

**Overview of the Clean Water  
Act and the National Pollutant  
Discharge Elimination System  
(NPDES) Program**

# Learning Objectives

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- ◆ Review history of the Clean Water Act and NPDES Permit program
- ◆ Define key terms
- ◆ Summarize clean water program accomplishments



# Clean Water Program Development

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- ◆ 1899 Rivers and Harbors Act
- ◆ 1948 Federal Water Pollution Control Act (FWPCA)
- ◆ 1965 Water Quality Act
- ◆ 1970 Executive Order - EPA established
- ◆ 1970 Refuse Act Permit Program
- ◆ 1972 FWPCA Amendments
- ◆ 1977 Clean Water Act (CWA)
- ◆ 1987 Water Quality Act

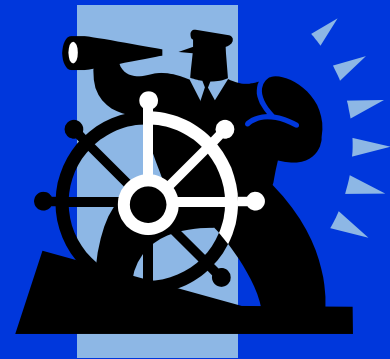


# Early Legislation

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## 1899 Rivers and Harbors Act and 1948 Federal Water Pollution Control Act (FWPCA)

- Navigation
- Human health concerns



# Water Quality Act of 1965

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- ◆ **Required standards for interstate waters**
  - Gave three years to adopt
- ◆ **Enforcement hampered by**
  - Burden of proof with enforcing agency
  - Lack of standards (50% of states by 1971)
  - No criminal or civil penalties

# EPA and RAPP – 1970

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- ◆ EPA established by Executive Order in 1970
- ◆ Refuse Act Permit Program (RAPP) established in 1970
  - EPA and Corps of Engineers began preparing program requirements
  - Struck down in Federal court



# Federal Water Pollution Control Act Amendments - 1972

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## Section 101(a)

- ◆ **Objective:** Restore and maintain the chemical, physical, and biological integrity of the nation's waters
- ◆ **National Goals include:**
  - Eliminate the discharge of pollutants by 1985
  - Achieve by July 1, 1983, as an interim goal, a level of water quality that provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water



# Federal Water Pollution Control Act Amendments - 1972 (Continued)

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- ◆ Established NPDES, pretreatment, and construction grants programs
- ◆ Established both technology-based and water quality-based requirements
- ◆ Established compliance dates
- ◆ Provided for authorization of State NPDES permitting programs
- ◆ Indicated that permit compliance is a shield
- ◆ Established significant penalties for permit violations
- ◆ Established maximum permit term of 5 years



# Natural Resources Defense Council Consent Decree - 1976

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- ◆ Required a list of toxic priority pollutants
  - 65 categories, 129 pollutants
- ◆ Required a list of primary industries for technology-based controls
  - 21 industries



# Clean Water Act - 1977

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- ◆ **Section 307(a) adopted provisions of NRDC Consent Decree**
- ◆ **Clarified that Federal facilities are subject to State programs**
- ◆ **Pretreatment program delegation**
  - Authorized EPA to approve local pretreatment program
  - Required NPDES States to modify programs to include pretreatment oversight

# Water Quality Act - 1987

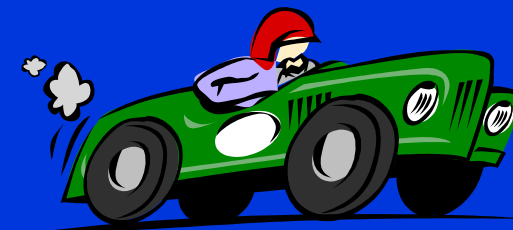
- ◆ Specified storm water permitting requirements
- ◆ Provided that Indian tribes may be considered as “States”
- ◆ Created Federal sludge management program
- ◆ Increased penalties for noncompliance
- ◆ Renewed emphasis of surface water toxics control



# What is a Permit?

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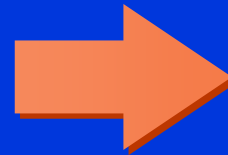
- ◆ A permit is a license . . .
  - Issued by the government
  - Granting permission to do something that would be illegal in the absence of the permit (e.g., driver's license)
- ◆ There is no right to a permit and it is revocable for cause (e.g., reckless driving)
- ◆ An NPDES permit is license to discharge



# NPDES Statutory Framework

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- ◆ All “point” sources
- ◆ “Discharging pollutants”
- ◆ Into “waters of the U.S.”



