

Introduction to Water Quality Trading

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TOPICS

- 💧 **WHAT IS WATER QUALITY TRADING**
- 💧 **CLEAN WATER ACT**
- 💧 **EPA NATIONAL TRADING POLICY**
- 💧 **NATIONAL WQT STATISTICS**

Water Quality Trading

- 💧 **Allows point sources to purchase offset credits from other dischargers**
- 💧 **Voluntary exchange of pollutant reduction credits**
- 💧 **Cost-effective**
- 💧 **Can improve water quality**

Clean Water Act Components

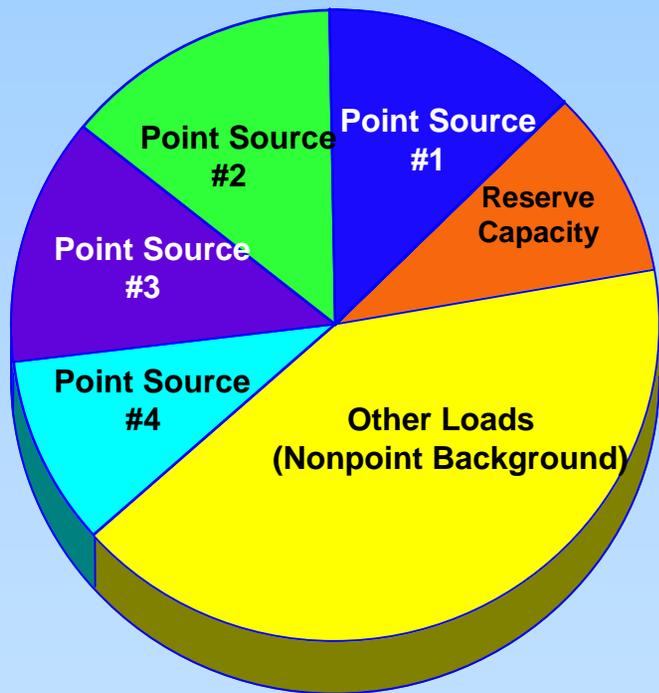
- 💧 **Water Quality Standards**
- 💧 **Total Maximum Daily Loads
(TMDL)**
- 💧 **NPDES Permit**

Components of Water Quality Standards

- 💧 **Designated uses (40 CFR §131.10)**
- 💧 **Water quality criteria (40 CFR §131.11)**
- 💧 **Antidegradation policy (40 CFR §131.12)**

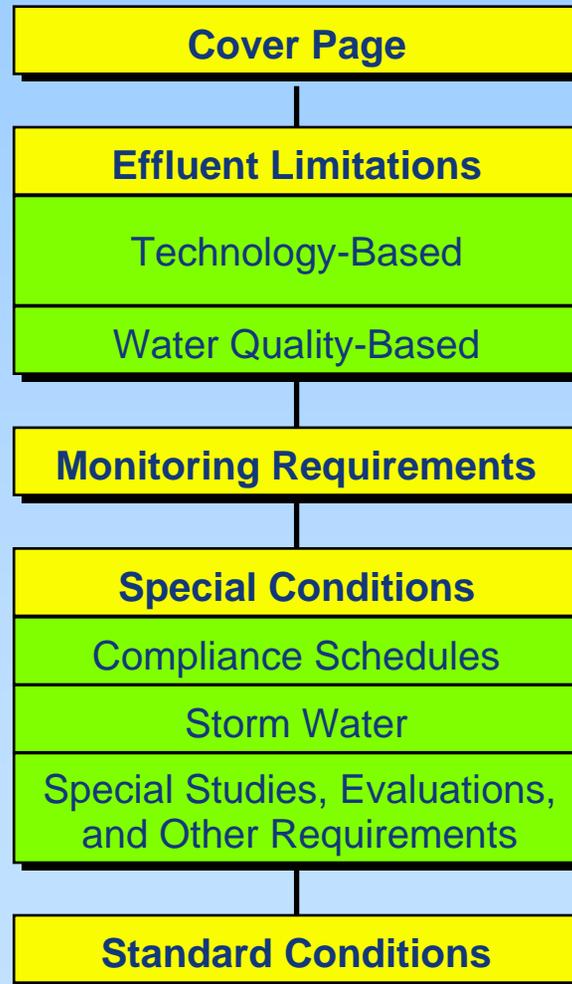


Components of a TMDL



- 💧 **Wasteload allocations (WLAs) are assigned to each point source discharge**
- 💧 **Load allocations (LAs) are assigned to nonpoint sources**
- 💧 **WLAs and LAs are established so that predicted receiving water concentrations do not exceed water quality criteria**
- 💧 **WLA = WQBEL**

