The Bad Axe Creek TMDL/WMP Hybrid

Welcome to BAD AXE

E. coli and Phosphorus TMDL and 319 Watershed Management Plan

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Purpose: Hybrid
Our TMDLs had grown to be fairly robust, including:
- Use of spatial analysis and monitoring data to identify critical areas
- Field inventories of nonpoint sources
- Recommending BMPs by catchment

Question: Could our awesome TMDLs serve as WMPs?
Answer: No. But we have an idea!
Hybrid

Approvable TMDL

Approvable 319 Watershed Management Plan

TMDL with Implementation Plan
Saginaw Bay – A big problem

- DEQ and EPA have a goal of reducing phosphorus loads to the Bay
Why Bad Axe?

- Bad Axe Drain is one of the few nutrient impairments on our 303d List
- And the only one in Saginaw Bay
Bad Axe Creek subwatershed

- Subwatershed of the Pinnebog River Watershed
- Much of the watershed was a wetland and is now agriculture.
- Highly impacted by:
  - wetland loss
  - Artificial drainage
  - Farming in the riparian zone
  - Manure land-application (hogs and cattle)
- Designated uses impaired by phosphorus and bacteria
Point Sources

MI E.coli Solution and Pollution Mapper

POTENTIAL SOURCES

POINT SOURCES
- NPDES Facilities
  - Biosolids
  - CAFO
  - Ind. Stormwater
  - Industrial Storm Water Only
  - WWTP/WWSL

Potential MS4 Regulation Areas (Urbanized Areas)

NONPOINT SOURCES
- Subwatershed Summary

TMDL LAYERS
- USEPA approved E. coli TMDL watersheds (individual)
New Definition:
“Watershed management plan *(light!)*”

*Like diet soda, but without the chemicals*
319 Plan Elements (full coverage)

Element A: Identification of causes and sources

B: Load reductions from management measures

C: Description of management measures

H: Criteria to assess progress

I: Monitoring to evaluate effectiveness
Element D: Estimate of technical, financial and regulatory assistance needed

- INCLUDES general description of the regulating agencies and available resources

- DOES NOT INCLUDE cost estimate for BMPs (general or specific)
Element E: Public information, education and participation

- INCLUDES a recommendation of to develop an I&E strategy
- DOES NOT NEED TO INCLUDE ANYTHING ELSE

319 Plan Elements (less coverage)
Element F and G: Schedules for implementation and interim milestones

- INCLUDES schedule of milestones
- DOES NOT INCLUDE commitments by stakeholders to implement practices, and provides much less detail than typical 319 Plan Elements (less coverage)
Process issues that came up:

- Which to do first? The TMDL or the Watershed Implementation Plan (IP)?
  - We did the IP first, but was that best?
  - Didn’t have P target until the very end
  - Point sources can be significant in nutrient TMDLs, and doing the TMDL last meant that our Permit section wasn’t brought in until the end.
Stakeholders

- Huron Conservation District was active and engaging, and already knew stakeholders who would implement BMPs.
- We had a great turn out at the final public meeting, but the presentation was far too technical for the audience.
Next Steps

- Michigan has very few P impairment listings, and a new statewide *E. coli* TMDL (DRAFT) will address all E. coli impairments

- This leaves very few TMDLs left to write

- So where do we go from here?
Next Steps for Michigan

- Concepts of a “WMP-light” *could* be used in the future to provide implementation plans where TMDLs already exist (such as the statewide *E. coli* TMDL)
- We think that this is a good approach for watersheds with willing stakeholders but no capacity to develop complete nine-element plans
- DEQ staff *could* fill WMP/IP development roles where needed (if time/budget allows)