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 -

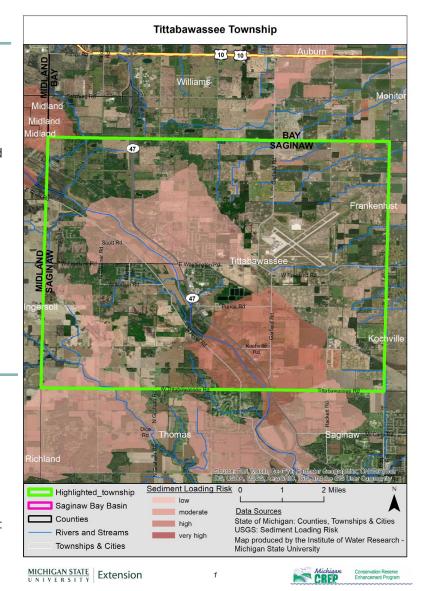
The maps are based upon data from the United States Geological Survey's (USGS) SPAtially Referenced Regression On Watershed attributes (SPARROW) model*. The model uses observations, land use characteristics, and statistical relationships, among other variables, to estimate pollutant loads to streams 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
froncza3@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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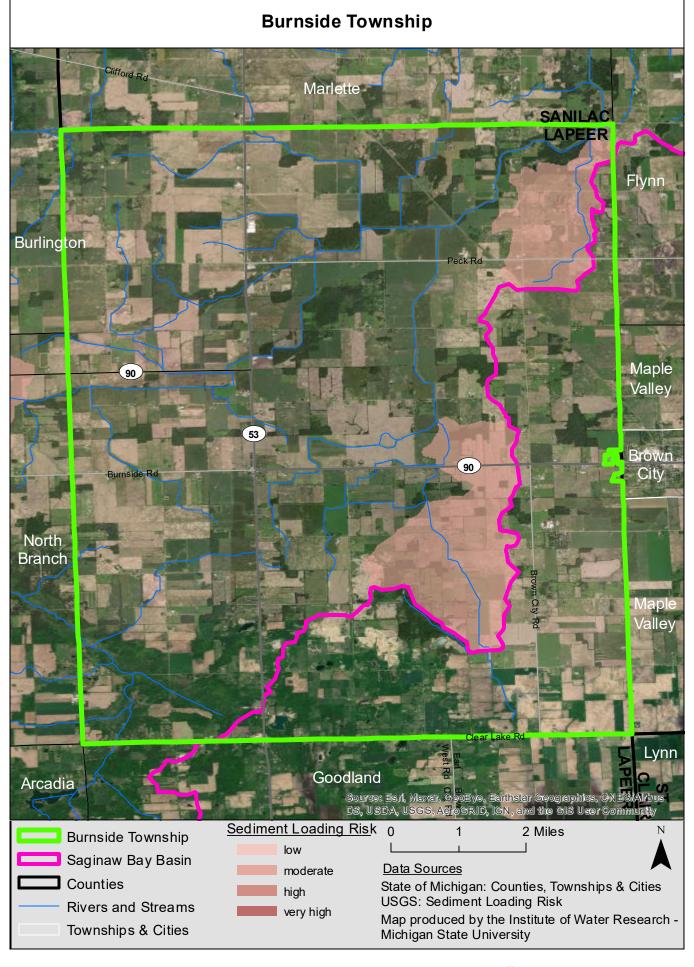


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Burlington Township Koylton Dayton TUSCOLA LAPEER Marlette Rich Burnside lorth Branch Deerfield (BurnsSource: Esri, Maxar, GeoEye, Earthstar Geographis, CNES/Alrbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sediment Loading Risk 0 2 Miles **Burlington Township** low Saginaw Bay Basin **Data Sources** moderate Counties State of Michigan: Counties, Townships & Cities high USGS: Sediment Loading Risk Rivers and Streams very high Map produced by the Institute of Water Research -Townships & Cities Michigan State University

