



North Coast Regional Water Quality Control Board

Water Quality Restoration Plan for the Klamath Basin in California:

Draft Scoping for TMDL Implementation

March 2009 Public Workshops

3/3 Klamath

3/3 Arcata

3/4 Tulelake

3/5 Montague

3/12 Santa Rosa



Public Workshops and Draft Restoration Plan

- Provides regulatory overview
- Present the content of the *Water Quality Restoration Plan for the Klamath Basin: Draft Scoping for TMDL Implementation*
- Discusses Regional Board staff approach to TMDL implementation and restoration in Klamath Basin
- Solicits feedback from agencies, stakeholders and public

Klamath River Basin



Klamath River Impairments in California

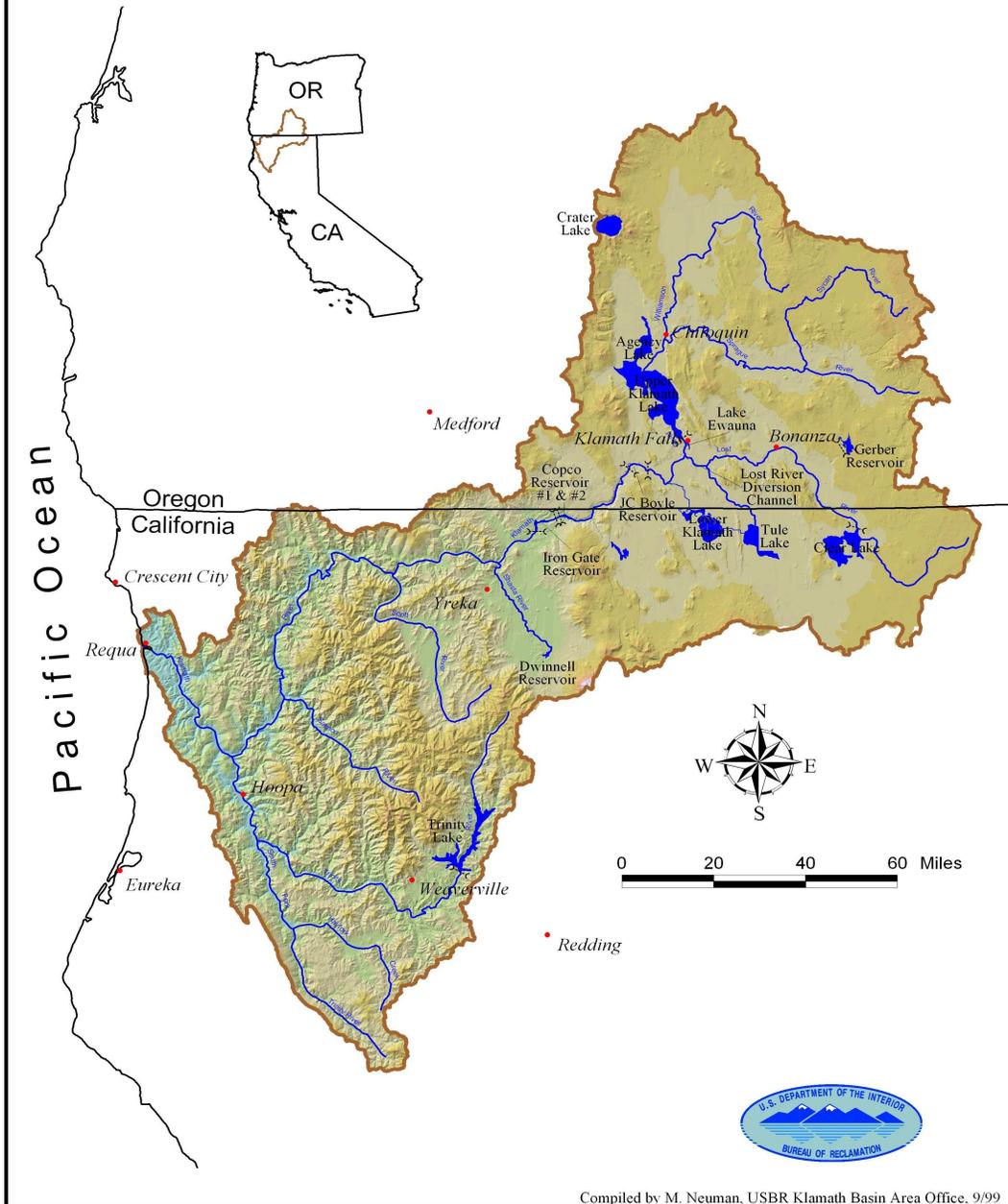
Temperature

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	March '09
Public Review Draft TMDL - 60-day	June '09
Public Meetings / Workshops	June '09
RB Public Hearing - adoption	Oct '09
SB Public Hearing - adoption	Jun '10
US EPA approval	Sept '10



Total Maximum Daily Load (TMDL): Regulatory Overview

- **Required by state and federal law for impaired waters**
- **2-Step process: Technical TMDL and Implementation Plan**



