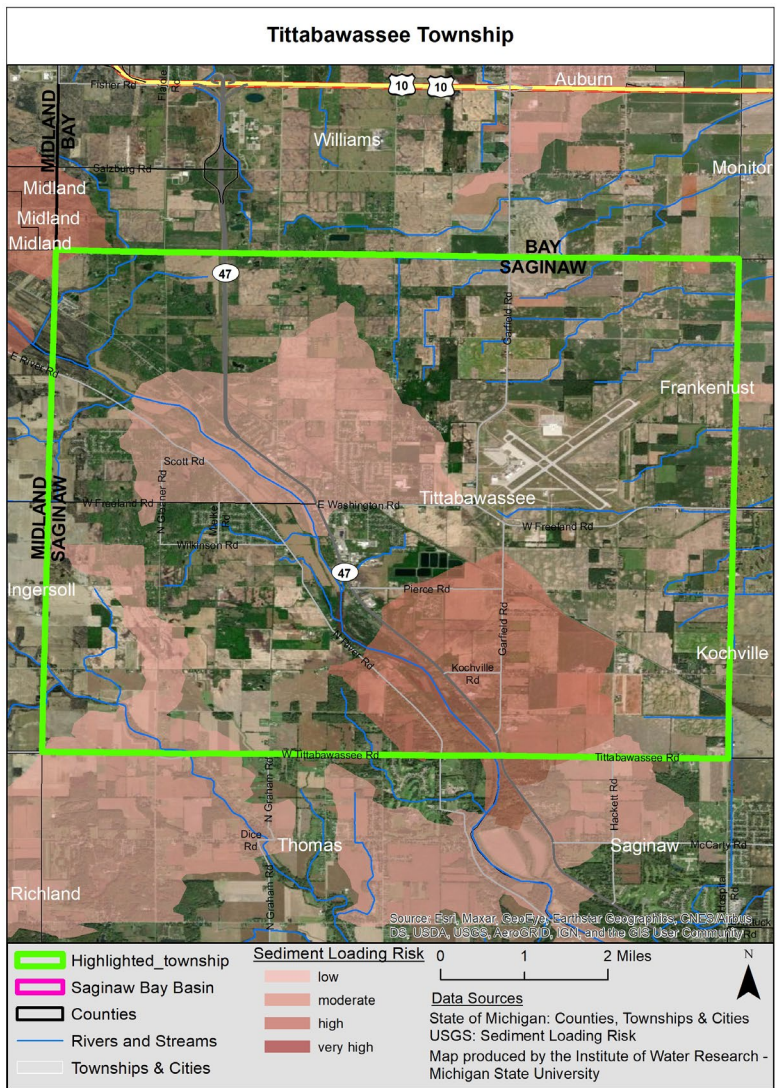
Data

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:
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 Michigan State University Extension
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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

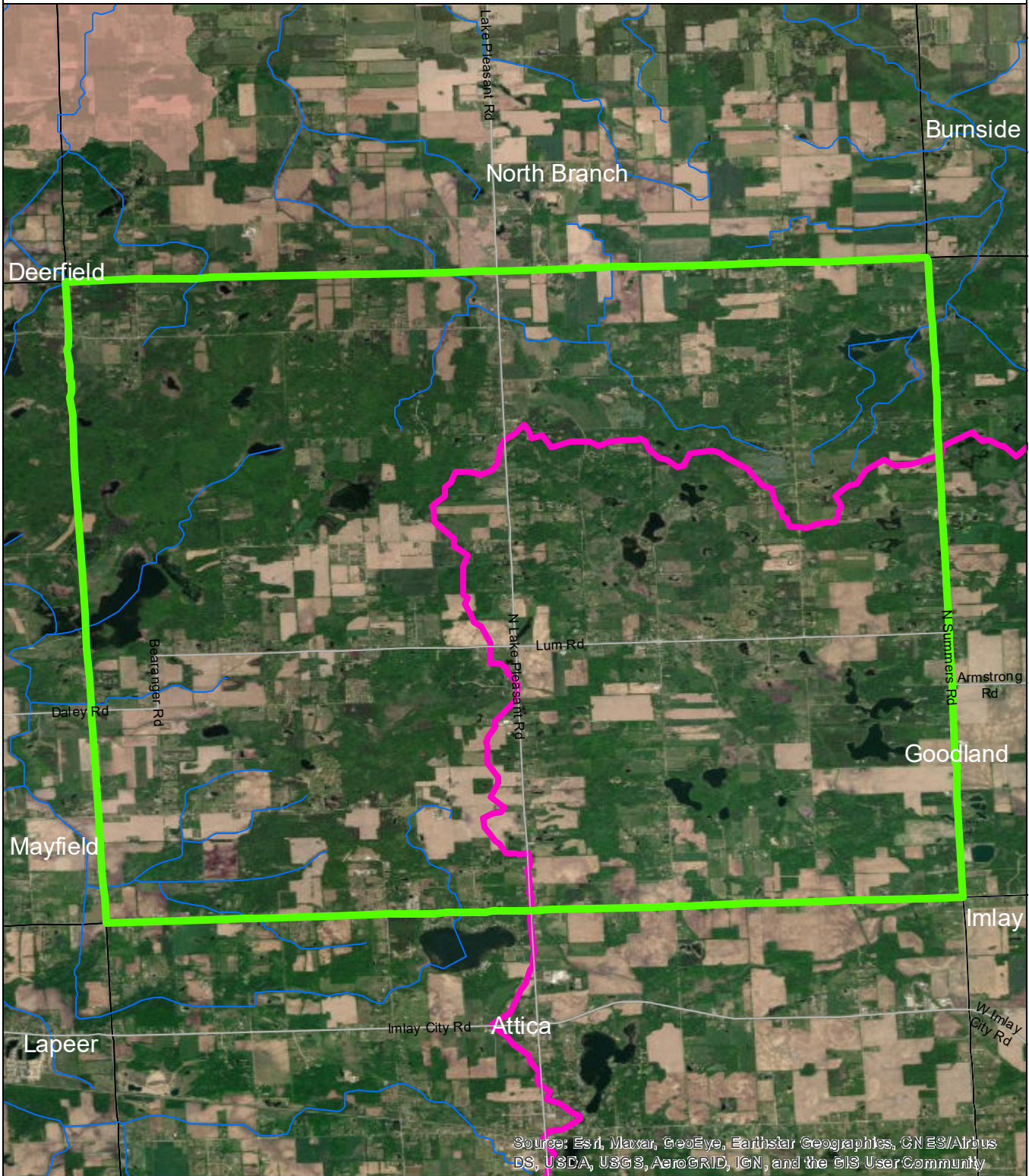


* <https://www.sciencebase.gov/catalog/item/5cbf5150e4b09b8c0b700df3>

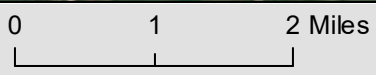
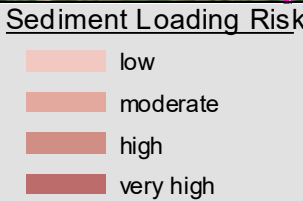
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Arcadia Township



