

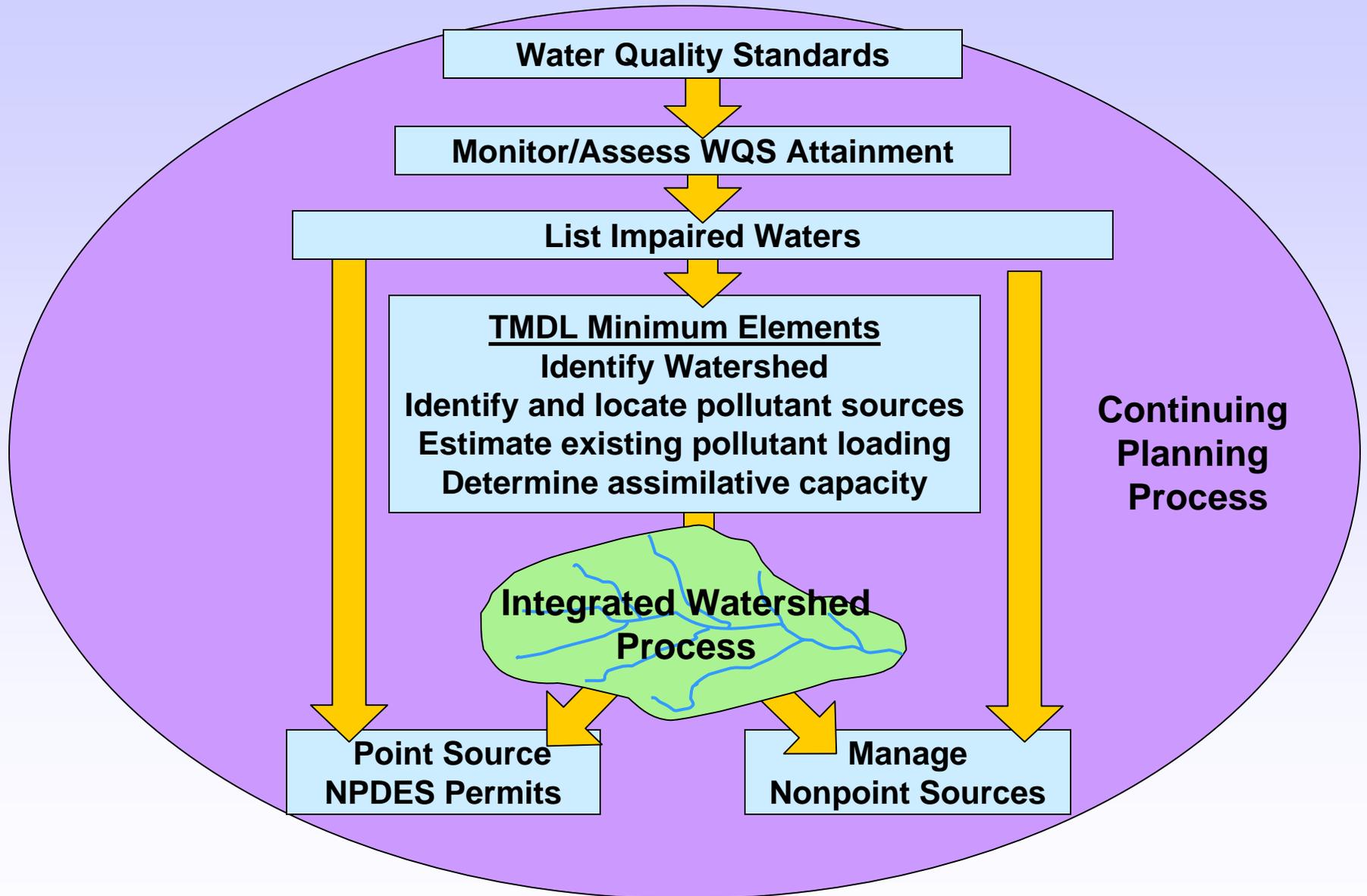
Overview of the Total Maximum Daily Load Program



What does this session cover

- **How do we use WQS to protect waters?**
 - ◆ Clean Water Act framework
- **What are the problems?**
 - ◆ Water quality monitoring
 - ◆ Causes and sources of impairments
- **What are the program requirements?**
 - ◆ Regulatory
 - ◆ Guidance