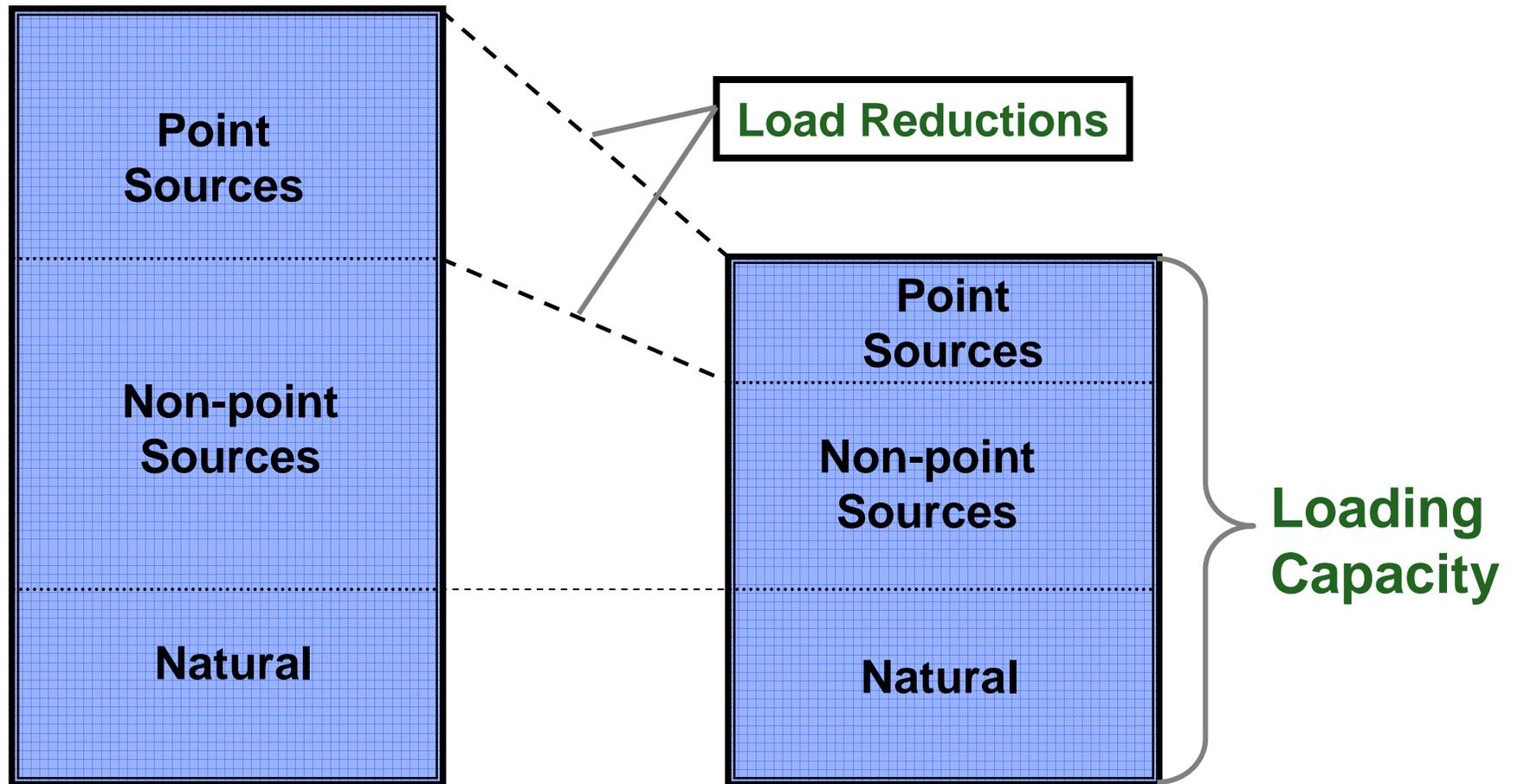
Technical TMDL

- **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)).**



TMDL Concept

Current Conditions





Implementation Plan

- **Translates allocations into actions that will bring the waterbody into compliance.**
 - **WLA = NPDES Permits for “point source” discharges**
 - **LA = WDR/Waiver/Prohibition for all other sources (“non-point sources”)**



State Nonpoint Source Policy

Requires regulation of “discharge of waste” through:

- **Waste Discharge Requirements (WDRs)**
- **Waiver of WDRs**
- **Prohibitions**



Waste Discharge Requirements and Conditional Waivers

- **Are used to regulate sources of pollution in the Klamath Basin such as:**
 - **timber harvest**
 - **roads**
 - **grazing**
 - **irrigated agriculture**
- **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**



Other Regional Board Regulatory Tools

- **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)**
- **Clean Water Act section 401**
- **Clean Water Act section 313**



