PLANNING AND ZONING TO PROTECT WATER QUALITY IN THE SAGINAW BAY WATERSHED

Ogemaw County
Second Local Government Workshop
October 26, 2011

A Great Lakes Restoration Initiative (GLRI)
Funding

- Great Lakes Restoration Initiative (GLRI) by U.S. Environmental Protection Agency (EPA)

Project Team

- Planning & Zoning Center (PZC) at Michigan State University (MSU)
- East Michigan Council of Governments (EMCOG)
- Saginaw Basin Land Conservancy (SBLC)

Advisory Assistance

- Michigan Department of Environmental Quality (DEQ)
To protect water quality in the Saginaw Bay by preventing future water pollution through:

1. Education
2. Collaboration
3. Coordination
4. Technical assistance
5. Action by local government
6. Action by land owners
7. Action by water quality advocacy organizations and other local organizations
The Saginaw Bay Watershed:

- Michigan’s largest watershed (8,709 square miles)
- Associated with 22 counties
- Drains approximately 15% of Michigan’s total land area
- Pilot sub-watersheds:
  - Pigeon River
  - Pinnebog River
  - Cass River
  - Rifle River
Most of Ogemaw County is in the Rifle River watershed. Improvements to the County Master Plan and Zoning Ordinance will protect water quality in all of the watersheds in the county.
Ogemaw County

- County planning and zoning apply in all but two of the townships in the county.

- There are four other watersheds in Ogemaw County, including parts of the Au Gres, Rifle, Tittabawassee, and Au Sable River Watersheds.
Why be Concerned About Water Quality in the Saginaw Bay and Your Local Rivers?

- Everything upstream ends up downstream, including contamination (sediments, nutrients, pesticides, human and animal waste, etc.);
- Human and animal health impacts;
- Potential loss of recreational opportunities; and
- Healthy watersheds are necessary for a healthy economy.

Background

Saginaw River/Bay Area of Concern (AOC)

- Saginaw River/Bay is one of 14 AOCs in Michigan
- Includes all 22 miles of the Saginaw River & Saginaw Bay
- Designated an AOC by EPA since 1988

http://www.glerl.noaa.gov/res/glcf/sb/modis.html
Of the 14 Impairments criteria, Saginaw River/Bay includes 10:

1. Restriction on fish and wildlife consumption
2. Eutrophication or undesirable algae
3. Degradation of fish and wildlife populations
4. Beach closings
5. Degradation of aesthetics
6. Bird or animal deformities or reproduction problems
7. Degradation of benthos lakebed ecosystem
8. Degradation of phytoplankton and zooplankton populations
9. Restriction of dredging activities
10. Loss of fish and wildlife habitat
The GLRI program identifies goals, objectives, measurable ecological targets, and specific actions for each of the following five focus areas:

1. Cleaning up toxics and AOCs;
2. Combating invasive species;
3. Promoting nearshore health by protecting watersheds from polluted run-off;
4. Restoring wetlands and other habitats; and
5. Tracking progress and working with strategic partners.
Understanding Your Watershed

- Key components of ecosystems.
- Area of land that drains to a common outlet.
- Water running downhill to the lowest point.
Rifle River Natural River Plan

• Created in May 1980 under Michigan’s Natural River Program.

• The goal of the plan is to preserve, protect and enhance the Rifle River environment in a natural state for the use and enjoyment by all generations.

• Including the Rifle River, there are 13 other designated natural rivers in Michigan.
Rifle River Natural River

- The Rifle River Natural River District includes an area 400 feet wide on each side of and parallel to all channels of the designated mainstream and to the designated tributaries.
<table>
<thead>
<tr>
<th></th>
<th>Front Yard* Setback</th>
<th>Minimum Lot Width</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ogemaw County Zoning</strong></td>
<td>50 ft.</td>
<td>75-80 ft.</td>
</tr>
<tr>
<td>Ordinance</td>
<td>(Waterfront District)</td>
<td></td>
</tr>
<tr>
<td><strong>Natural River Zoning</strong></td>
<td>150 ft.</td>
<td>200 ft.</td>
</tr>
<tr>
<td>(mainstream)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Natural River Zoning</strong></td>
<td>100 ft.</td>
<td>150 ft.</td>
</tr>
<tr>
<td>(tributaries)</td>
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</table>