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

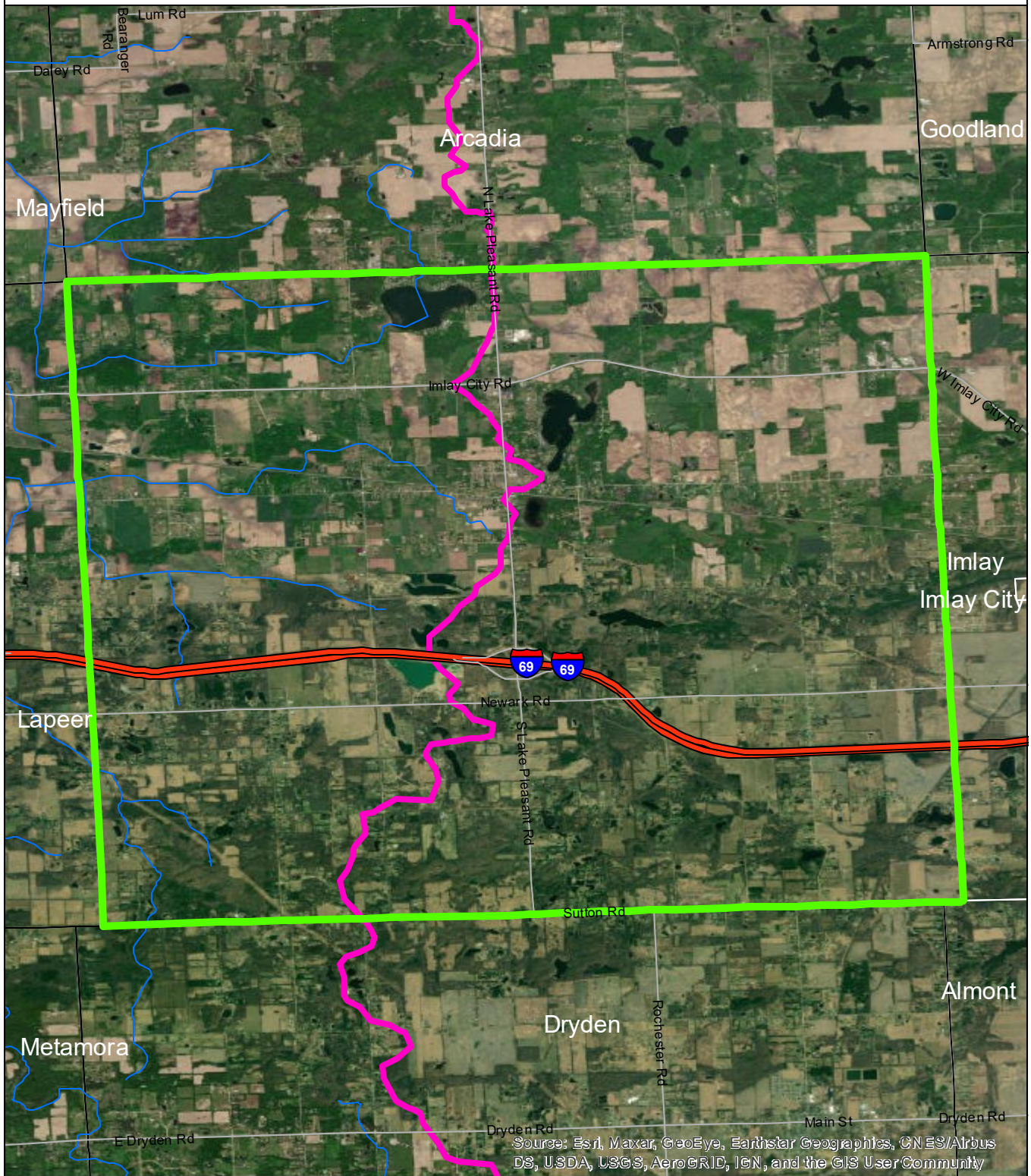


Data Sources

State of Michigan: Counties, Townships & Cities
 USGS: Sediment Loading Risk
 Map produced by the Institute of Water Research - Michigan State University



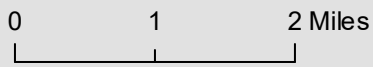
Attica Township



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

Sediment Loading Risk

- low
- moderate
- high
- very high



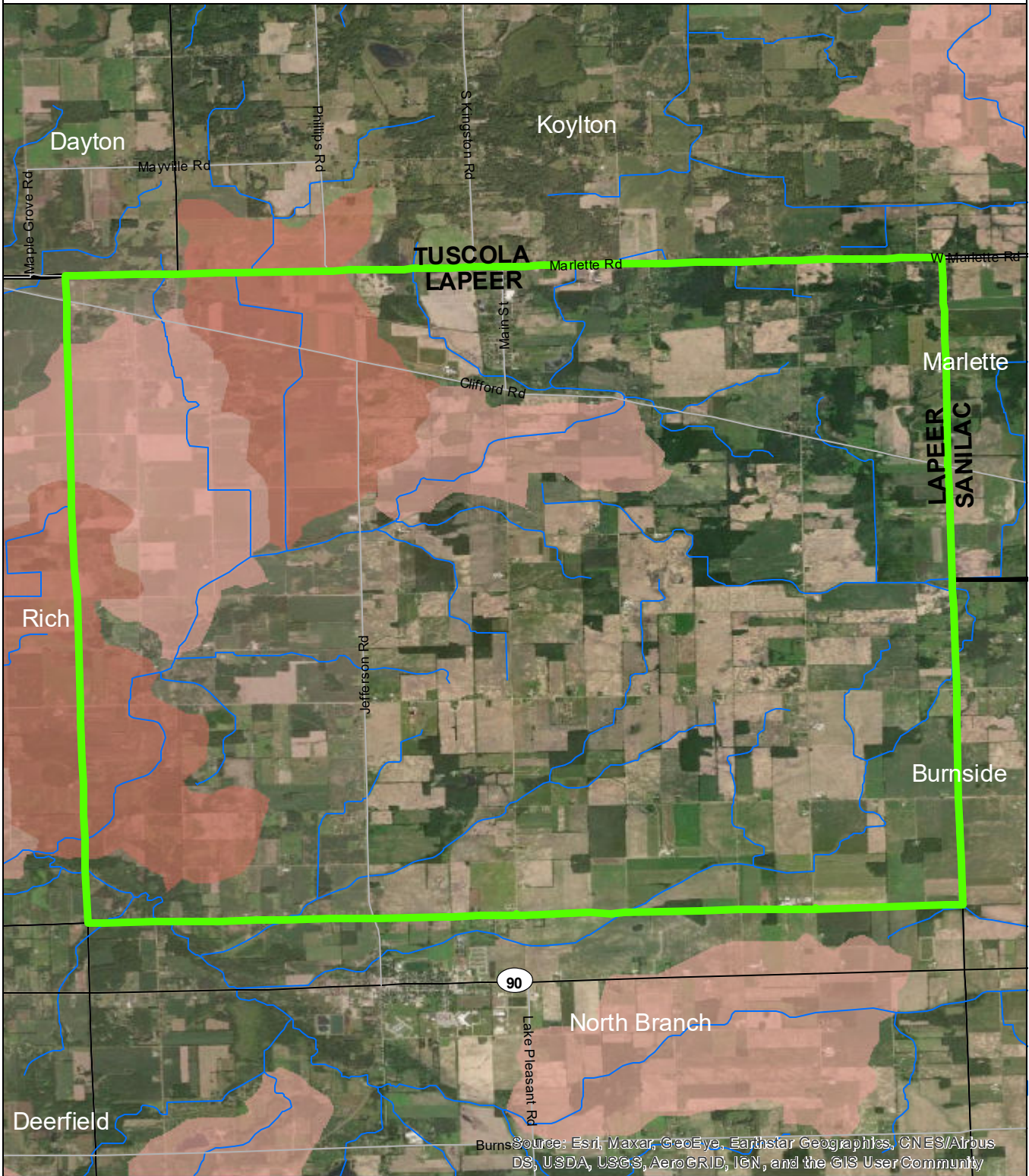
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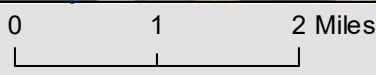
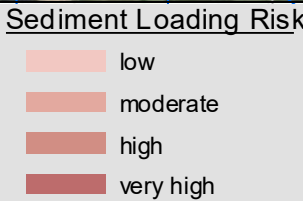
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Burlington Township



- Burlington Township
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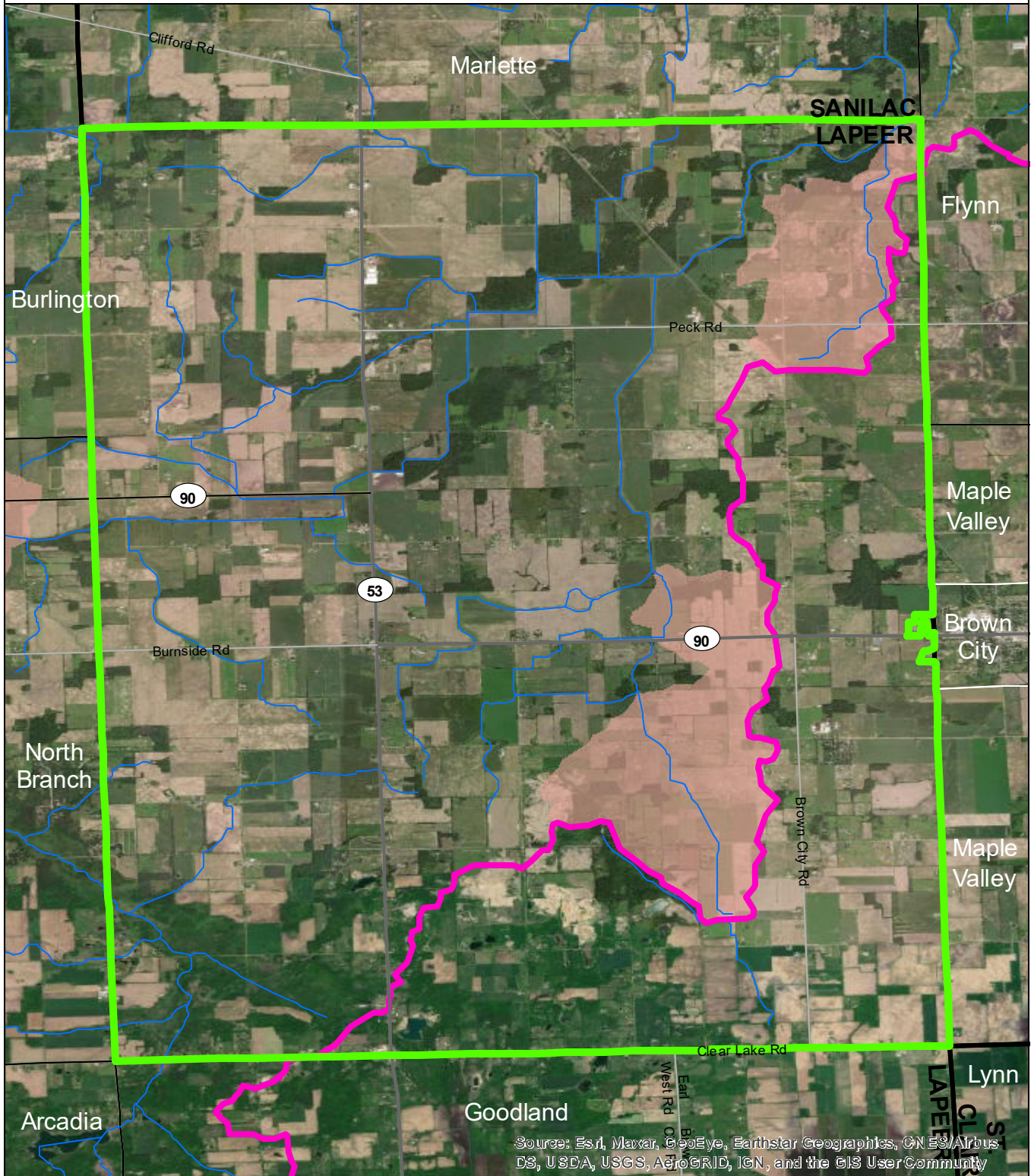