Clean Water Act Framework



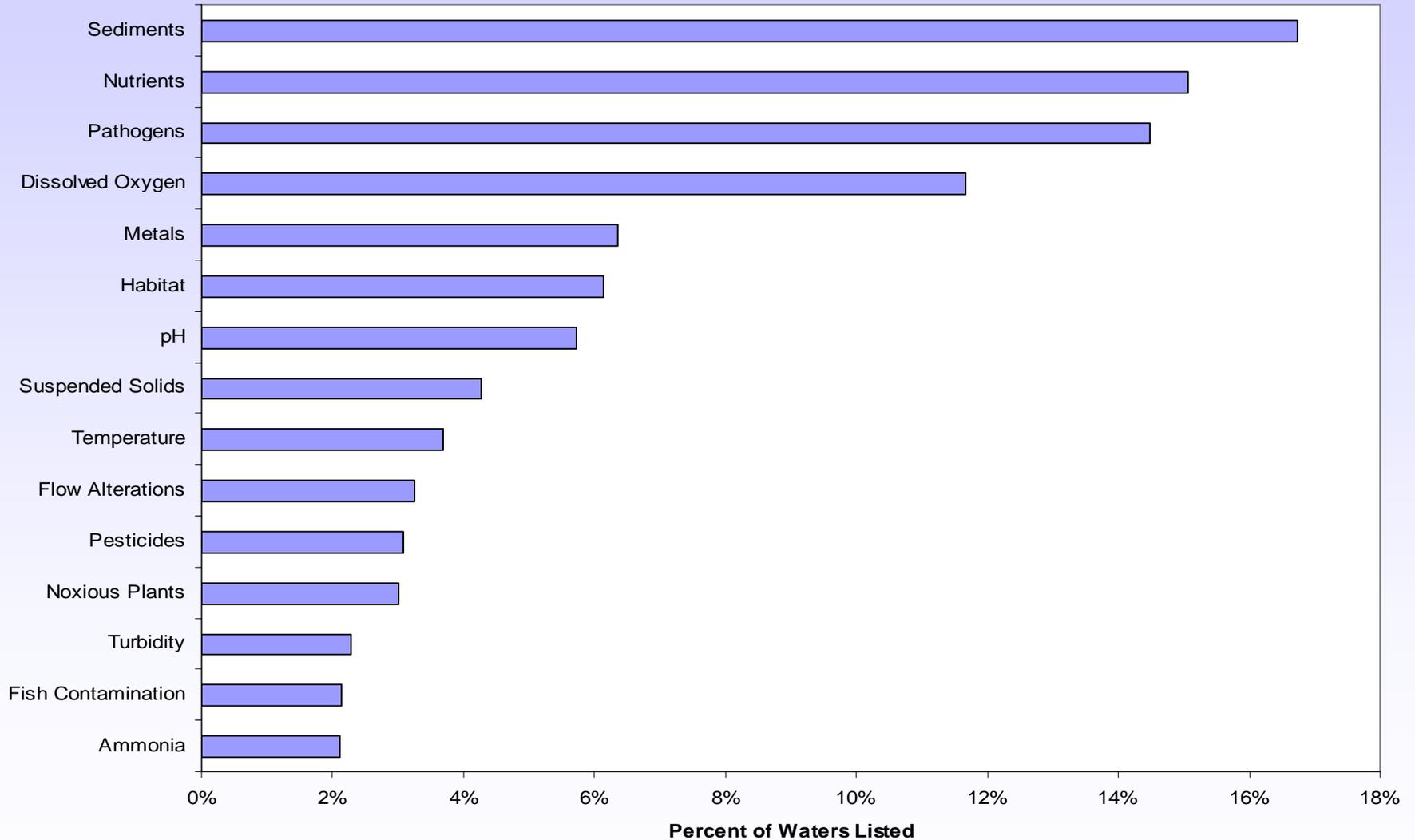
What is the water quality?

