

**NOAA's**  
**National Marine Fisheries Service**

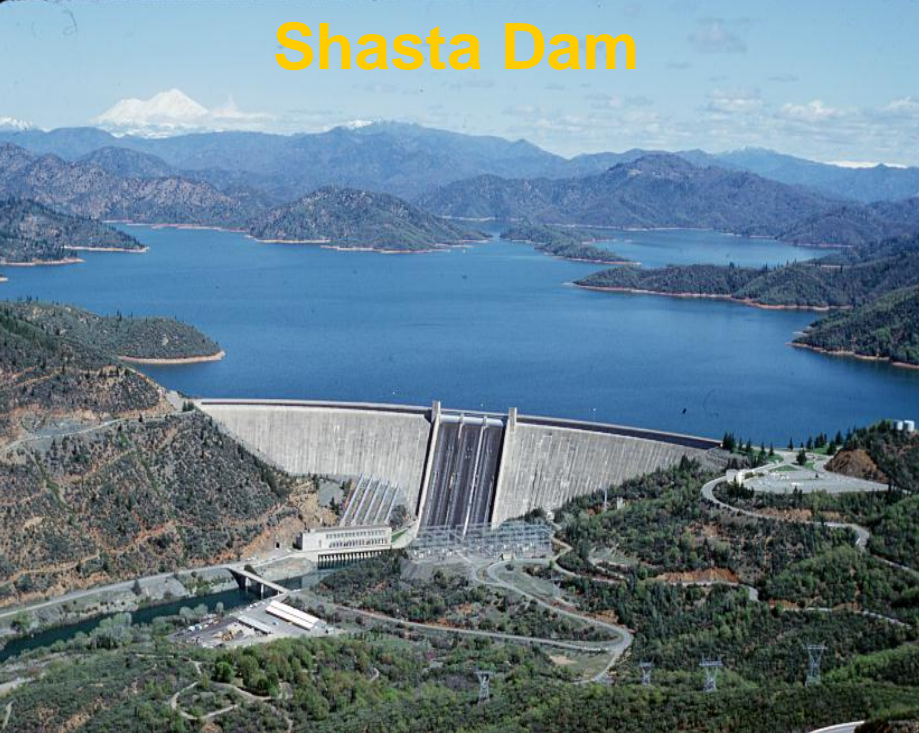
**2009**  
**Biological Opinion**  
**On the California's Central**  
**Valley Water Project**



# Proposed Project Overview

- Operations Criteria and Plan (OCAP) for the Federal Central Valley Project (CVP) and California State Water Project (SWP)
- The OCAP governs the operation of project facilities for the purpose of collecting and distributing water throughout the State of California
- Major project facilities within the Central Valley include:
  - Shasta, Keswick, Whiskeytown, Folsom, Nimbus, and New Melones Dams
  - Red Bluff Diversion Dam
  - Oroville Dam (Subject of a separate consultation)
  - Mitigation hatcheries
  - Water Operations, Delta pumping facilities and conveyance canals
  - Numerous smaller water control and diversion facilities throughout the Central Valley and Delta

**Shasta Dam**



**New Melones Dam**



**Red Bluff Diversion Dam**



**Delta Pumping Facilities**



# ESA Consultation Background

- NOAA Fisheries Service's first OCAP opinion was completed in 1992
- Second OCAP opinion was completed in 2004, resulting in ongoing litigation and a court-ordered deadline for a new opinion
- Third Opinion issued on June 4, 2009, draft posted on website (December 2008). Highly controversial and litigation is anticipated.
- Close coordination with the USFWS on their 2008 OCAP Delta smelt opinion to ensure consistency

