Sustainable Watershed Management

2. Regulatory and Policy Considerations

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Clean Water Act

- Clean Water Act (CWA) has the broad goal of maintaining or restoring the chemical, physical, and biological integrity of the US surface waters
  - support "the protection and propagation of fish, shellfish and wildlife, and recreation in and on the water."
- Focus is on surface water quality protection
- CWA does not deal directly with ground water nor with water quantity issues
## Clean Water Act

- From 1972 to ~1990, USEPA and the states focused on chemical aspects of the "integrity" goal
- Emphasis was on traditional Point Source (PS) facilities
  - municipal sewage plants
  - industrial facilities
- Little or no effort on controlling stormwater pollution, or Non-Point Sources (NPS)

## Clean Water Act

- Driven in part by lawsuits and pressure from outside, in early 1990s USEPA and some states have begun to address NPS
  - For "nonpoint" runoff, voluntary programs are the main approach
    - includes cost-sharing with landowners
  - For "wet weather point sources" like urban storm sewer systems and construction sites, a regulatory approach is employed
Clean Water Act

- Evolution of CWA programs over the last decade
  - Shift from a program-by-program, source-by-source, pollutant-by-pollutant approach to more holistic watershed-based strategies
  - Watershed approach considers both protecting healthy waters and restoring impaired ones
  - A full array of issues are addressed, not just those subject to CWA regulatory authority
  - Involvement of stakeholder groups in development and implementation of strategies for achieving and maintaining water quality and other environmental goals

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Clean Water Act
Clean Water Act

- Designated/beneficial uses of all waterbodies in US were determined by States with USEPA approval
  - Drinking water
    - Treated/untreated
  - Water-based recreation
    - Non-contact (e.g., riding in a large boat)
    - Short-term (e.g., jet skiing, speed boating and canoeing)
    - Long-term (e.g., snorkeling, swimming, kayaking and wind surfing)
  - Fishing
  - Aquatic life habitat
    - Warm water species
    - Cold water species
  - Agriculture or Industrial water supply
  - ...
- “Existing use” refers to uses the waterbody is capable of supporting now and any use actually attained since November 28, 1975

Clean Water Act

- One waterbody may have different uses and water quality objectives at different points
- Discontinuities in standards…
- “Toughest” standard/objective prevails
Clean Water Act

- Waste transport or treatment is not an acceptable Designated Use
  - In 1972 CWA it states that US surface waters should no longer be used as waste conveyances or treatment systems
- Mixing Zones are allowed, under some regulations

Clean Water Act

- Water quality criteria (WQC) must be scientifically consistent use
- Only scientific considerations can be taken into account when determining water quality criteria
  - Economic and social impacts are not considered when developing WQC
Clean Water Act

- Antidegradation:
  - Protection of
    - (1) Existing uses of waters
    - (2) High quality waters
    - (3) Outstanding national water resources

States, tribes, and territories are required to provide the results of their monitoring efforts two reports:
- Submitted to EPA and made available to the public
- Generally submitted on April 1 of every even-numbered year

- 305(b) Report
  - Info on ALL state, tribal or territorial waters -- healthy, threatened, and impaired

- 303(d) List
  - Waterbodies that are either threatened or impaired
  - Compare against WQC

Starting in 2002, EPA consolidated 305(b) and 303(d) reporting
Top Four Reasons for 303(d) Listing (by Waterbody Type)

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### Clean Water Act

- **TMDL = Total Maximum Daily Load**
  - Amount of pollutant load that a waterbody can assimilate and still meet Designated Uses
  - Consider both Point and Non-Point Sources
  - Take into account Future Growth
  - Leave a Margin of Safety (MOS) to account for uncertainties in the TMDL calculations

- One TMDL per pollutant

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### Clean Water Act

- **TMDL Process**
  - Similar to WMP process, but narrower in focus
  - Identify and quantify problem (sources)
  - Link sources to observed WQ
  - Determine load that can be assimilated
  - Distribute load among sources
  - Develop monitoring program
  - Implement actions
### Clean Water Act

- The CWA refers to Total Maximum **Daily** Loads
- USEPA allows loadings rates in weekly, monthly, or even yearly timeframes
- Recent lawsuit may change this back to daily…

### Clean Water Act

- TMDLs must be submitted to EPA for review and approval/disapproval
- If EPA ultimately decides that it cannot approve a TMDL that has been submitted, it can:
  - Ask for a revised TMDL
  - Develop and promulgate what EPA considers to be an acceptable TMDL
Clean Water Act

- EPA encourages states, tribes, and territories to do TMDLs on a "watershed basis"
- Bundle TMDLs together to realize program efficiencies and foster more comprehensive analysis
- Ideally, TMDLs would be incorporated into larger scale Watershed Management Plan
- WMP would address protection of high quality waters (antidegradation) as well as restoration of impaired segments via TMDL(s)

Clean Water Act

- Questions to address in TMDL:
  - Are nonpoint sources (NPS) a significant contributor of pollutants to this impaired waterbody?
  - What are the approximate total current loads of impairment - causing pollutants from all NPS in the watershed?
    - How much from each category of NPS?
  - What fraction is from NPS vs. PS?
  - How much do loads from NPS need to be reduced?
  - What management measures and practices would need to be applied to various types of nonpoint sources, in order to achieve the needed load reductions?
Clean Water Act

- No explicit mechanism for allocating loads to various sources
- Requires negotiation or directive by local agency

Clean Water Act

Set Goals and Water Quality Standards (WQS) ↓

Conduct Monitoring ↓

303(d) ← No ← Meeting WQS? → Yes ↓

Develop Strategies and Controls (Total Maximum Daily Loads-TMDLs) ↓

Implement Strategies ↓

NPDES Section 401

Section 319 Section 404 State Revolving Fund (SRF)

Apply Antidegradation
Clean Water Act

- **NPDES permit program**: Regulates PS discharges into a surface waterbody
- **Section 404**: Regulates placement of dredged or fill materials into wetlands and other waterbodies
- **Section 401**: Requires state, territory, or Indian tribes to certify to USEPA that issuing permits that would not result in exceedances of water quality objectives
- **State Revolving Funds (SRF)**: Provides funding (loans) for municipal point sources, nonpoint sources, and other activities.
- **Section 319**: Addresses nonpoint sources of pollution through grants.

