



Draft Klamath River TMDLs

Implementation Plan Summary and Scoping Item 5

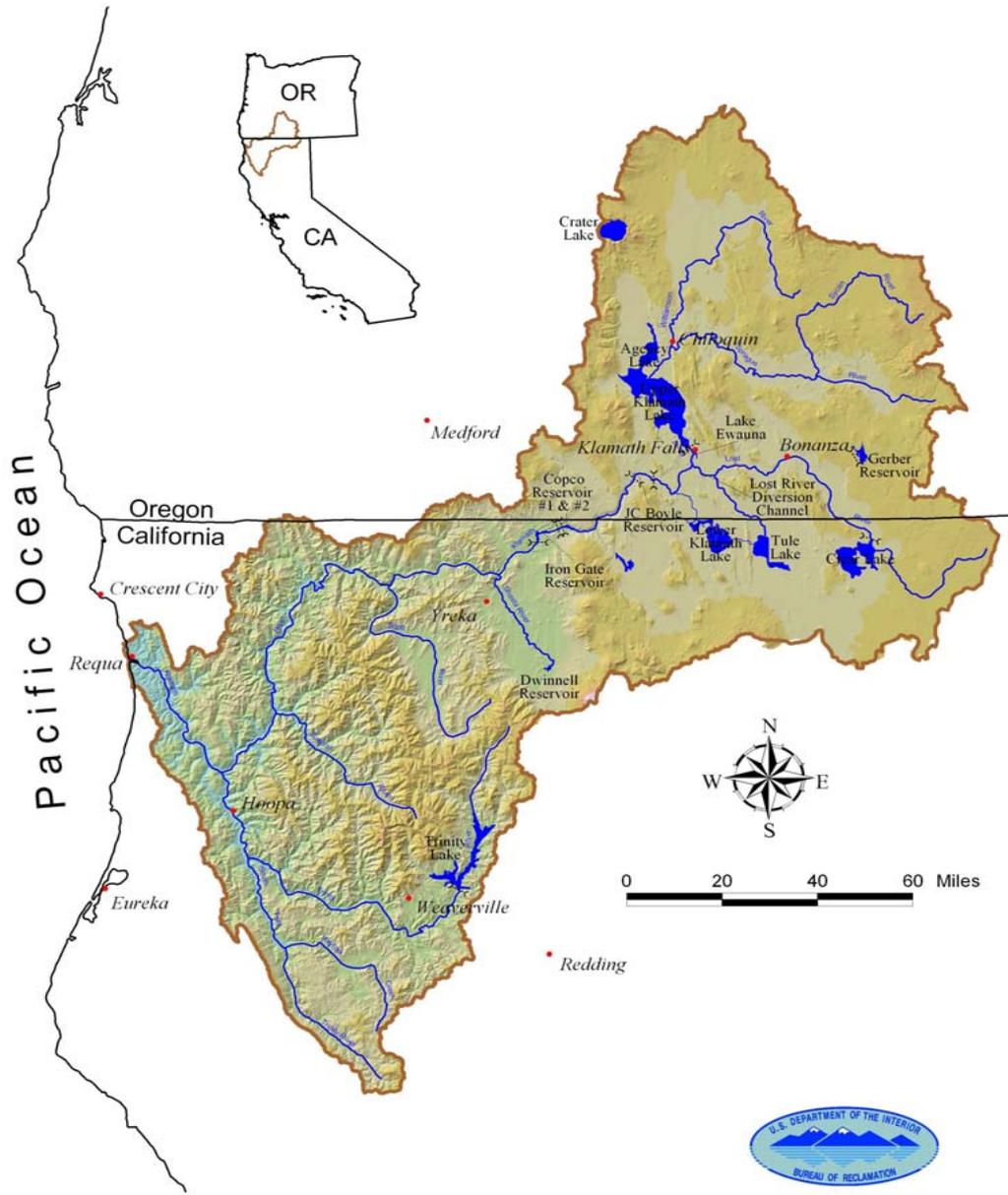
**Meeting of the NCRWQCB
Santa Rosa, CA
January 29, 2009**



