



# Introduction to the Clean Water Act And Water Quality Regulation

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# Clean Water Act – some history

- Deteriorating water conditions until nadir during early 20<sup>th</sup> century and World War II
  - Viewed as a public health concern (cholera)
  - State regulation by 1930s, but weak
  - Dramatic water pollution problems in urban rivers and lakes
- 1965 – federal Water Quality Act
  - Reliance on states for water quality standards and enforcement
  - Failed on both counts (less than 1/3 of industrial facilities treated wastes before discharges)



## Legislative Response

- Rivers & Harbors Act of 1899
  - Originally targeted impediments to navigation
  - Criminalized “any refuse matter of any kind or description whatever” over than street flow
    - Required permit from U.S. Army
    - Qui tam provision
  - Sparked federal Clean Water Act in 1972. Still in force.



# Federal Clean Water Act

- Passed in 1972, and amended in 1977
- Key concepts:
  - Set an ambitious national goal: elimination of pollutant discharges into navigable waters by 1985
  - Primary tools:
    - Water Quality Standards
    - Wastewater Treatment Standards + Permits for Discharges
    - Wastewater Treatment Financing
  - Water quality, not supply.



## Sources of Pollution

- Direct – discharge from pipe, outfall or ditch at facility
- Indirect – routed to a centralized wastewater treatment facility
- Storm water and sewer discharges
- Non-point source pollution



## Federal Clean Water Act – Key concepts

- **NPDES permit system** (sections 301, 402)
  - Required for any discharge of a pollutant from a point source into navigable waters
- **Indirect discharges** – pretreatment orders
- **Discharge standards** set by technology limits provided for entire industry sector (sections 301, 306, 307) (NSPS, toxics)
- **Total Maximum Daily Load** standards for water quality attainment (section 303d)
- Dredge and Fill (section 404) (**wetlands**)

# Federal Clean Water Act - implementation



- State delegation for implementation and enforcement, with EPA oversight
- Citizen suits (section 505)
- Nonpoint source pollution planning requirements



## Federal Clean Water Act – other laws

- Other federal laws:
  - Oil Pollution Act of 1990
  - Ocean Dumping Act
  - Coastal Zone Management Act
- State laws – extremely important additional source of pollution control obligations

# Federal Clean Water Act - results



- Much cleaner waterways in the United States
  - Discharge of organic wastes from POTWs reduced by almost half
  - Industry discharges of organic wastes down 98 percent
  - Rate of wetlands loss declined by 90 percent since 1970s
- But many water quality issues remain

# Federal Clean Water Act – remaining challenges



- Data shortage
  - Only 28% of US rivers and streams assessed, and 53% impaired
- TMDL process for water quality attainment
- Nonpoint source regulation (including air deposition)
- Interplay of water supply and water quality



<https://www.epa.gov/waterdata/waters-watershed-assessment-tracking-environmental-results-system/>

# Federal Clean Water Act - Jurisdiction



**The term “navigable waters” means the waters of the United States, including the territorial seas.**

(CWA section 502(7))



- Katy Prairie
- 1,000 sq miles
- Major migratory bird flyway
- “Prairie Potholes”

# Mosaic sink hole



- <http://www.reuters.com/article/us-mosaic-sinkhole-idUSKCN11M1QW>



**Questions?**

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