Section 319

- Section 319(h) funding decisions are made by the states
- States submit their proposed funding plans to EPA
  - If a state's funding plan is consistent with grant eligibility requirements and procedures, EPA then awards the funds to the state
Section 319

- Approved Non-point Source Management Program
- Maintain other programs within the state
- Match: federal share may not exceed 60 percent
- Administrative cost may not exceed 10 percent of the funding
  - Costs of enforcement and regulatory activities, education, training, technical assistance, demo. projects, and tech. transfer are not subject to 10 percent limit
- Funds awarded to states are available for the entire fiscal year for which the funds were awarded
  - Any funds not obligated by the end of the fiscal year will become available to EPA to administer to other states in the next fiscal year
  - Obligated does not mean "to expend"; it means that the state must commit the section 319(h) funds to be expended
- Annual reporting requirement
- Satisfactory progress
- Cost-sharing only for demonstration projects

Section 319

Section 319 Funding History

![Graph showing funding history from 1985 to 2010]
**Water Policies & Law Related to Watershed Planning**

- USEPA now requires all watershed projects funded under Section 319 to have a Watershed Plan which includes at least 9 elements:
  - Identification of causes and sources that will need to be controlled to achieve the load reductions
  - Estimate of load reductions expected using the management actions
  - Description of NPS management measures to implement
  - Estimate of technical and financial assistance needed
    - sources that will fund/provide to implement plan
  - Information/education component
    - enhance public understanding of the project
    - encourage early and continued participation in selecting, designing, and implementing NPS management measures
  - Schedule for implementing NPS management measures
  - Measurable implementation milestones
  - Criteria to be used to determine whether loading reductions are being achieved
  - Monitoring to evaluate effectiveness

  [http://www.epa.gov/owow/nps/Section319/319guide03.html](http://www.epa.gov/owow/nps/Section319/319guide03.html)

**USEPA Watershed Funding Programs**

- **Nonpoint Source Pollution Funding**
- **Targeted Watershed Grants**
  - Encourage community-based management techniques to protect and restore watersheds
  - Any governmental or nonprofit non-governmental entity is eligible to receive a grant
  - Inter jurisdictional watershed partnerships are encouraged
- **Wetlands Funding**
- **National Estuary Program Assistance Agreements**
- **Additional EPA Funding Opportunities for Water**
  - Includes information on other sources of funding for projects that address waste water and drinking water issues (Clean Water State Revolving Fund and Drinking Water State Revolving Fund), and improve water quality (Beach Act Grants, Water Pollution Control Program Grants, and Water Quality Cooperative Agreements)
- **Regional Grant Opportunities**
  - Managed by EPA’s ten regional offices
- **Environmental Education Grants Program**
  - Supports environmental education projects that increase the public awareness about environmental issues and increase people’s ability to make informed decisions that impact environmental quality
USEPA Watershed Funding Programs

- [http://www.epa.gov/owow/nps/funding.html](http://www.epa.gov/owow/nps/funding.html)
- [http://www.epa.gov/owow/watershed/initiative/](http://www.epa.gov/owow/watershed/initiative/)
- [http://www.epa.gov/owow/wetlands/initiative/#financial](http://www.epa.gov/owow/wetlands/initiative/#financial)
- [http://www.epa.gov/owow/funding/watershedfunding/nep/](http://www.epa.gov/owow/funding/watershedfunding/nep/)
- [http://www.epa.gov/water/funding.html](http://www.epa.gov/water/funding.html)
- [http://www.epa.gov/ogd/grants/regional.htm](http://www.epa.gov/ogd/grants/regional.htm)
- [http://www.epa.gov/enviroed/grants.html](http://www.epa.gov/enviroed/grants.html)

State Legislation and Policies

- **Porter-Cologne Act (CA)**
  - Designates responsibilities to state agencies
  - Authorizes development of basin plans
- **Basin Plan**
  - Objective is to preserve and enhance water quality
    - Protect beneficial uses of state waters
  - Designates beneficial uses for surface and ground waters
  - Sets narrative and numerical objectives to protect designated beneficial uses
    - Conforms to state's antidegradation policy
  - Describes implementation programs in each Region
  - Incorporates (by reference) all applicable State and Regional Board plans and policies and other pertinent water quality policies and regulations
State Funding

- **State Revolving Fund Loan Program**
- **Integrated Regional Water Management Implementation**
- **Consolidated funding programs:**
  - Prop 40 - NPS Pollution Control
  - Prop 50 - Coastal NPS Pollution Control
  - Fed CWA Sec 319 (h) - NPS Implementation
  - Prop 40 and 50 - Agricultural Water Quality Grant
  - Prop 40 - Urban Storm Water
  - Prop 40 - Integrated Watershed Management

http://www.waterboards.ca.gov/funding/consolidgrants0506.html

Key Points

- Several Federal and State Programs promoting watershed planning
  - Funding available in many pockets
- Comprehensive approach is becoming fashionable
- Sustainability…?