- **218 million Americans live within 10 miles of an impaired waterbody**
- **States have identified about 21,000 polluted river segments, lakes, and estuaries**
 - ◆ **Over 300,000 river & shore miles & 5 million lake acres**
 - ◆ **Excess sediments, nutrients, and harmful microorganisms are leading reasons**

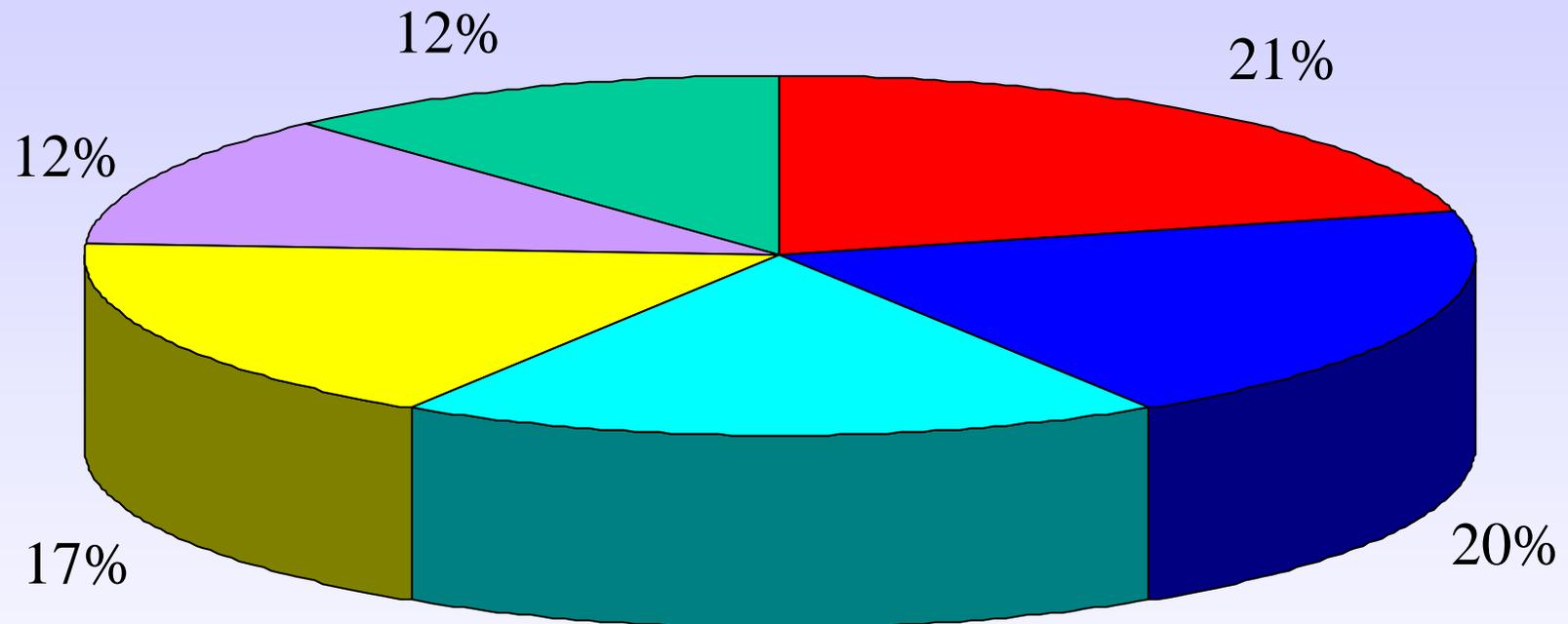
Impaired Waters - Alaska

- **AK 2002 303(d) List contains 48 impaired waterbodies for which a TMDL has not yet been prepared.**
- **AK shows another 24 impaired waterbodies with a cleanup plan (TMDL or other controls) in its 2002 Integrated Report.**

What are the impairing pollutants nationwide (1998)?