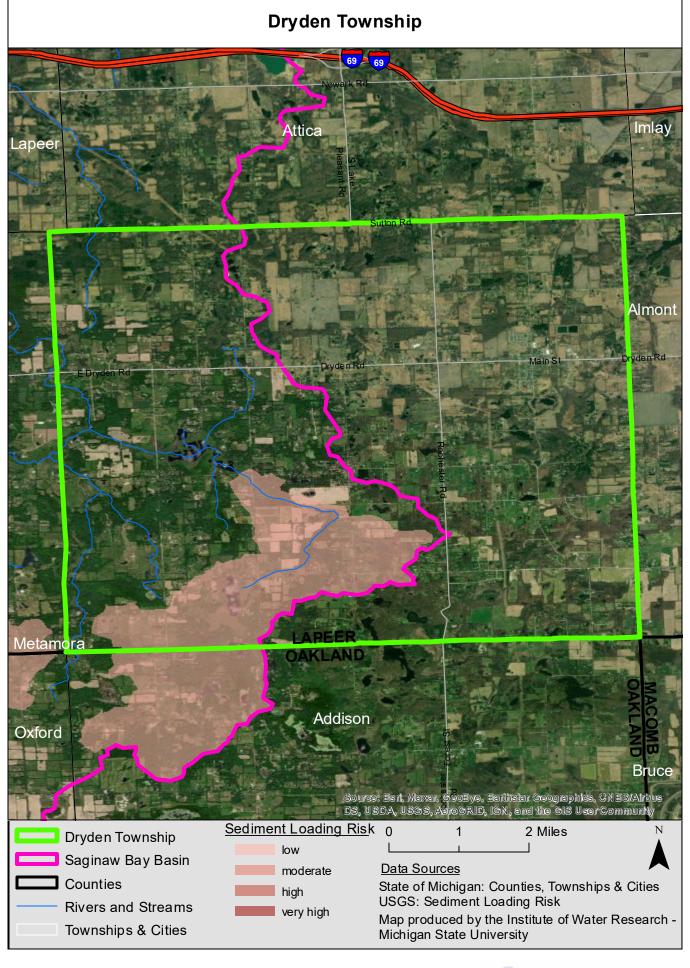






Deerfield Township Burlington Rich Watertown North Branch 90 Otter Lake Rd Burnside Rd Marathon Arcadia Mayfield Oregon Source: Esrl, Maxar, Geoege, Earlhstar Geographics, CN ES/Airbus DS, USCA, USCS, AeroGRIC, IGN, and the GIS User Community Sediment Loading Risk 0 2 Miles Deerfield Township low Saginaw Bay Basin **Data Sources** moderate Counties State of Michigan: Counties, Townships & Cities high USGS: Sediment Loading Risk Rivers and Streams very high Map produced by the Institute of Water Research -Townships & Cities Michigan State University







Elba Township Mayfield Oregon Richfield _apeer apee Lippin cott Rd Davison Atlas Metamora Source: Esrl, Maxar, Geoeye, Earthstar Geographics, CN ES/Airbus DS, USDA, USGS, AeroGRIC, IGN, and the GIS User Community Sediment Loading Risk 0 2 Miles Elba Township low Saginaw Bay Basin **Data Sources** moderate Counties State of Michigan: Counties, Townships & Cities high USGS: Sediment Loading Risk Rivers and Streams very high Map produced by the Institute of Water Research -Townships & Cities Michigan State University



Goodland Township Maple North Vallev Branch Burnside Lynn Armstrong Ro Imlay Imlay City Rd Attica Source: Esri, Maxar, Geogrep, Earthster Geographics, GN ES/Airbus DS, USDA, USGS, Aero GRID, IGN, and the GIS User Community Sediment Loading Risk 0 2 Miles Goodland Township low Saginaw Bay Basin **Data Sources** moderate Counties State of Michigan: Counties, Townships & Cities high USGS: Sediment Loading Risk Rivers and Streams very high Map produced by the Institute of Water Research -Townships & Cities Michigan State University



