303d Ag Impaired Delisting Process

Agricultural Advisory Board
December 16, 2015

EPA / Clean Water Act Requirements:

- **Section 305(b):** Describe water quality management programs and report the status of surface water quality statewide.

- **Section 303(d):** Assess the quality of waters and list those not meeting water quality standards and that require the development of a TMDL as impaired.

- **Section 319:** Identify Non-Point Source (NPS) problems **and** implement remediation plans

303d List

303d Catagories

Category 1: Waters attaining all designated uses.
Category 2: Waters where some, but not all, designated uses are met. Attainment status of the remaining designated uses is unknown because data are insufficient to categorize a water body consistent with the state's listing methodology.
Category 3: Waters for which there are insufficient or no data and information to determine, consistent with the state's listing methodology, if designated uses are met.
Category 4: Waters impaired for one or more designated use but not needing a TMDL. States may place these waters in one of the following three subcategories:
Category 4A: TMDL is approved.
Category 4B: Expected to meet all designated uses within a reasonable timeframe (three years).
Category 4C: Not impaired by a pollutant.
Category 5: Waters impaired for one or more designated uses by any pollutant that require the development of a TMDL. Category five includes waters shown to be impaired as the result assessments even if the specific pollutant is not known unless the state can demonstrate that non-pollutant stressors cause the impairment or that no pollutant(s) causes or contribute to the impairment. Category five constitutes the Section 303(d) list that EPA will approve or disapprove under the CWA.

303d List

- DEP maintains a public Web site (eMapPa) that uses a map to visually summarize the stream information listed Category 5 of the Report.

  http://www.depgis.state.pa.us/emappa/

303d List

•Waters remain in Category 5 until a TMDL is completed then are moved to Category 4a

• A water that was impaired but now is attaining can be "delisted" by moving it to Category 2 or 1

Typical delisting methods
  •Biological assessment using the Instream Comprehensive Evaluation Protocol (ICE) survey
  •Chemistry survey taking multiple samples at several sites over an extended time
  •Fish consumption advisory is lifted
  •Pollutant is removed (i.e. closing or major improvement to a wastewater treatment facility)
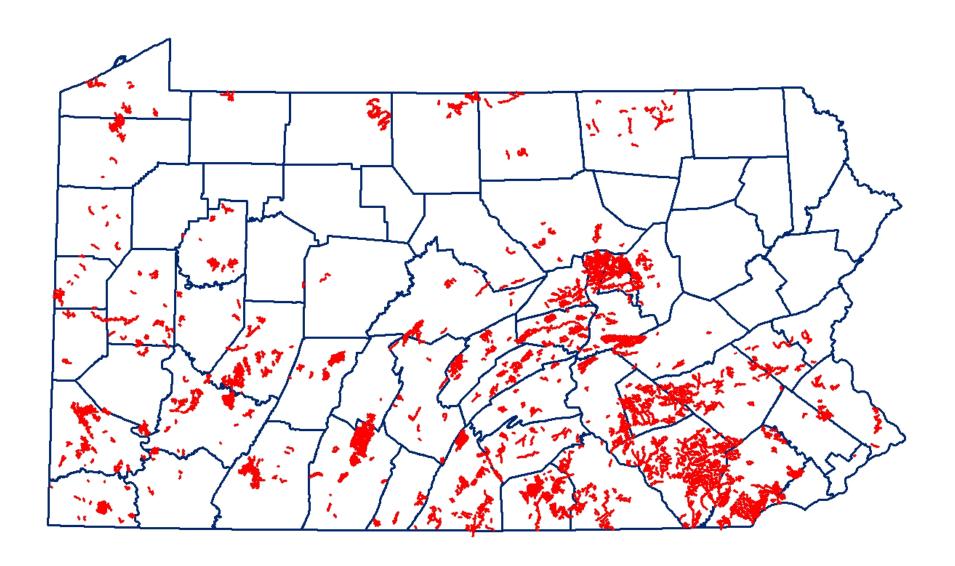
303d List

- **Streams are listed based on the results of assessments conducted for**:
  - Aquatic Life: typically stream biological community assessments
  - Fish Consumption: analyzing edible portions of fish
  - Potable Water Supply: evaluating chemical quality of raw intake water
  - Recreational: bacteriological data
- **Assessment and Methodology:**
  - Describes acceptable methods and procedures for assessing waters.
  - Revised/updated as needed and subjected to public comment.