Data Sources

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

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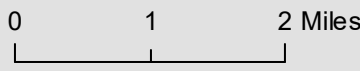
Burnside Township



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

- Burnside Township
- Saginaw Bay Basin
- Counties
- Rivers and Streams
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- Sediment Loading Risk**
- low
 - moderate
 - high
 - very high

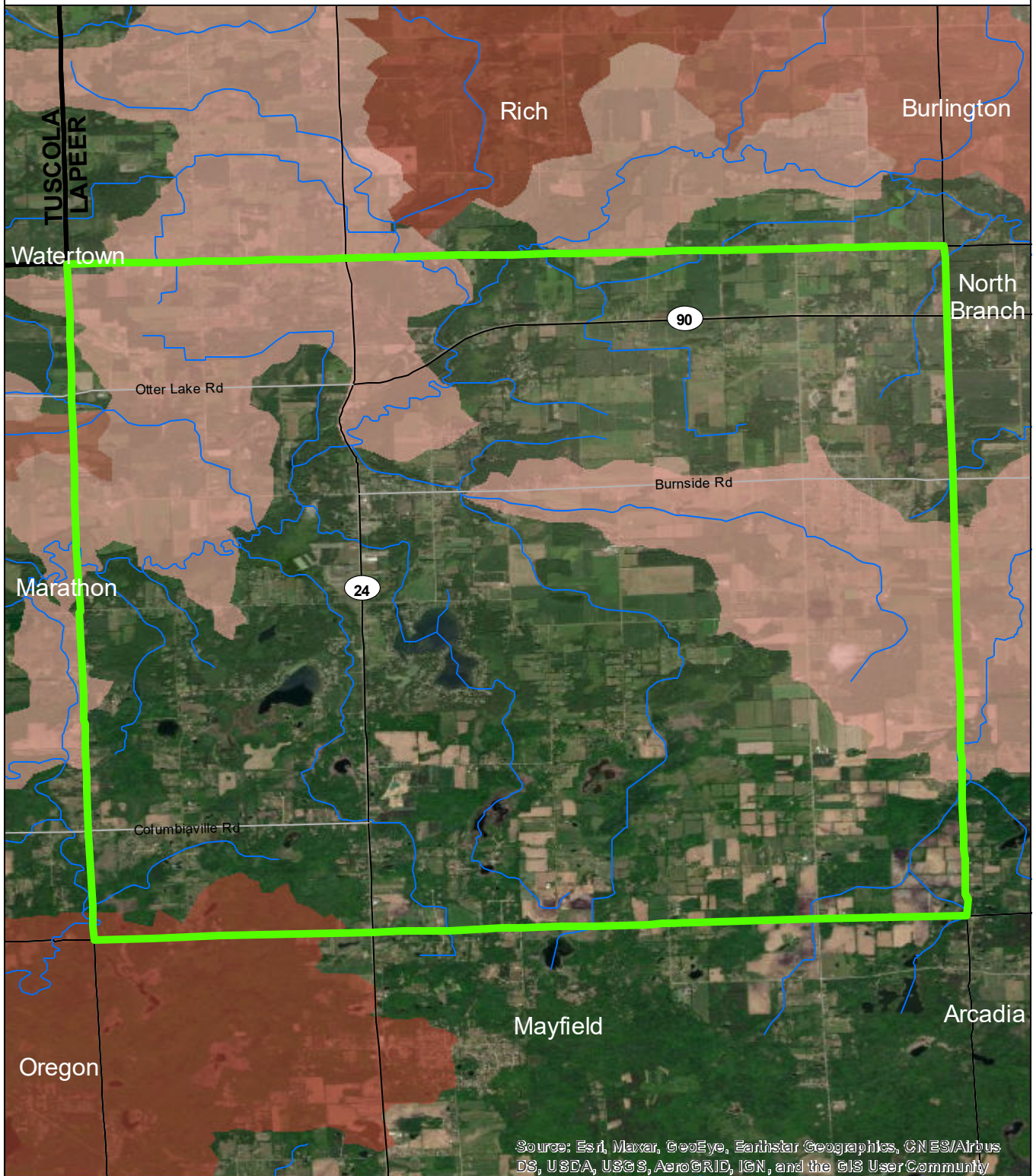


Data Sources





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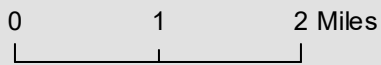
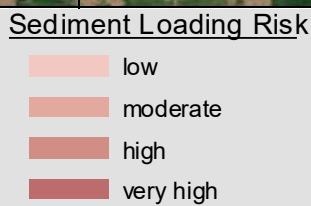


Deerfield Township



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

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



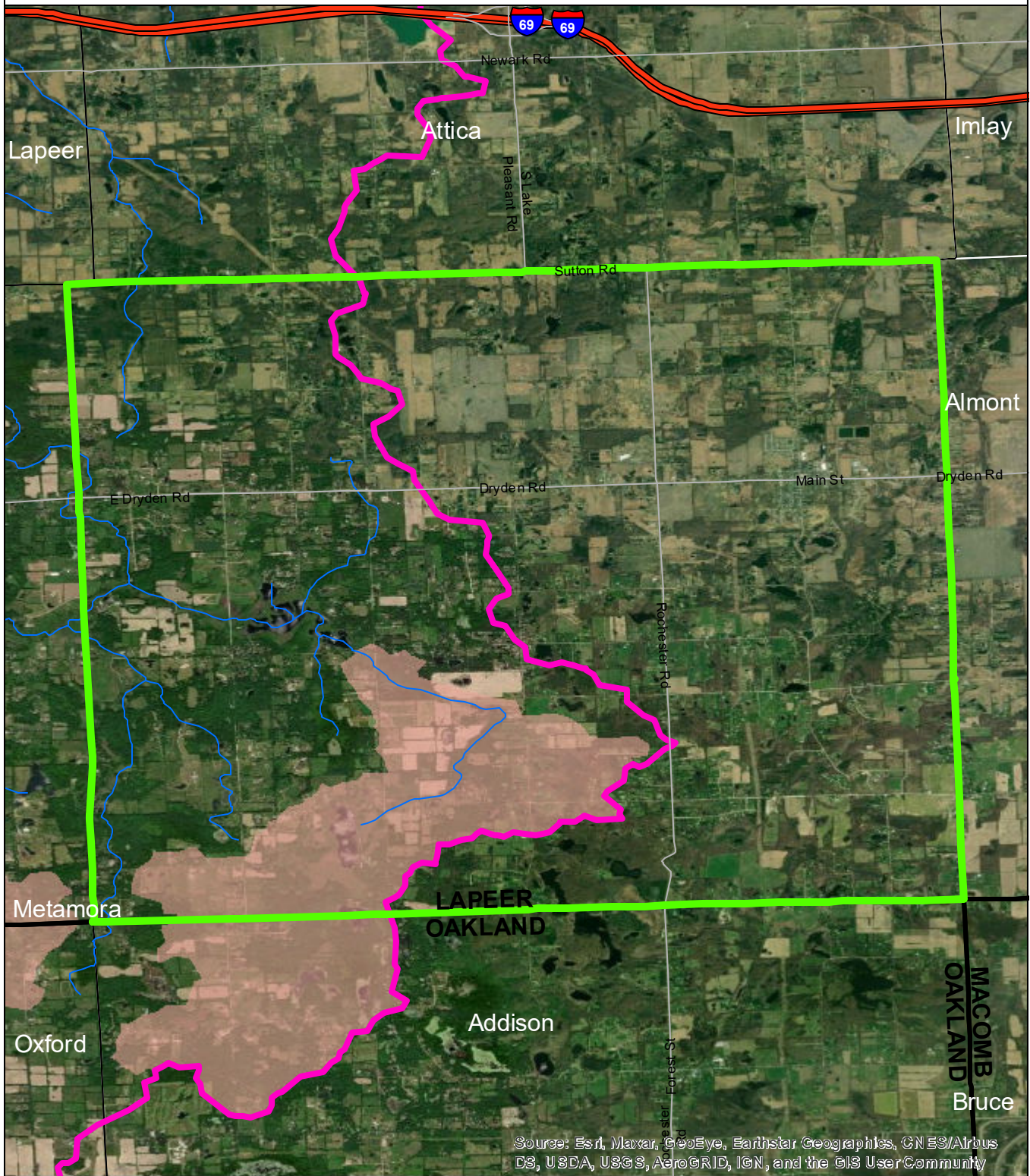
Data Sources

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

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



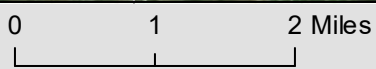
Dryden Township



- Dryden Township
- Saginaw Bay Basin
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Sediment Loading Risk