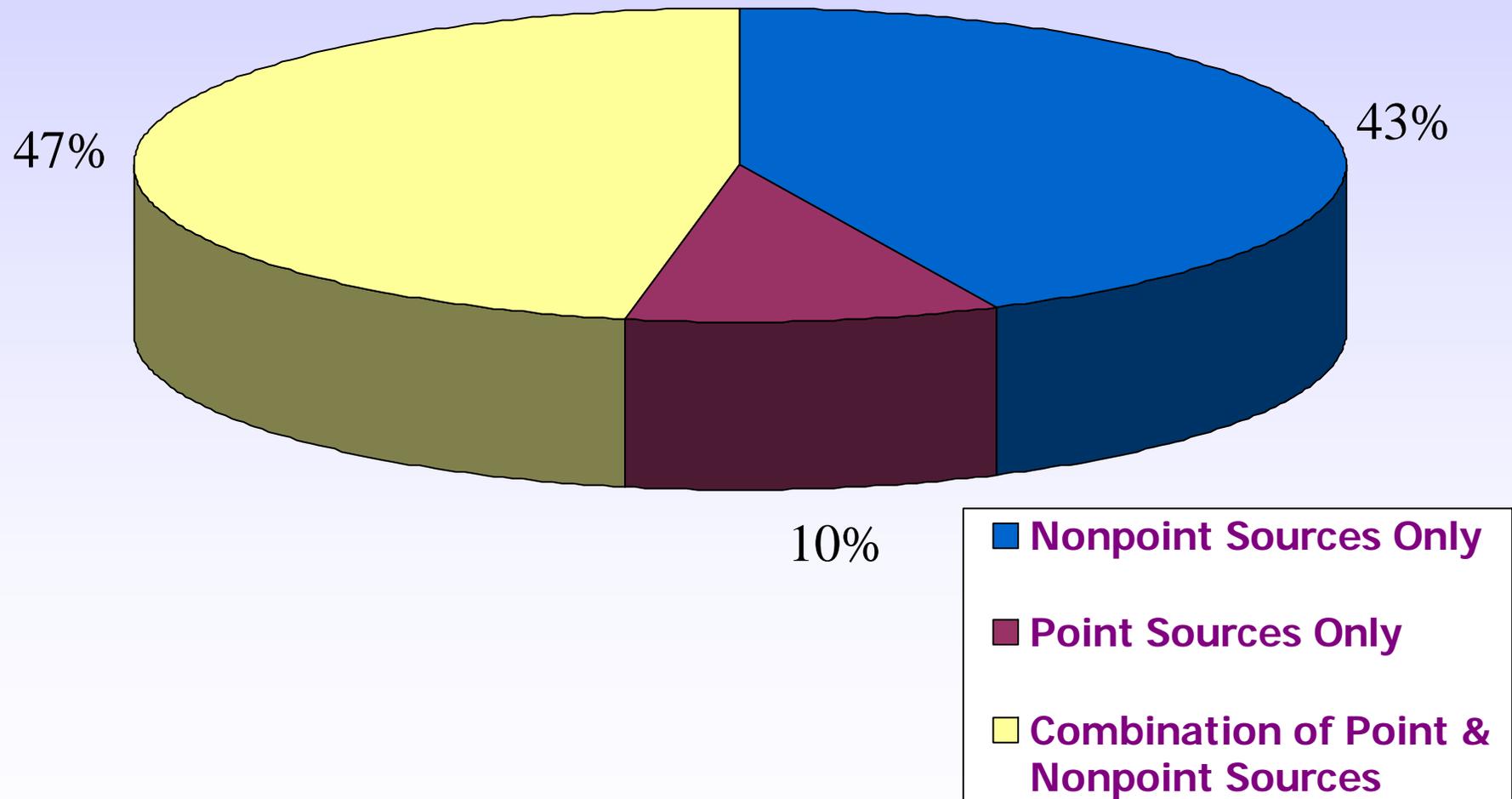


Impairing Pollutants in Alaska

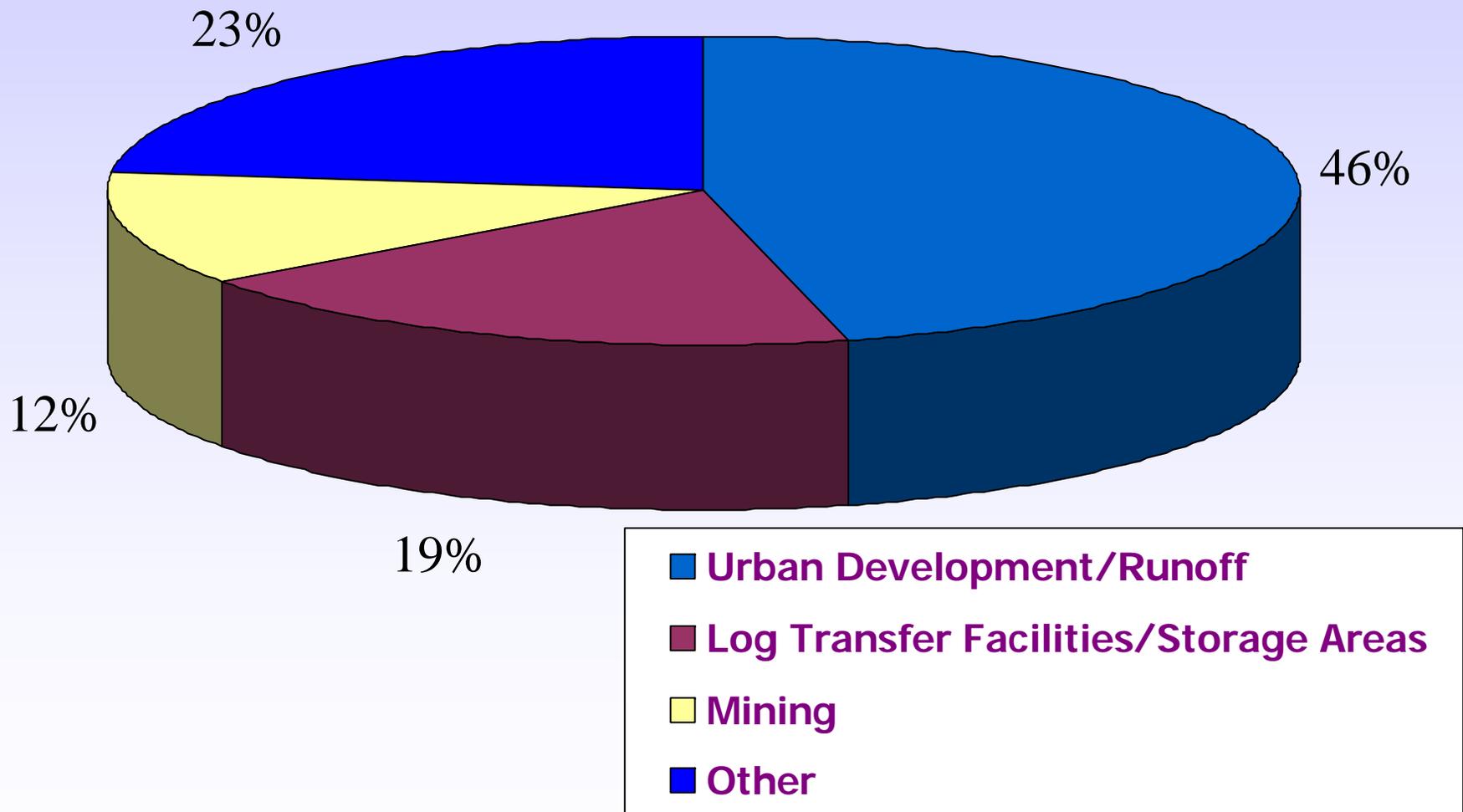


- Residues/Debris
- Bacteria
- Sediment and Turbidity
- Petroleum Products
- Metals
- Other

What are the sources of impairment nationwide (1998)?



Sources of Impairment in Alaska



Clean Water Act Requires . . .

- **As enacted in 1972, §303(d) of the Clean Water Act requires States to:**
 - ◆ **Identify waters not meeting State water quality standards -- §303(d) list**
 - ◆ **Set priorities for TMDL development**
 - ◆ **Develop a TMDL for each pollutant for each listed water**
- **EPA to approve or disapprove State submissions, and if disapproved, to act in lieu of State**

Total Maximum Daily Loads

- **Critical program for achieving healthy watersheds and clean water nationwide**
 - ◆ States report over 40 percent of assessed waters are still too polluted for fishing or swimming even after 28 years of water pollution control efforts
- **What is a TMDL?**
 - ◆ The amount of a pollutant that a waterbody can receive and still meet water quality standards

Regulatory History

- **1985 -- TMDL regulations first issued**
 - ◆ Provisions included nonpoint sources and load allocations
- **1992 -- TMDL regulations revised**
 - ◆ Provisions called for State lists every two years
- **1997 -- Era of litigation begins**
 - ◆ 1984 - 1996: 6 suits
 - ◆ 1992 Alaska TMDL Lawsuit (2 TMDLs each year)
 - ◆ 1997 -2000: 8 suits per year (average)

TMDL Litigation Issues

- **Lists -- adequacy, basis, underlying data**
- **Pace of TMDLs -- when will they all be done**
- **Backstop -- EPA guarantees to do TMDLs if a State does not**

Regulatory History (continued)

- **1999 -- Revisions to TMDL and NPDES regulations proposed**
- **2000, July 13 -- Final Rule for TMDLs and NPDES published**
- **2000, July 14 -- Congressional rider prohibits EPA from implementing rule**
- **2003, March 19 -- 2000 Rule withdrawn**