*For waterfront lots, the side directly abutting the water is considered the “front yard”
Your Local Watershed Plans

The Rifle River Non-Point Source Watershed Management Plan

- Developed in 1999 by:
  - Huron Pines RC&D Area, Inc.
  - Saginaw Bay RC&D Area, Inc.
  - Rifle River Watershed Restoration Committee

- “In order to assure that growth within the Rifle River watershed does not adversely impact the region’s natural resources, proper planning is of paramount importance.”
## Your Local Watershed Plans

<table>
<thead>
<tr>
<th>Issues</th>
<th>Strategies for Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sedimentation from road/stream crossing</td>
<td>Develop regional stormwater management plans for West Branch, Rose City, Omer and the I-75/Cook Road corridor</td>
</tr>
<tr>
<td>Eroding streambank segments</td>
<td>Catalog and treat eroding streambanks</td>
</tr>
<tr>
<td>Impacts transmitted from various agricultural activities</td>
<td>300 acres of filter strip planting</td>
</tr>
<tr>
<td>Stormwater runoff from developed lands</td>
<td>Restore 1,000 acres of wetlands in the County</td>
</tr>
<tr>
<td>Improperly functioning septic systems</td>
<td>Work with Health Department to identify and correct issues with failing septic systems</td>
</tr>
<tr>
<td>Industrial and municipal surface water discharges</td>
<td>Collaborate with local municipalities to establish stormwater monitoring in those streams which are experiencing problems</td>
</tr>
<tr>
<td>Thermal pollution</td>
<td>Install 50,000 lineal feet of grassed waterways</td>
</tr>
<tr>
<td>Recreational use conflicts</td>
<td>Work with the local business community to develop a promotional campaign (including a brochure) which extolls the recreational and other virtues of the Rifle River</td>
</tr>
<tr>
<td>Agricultural drainage</td>
<td>Plant 6,000 acres of cover crops</td>
</tr>
</tbody>
</table>
Outcomes
• Clean water that is fishable and swimmable, with less sediment, fertilizers and pesticides.
• Happy users.
• Happy taxpayers.
• De-list the Bay!

Roles
All major players have a role to play, including:
• Conservation and watershed organizations
• Local governments
• Landowners
• County agencies
• State agencies
• Federal agencies

AOC
Major Watershed pollution led the USEPA to designate the Saginaw River/Bay as an Area of Concern (AOC). This means that water quality is severely degraded and a large number of beneficial uses are impaired.

GLRI
The federal government has a major initiative to restore and delist the Bay as an AOC through the Great Lakes Restoration Initiative (GLRI).

RAP
Saginaw Bay watershed Remedial Action Plan (RAP) describes methods for correcting impairments to beneficial uses in the degraded areas.

Watershed Plans
Watershed management plans for each of the rivers flowing into the Bay were prepared by local watershed groups such as the Huron Conservation District, Huron Pines, Ducks Unlimited, Inc., and MDEQ.

Action Plan
The watershed plans detail restoration and protection efforts for each sub-watershed, which, when implemented, helps reduce pollution and restore damaged parts of the watershed and Bay.
Improving Water Quality of Saginaw Bay Watershed

Federal Agencies
EPA
- Funded GLRI and other enhancement activities
- Role in wetland permits
- Education

Land Protection Grants
- NAWCA
- NCWC
- Costal Lands

Army Corps
- Dredging permits
- Wetland permits

USDA
- Fund conservation organizations and landowners
- Education of farmers and other landowners
- Rural housing funding programs
- Conservation innovation grants
- EQIP

State Agencies
DEQ
- Support cleanup and delisting
- Provide technical assistance
- Apply regulations
- Education
- Link stakeholder groups
- Orphaned Well Program and Resources

DNR
- Manage State land
- Education
- Support cleanup partnerships
- Natural Resource Land Trust Fund grant program

Landowners
- BMP implementation
- Consider long term preservation of sensitive habitats

County Agencies
Drain Commissioners
- Reviews Site Plans for new developments
- Proposals for BMP implementation
- Stormwater management

Health Department
- Septic tank and other environmental codes

Local Governments
- Education on BMPs and Low Impact Development practices
- Local Master Plans
- Local Zoning Ordinances
- Enforce adopted regulations
- Facilitate coordination and cooperation with public, private and non-profit groups
- Tax relief for wetland and critical habitat areas

Road Commission
- Manages negative impacts from road crossings and use of de-icers
- Road ditch impacts and improvements

Watershed Organizations
- Education on Best Management Practices (BMPs)
- Planning
- Permanent land protection
- Wetland and their sensitive land preservation and restoration
- Technical assistance
What can Ogemaw County Do?