- low
- moderate
- high
- very high



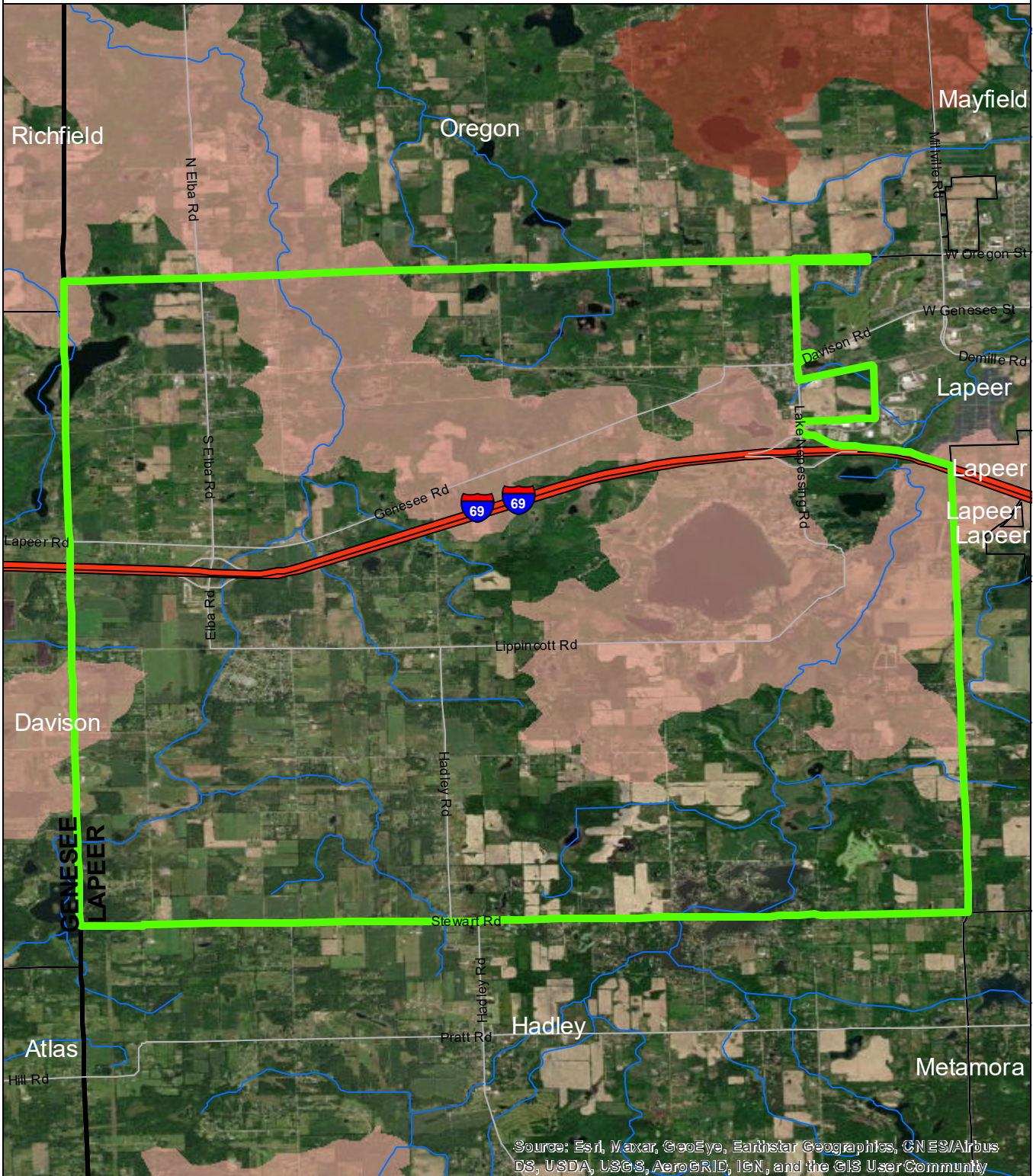
Data Sources

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





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



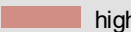



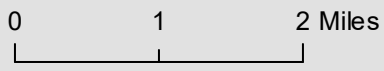
Elba Township



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

-  Elba Township
-  Saginaw Bay Basin
-  Counties
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- Sediment Loading Risk**
-  low
 -  moderate
 -  high
 -  very high

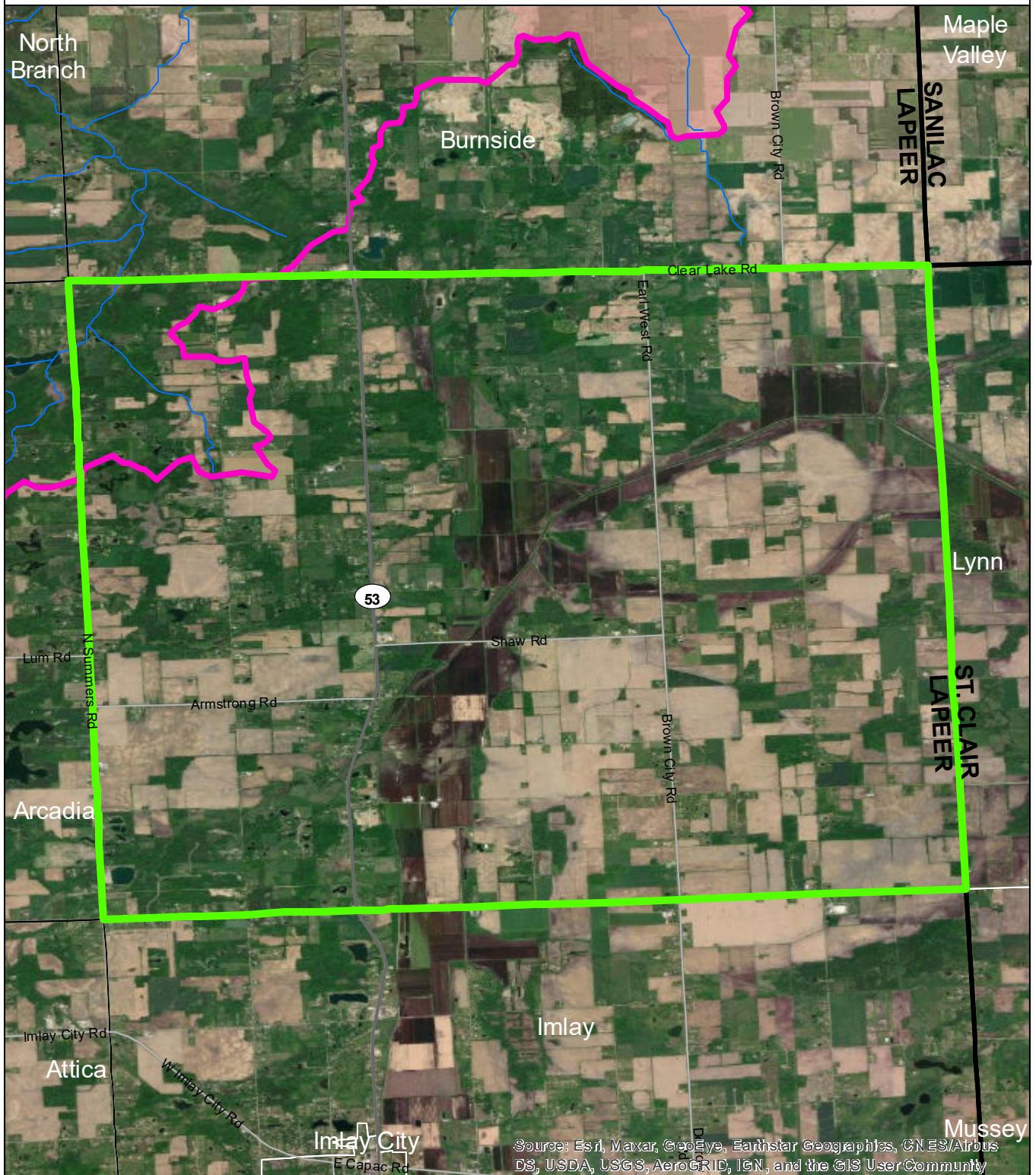


Data Sources

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



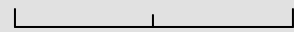
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CN ES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

- Goodland Township
- Saginaw Bay Basin
- Counties
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Sediment Loading Risk