Introduction

- **Provide outline of draft Klamath River TMDL Implementation Plan**
- **Tie TMDL allocations and targets to responsible parties**
- **Discuss regulatory and non-regulatory options for TMDL implementation**
- **Solicit feedback from Board, agencies, and public**

Klamath River Basin



Klamath River Impairments in California

- Temperature
- Low Dissolved Oxygen/
Organic Enrichment
- Nutrients
- Microcystin
- Sediment



CA Klamath TMDL Schedule

CA Peer Review -- 30-day	Jan/Feb '09
Draft Implementation Summary	Feb '09
Implementation Scoping Workshops	Feb/Mar '09
Public Review Draft TMDL - 60-day	May '09
Public Meetings / Workshops	June '09
RB Public Hearing - adoption	Oct '09
SB Public Hearing - adoption	Jun '10
US EPA approval	Sept '10



Implementation Plan

Elements required by CA Water Code:

- Nature of actions to meet TMDL allocations and water quality standards
- Timeline for implementation
- Monitoring

State Nonpoint Source Policy requires regulation through:

- WDRs
- Waiver of WDRs
- Prohibitions

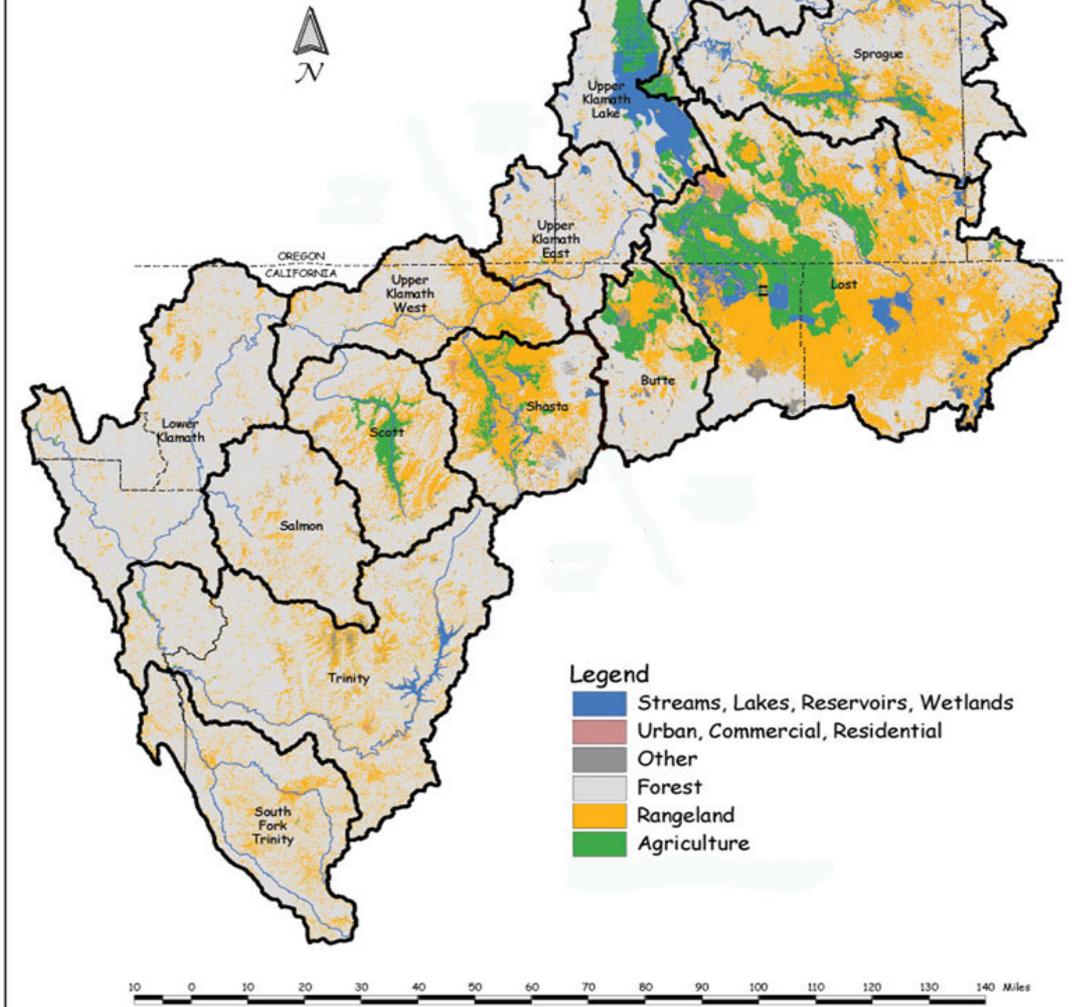
Largest Land Cover Classes

Forest/Timber Harvest

Grassland/Grazing

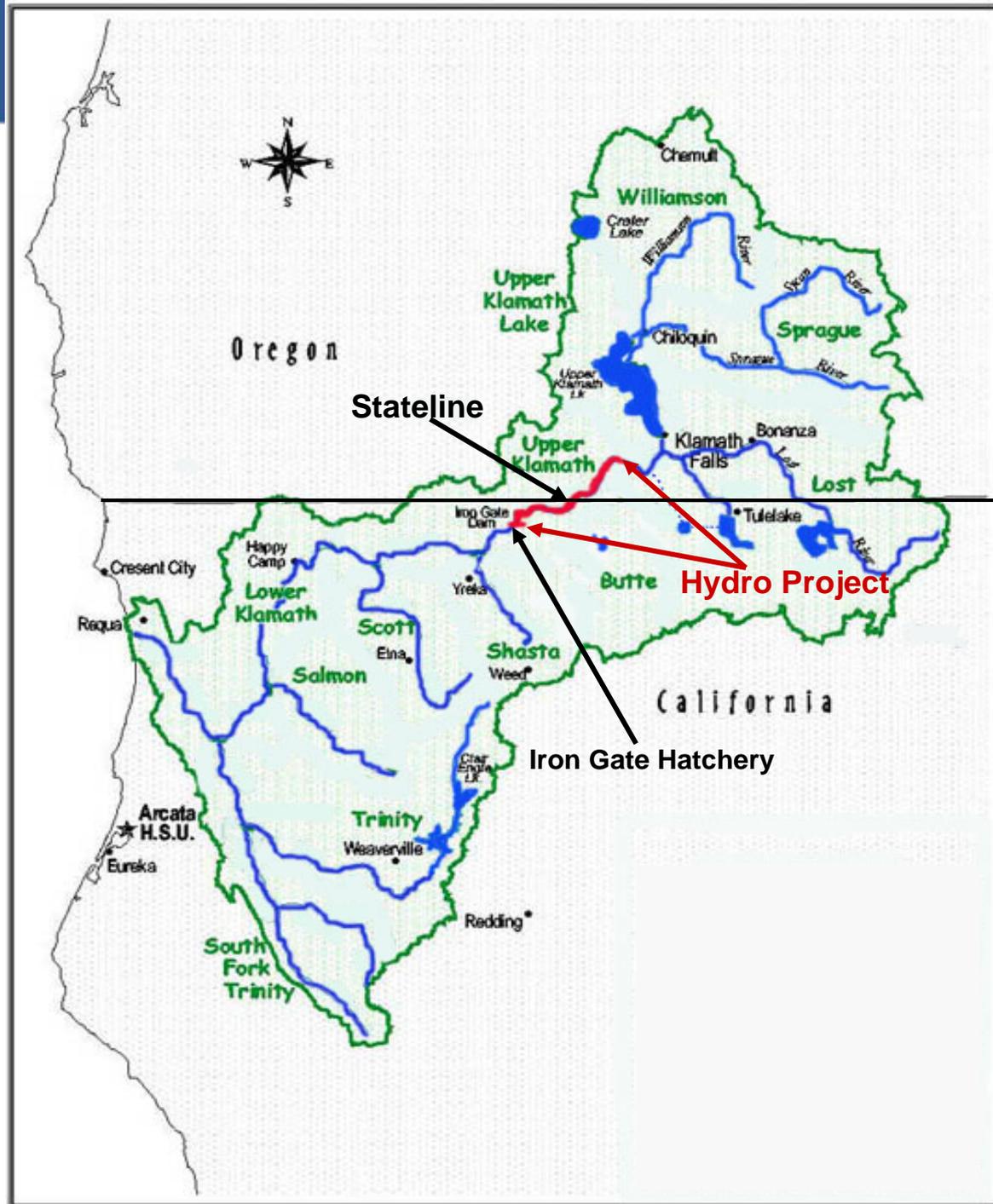
Irrigated Agriculture

KLAMATH RIVER BASIN Land Use / Land Cover Map



