What is a tipping point?

Challenges

- Land Use Change
- Impervious Surfaces
- Nutrient Loading
- Stream Health
- Food Web Health
# Decision Support System Topics

<table>
<thead>
<tr>
<th>Stream Health</th>
<th>Nutrient Loading</th>
<th>Green Infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determine how close your watershed is to an ecological tipping point now and in the future by examining indicators such as urban land use or agricultural land use within a 150m buffer.</td>
<td>Explore present and future modeled loading of phosphorus and nitrogen, and identify the major sources of nutrients in your watershed.</td>
<td>Discover the type and location for optimal green infrastructure investment in your watershed.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Food Webs</th>
<th>Land Use Change</th>
<th>Coastal Wetland Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explore how phosphorus loading from the watershed will affect the biomass of various organisms within the food web.</td>
<td>Through land use modeling, discover what your community may look like under future land use scenarios and how each impacts the health of your watershed.</td>
<td>Determine how close your watershed is to an ecological tipping point by examining the health of the organisms living in coastal wetlands.</td>
</tr>
</tbody>
</table>
Planning Scales

Regional

Watershed

County

Regional Planning Dashboards

Decision Support System Modules

County Planning Dashboards

tippingpointplanner.org/resources/regional-planning
Decision Support System

Community Information Overview

Tipping Points and Indicators

Community Planning Tools
Community Engagement

Enable *diverse stakeholder participation* in land use decisions and natural resources management strategies to plan and maintain projects.

Target audience examples

- Plan commissioners
- Government office staff
- Parks board members
- Watershed managers
- Consulting groups
- Nonprofit organizations
- Elected officials

Project examples

- Watershed management plans
- Comprehensive plan updates
Action Planning Process

Community Visioning → Decision Support System Engagement → Strategy and Goal Development

Format follows community development and facilitation best practices for strategic planning and community engagement.

Meeting sessions include the assembly of a steering committee, community visioning workshops, and working group meetings.
**Action Plans**

**Goal 1: Reduce and/or Mitigate Impervious Surfaces**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Comprehensive Plan</strong></td>
<td>Collaborate on municipal planning efforts (stormwater assessment)</td>
<td>✓</td>
<td></td>
<td></td>
<td>City of Au Gres, Huron Pines</td>
<td>- 319 may not be best fit for two HUC 10 watersheds (not high priority for funding)</td>
</tr>
<tr>
<td></td>
<td>Expand or highlight best practices and education efforts</td>
<td></td>
<td></td>
<td></td>
<td>City of Au Gres, Huron Pines, Others</td>
<td></td>
</tr>
<tr>
<td><strong>Watershed Plan</strong></td>
<td>Rain garden project on Au Gres-Sims campus</td>
<td>✓</td>
<td></td>
<td></td>
<td>Au Gres-Sims Schools, NGOs</td>
<td>- DEQ can review the plan to make sure to meet nine element criteria</td>
</tr>
<tr>
<td></td>
<td>Watershed inventory: - Road-stream crossing index - Desktop inventory of agriculture (sent mailing in 2014) - Build relationships with Ag community (create outreach strategy)</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>Huron Pines, Au Gres-Sims, SWCDs, Others</td>
<td>- EPA focuses on impaired water bodies; Au Gres and E. Branch Au Gres River are focused on protection</td>
</tr>
<tr>
<td></td>
<td>Clean Marina practices</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>MI Sea Grant, City of Au Gres, Michigan DNR</td>
<td>- Receiving investment from number of sources to prioritize projects</td>
</tr>
<tr>
<td></td>
<td>Identify key areas for protection (forest, wetlands, open space, erosion areas, recreation, etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Focus on implementation project – high quality watershed</td>
</tr>
<tr>
<td></td>
<td>Funding next steps: - 319 implementation plans (is plan development best approach due to time &amp; resources?) - Better to work on actionable projects in logical order?</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>Other funding: GLRI, GLPF, Saginaw WIN, Great Lakes Commission, CZM program</td>
<td></td>
</tr>
</tbody>
</table>

The following map displays the land use and land cover during 2010 using the National Land Cover Dataset (NLCD) published in that year. These watersheds are comprised of mainly rural and forested cover types; these cover types make up 85 percent of the land use in this area. As of 2010, just 7.2 percent of the watershed was classified as urban, and 7.5 percent is comprised of agricultural land uses.
Tipping Point Planner

Supporting Sustainable Communities in Great Lakes States

Free Online Course

Coming August 31, 2020