- Update Master Plan to address the future of water quality in your community
- Develop or improve land use regulations for preventing pollution and
- Encourage local farmer participation in programs like the Michigan Agricultural Environmental Assurance Program (MAEAP)
- Partner with regional groups and neighboring communities to ensure we’re all doing our part to protect the overall Saginaw Bay Watershed
Develop Watershed Protection Planning & Zoning Assessment Tool to evaluate water quality protection measures and applied it to Huron County (and 99 other jurisdictions).

Identify strengths and weaknesses in regard to water quality protection.


Provide appropriate recommendations and sample language to 100 local governments.
What We Offer

- FREE consulting!
- Assistance in meeting statutory requirements.
- Offer expert advice for future plans.
- Help improve local plans and regulations in regard to water quality.
- Strengthen relationships between your community and the entire Saginaw Basin.
Watershed Protection Planning & Zoning Assessment Tool
Part 1: Conformance with Michigan’s P&Z Enabling Acts:

- Documents refer to a “planning commission”
- Plan has undergone an official 5-Year review
- Plan contains a land use component
- Plan contains an infrastructure component
- Plan includes redevelopment plans for blighted areas
- Plan contains a zoning plan component
  - A proposed schedule of regulations
  - Standards to be used when considering rezonings
  - Suggested boundaries of zoning district
  - Land use categories on future land use map relate to the zoning map
- Plan offers recommendations for implementing proposals
- Zoning Ordinance contains or is accompanied by a zoning map and text that states regulations for districts
Part 2: Master Plan Analysis:

• The estimate of impervious land cover in Ogemaw County was 5.2%* (relatively low); studies indicate that water quality begins to decline as the overall watershed develops beyond 10% imperviousness.

• Ogemaw County should continue to keep impervious cover low by encouraging Best Management Practices for new development that support impervious surface reduction.

*This percentage does not include roads.
Part 2: Master Plan Analysis:

The plan identifies three goals related to water quality in the “Goals” sections:

• Promote the protection of sensitive environmental resources including but not limited to waterways, wetlands, steep slopes, important wildlife habitat, springs/seeps, shorelines, and dark skies.

• Maintaining and improving water quality (drinking water, surface and groundwaters), natural and recreational areas, air quality and other environmental attributes.

• Protect the water quality and near shore environment of lakes, ponds, streams, creeks, wetlands, etc. from degradation, siltation, pollution, and other human impacts.
Part 3: Zoning Ordinance Analysis:

Water Quality Elements contained in Site Plan Review:

- Instances where Site Plan Review is required
- Conduct site plan review pending approval of other agencies’ permits (soil erosion, wetlands permits, septic and well permits, etc.)
- Reviews and comments requested from other agencies when applicable for water quality (County Road Commission, Health Department, Building Inspector, etc.)
- Risk of natural hazards from flooding, erosion, slumping of steep slopes or sandy soils, subsidence or other natural event has been adequately considered
- Explicit standards for environmental feature protection
- Standards for the storage and use of hazardous substances
- Prohibits grading or soil stripping prior to site plan review
- Requires a stormwater drainage plan for all new uses engaging in significant earth changes
Ogemaw County meets all statutory requirements of the Michigan Planning and Zoning Enabling Acts.

The zoning ordinance should provide more specific language for natural features protection.

The zoning ordinance, specifically the site plan review section does not address pre-development protection for environmental features, coordinated site plan review, or coordinated permitting.
Methods for Protecting Water Quality
Best Management Practices Guidebook

- To provide local units of government with information about how land development and other activities on the land affect water quality.