Klamath Basin Source Categories

- Loading at Stateline
- Hydroelectric project
- Iron Gate Hatchery
- Tributaries
- Watershed wide land uses:
 - timber harvest
 - roads
 - irrigated agriculture
 - grazing





Stateline Implementation

- **High nutrient and organic matter loads that cross the stateline**
- **Oregon and California TMDL allocations are consistent**
- **Oregon Department of Environmental Quality (ODEQ) will develop separate implementation plan**



Stateline Implementation

- **OR designates agencies to develop their own implementation plans**
- **ODEQ has limited authority over nonpoint sources**
- **Regional Board staff developing an MOA with ODEQ and both USEPA regions**
- **Responsible Parties: Oregon point and nonpoint sources, USEPA and Regional Board**



Klamath Hydroelectric Project

- **PacifiCorp must implement measures to meet the load allocations and targets**
- **Enforcement of TMDL allocations and targets is through 401 certification issued by the State Board**
- **TMDLs, as part of Basin Plan, must be considered by FERC in license decision**
- **Responsible Parties: PacifiCorp, FERC, and State Water Board**



Klamath Hydroelectric Project

- **FERC and State Board considering project alternatives that include dam removal and project decommissioning**
- **Implementation measures and timelines will be coordinated with FERC process and State Board to meet TMDL allocations and targets**
- **Staff seeking input from the public on potential implementation measures and timelines**



Agreement in Principle

- **Agreement in Principle (AIP) is a settlement agreement that contemplates dam removal**
- **Regional Board not party to negotiations**
- **AIP may represent an opportunity to improve water quality and comply with TMDL**
- **Currently, there are substantive gaps in AIP measures relative to TMDL allocations and targets**
- **Any final agreement must clarify how KHP will meet Clean Water Act and TMDL requirements**



Iron Gate Hatchery

- **Allocations to be translated into effluent limitations in NPDES permit held by CDFG**
- **May be necessary to revise Basin Plan requirements for hatcheries before permit renewal**
- **Responsible Parties: Regional Board, CDFG, PacifiCorp**



Tributaries

- Must comply with Klamath watershed wide allocations and targets
- Implementation must be coordinated with tributary TMDLs and existing implementation plans

	<i>Tributary</i>				
	Lost	Shasta	Scott	Salmon	Trinity
TMDL	✓	✓	✓	✓	✓
Impl. Plan		✓	✓	✓	