**Must obtain an NPDES permit from EPA or an approved State**

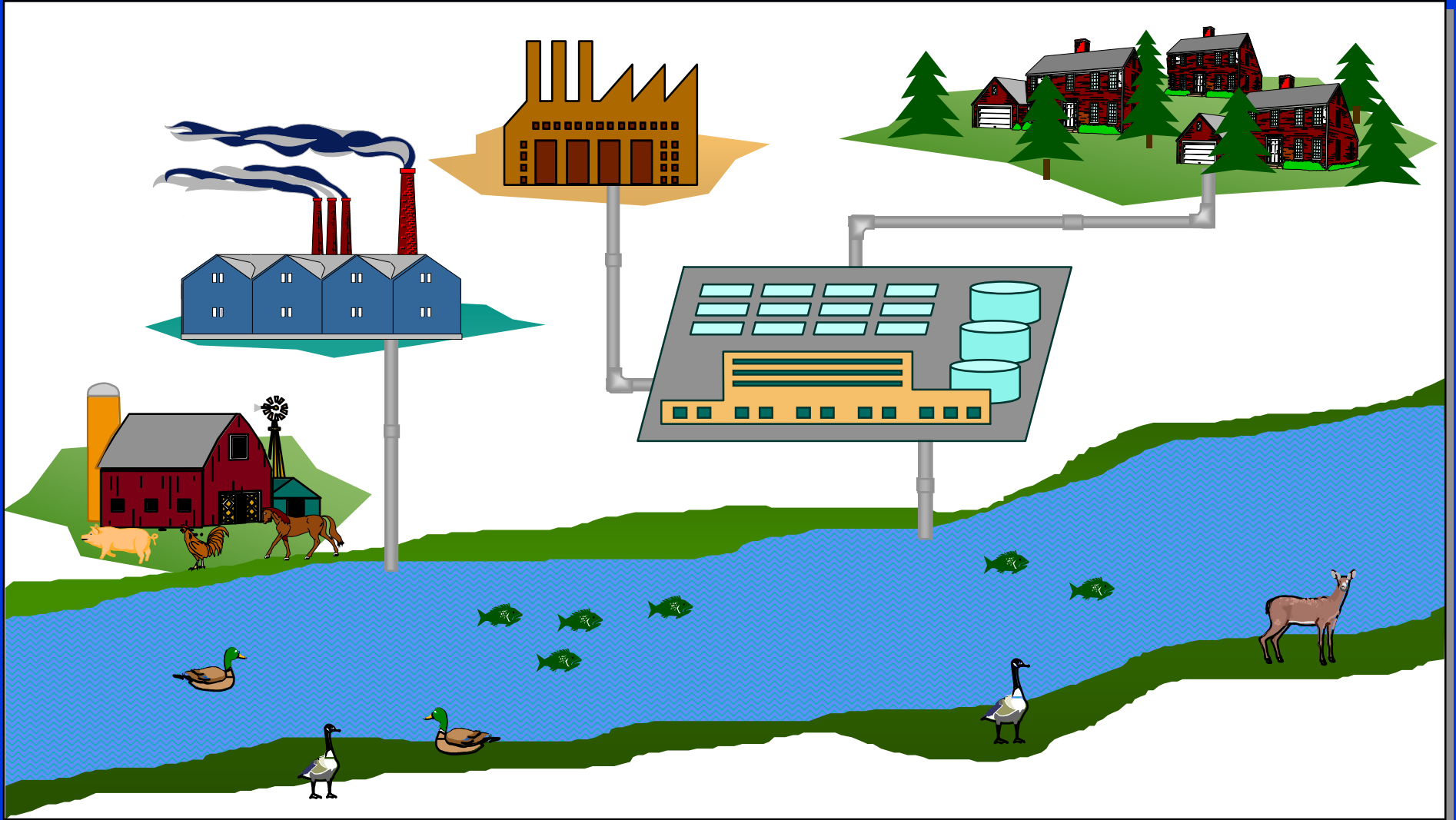
# Point Source - 40 CFR §122.2

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- ◆ **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
  - Does not include return flows from irrigated agriculture or agricultural storm water runoff



# NPDES Permit Program



# Pollutant – 40 CFR §122.2

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- ◆ Dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water
  - Does not include sewage from vessels or injected wastes



# CWA Classes of Pollutants

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- ◆ **Conventional pollutants**
  - BOD, TSS, oil and grease, fecal coliform bacteria, and pH
- ◆ **Toxic pollutants – 126 “priority pollutants”**
  - Heavy metals (e.g., Cu, Pb, Hg)
  - Organic compounds (e.g., PCBs, dioxin)
- ◆ **Non-Conventionals**
  - Everything else...
  - E.g., chlorine, ammonia, nitrogen, phosphorus



# Waters of the United States

## 40 CFR §122.2

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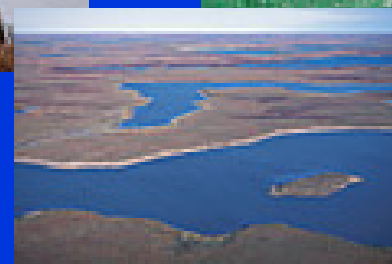
- ◆ All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters subject to the ebb and flow of the tide
- ◆ All interstate waters
- ◆ All other waters that could affect interstate or foreign commerce
- ◆ All impoundments of waters of the US
- ◆ Tributaries of the above four categories
- ◆ The territorial sea
- ◆ Wetlands adjacent to waters identified above



# Waters of the United States (continued)

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- ◆ Regulatory definition has been interpreted to cover virtually all types of surface waters including:
  - Rivers and streams
  - Lakes and ponds
  - Wetlands
  - Sloughs
  - Prairie potholes
  - Intermittent streams
  - Territorial seas
  - Etc.