Permit Components



Technology-Based Effluent Limits

💧 Purpose

- 💧 Establish minimum level of pollutant controls for all point source dischargers
- 💧 Provide equity among dischargers within categories
- 💧 Cannot trade to meet a technology limit

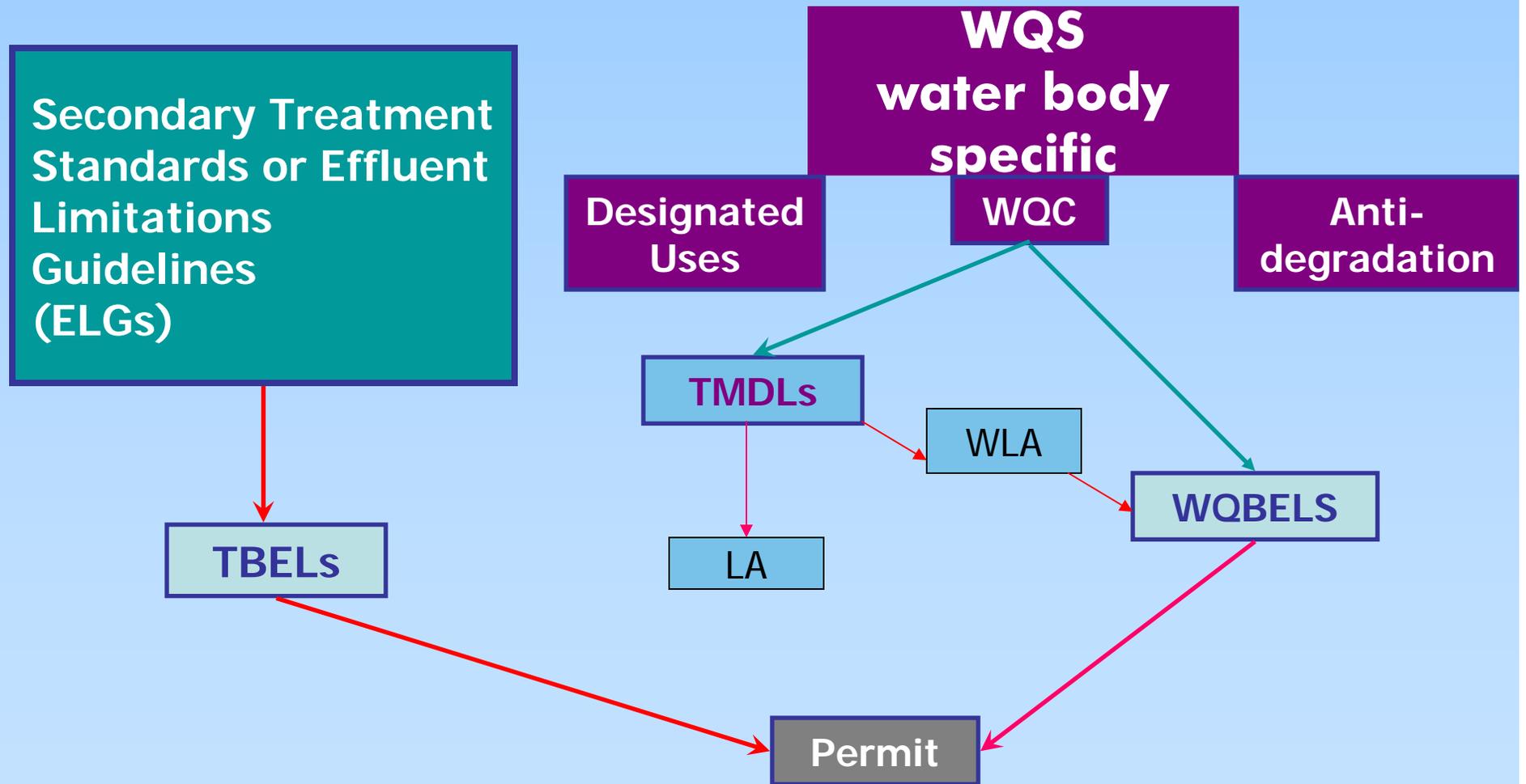


Water Quality-Based Effluent Limits

💧 Purpose

- 💧 Establish level of control that is derived from and that complies with water quality standards**
- 💧 Water quality-based effluent limitations (WQBELs) are site-specific**
- 💧 Can trade to meet a WQBEL**

Driven by Regulation



What pollutants are “tradable”?