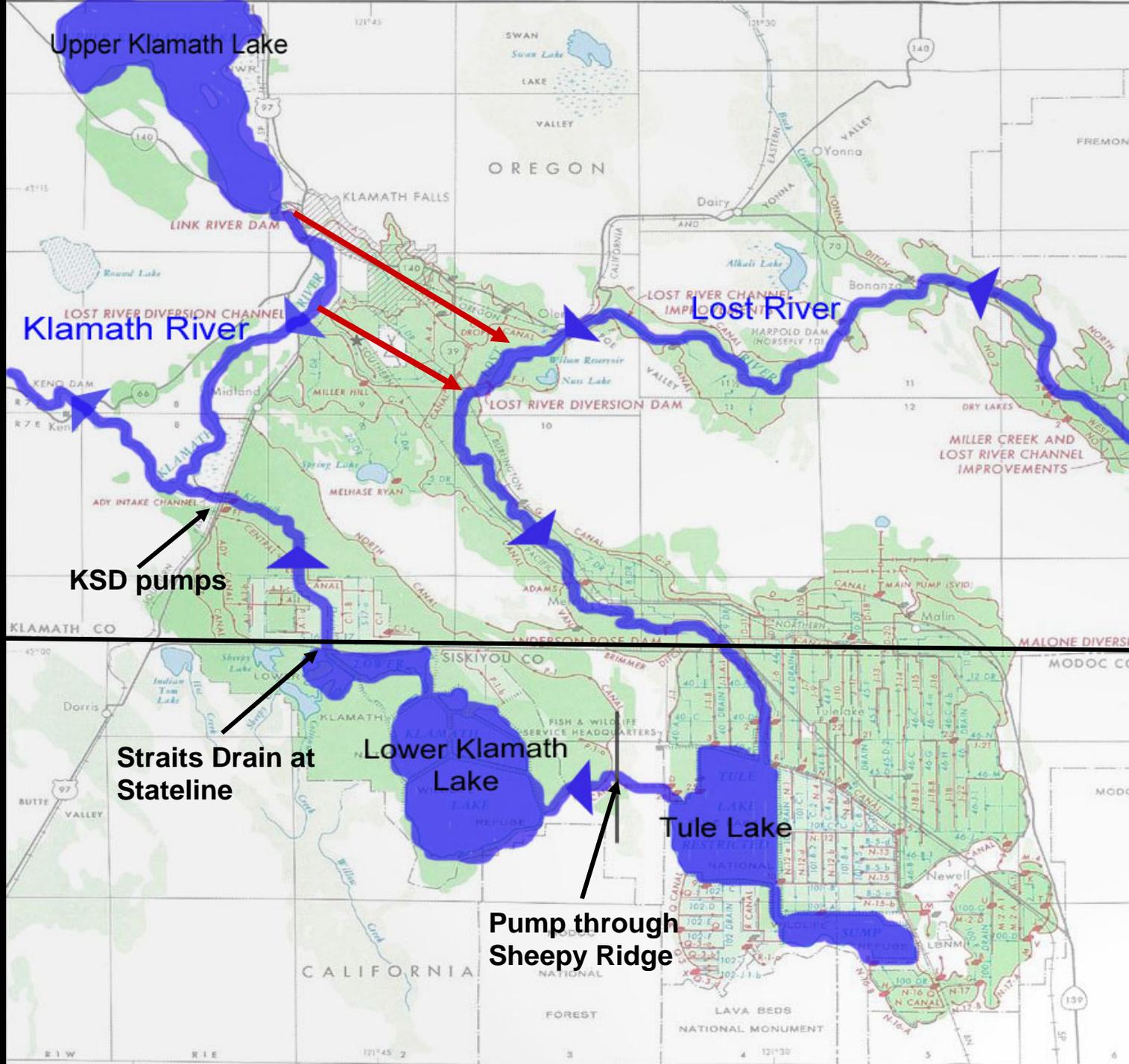


Lost River

- **Lost River traverses the stateline three times before discharging to the Klamath River through the Klamath Straits Drain (KSD) in Oregon**
- **ODEQ Klamath TMDL requires large reduction in nutrients and organic matter loads from KSD**
- **USEPA promulgated technical TMDL for Lost River in December 2008**
- **Staff considering implementation in the Lost River Basin as part of Klamath implementation**
- **Responsible Parties: Oregon sources, US Bureau of Reclamation, US Fish and Wildlife, Tulelake ID, irrigated agriculture**

Lost River Basin





Upper Klamath Lake

Klamath River

Lost River

KSD pumps

Straits Drain at Stateline

Lower Klamath Lake

Tule Lake

Pump through Sheepy Ridge



Lost River

- **Considering regulatory options for controlling discharges of waste in California**
- **Oregon developing Lost River implementation plan for the Oregon side**
- **Centralized treatment of return flows could be incorporated into pollutant trading**
- **Currently gathering information on best approach to reducing Lost River loading to Klamath**



Other Tributaries and Watershed Wide Implementation

- **Tributaries assigned nutrient load allocations**
- **Temperature related allocations focus on protecting riparian shade and minimizing channel alternations caused by sediment**
- **All nonpoint sources must be regulated through permits or prohibitions**
- **WDRs and waivers for nonpoint sources will require dischargers to meet TMDL allocations and targets**
- **Responsible Parties: USFS, counties, California Nonpoint sources**