# Waters of the United States (continued)

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## ◆ SWANCC v. U.S. Army COE

- What's in?
  - Navigable waters
  - Interstate waters
  - Waters adjacent to or part of the tributary system of navigable waters (part of the same aquatic system)
  - Waters used or that could be used for interstate commerce\*
- What's out?\*

  - Isolated, intrastate waters that could affect interstate commerce solely by virtue of their use as migratory bird habitat

- States may have more inclusive definition of “Waters of the State”



# Waters of the United States (continued)

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- ◆ **What about groundwater?**
  - Groundwater generally not itself considered “Water of the U.S.”
  - Discharges affecting groundwater may be regulated as NPDES discharges if there is a direct hydrological connection to surface water
  - Groundwater may be “Water of the State”
  
- ◆ **What about treatment ponds or lagoons?**
  - Generally not “Waters of the U.S.” if part of a treatment system



# NPDES Investments and Accomplishments

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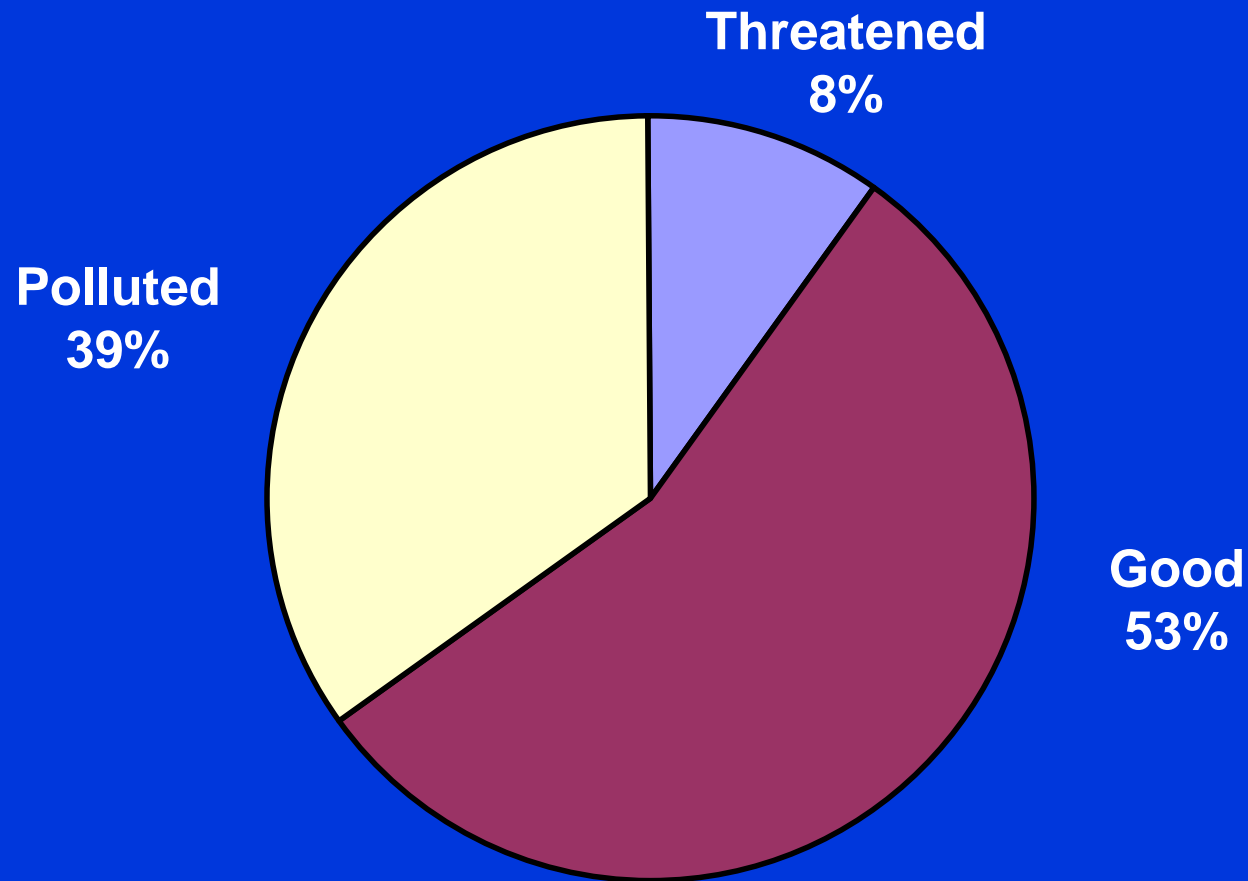
Since 1972:

- ◆ **\$77 Billion - POTW Construction**
- ◆ **45% reduction in effluent BOD while POTW loadings increased by 35%**
- ◆ **Water bodies meeting standards increased from 37% to 53%**



# Rivers and Streams\*

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\* 699,946 of 3.7 million miles assessed.

Source: 2000 State 305(b) reports