TMDL Implementation not limited to regulatory programs

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



Other Implementation Options

- **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**



Centralized Treatment/Pollutant Trading

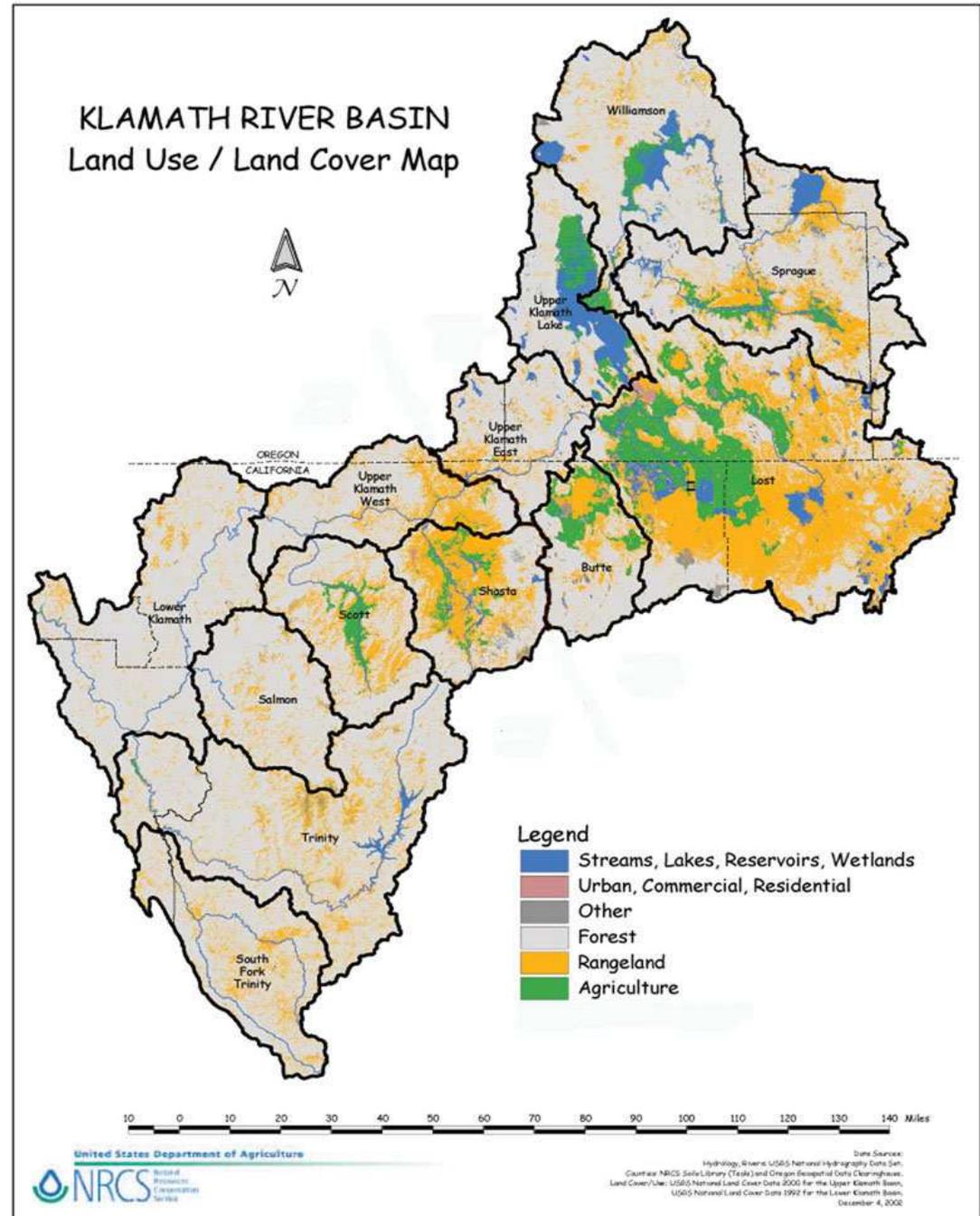
- **Potential for responsible parties in the Klamath Basin to “trade” to increase efficiency of water quality improvement efforts**
- **Water quality conference to explore possibilities for centralized treatment and trading programs**
- **Potential for removal of nutrients and organic loads through wetlands and other treatment systems**

