

# TMDL Implementation in California

A Stronger Focus on Restoring  
Nonpoint Source Impaired Waters

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US EPA Region 9  
TMDL Workshop  
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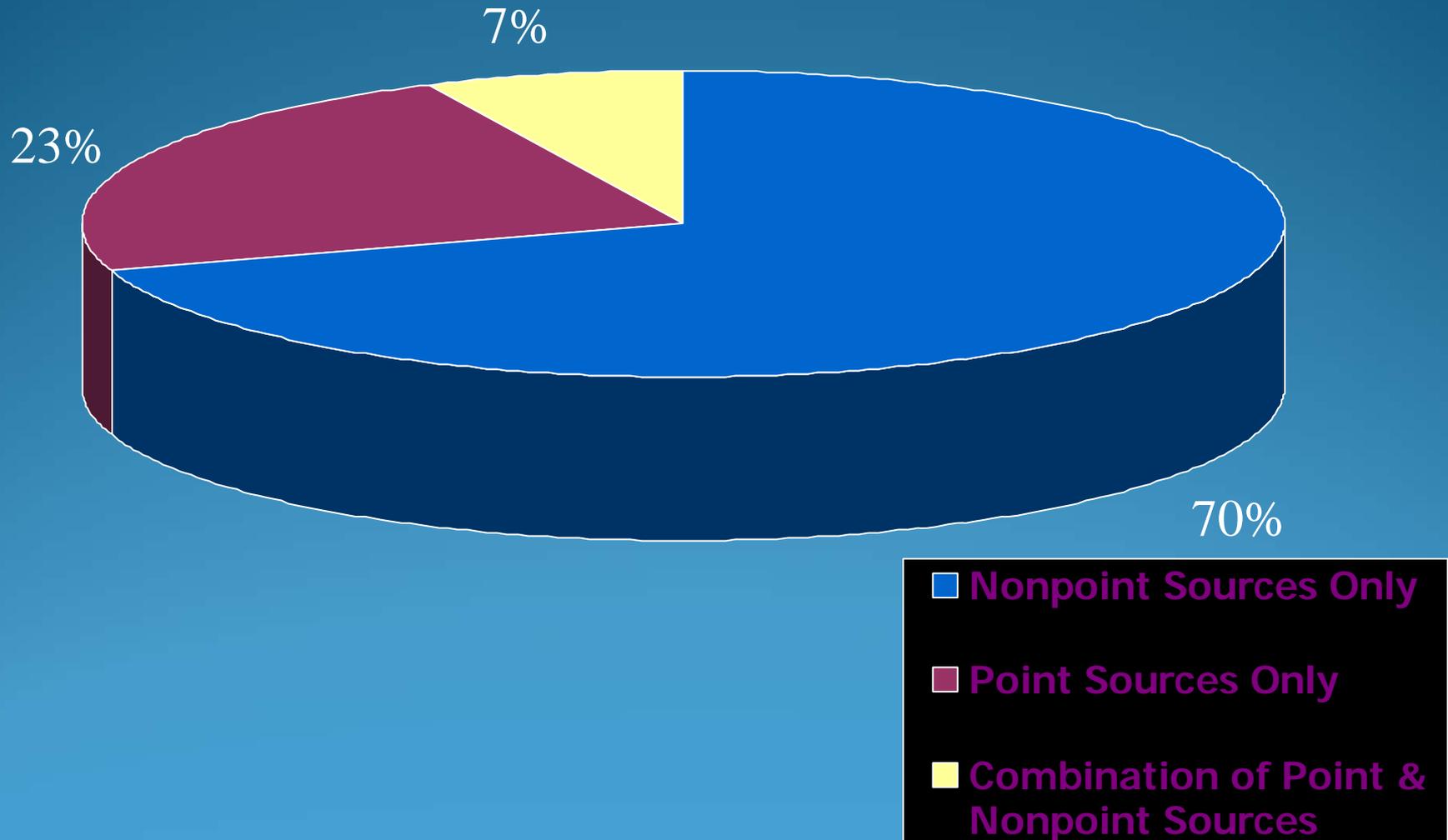
# What this session covers