- ◆ National Policy allows trades for:

- ◆ Total Nitrogen

- ◆ Total Phosphorus

- ◆ Sediment

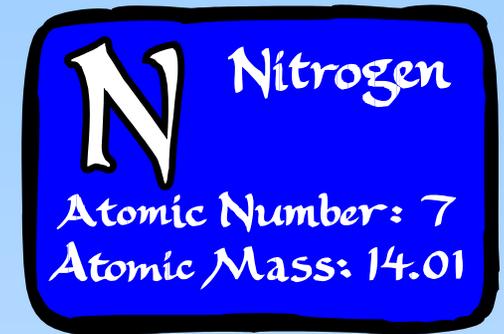
- ◆ Cross-pollutant trading

- ◆ Other pollutants?

- ◆ National Policy does not allow trades for:

- ◆ Persistent bioaccumulative toxics (PBTs)

- ◆ Except on a pilot basis



When can trading occur?

- 💧 **Trading in unimpaired waters**
- 💧 **Trading in Impaired Waters with TMDL**
- 💧 **Trading in Impaired Waters without TMDL**
- 💧 **Pretreatment**
- 💧 **Intra-plant**



When can trading **NOT** occur?

- 💧 **Trading cannot be used to meet technology-based effluent limitations**
- 💧 **Trades cannot result in nonattainment of an applicable water quality standard.**
- 💧 **Trading may not adversely affect water quality at an intake for drinking water supply**
- 💧 **Trading cannot allow a discharger to exceed a cap established under a TMDL**

Who can trade?

- 💧 **Point – Point Source**

- 💧 **Single or multiple sources**

- 💧 **Exchange (3rd party)**

- 💧 **Point Source – Nonpoint Source**

- 💧 **Single or multiple sources**

- 💧 **Exchange**

- 💧 **Pretreatment**

- 💧 **Intra-plant***

Trade Ratios



- ◆ **Delivery/Location Ratio**
 - ◆ **Distance between buyer and seller**
 - ◆ **Distance from seller to water quality measurement point**
- ◆ **Equivalency Ratio**
 - ◆ **Equivalency among forms of pollutant**
- ◆ **Uncertainty Ratio**
 - ◆ **Measurement uncertainty**
 - ◆ **Installation uncertainty**
 - ◆ **Implementation uncertainty**
- ◆ **Retirement Ratio**



NPDES Permits with Trading

- ◆ **Total of 98 NPDES permits to date that allow trading:**
 - ◆ **They cover 365 NPDES facilities.**
 - ◆ **Of these facilities, 127 have participated in trades.**

Nitrogen Trading Programs:

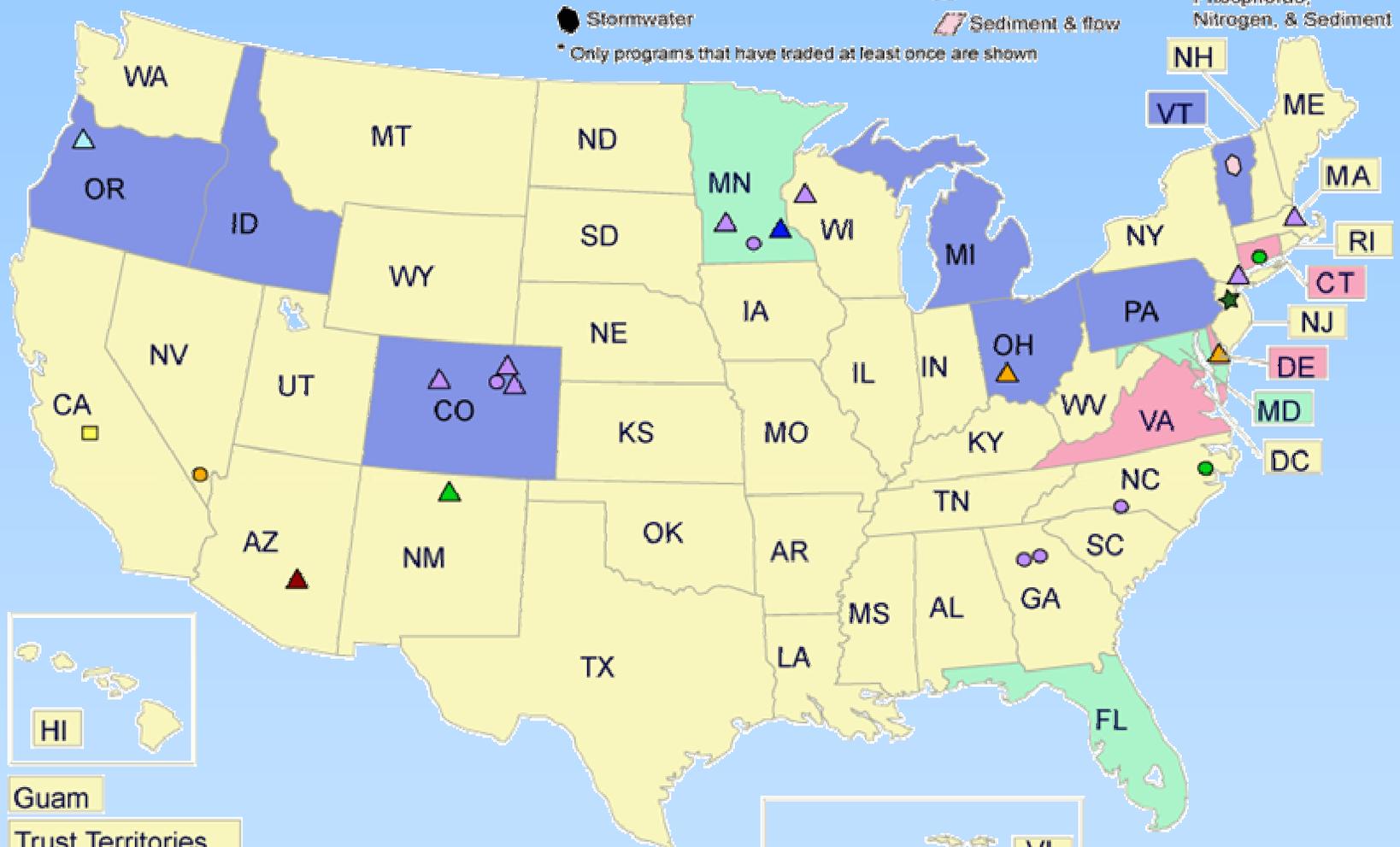
- 🔹 **Point Source-Point Source (POTWs)**
 - 🔹 **New York: Long Island Sound**
 - 🔹 **Connecticut: Long Island Sound**
 - 🔹 **North Carolina: Charlotte Mecklenberg**
 - 🔹 **Nevada: Las Vegas Wash**
- 🔹 **Point-Nonpoint Source**
 - 🔹 **New Mexico: Taos Ski Valley**
 - 🔹 **Ohio: Great Miami River**
- 🔹 **Future Trading**
 - 🔹 **VA's Ches Bay Trading Program**
 - 🔹 **PA's State Trading Program**

- States**
- Statewide trading framework in place
 - Statewide trading framework in development
 - Watershed-specific state trading program in place
 - No state trading program

- Type of Trade***
- Point Source - Point Source
 - Point Source - Nonpoint Source
 - Nonpoint Source - Nonpoint Source
 - Pretreatment
 - Stormwater

- Pollutant(s) Traded**
- Total Phosphorus
 - Total Nitrogen
 - Total Phosphorus & Total Nitrogen
 - Heavy Metals
 - Sediment & flow
 - Temperature
 - Selenium
 - Copper
 - Offset CBODs with Phosphorus, Nitrogen, & Sediment

* Only programs that have traded at least once are shown



- Guam
- Trust Territories
- American Samoa
- Northern Mariana Islands



Available online at
<http://www.epa.gov/waterqualitytrading/tradingmap.html>

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