- low
- moderate
- high
- very high

0 1 2 Miles



Data Sources

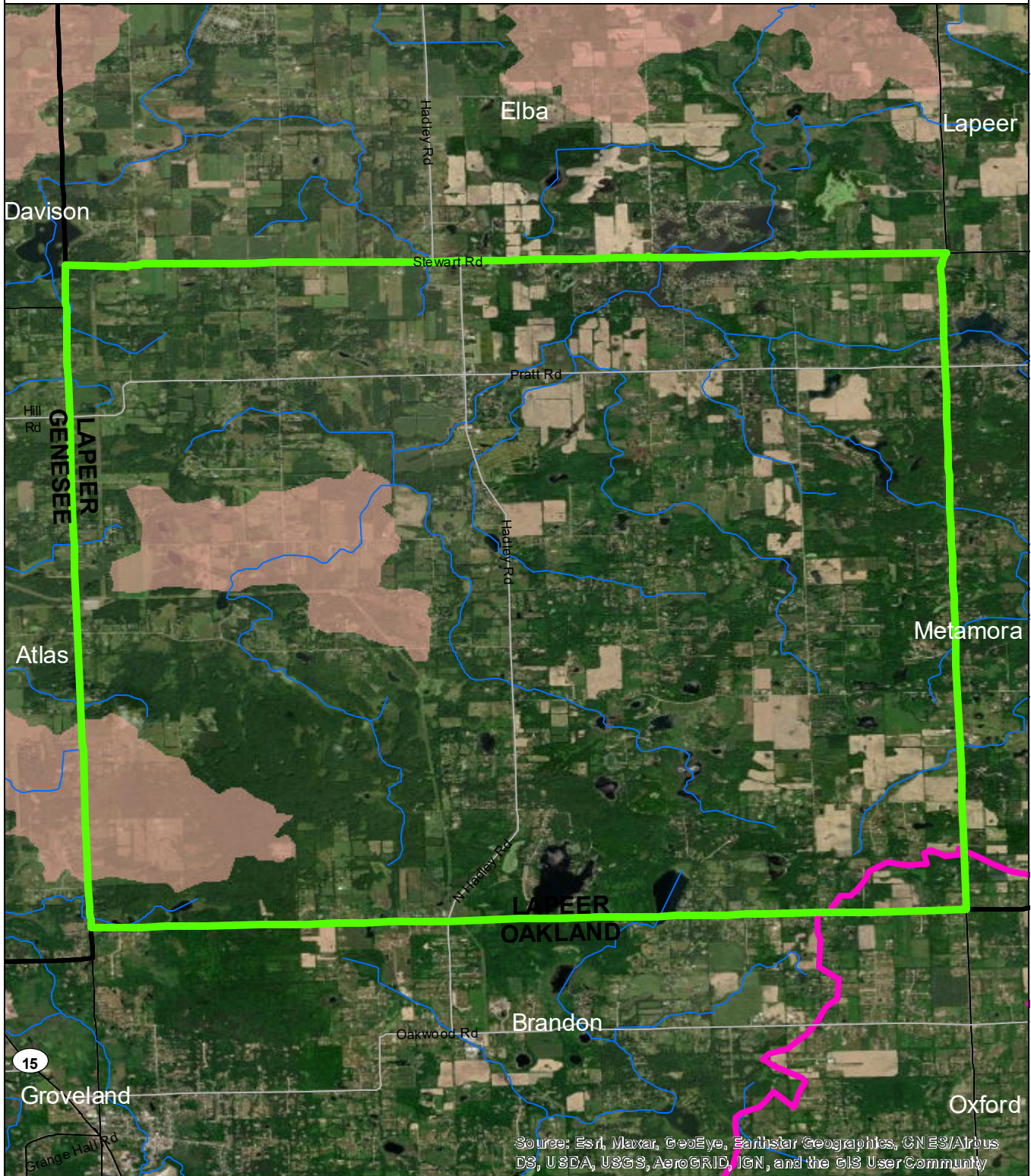
State of Michigan: Counties, Townships & Cities
 USGS: Sediment Loading Risk

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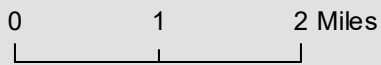
Hadley Township



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

- Hadley Township
- Saginaw Bay Basin
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- Sediment Loading Risk**
- low
 - moderate
 - high
 - very high

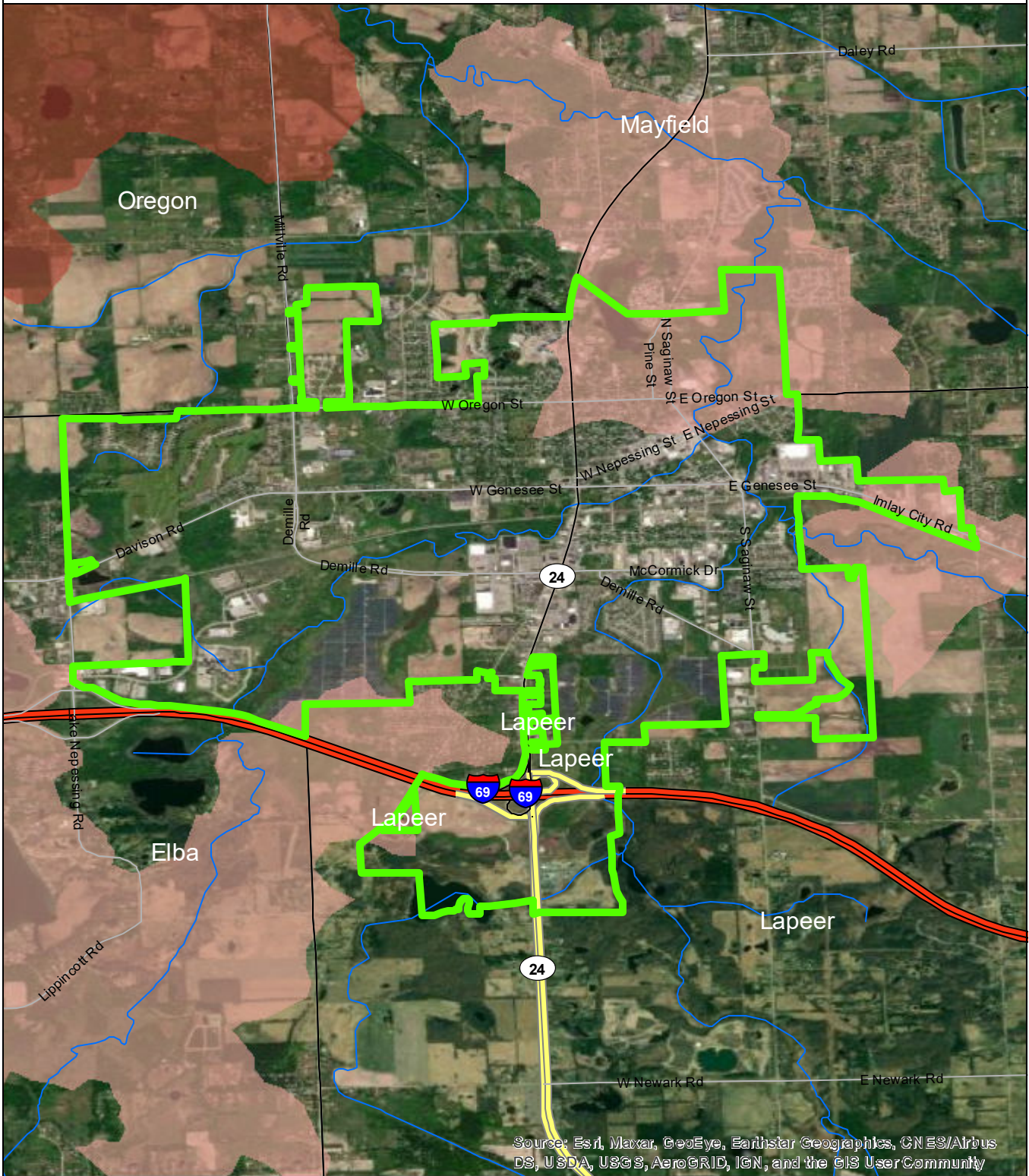


Data Sources

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

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City of Lapeer

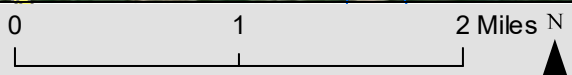


Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

- City of Lapeer
- Saginaw Bay Basin
- Counties
- Rivers and Streams
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Sediment Loading Risk