- What are the problems?
  - Water quality status
- What are the requirements?
  - TMDLs
  - 303(d) list
- Where is the CWA 319/NPS program going?
  - Focus on watershed planning
  - Adaptive management

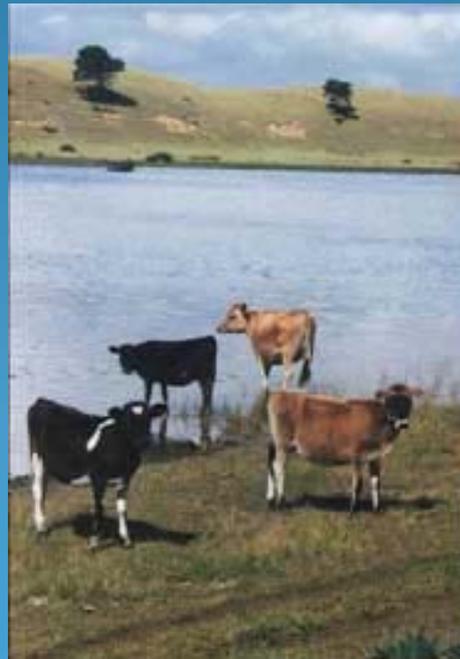
# What are the problems?

- 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

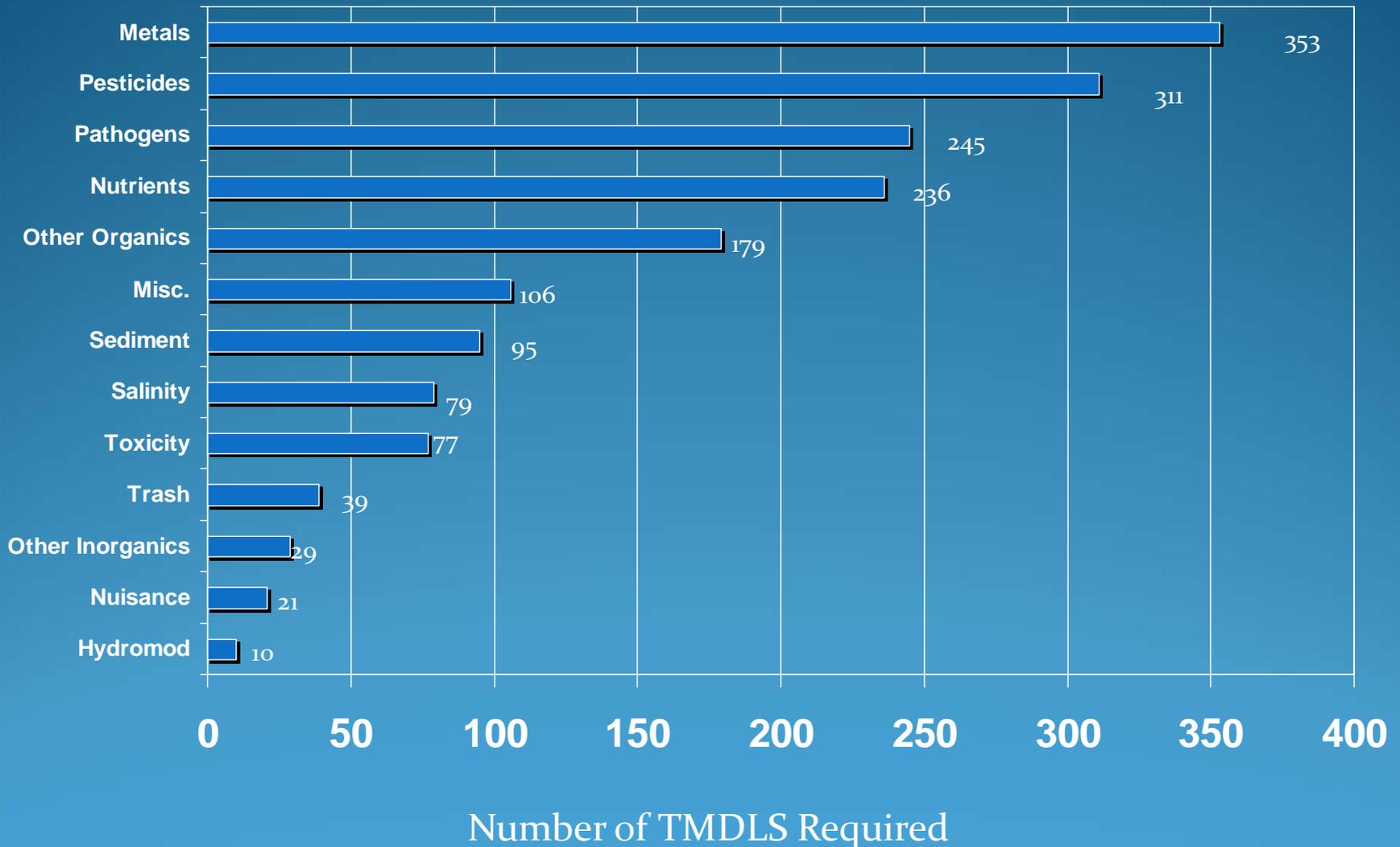
# What are the sources of impairment in California (2006 303(d) List)?