Current TMDL Program

- **1992 regulations and interpretive guidance govern the TMDL program**
- **Consent decrees or settlement agreements guide TMDL schedule and priorities in many instances**

1992 Regulations

- **Scope of State lists**
 - ◆ Includes waters impaired or threatened by pollutants
 - ◆ List composed of waters needing TMDLs
 - ◆ Waters remain on the list until the TMDL is approved, or when water quality standards have been attained
 - ◆ Use all parts of WQS (numeric and narrative criteria, designated uses, antidegradation)
- **2-year listing cycle**
 - ◆ Submitted to EPA on April 1 in every even numbered year

1992 Regulations (continued)

- **Methodology used to develop list**
 - ◆ States use “all existing and readily available water quality-related data and information”
 - ◆ Methodology submitted at the same time as the list
 - ◆ If EPA asks, States must provide “good cause” for not including a water on the list.

1992 Regulations (continued)

- **Components of a TMDL**
 - ◆ **Sum of allowable loads to meet water quality standards**
 - Wasteload allocations from point sources
 - Load allocations from nonpoint sources and natural background
 - ◆ **Margin of safety**
 - ◆ **Considers seasonal variation**

1992 Regulations (continued)

- **Priorities/Schedule for TMDL development**
 - ◆ List must include priority ranking based on severity of pollution and uses to be made of the water
 - ◆ Identify pollutant of concern
 - ◆ State must identify waters targeted for TMDL development within the next 2 years

1992 Regulations (continued)

- **Public review**
 - ◆ State calculations to establish TMDLs must be subject to public review
- **EPA actions on lists and TMDLs**
 - ◆ EPA has 30 days to approve/disapprove State lists, priority ranking and targeting
 - ◆ If EPA disapproves, it has 30 days to establish list or TMDL, and must seek public comment

AK's Integrated Report Categories

305 (b) Report

1. Attaining all designated uses
2. Attaining some designated uses, and insufficient or no data and information to determine if remaining uses are attained
3. Insufficient or no data and information to determine that any designated uses are attained
4. Impaired or threatened for one or more designated uses, but not needing a TMDL
 - a. TMDL has been completed
 - b. Expected to meet standards
 - c. Not impaired by a pollutant
5. Impaired or threatened by pollutant(s) for one or more designated uses and requiring a TMDL

} 303(d)
List

Components of a TMDL

- **Identification of Waterbody, Pollutant of Concern, Pollutant Sources and Priority Ranking**
- **Description of the Applicable Water Quality Standards and Numeric Water Quality Target**
- **Loading Capacity - Linking Water Quality and Pollutant Sources**
- **Load Allocations (LAs)**
- **Wasteload Allocations (WLAs)**

Components of a TMDL (continued)

- **Margin of Safety**
- **Seasonal Variation**
- **Reasonable Assurances**
- **Monitoring Plan to Track TMDL Effectiveness (optional)**
- **Implementation Plan (optional)**
- **Public Participation**

EPA Region 10 TMDL Checklist

- ✓ **Submittal Letter**
- ✓ **Scope of TMDL**
- ✓ **Applicable Water Quality Standards & Numeric Targets***
- ✓ **Loading Capacity***
- ✓ **Wasteload Allocations (WLAs)***
- ✓ **Load Allocations (LAs)***
- ✓ **Margin of Safety (MOS)***
- ✓ **Seasonal Variation***
- ✓ **Monitoring Plan**
- ✓ **Implementation Plan**
- ✓ **Reasonable Assurance (if WLAs depend on LAs)**
- ✓ **Public Participation***
- ✓ **Other Comments**
- ✓ **Administrative Record and supporting material**