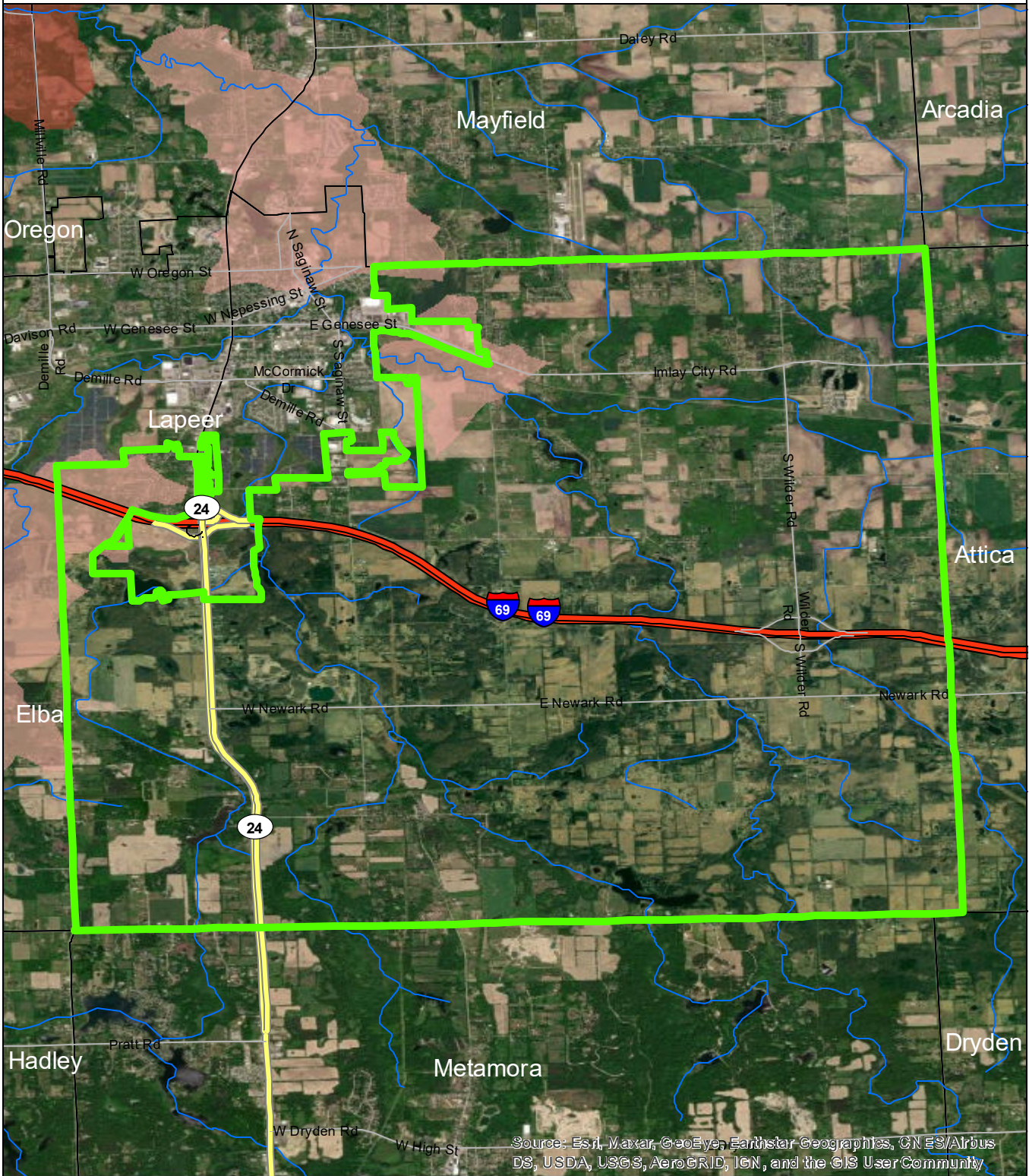
- low
- moderate
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- very high



Data Sources

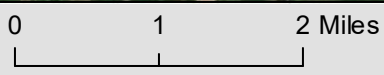
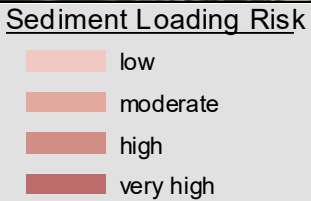
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Lapeer Township



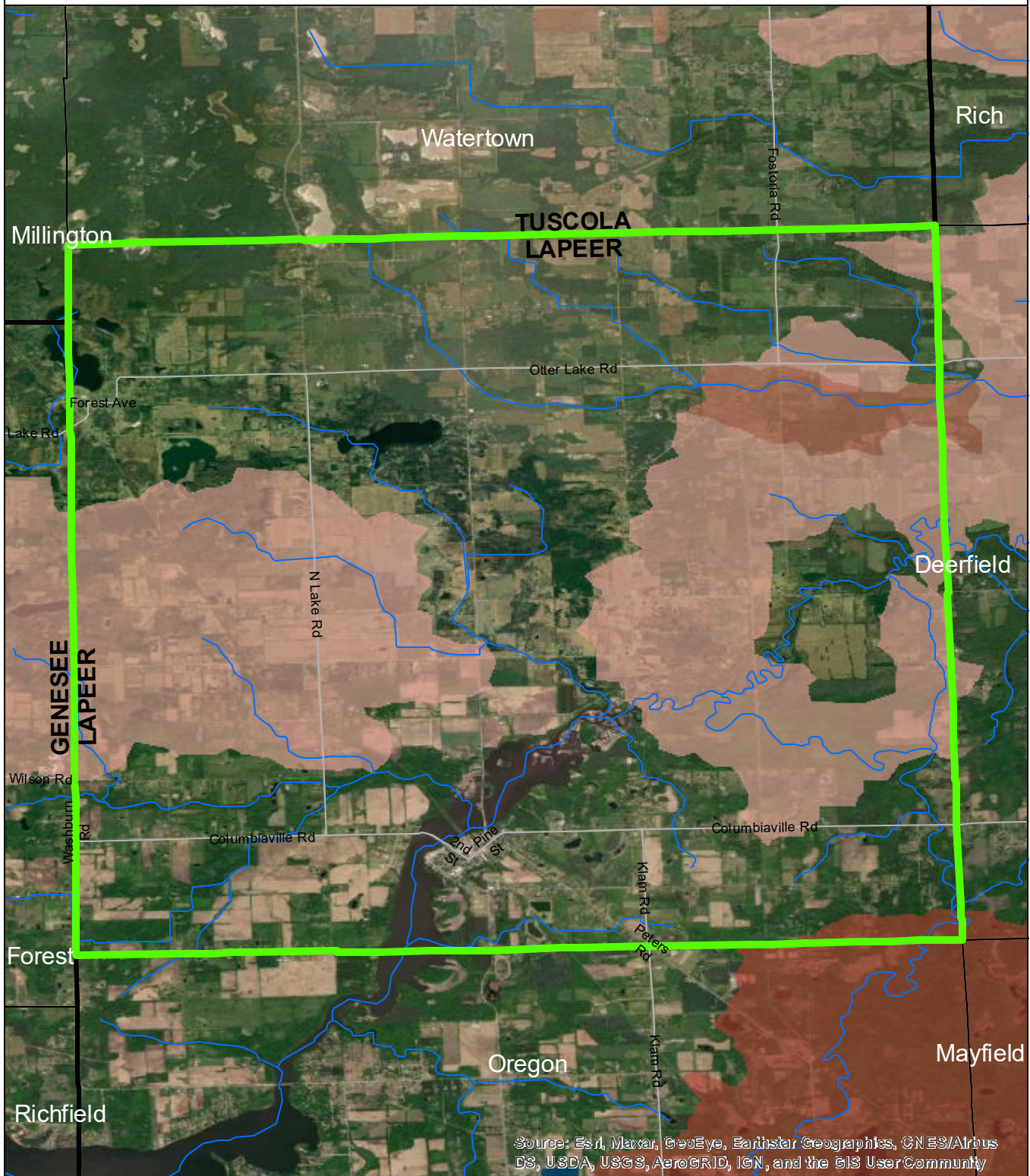
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- Lapeer Township
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Marathon Township



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- Marathon Township
- Saginaw Bay Basin
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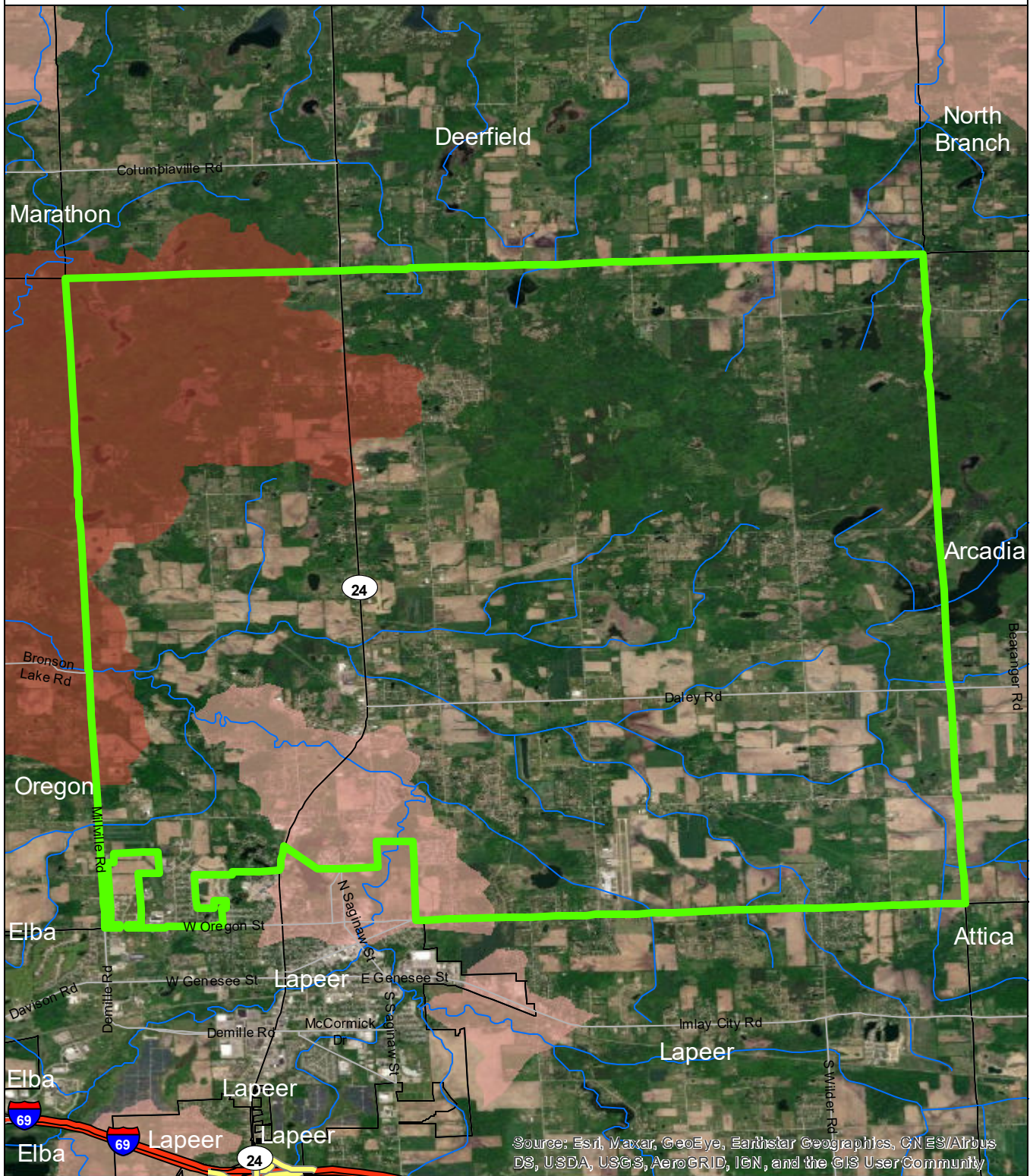
- Sediment Loading Risk**
- low
 - moderate
 - high
 - very high