# Example Sources of Impairment



# CA Water Quality Impairments



# Watershed Planning Paradigm Shift

## Opportunistic vs. Data-Driven Approach

- The traditional (pre 2000) paradigm for NPS program has not enabled us to achieve our WQ goals
- Until you have quantitative knowledge of
  - the nature and source of the WQ problem
  - the pollutant load reductions needed to meet WQS
  - the BMP's that will achieve that pollutant load reduction

*>>>>> you're not ready to implement BMP's that will solve the problem.*

Implementation guided by TMDLs and watershed plans

# Total Maximum Daily Loads

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- Critical program for achieving healthy watersheds and clean water nationwide
- What is a TMDL?
  - The amount of a pollutant that a waterbody can receive and still meet water quality standards

<http://www.epa.gov/region09/water/tmdl/california.html>

# 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

# Watershed Plan Elements

1. Quantify causes & sources of impairment(s)
  - subcategory level\*
2. Estimate load reductions to achieve WQS
  - subcategory level\*
3. ID BMP's to achieve load reductions  
& ID critical implementation areas
4. Technical & financial resources
5. Information/education
6. Schedule (what, where, when)
7. Implementation milestones
8. Success criteria re: loading reductions
9. Monitoring

*\*e.g., X dairy cattle, Y acres needing nutrient management, Z miles of streambank needing remediation*

# Example: Napa River Sediment TMDL

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## Water Quality goals

- Conserve the steelhead trout population
- Establish a self-sustaining Chinook salmon population
- Enhance the overall health of the native fish community
- Enhance the aesthetic and recreational values of the river and its tributaries

# Napa River Sediment TMDL example

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- Implementation plan and goals for
  - *habitat complexity (2011)*
  - *baseflow (2012)*
  - *stream temperature (2012)*
  - *fish passage (2012)*
- 51% reduction in sediment delivery from surface erosion and from gullies and landslides
- **But still need:**
  - **More specific watershed plans**
  - **Tracking and Accounting systems**
  - **Adaptive management system**

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*\*e.g., X dairy cattle, Y acres needing nutrient management, Z miles of streambank needing remediation*