Largest Land Cover Classes

Forest/Timber Harvest

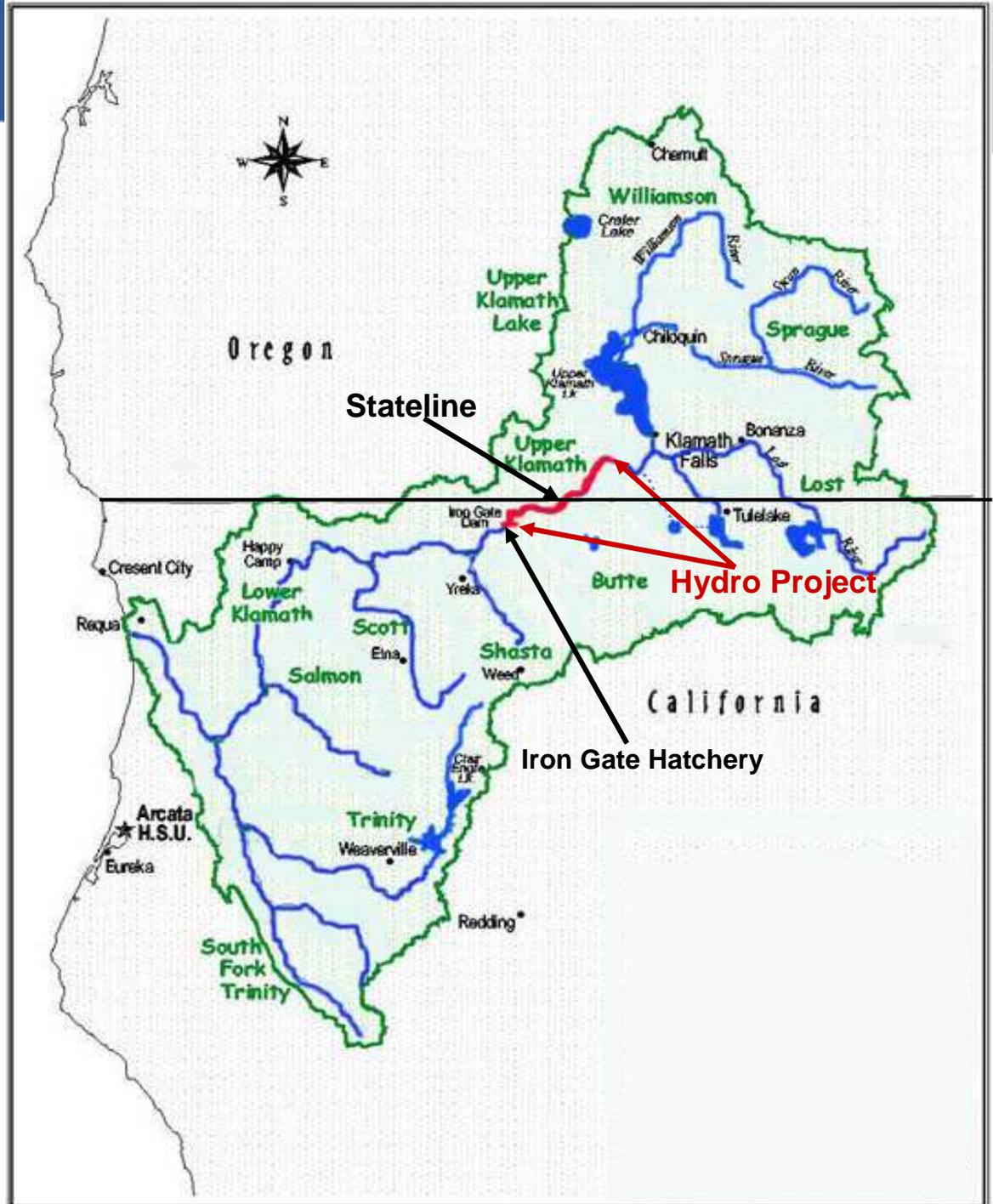
Grassland/Grazing

Irrigated Agriculture



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**
- **Responsible Parties: Regional Board, CDFG, PacifiCorp**