Alaska TMDL Schedule

Alaska TMDL Completion Date Schedule			
2003	Silver Bay (already approved)	Fish Creek (PN)	Little Rabbit Creek (PN)
	Ward Cove	Furrow Creek (PN)	Little Survival Creek (PN)
	Chester Creek	Little Campbell Creek (PN)	Ship Creek (PN)
2004	Jordan Creek	Thorne Bay	University Lake
	Katlina River	Nakwasina River	Westchester Lagoon
2005	Hobart Bay	Campbell Creek	Chena River
	Schulze Cove	Campbell Lake	Chena Slough
	Skagway Harbor/Pullen Creek	Cottonwood Creek	Goldstream Creek
	Twelvemile Arm	Matanuska River	Noyes Slough
2006	Lookout Cove	Cheney Lake	Saint Paul Island Lagoon
	Popof Strait	Dutch Harbor	Crooked Creek Watershed
	Cube Cove	Egegik River	Eyak Lake
	Pederson Hill Creek	Illiuliuk Bay/Harbor	
2007	East Port Frederick	Cold Bay	Caribou Creek
	Klag Bay	Hood/Spenard Lake	Slate Creek
		Kazakof Bay	

Sampling to Determine Impairment



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Investigation on Source of Impairment



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Pollution Not Requiring TMDL (impaired flow)



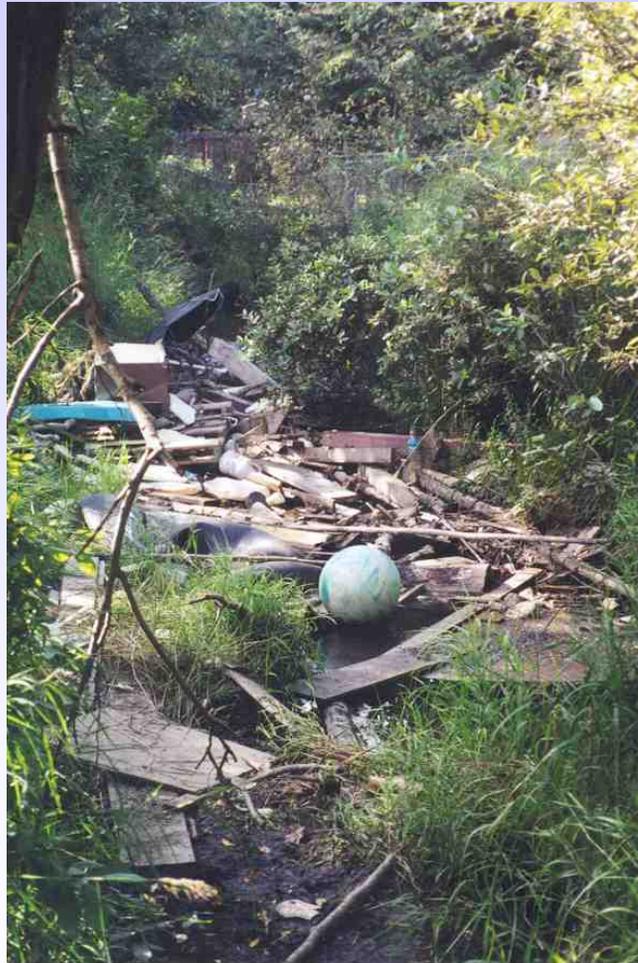
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Pollutants Possibly Requiring TMDL



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Pollutants Possibly Requiring TMDL



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Working on Restoration



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Poor Restoration Practices



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Post TMDL Monitoring



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Post TMDL Monitoring (continued)



2-19-04

TMDLs in a Nutshell



- TMDLs provide a framework, which strengthens efforts to improve water quality. TMDLs identify pollutant reduction goals needed to meet water quality standards and actions to achieve those goals.
- TMDLs are tools used to help restore the health of waterbodies for the benefit of all of its uses and users.

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Key EPA Documents

- Guidance for 2004 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d) and 305(b) of the CWA (2003)
- Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs (2002)
- Guidelines for Reviewing TMDLs under Existing Regulations issued in 1992 (2002)

Key EPA Documents (continued)

- New Policies for Establishing and Implementing Total Maximum Daily Loads (1997)
- Guidance for Water-Quality-based Decisions: The TMDL Process (1991)

For More Information

- **TMDL homepage -**
<http://www.epa.gov/owow/tmdl>
 - ◆ EPA guidance and documents
 - ◆ Status report on litigation
 - ◆ Maps and information on impaired waters
 - ◆ Links to other TMDL websites
 - ◆ Regulations and supporting information
- **Monitoring homepage -**
<http://www.epa.gov/owow/monitoring>

For More Information (continued)

- **EPA Region 10 TMDL Webpage -**
www.epa.gov/r10earth/tmdl.htm

- **ADEC TMDL Webpage -**
www.state.ak.us/dec/water/wnpspc/index.htm

For More Information (continued)

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