Clean Water Act 101: Core programs for watershed work

Merritt Frey, Habitat Program Director
River Network
801-486-1224 or mfrey@rivernetwork.org
AGENDA

Introduction

Water quality standards

Point source permits

Nonpoint source control

Wetland/stream alt
Clean Water Act’s objective

"... to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters."

Section 101(a)
Clean Water Act
Select Clean Water Act goals

- All waters “fishable and swimmable” by 1983
- Eliminate pollution discharged to water by 1985
- No discharge of toxics in toxic amounts
If you were charged with meeting the fishable/swimmable goal, what would be your first steps?
Select core programs for today:

Water quality standards
  What do we value and protect?

Point source permit program
  How control municipal, industrial, and related pollution sources?

Nonpoint source (319) control program
  How do we control diffuse pollution sources?

Wetland & stream alteration permits (404)
  How best protect habitats?
Water Quality Standards

Three core pieces:

1. Designated uses
   Ex: cold water fishery, swimming

2. Water quality criteria
   Ex: minimum 7.0 mg/L dissolved oxygen

3. Antidegradation policy
   Protect existing water quality and uses;
   protect high quality;
   no degradation of “outstanding”
Example: Indiana designated use

327 IAC 2-1-3  Surface water use designations; multiple uses
Authority:  IC 13-14-8; IC 13-14-9; IC 13-18-3
Affected:  IC 13-18-4

Sec. 3. (a) The following water uses are designated by the water pollution control board:
(1) Except as provided in subsection (c), surface waters of the state are designated for full body contact recreation as provided in section 6(d) of this rule.
Example: Indiana water quality criteria

(b) This subsection establishes minimum surface water quality for aquatic life. In addition to subsection (a), subdivisions (1) through (5) are established to ensure conditions necessary for the maintenance of a well-balanced aquatic community. The following are applicable at any point in the waters outside of the mixing zone:

(1) There shall be no substances that:
   (A) impart unpalatable flavor to food fish; or
   (B) result in offensive odors in the vicinity of the water.

(2) No pH values below six (6.0) or above nine (9.0), except daily fluctuations that:
   (A) exceed pH nine (9.0); and
   (B) are correlated with photosynthetic activity;

(3) Concentrations of dissolved oxygen shall:
   (A) average at least five (5.0) milligrams per liter per calendar day; and
   (B) not be less than four (4.0) milligrams per liter at any time.

(4) The following are conditions for temperature:
   (A) There shall be no abnormal temperature changes that may adversely affect aquatic life unless caused by natural conditions.
   (B) The normal daily and seasonal temperature fluctuations that existed before the addition of heat due to other than natural causes shall be maintained.
Example: Indiana narrative criteria

327 IAC 2-1-6  Minimum surface water quality standards

Authority:  IC 13-14-8; IC 13-14-9; IC 13-18-3
Affected:  IC 13-11-2-258; IC 13-18-4; IC 13-30-2-1; IC 14-22-9

Sec. 6. (a) The following are minimum surface water quality conditions:
(1) All surface waters at all times and at all places, including waters within the mixing zone, shall meet the minimum conditions of being free from substances, materials, floating debris, oil, or scum attributable to municipal, industrial, agricultural, and other land use practices, or other discharges that do any of the following:
   (A) Will settle to form putrescent or otherwise objectionable deposits.
   (B) Are in amounts sufficient to be unsightly or deleterious.
   (C) Produce:
      (i) color;
      (ii) visible oil sheen;
      (iii) odor; or
      (iv) other conditions;
      in such degree as to create a nuisance.
   (D) Are in concentrations or combinations that will cause or contribute to the growth of aquatic plants or algae to such degree as to:
      (i) create a nuisance;
      (ii) be unsightly; or
      (iii) otherwise impair the designated uses.
Example: Indiana antidegradation

327 IAC 2-1-2  Maintenance of surface water quality standards
Authority:  IC 13-14-8; IC 13-14-9; IC 13-18-3
Affected:  IC 13-18-1; IC 13-18-4; IC 13-30-2-1

Sec. 2. The following policies of nondegradation are applicable to all surface waters of the state:
(1) For all waters of the state, existing beneficial uses shall be maintained and protected. No degradation of water quality shall be permitted which would interfere with or become injurious to existing and potential uses.
(2) All waters whose existing quality exceeds the standards established herein as of February 17, 1977, shall be maintained in their present high quality unless and until it is affirmatively demonstrated to the commissioner that limited degradation of such waters is justifiable on the basis of necessary economic or social factors and will not interfere with or become injurious to any beneficial uses made of, or presently possible, in such waters. In making a final determination under this subdivision, the commissioner shall give appropriate consideration to public participation and intergovernmental coordination.
(3) The following waters of high quality, as defined in subdivision (2), are designated by the board to be an outstanding state resource and shall be maintained in their present high quality without degradation:
   (A) The Blue River in Washington, Crawford, and Harrison Counties, from river mile 57.0 to river mile 11.5.
   (B) The North Fork of Wildcat Creek in Carroll and Tippecanoe Counties, from river mile 43.11 to river mile 4.82.
   (C) The South Fork of Wildcat Creek in Tippecanoe County, from river mile 10.21 to river mile 0.00.
(4) Any determination made by the commissioner in accordance with Section 316 of the Clean Water Act concerning alternative thermal effluent limitations will be considered to be consistent with the policies enunciated in this section.
Who develops standards?