Tributaries

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

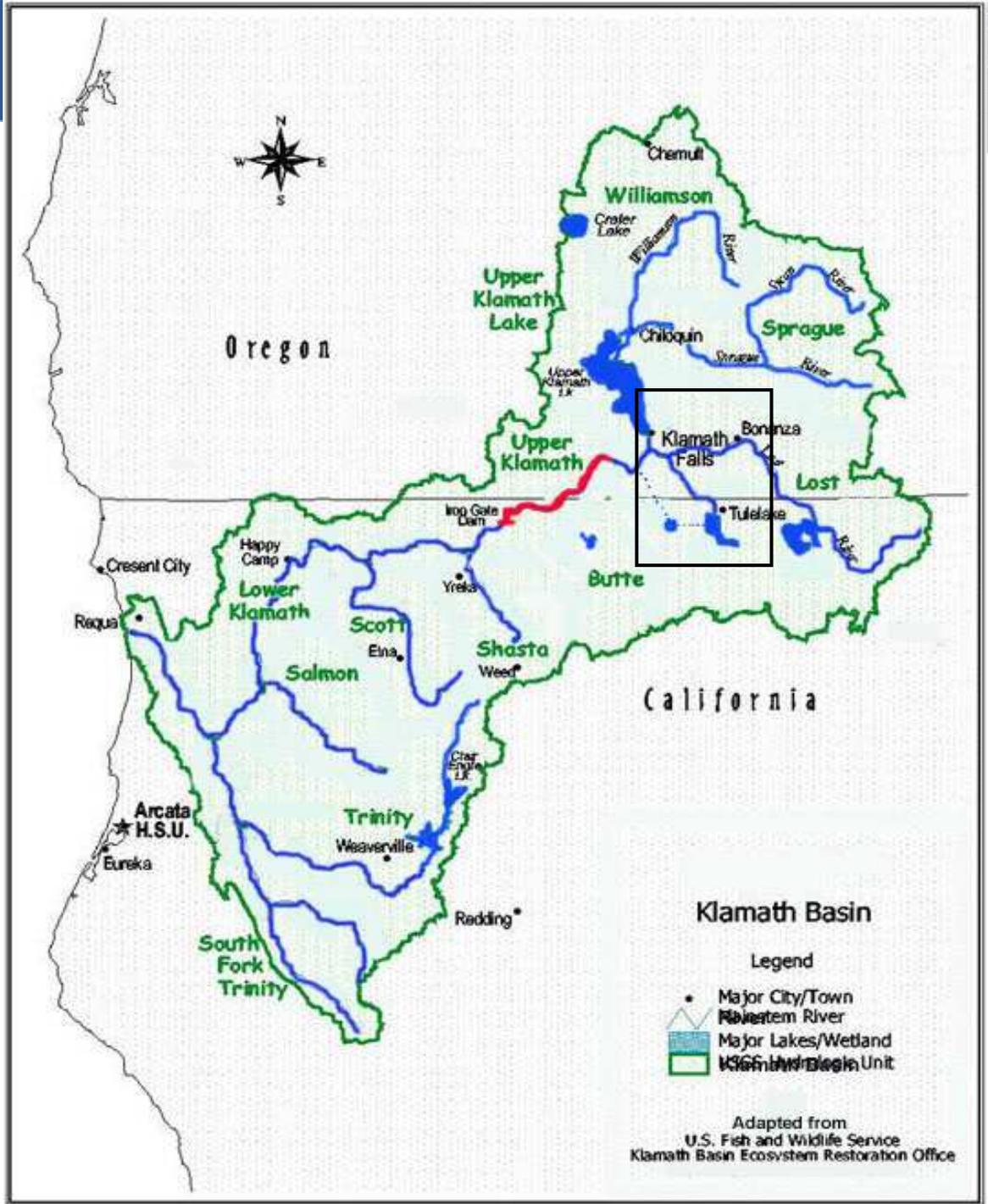
	<i>Tributary</i>				
	Lost	Shasta	Scott	Salmon	Trinity
TMDL	✓	✓	✓	✓	✓
Impl. Plan		✓	✓	✓	