Hadley Township Elba Davison Metamora Atlas Branden 15 Groveland Oxford Source: Esrl, Maxar, Geozye, Zarihstar Geographtes, GN 53/Alrhus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sediment Loading Risk 0 2 Miles Hadley Township low Saginaw Bay Basin **Data Sources** moderate Counties State of Michigan: Counties, Townships & Cities high USGS: Sediment Loading Risk Rivers and Streams very high Map produced by the Institute of Water Research -Townships & Cities Michigan State University



City of Lapeer Mayfield Oregon Ø E Oregon St St Genesee St Imlay City Rd nille Rd McCormick D 24 apeer Lapee Lap<mark>e</mark>er Lapeer 24 Source: Est, Maxar, Geoeye, Eathstar Geographics, GN ES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sediment Loading Risk 0 2 Miles N City of Lapeer low Saginaw Bay Basin **Data Sources** moderate Counties State of Michigan: Counties, Townships & Cities high USGS: Sediment Loading Risk Rivers and Streams very high Map produced by the Institute of Water Research -Townships & Cities Michigan State University



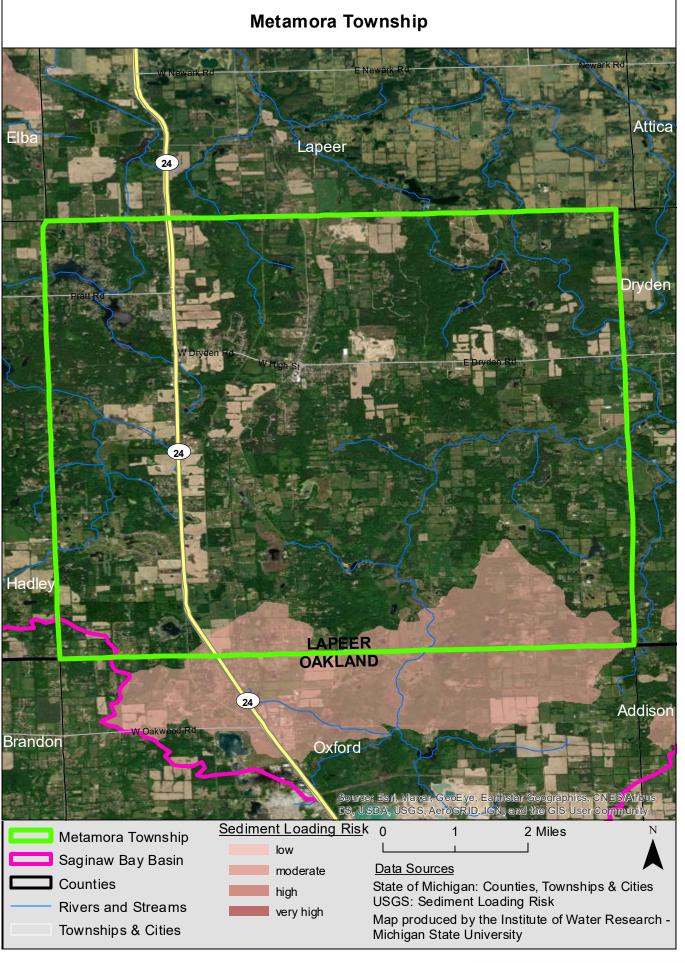
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Mayfield Township North Deerfield Branch Marathon Arcadia Oregon Elba Attica Lapeer Lapeer Lapeer Source: Esri, Waxar, Geoeye, Earthstar Geographics, GN ES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Elba Sediment Loading Risk 0 2 Miles Mayfield Township low Saginaw Bay Basin **Data Sources** moderate Counties State of Michigan: Counties, Townships & Cities high USGS: Sediment Loading Risk Rivers and Streams very high Map produced by the Institute of Water Research -Townships & Cities Michigan State University







North Branch Township Burlington Rich Burnside Burnside Rd Deerfield Goodland Arcadia Mayfield Source: Esrl, Maxar, Geosye, Earthstar Geographics, CN ES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sediment Loading Risk 0 2 Miles North Branch Township low Saginaw Bay Basin **Data Sources** moderate Counties State of Michigan: Counties, Townships & Cities high USGS: Sediment Loading Risk Rivers and Streams very high Map produced by the Institute of Water Research -Townships & Cities Michigan State University



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