- To provide educational materials on best management practices that lower the impact of land use activities on our water.

- To provide sample language for your community’s master plan and zoning ordinance to ensure the lowest possible impact on water quality.
<table>
<thead>
<tr>
<th><strong>Essential Elements in Master Plan and Zoning Ordinance</strong></th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goals and Objectives</td>
<td></td>
<td>X</td>
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<tr>
<td>Environmental Inventory</td>
<td></td>
<td>X</td>
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<tr>
<td>Coordinated Permitting</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Coordinated Site Plan Review</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Earth Change Activity as Regulated Under Soil Erosion and Sedimentation Control Act</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Accumulation &amp; Disposal of Waste (Junk &amp; Yard Waste) and Other Materials</td>
<td></td>
<td>X</td>
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</tbody>
</table>
• Communities can judge the level at which they are able to implement the approaches.

• A community may decide on the level they wish to pursue depending on the value of the community’s water resources and their sensitivity to degradation.

• For example, in places where land use is almost wholly agricultural, the community has little authority to regulate agricultural activities, but can play a role in providing educational materials and opportunities to its residents.
## Outcomes

### Best Management Practices

<table>
<thead>
<tr>
<th>Best Management Practices</th>
<th>Substandard/Not Included</th>
<th>Good</th>
<th>Better</th>
<th>Best</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parcel Splits for Buildable Area</td>
<td></td>
<td></td>
<td></td>
<td>Yellow</td>
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<tr>
<td>Land Division Alternatives</td>
<td>Brown</td>
<td></td>
<td></td>
<td>Green</td>
</tr>
<tr>
<td>Stormwater Management (Plan)</td>
<td></td>
<td></td>
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<td>Green</td>
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<tr>
<td>Stormwater Management (Ordinance)</td>
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<td>Green</td>
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<tr>
<td>Impervious Surface Reduction (Plan)</td>
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<td>Green</td>
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<tr>
<td>Impervious Surface Reduction (Ordinance)</td>
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<td>Green</td>
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<tr>
<td>Protecting Groundwater</td>
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<td>Green</td>
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<tr>
<td>Natural Feature and Drain Setback</td>
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<td>Green</td>
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</tbody>
</table>

### Resource Protection Techniques

<table>
<thead>
<tr>
<th>Resource Protection Techniques</th>
<th>Substandard/Not Included</th>
<th>Good</th>
<th>Better</th>
<th>Best</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource Protection Overlay Dist. (Plan)</td>
<td></td>
<td></td>
<td></td>
<td>Yellow</td>
</tr>
<tr>
<td>Resource Protection Overlay Dist. (Ordinance)</td>
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<td>Green</td>
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<tr>
<td>Floodplains</td>
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<td>Brown</td>
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<tr>
<td>Woodland Protection and Reforestation (Plan)</td>
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<td></td>
<td>Yellow</td>
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<tr>
<td>Woodland Protection and Reforestation (Ordinance)</td>
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<td></td>
<td>Green</td>
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<tr>
<td>Wetland Protection/ Restoration/ Creation</td>
<td></td>
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<td></td>
<td>Green</td>
</tr>
<tr>
<td>IMPLEMENTATION TECHNIQUES</td>
<td>SUBSTANDARD/ NOT INCLUDED</td>
<td>GOOD</td>
<td>BETTER</td>
<td>BEST</td>
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<td>-----------------------------------------------</td>
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<tr>
<td>Conservation Easements</td>
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<td>Green Streets Bio-Retention</td>
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<tr>
<td>PUBLIC EDUCATION</td>
<td>SUBSTANDARD/ NOT INCLUDED</td>
<td>GOOD</td>
<td>BETTER</td>
<td>BEST</td>
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<tr>
<td>Agricultural BMPs</td>
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<tr>
<td>Open Lands Vegetation Management</td>
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<td>Water Quality Monitoring</td>
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<tr>
<td>Drain Clearing</td>
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<tr>
<td>Road &amp; Bridge Repair and Stream Crossings</td>
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</tbody>
</table>
• Update Master Plan to address the future of water quality in your community

• Develop or improve land use regulations for preventing pollution and

• Encourage local farmer participation in programs like the Michigan Agricultural Environmental Assurance Program (MAEAP)