Thermal Refugia

- **Fish escape high temperatures by holding in cold water refugia**
- **Temperature analysis showed Klamath mainstem cannot provide full support of COLD beneficial use without refugia**
- **Watershed wide allocations protect refugia but implementation plan may recommend buffers where tributaries meet Klamath River**
- **Buffers could be implemented through future CDFG permit on suction dredging**



Centralized Treatment/Pollutant Trading

- **Removal of nutrients and organic loads through wetlands and other treatment systems**
- **Potential for dischargers in the Klamath Basin to “trade” to increase efficiency of nutrient/organic matter reduction efforts**
- **AIP measure – Water quality conference could explore possibilities for nutrient reductions in upper basin**



Monitoring Plan and Timelines

- **Required by CA Water Code**
- **Discharger implementation monitoring and timelines required mainly through permits**
- **Trend monitoring is a coordinated effort that evaluates progress towards achieving TMDLs and water quality objectives**
- **Monitoring reports and timelines used to assess overall effectiveness of implementation and to refine TMDL**



TMDL Implementation: Regulatory Scope

Item 5

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Klamath Implementation

Difficulty Level Class IV+

- ★ **CLASS I: EASY.** Waves are generally quite small; passages clear of any major obstacles. **FUN FOR EVERYONE.**
- ★ **CLASS II: MEDIUM.** Rapids can be moderately complex, however, passages remain clear. **FUN FOR EVERYONE.**
- ★ **CLASS III: DIFFICULT.** Rapids are longer, and markedly more powerful. Paddlers are required to maneuver through forceful and irregular currents, rocks and holes in the channel. **CHALLENGING.**
- ★ **CLASS IV: VERY DIFFICULT.** Very long rapids; dangerous rocks and powerful waves and currents, boiling eddies mean that precise and powerful maneuvering is required. **THRILLSEEKERS.**
- ★ **CLASS V: EXTREMELY DIFFICULT.** Quite violent and long rapids follow each other with little interruption; a severely obstructed riverbed with big drops; steep gradient and a violent current. **EXPERIENCED THRILLSEEKERS.**



Purpose of the TMDL Program

- ▲ *“The TMDL program is the primary program responsible for achieving clean water where traditional controls on point sources have proven inadequate to do so. The program thus is charged with creating plans that consider all sources and causes of impairment, and allocating responsibility for corrective measures, regardless of sources or cause, that will attain water quality standards.” (Impaired Waters Policy at 2.)*
- ▲ *2-Step process: Technical TMDL and Implementation Plan*



Purpose of the Technical TMDL

- ▶ *Establishes the allowable loadings or other quantifiable parameters for a waterbody that is the total permissible pollutant load that will achieve water quality standards.*
- ▶ *This “loading capacity” provides a reference for calculating the amount of pollutant reduction needed to bring a waterbody into compliance with water quality standards or designated uses.*



Technical TMDL: Allocations

- ▶ *The technical TMDL identifies and assigns allocations to all sources of pollution, including:*
 - ▶ *waste load allocations (WLA) for point sources; and*
 - ▶ *load allocations (LA) to nonpoint sources (40 CFR § 130 .2(i)).*



Waste Load Allocations

- ▶ *Defined as “[t]he portion of a receiving water’s loading capacity that is allocated to one of its existing or future point sources of pollution.”*
- ▶ *Constitute a type of water quality-based effluent limitation. (40 CFR § 130.2(h).)*



Load Allocations = Everything Else

- ▶ *Defined as “[t]he portion of a receiving water’s loading capacity that is attributed either to one of its existing or future nonpoint sources of pollution or to natural background sources.” (40 CFR § 130.2(g).)*
- ▶ *Wherever possible, natural and nonpoint source loads should be distinguished.*



Purpose of the Implementation Plan

- ▶ *Translates the information in the technical TMDL into discrete and identifiable actions that will bring the waterbody into compliance.*
- ▶ *Must redress all violations of water quality standards if possible and may use any combination of existing regulatory tools to do so.*
- ▶ *Should take into account where the Regional Water Board may lack implementation authority.*