0 1 2 Miles

N

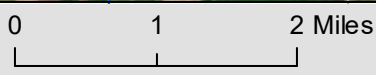
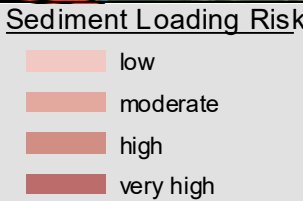
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Mayfield Township



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

- Mayfield Township
- Saginaw Bay Basin
- Counties
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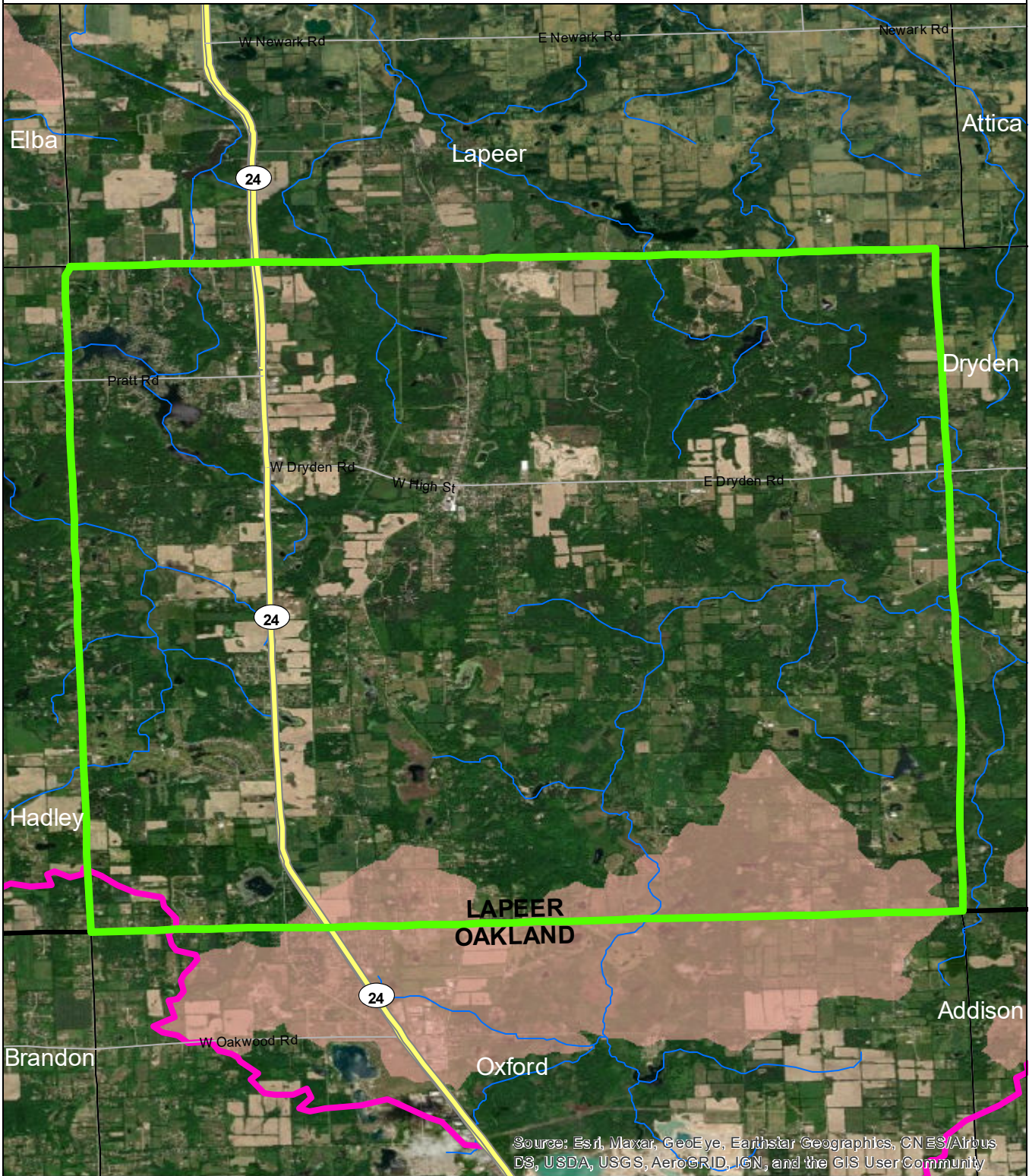


Data Sources

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Metamora Township



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

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

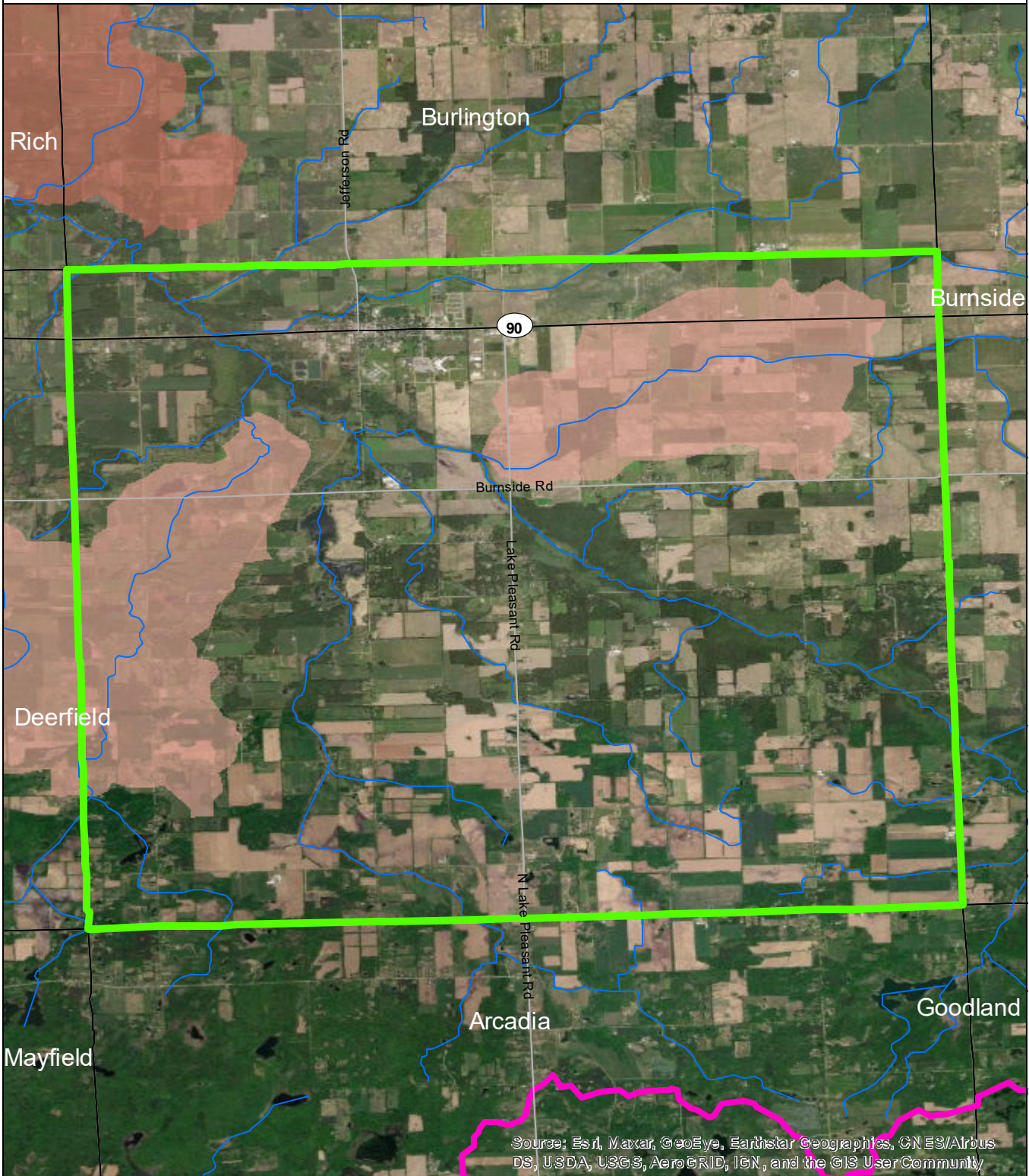
- Sediment Loading Risk**
- low
 - moderate
 - high
 - very high