- Generally, states set water quality standards.
- U.S. EPA sets policy, recommends criteria, & retains oversight of standards.
- Extensive public involvement.
Changing standards

- Standards can be changed through the Triennial Review.
- People may also petition the state agency for a change.
- Find out when your next Triennial Review is!
Many other protections rely on strong water quality standards, including:

- **Point source permit limits**
- **TMDL restoration efforts goals**
- **Monitoring design & targeting**
- **Water quality reporting results**
Engage with standards

- Track down your standards: www.epa.gov/r5water/wqs5/stateprograms.html
  - Ground truth designated uses
  - Review criteria: protective of values?
  - Consider antidegradation in your watershed

- Get involved in your state’s Triennial Review
  - Get on mailing list
  - Share your watershed knowledge
  - Alert others in your watershed
Questions?
Point Source Discharge Permits

National Pollutant Discharge Elimination System (NPDES):

- Controls point source pollution; application of program has evolved
- Largely delegated to the states to run; EPA retains oversight
- Bottom line: illegal to discharge without a permit
Defining a “point source”

“...any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged.

This term does not include return flows from irrigated agriculture or agricultural storm water runoff.”

40 CFR 122.2
Individual permits

Who?
- All municipal treatment plants and “major industrial dischargers”
- Certain stormwater discharges

What?
- Specific application and permit process
- Public comment period for each activity
General permits

Who?
- Similar operations and discharge same types of wastes
- Same effluent limits or conditions
- Similar monitoring

What?
- Must apply to be covered by permit
- No public comment for each activity or permittee
Example: general permits in Indiana

Industrial
- Coal mining, coal processing, & reclamation activities
- Noncontact cooling water
- Petroleum products terminals
- Groundwater petroleum remediation systems
- Hydrostatic testing of commercial pipelines
- Sand, gravel, dimension stone or crushed stone operations

Stormwater: Municipal, construction & industrial

Concentrated Animal Feeding Operations
What is in a permit?

- Description of discharge and receiving water
- Antidegradation analysis
- Pollutant “effluent” limits/BMPs
- Monitoring requirements
- Standard conditions (sometimes not so standard!)
- More
Engage with point source permits

- Learn more about your state’s program: http://www.epa.gov/r5water/npdestek/index.htm
  - Sign up for public notices
  - Learn about dischargers in your watershed
  - Identify general permits of interest in your watershed

- At least 30 days of public comment required on individual permits…weigh in!
Questions?
Nonpoint Source Pollution Control: 319

1. Assessments of problem

2. Establish program for control
   ✓ Voluntary
   ✓ Best Management Practices

3. 319(h) grants for on-the-ground work
Engage with the 319 program

- Apply for 319(h) money!
- Check out your state’s assessment and plan... do they address the issues that matter to you?
- Investigate state program linkages...
Questions?
404 permits

Requires a permit for the discharge of dredge or fill material to any water of the U.S., including wetlands.

Permits may be:
- Individual
- General (including regional & Nationwide Permits)
Agency roles

- Army Corps of Engineers
  Day-to-day lead agency

- U.S. Environmental Protection Agency
  Review/oversight, guidance, “elevation”, etc.

- Others:
  - U.S. Fish and Wildlife & National Marine Fisheries Service
  - State agencies
What is required?

Permits are to be based on sequencing:

1.) Avoid: demonstrate there are no practicable alternatives.

2.) Minimize: demonstrate how harm is minimized.

3.) Mitigate: unavoidable impacts trigger mitigation (i.e. replace values lost).
Engage in the 404 program

- Connect with your local Corps office: www.epa.gov/r5water/wshednps/topic_wetlands.htm
  - Sign up for public notices: often just 15 days!
  - Identify general permits of concern in your watershed

- Comment on individual permits and track use of general permits.

- Investigate cumulative impacts in your watershed.
Questions?
To learn more...

- River Network’s Clean Water Act online course: [www.cleanwateract.org](http://www.cleanwateract.org)

- Clean Water Act Owner’s Manual: [www.rivernetwork.org](http://www.rivernetwork.org)

- U.S. EPA’s webinar series: [water.epa.gov/learn/training/wacademy/index.cfm](http://water.epa.gov/learn/training/wacademy/index.cfm)

- LOTS of information on EPA Region 5’s website: [www.epa.gov/r5water/](http://www.epa.gov/r5water/)