Wasteload Allocation Implementation

- ▶ *NPDES Permits*
- ▶ *All point source discharges of pollutants to surface waters.*
- ▶ *Clean Water Act section 402.*
- ▶ *Pollutants discharged through a discrete conveyance such as a pipe, ditch or channel.*
- ▶ *NPDES permits must be consistent with waste load allocations (40 CFR §122.44(d)(1)(vii)(B).)*
- ▶ *Agricultural runoff specifically exempted from NPDES.*



Upstream States-NPDES

- ▶ *Downstream state has procedural remedies against an upstream source state's issuance of NPDES permits that may adversely impact that state's water quality standards. (Clean Water Act section 402(d).)*
- ▶ *An NPDES permit shall not be issued “[w]hen the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States.” (40 CFR § 122.4(d).)*



Load Allocation Implementation

- ▶ *Waste Discharge Requirements (WDR)*
- ▶ *Discharges of waste that are not subject to NPDES permits require the issuance of WDRs unless otherwise waived.*
- ▶ *May be used to implement load allocations.*
- ▶ *Runoff from nonpoint sources such as agricultural activities and waste discharges to land or to groundwater.*



Load Allocation Implementation: Waste Discharge Requirements

- ▶ *May not include specific effluent limits.*
- ▶ *May prescribe requirements, such as limitations on temperature, toxicity, or pollutant levels.*
- ▶ *Provides flexibility to dischargers in choosing the methods (e.g. BMPs) they will implement to meet the requirements.*



Load Allocation Implementation: Other Regulatory Tools

- ▶ *Conditional Waivers and Prohibitions*
- ▶ *Cleanup and Abatement Order*
- ▶ *Cease and Desist Order*
- ▶ *Time Schedule Order*
- ▶ *Investigative Orders (Water Code §13267)*
- ▶ *Administrative Civil Liability*
- ▶ *Certification of another agency's program
(must be accompanied by a waiver)*



Load Allocation Implementation: Other Regulatory Tools

- ▶ *Clean Water Act section 401 water quality certification (projects that require federal approval).*
 - ▶ *If project is related to water rights, State Water Resources Control Board issues certification.*
 - ▶ *Section 401 applies when federal law preempts state law.*



Basin Plans are not limited to actions that the Regional Water Board can Apply and Enforce: Some Examples

- ▶ *Discharges not in California*
- ▶ *Orphaned Discharges (abandoned mines)*
- ▶ *Jurisdiction with another State agency (i.e. water rights)*
- ▶ *Controllable water quality factor that is not related to “discharge of waste”*
- ▶ *Restoration Potential*



Controllable Factors in California regulated by a separate state entity

- ▶ *State offices, departments, and boards, in carrying out activities which may affect water quality, shall comply with [Basin Plans]...unless otherwise directed or authorized by statute.... (Wat. Code, §13247.)*
 - ▶ *Department of Fish and Game*
 - ▶ *State Water Board, Division of Water Rights*
 - ▶ *CalFIRE*
 - ▶ *Department of Water Resources*



Controllable Factors in California regulated by a separate federal entity

- ▶ *Basin Plans are part of the comprehensive plan that FERC must consider as part of its hydropower licensing decisions. (See 18 C.F.R. § 2.19(a)(2).)*
- ▶ *Biological Opinion, or Species Recovery Plan*
- ▶ *Clean Water Act section 313 applies to federal facilities. (33 U.S.C. §1323.)*



Non-Regulatory Implementation Options

- ▶ *Do Nothing (not an option if other measures will not achieve compliance)*
- ▶ *Recommendation to Non-Regulatory Entity*
- ▶ *Recommendation or Requirement to California Regulatory Agency (i.e. State Water Board)*
- ▶ *Recommendation to non-California Regulatory Agency*
- ▶ *Restoration Actions*
 - ▶ *Incentive Based-Link to discharge prohibition/waiver/WDR (invites pollution trading)*
 - ▶ *Identify potential-grant/funding opportunities for NGOs/watershed groups/State action*



Klamath TMDL Implementation Plan-Scoping Phase