2014 303d Ag Listings

In the 2014 Pennsylvania Integrated Water Quality Monitoring Report 4,809.6 of approximate 86,000 state stream miles were listed as impaired for agricultural sources.

Major Causes:
Siltation - 2966.24 stream miles
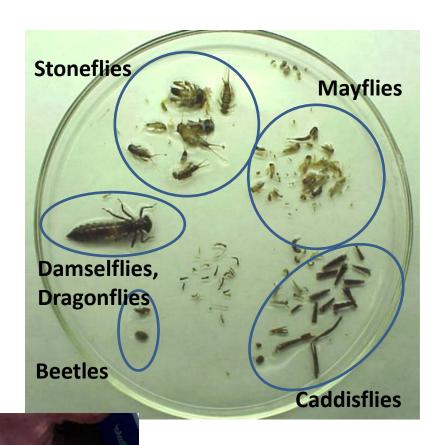Nutrients – 1223.54 stream miles

Macroinvertebrates

All Aquatic Life delistings require: macroinvertebrate samples collected following the PA DEP RBP method for Instream Comprehensive Surveys (ICE)

- Samples collected in the June-Sept sampling window must achieve an IBI score of 50 or better.
- Samples collected in the Oct-May sampling window must achieve an IBI score of 63 or better.

Stoneflies

Mayflies

Damselflies, Dragonflies

Beetles

Caddisflies

Chemistry:

- We can use outside data for delistings using chemical samples as long as the analysis has been done by a DEP or EPA certified lab.
- Sampling must target periods when criteria are expected to be exceeded. Enough samples need to be collected to determine if criteria are achieved 99% of the time. For example over a 1 year time period it takes 4 exceedances of the criteria to demonstrate that criteria are violated.
- Sampling should be done during base flow conditions, though a few storm events should be targeted when criteria violations are likely to occur.
- Samples can be collected 4 or 5 days after a rain event as long as the flow has returned to near normal flows.

Chemistry

AMD Chemistry
Analysis

- Total Alkalinity
- Total Hot Acidity
- pH
- Hardness
- Total Calcium
- Total Magnesium

- Total Suspended Solids
- Total Nickel
- Total Iron
- Total Manganese
- Total Aluminum
- Sulfate

A thirty day average is needed for Total Iron, therefore 3+ samples need to be collected within a thirty day sampling window.

Non – AMD

Chemistry samples will need to be tailored to the original cause of impairment.

Point Sources

File Review for Point Sources

Point Source delistings will require a file review to document when compliance was attained. One year DMR data will need to be compiled to demonstrate that the permit conditions have been attained or the point source has been eliminated then provide documentation that explains how the source was eliminated.

Stream Miles Delisted

1996 – 4 Stream miles

1998 – 53 Stream miles

2000 – 51 Stream miles

2002 – 141 Stream miles

2004 – 1025 Stream miles

2006 – 764 Stream miles

2008 – 204 Stream miles

2010 – 434 Stream miles

2012 – 514 Stream miles

2014 – 333 Stream miles

Total of 3294 Stream miles delisted

What Can Conservation Districts do?

- Identify streams that have had remediation completed as part of the Growing Greener, 319 program, ect.
- Provide the department with well documented site information; this includes detailed maps and descriptions of the remediated stream sections.
- Provide the department biological data that the Conservation District have collected.
- Provide the department with any chemistry data that has been collected, especially useful when looking at delisting AMD streams.
- Although the data submitted to the DEP may not be used for the sole purpose of delisting, it will act as a trigger for the department to reassess streams for delisting.

Questions?

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