0 1 2 Miles

N

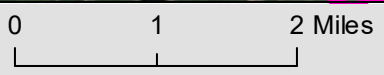
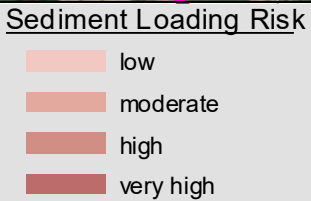
Data Sources
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North Branch Township



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- North Branch Township
- Saginaw Bay Basin
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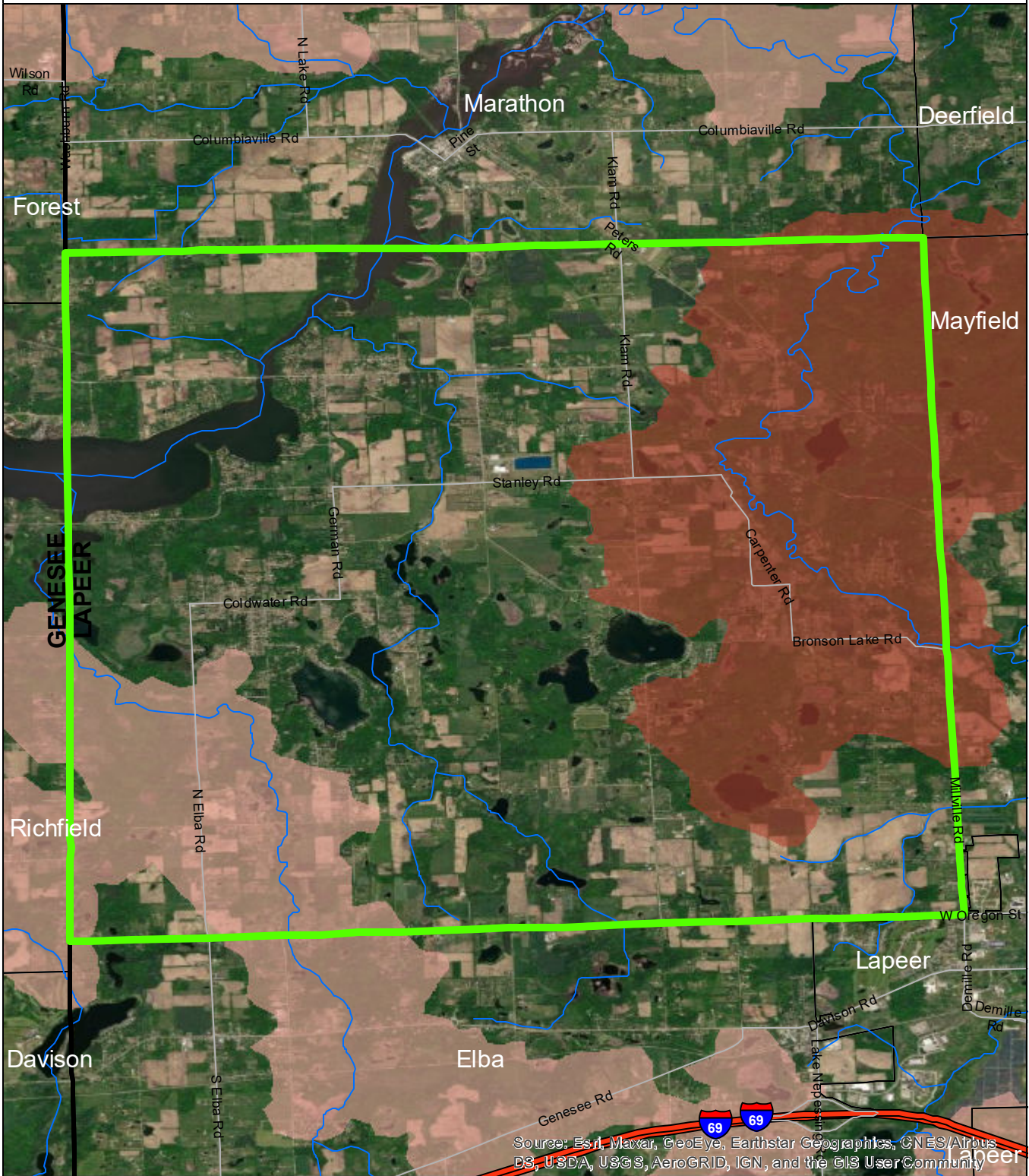


Data Sources

State of Michigan: Counties, Townships & Cities
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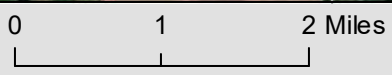
Oregon Township



- Oregon Township
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Sediment Loading Risk

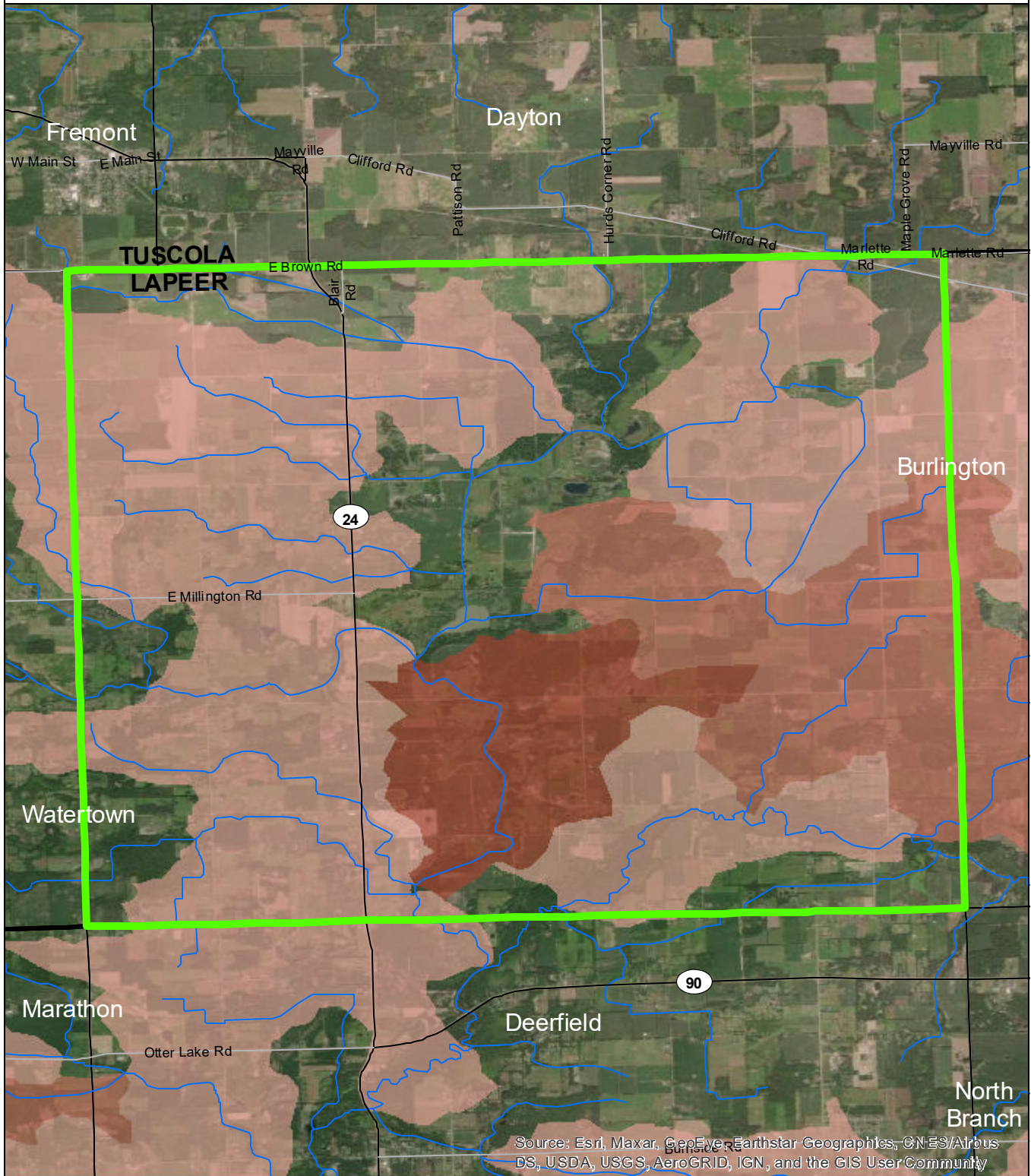
- low
- moderate
- high
- very high



Data Sources

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Rich Township

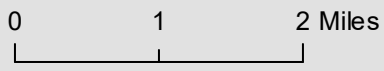


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