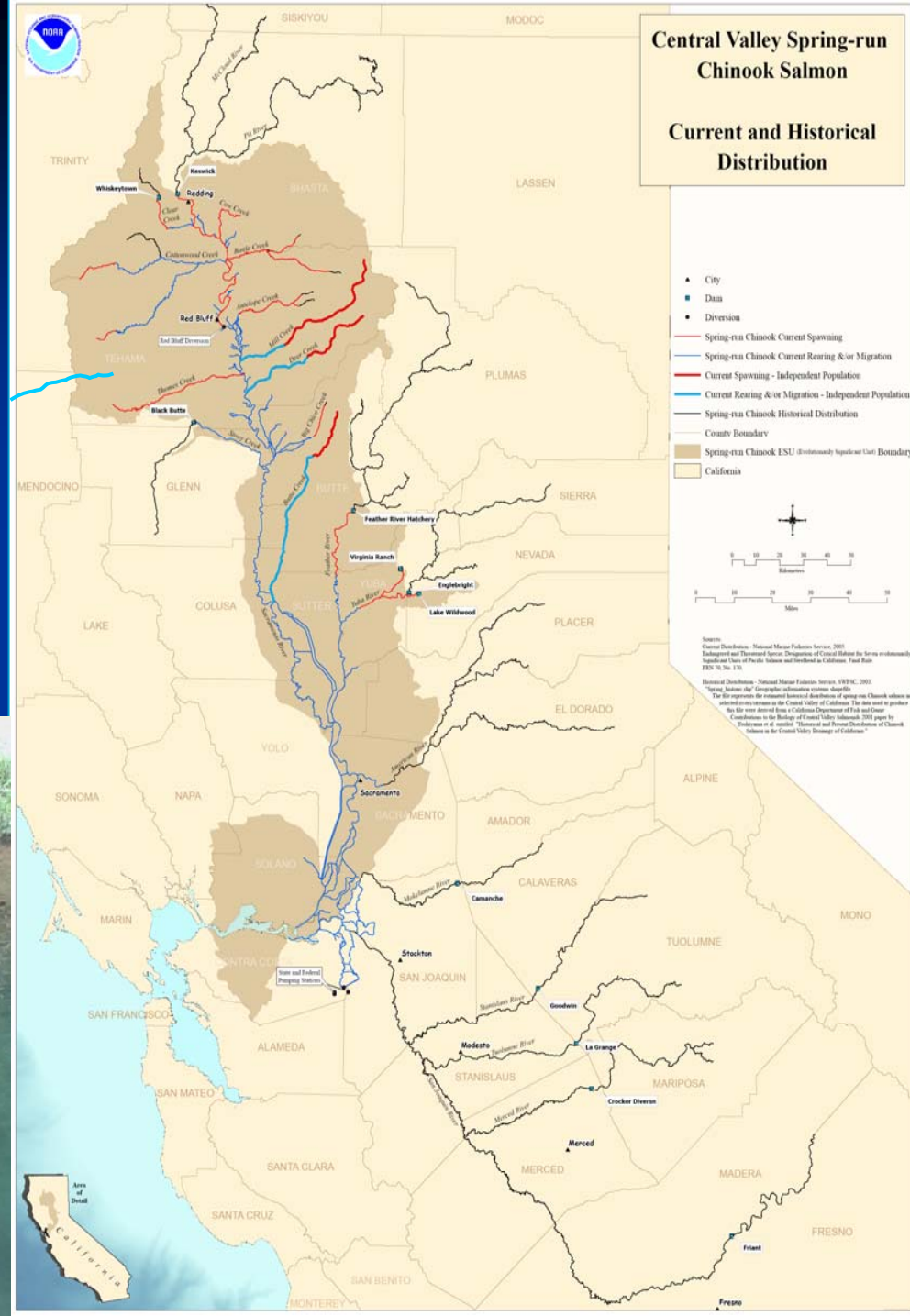
# 2009 OCAP

## Consultation Process

- Adhered closely to legal requirements, agency guidelines, and used the best available scientific and commercial information
- Maintained close and meaningful collaboration with the Bureau of Reclamation, CA Department of Water Resources, U.S. Fish and Wildlife Service, and CA Department of Fish and Game
- Early draft opinion peer reviewed by the CalFed Independent Science Panel, and three scientists selected by the Center for Independent Experts



# Central Valley Spring-run Chinook Salmon Distribution



# Central Valley Steelhead Distribution





# Southern DPS Green Sturgeon Distribution



# Southern Resident Killer Whale Distribution



# Project Effects on Listed Salmon and Sturgeon Fish

- Elevated Water Temperature and Flow Fluctuations
- Migration Barriers and Hazards
- Impacts from Delta Export Operations
- Hatchery Effects

# Project Effects on Southern Resident Killer Whales

- Depletion of ESA-listed and ESA non-listed Chinook Salmon populations – reduced prey
- Reduced suitable habitat linked to prey

# Findings of the Biological Opinion

- OCAP would jeopardize:
  - Sacramento winter-run Chinook salmon
  - Central Valley spring-run Chinook salmon
  - Central Valley steelhead
  - Southern DPS of North American green sturgeon, and
  - Southern resident killer whales
  
- Destruction or adverse modification of the designated and proposed critical habitat
  
- Central California Coast steelhead – not likely to adversely affect this species or its critical habitat

# Key Elements of the Reasonable and Prudent Alternative

- New temperature management program for Shasta Reservoir and the Upper Sacramento River,
- Long-term passage prescriptions at Shasta Dam to allow re-introduction of listed salmonids
- Flows and temperatures in Clear Creek below Whiskeytown Dam.
- Red Bluff Diversion Dam gate openings and an alternative pumping plant is built, and by 2012, opening of the gates all year.
- Improved juvenile rearing habitat in the lower Sacramento River basin and Delta

# Reasonable and Prudent Alternative (continued)

- Delta Cross Channel Gates - additional gate closures during key times when listed fish are likely to be migrating through the area
- Old and Middle Rivers - Flows will be modified to reduce the number of juveniles exposed to the water export facilities, and facility improvements to reduce mortality
- Delta Pumps - Increased San Joaquin River flows and water export curtailments.
- Studies - Significant new study of acoustic tagged fish in the San Joaquin Basin to evaluate the effectiveness of the RPA and refine it over the life-time of the project.

# Reasonable and Prudent Alternative (continued)

- American River
  - New flow management standard,
  - temperature management plan,
  - additional technological fixes to temperature control structures, and
  - long-term fish passage above Folsom Dam for steelhead
- Stanislaus River
  - year-round minimum flow regime for steelhead
  - Long-term fish passage evaluations above Goodwin, Tulloch, and New Melones Dams.
- Hatchery Genetics Management Plan for Nimbus Hatchery for steelhead and Fall-run Chinook salmon.



# Current Issues Interrelated with the OCAP Consultation

- California drought
  - Perceived impact on farmers and to densely populated southern California
  - Water “cost” (estimated at 5%-7% of the average annual exports, or approximately 330,000 acre-feet)
- Collapse of Sacramento River fall-run chinook and closure of the Ocean salmon fishery in 2008 and 2009
- Bay Delta Conservation Plan – A forward looking plan
  - NMFS is heavily invested in a collaborative effort
  - Modifications to the Delta water conveyance systems (peripherhal canal)
  - Approximately 50,000-80,000 acres of habitat restoration

# Acknowledgements

Bureau of Reclamation

Department of Water Resources

US Fish and Wildlife Service

California Department of Fish and Game

NOAA's Staff in the Southwest Region