# CA Watersheds of Focus

## No Cal “Measure W” Watersheds

- **North Coast Board (RB1)**
  - Scott River – Sediment
  - French Creek - Sediment
    - Moffett Creek
  - Terwar Creek – Sediment
  - Garcia River – Sediment
  - Shasta River –Temperature & Nutrients
- **Central Valley Board (RB5)**
  - Feather River – Diazinon
  - Sacramento River – Diazinon
  - Sacramento Area Urban Creeks – Diazinon & Chlorpyrifos
  - Grasslands and Salt Slough – Selenium



# Desired Outcomes

- Restore Water Quality
  - Remove waters from 303(d) list
- Protect and Restore Aquatic Ecosystems

## How?

- Foster data-driven implementation
  - TMDLs and Watershed Plans
- Identify and address needs in “select” watersheds
- Partner to leverage activities and resources
  - States, Tribes, local organizations, business and environmental
- Seek greater accountability and communication
  - EPA/State Performance Measures
- Learn and Adjust
  - Encourage innovation and technology transfer



# Handbook for Developing Watershed Plans to Restore and Protect Our Waters

[http://www.epa.gov/nps/watershed\\_handbook/](http://www.epa.gov/nps/watershed_handbook/)



- Region 9 Home
- Water Program Home
- Compliance & Enforcement
- Drinking Water
- Ground Water
- Grants, Loans & Other Resources
- Monitoring, Assessment & TMDLs
- Nonpoint Source Pollution
- NPDES Permits & Stormwater
- No Discharge Zones
- Oceans, Coasts & Estuaries
- Tribal Water Protection
- Water Quality Standards
- Water Sustainable Infrastructure
- Wetlands
- About Us

Contact Us Search All EPA Region 9 You are here: EPA Home » Region 9 » Water » Watershed Priorities

# http://www.epa.gov/region09/water/watershed/index.html

## Watershed Priorities

### Watershed Priorities Quick Finder

<a href="#">Watershed Priorities Home</a>	<a href="#">Kaelepulu Klamath River</a>	<a href="#">Measure W Watersheds Santa Cruz, AZ</a>	<a href="#">Tijuana Targeted Watershed Grants</a>
<a href="#">Funding</a>			
<a href="#">Hanalei</a>			

EPA encourages agencies, tribes, local governments, landowners and others to work together to protect and restore water quality at a watershed scale. There are hundreds of local watershed partnerships and several large ecosystem initiatives in Region 9. In several cases, EPA Region 9 works closely with these partnerships to integrate our programs, such as NPDES permits, TMDL development, wetlands planning and regulation, and [nonpoint source control](#). In others we provide direct or indirect support through grant programs and other activities. A Region 9 watershed priority is to enhance and accelerate efforts to restore impaired water quality through the implementation of [TMDLs](#) and [watershed plans](#). We are stressing the importance of TMDLs and watershed plans because they provide the necessary information or road map to guide more effective implementation. Furthermore, we are striving to support efforts within specific watersheds (see "Measure W" Watersheds) to restore water quality through a [watershed approach](#).

**No Drugs Down the Drain!**  
Video Public Service Message»

**Find Your Watershed**  
Enter your ZIP:  
   
[More info](#)

- #### National Links
- [EPA Handbook for Developing Watershed Plans](#)
  - [National Watersheds Homepage](#)
  - [National Watersheds topics for Region 9](#)
  - [Surf Your Watershed](#)
  - [Targeted Watersheds Grants Program](#)
  - [EPA Watershed Academy](#)
  - [Center for Watershed Protection](#) [EXIT Disclaimer](#)

### Watershed Priorities Maps



# Resources and Contacts:

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319 Grant program:

[http://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/319h/index.shtml](http://www.waterboards.ca.gov/water_issues/programs/grants_loans/319h/index.shtml)

EPA's Nonpoint source program in California:

<http://www.epa.gov/region09/water/nonpoint/california.html>

EPA Watershed Priorities:

<http://www.epa.gov/region09/water/watershed/index.html>

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