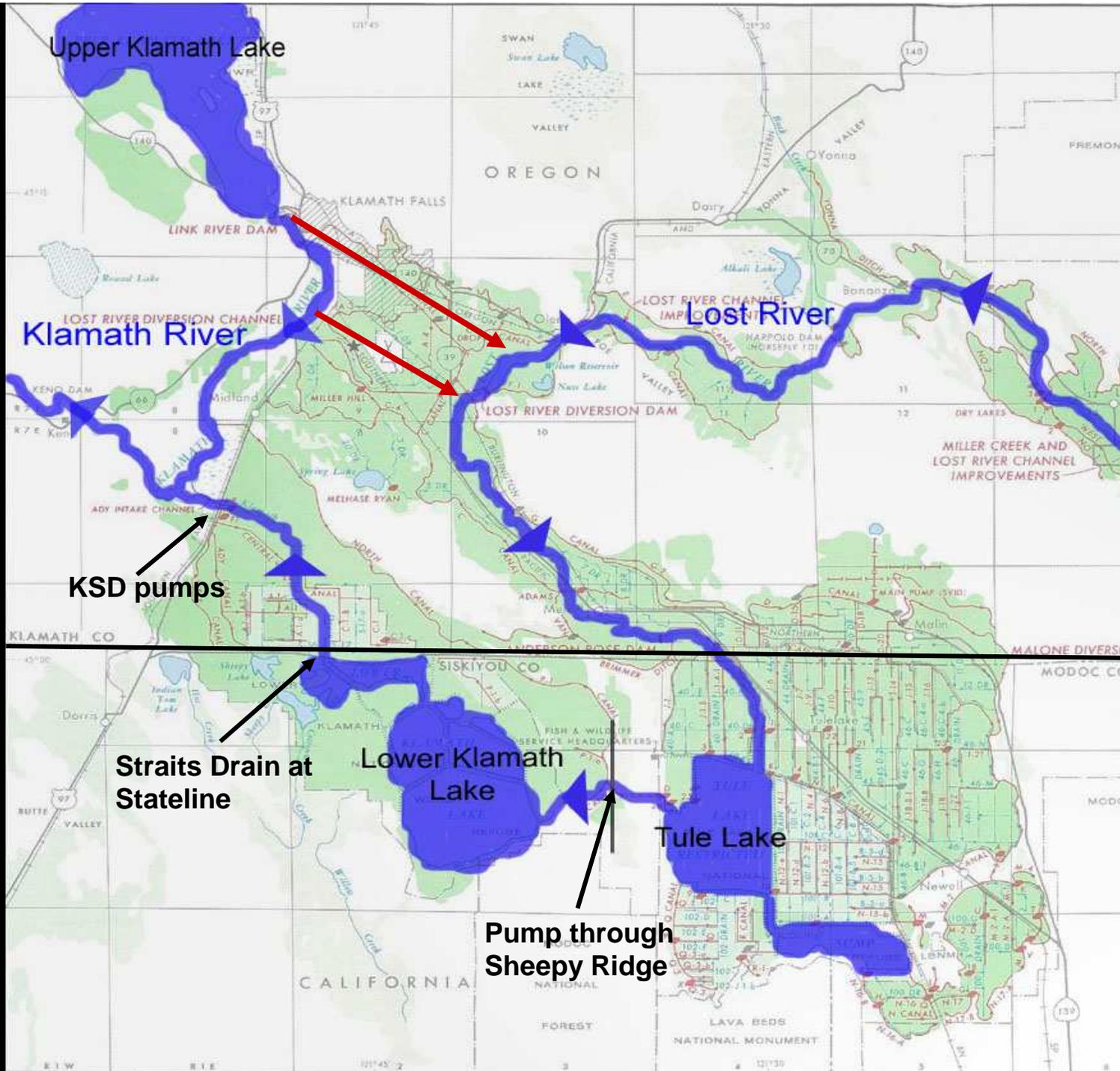


Lost River in California

- **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 in California

- **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 that implement TMDL allocations and targets
- Nonpoint sources include land uses such as: Timber Harvest, Roads, Grazing, Irrigated Agriculture
- **Responsible Parties: USFS, counties, California nonpoint sources**



Thermal Refugia

- **Fish escape high temperatures by holding in cold water refugia**
- **Temperature analysis shows 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**



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**



Comment Topics

- **Pollutant source inputs not previously identified**
- **Current efforts to address the TMDL pollutants**
- **Other existing programs that could be coordinated with implementation**
- **Timeframes for compliance**
- **Suggestions for tracking implementation and progress towards meeting water quality standards**
- **Potential restoration ideas and other solutions for improving water quality in the Klamath Basin**



Comments

Web Site:

[http://www.waterboards.ca.gov/northcoast/water_issu
es/programs/tmdls/klamath_river/](http://www.waterboards.ca.gov/northcoast/water_issues/programs/tmdls/klamath_river/)

Please submit comments by March 27th, 2009

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