



Introduction to the Clean Water Act And Water Quality Regulation

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Shell blame: Lack of fresh water leads to oyster ban

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For Gulf seafood lovers, this is a grim year. Red tide (the *Karenia brevis* algae) has killed roughly 3 million fish. And though it doesn't kill oysters, the algae's neurotoxins accumulate in their briny flesh and can poison anyone who eats them. Until further notice, harvesting shellfish off our coast is banned....

The good news is that a hard rain could clear up this year's problem. It's not just our area's trees that are suffering during this drought; it's also Galveston Bay. Too little fresh water has flowed into it from rivers and bayous. That leaves the bay saltier than usual - which is how red tide likes it....

Somehow, though, devastating the Bay doesn't seem to bother the [Texas Commission on Environmental Quality](#). Earlier this year, the TCEQ commissioners adopted rules that will allow fresh water flowing into the bay to be reduced, regularly, to a trickle as pitiful as this year's....

We urge the TCEQ to reconsider its rules. We want our grandkids to enjoy the same Galveston Bay that we love - and to know the pure pleasure of slurping a Gulf oyster on the half shell.

Clean Water Act – some history



- Deteriorating water conditions until nadir during early 20th century and World War II
 - Viewed as a public health concerns (chlorination)
 - 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 16% of US rivers and streams assessed, and 44% impaired
- TMDL process for water quality attainment
- Nonpoint source regulation (including air deposition)
- Interplay of water supply and water quality



<http://www.epa.gov/waters/ir/>

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”



Questions?

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