• Partner with regional groups and neighboring communities to ensure we’re all doing our part to protect the overall Saginaw Bay Watershed
Your Homework Assignment

• Follow the steps laid out on the next six slides
  1. Review the assessment
  2. Review your water quality protection approaches
  3. Compare to methods for protecting water quality
  4. Select “Good,” “Better,” & “Best” and contact us
  5. PZC custom tailors MP and ZO amendments for your community
  6. Contact us with any questions at any point.
Review your community’s “Water Quality Planning and Zoning Assessment”

• Is the assessment of the County accurate?
• If not, please make corrections and provide citations (documents and page numbers), then return the assessment to us, as soon as possible.
STEP 2: LOOK AT YOUR COMMUNITY’S WATER QUALITY PLANNING AND ORDINANCE APPROACHES

Your community has been evaluated for the presence of basic water protection elements in your master plan and zoning ordinance.

- Look at the blue form: Water Quality Planning & Ordinance Approaches

Based on our criteria, your community may already fall into the categories of “good”, “better”, or “best”. If this is not the case and your community lacks a significant amount of basic protections, you should be concerned!
STEP 3: COMPARE YOUR WATER QUALITY PLANNING AND ORDINANCE APPROACHES TO THE METHODS FOR PROTECTING WATER QUALITY

- Look at the green form: *Methods for Protecting Water Quality*
- Compare the green form with your community’s *Water Quality Planning and Ordinance Approaches* (blue form)

What modifications can you make to improve existing plans and ordinances?
Where your community has “nothing”, what kind of protections would you like to see?
Share info with local land use decision makers (e.g. planning commissioners, planning staff, city/village council) and come to a consensus on what protections work best for the County.

Things to consider:

- Is the County meeting basic statutory requirements?
- Have you encountered issues in the past where these protections may have helped?
- Are we cooperating with our region to solve the problems in the Bay?
- What kind of capacity do we have to implement these changes?

When you decide, contact the Planning & Zoning Center at MSU.
Based on your responses, the PZC will craft Master Plan and Zoning Ordinance language specifically for the County.

- Is the County in the process of updating its Master Plan? This is the perfect time to ensure your water resources are receiving adequate attention!

- Be certain that the County is in compliance with Michigan’s most recent planning and zoning statutes.

- Because planning and zoning cannot apply retroactively, receive professional help and be better prepared for future development.
STEP 6: CONTACT PZC WITH ANY QUESTIONS

The Planning & Zoning Center at MSU is committed to helping Saginaw Bay-area communities achieve a higher standard for water quality protection and we will be available to assist you along the way.

Please contact us if you have questions regarding the project!

Phone: (517) 432-2222
Write: 310 Manly Miles Bldg.
       1405 S. Harrison Rd.
       East Lansing, MI 48823
E-mail: soucyrya@landpolicy.msu.edu
Benefits to Working with Us

• Updated master plan to identify contemporary environmental goals and meet statutory requirements

• Zoning ordinance gets amended to ensure your community is better protected from nuisances and pollution

• Save $$$ on FREE professional consulting and avoid costs in the future from potential environmental issues
PZC Finishes & Distributes BMP Guidebook

Ogemaw County communicates selections to PZC

PZC prepares sample Master Plan and Zoning Ordinance amendments for Ogemaw County

PZC conducts a Technical Assistance Workshop (January) for Ogemaw County

PZC & EMCOG & SBLC present Basin-wide Water Quality Conference in March

PZC assists Ogemaw County with the adoption process
Mark A. Wyckoff, FAICP  
Professor and Director  
Planning & Zoning Center at MSU  
Senior Associate Director, Land Policy Institute

Jacqueline Spry  
Visiting Academic Specialist-Outreach at MSU

Michigan State University  
Land Policy Institute  
Planning & Zoning Center  
310 Manly Miles Building  
1405 South Harrison Road  
East Lansing, MI 48823  
517.432.2222 ext. 123  
jacqueline.spry@landpolicy.msu.edu

Project Website  
http://www.landpolicy.msu.edu/SaginawBayProject

Great Place Network  
http://www.greatplacenetwork.org/