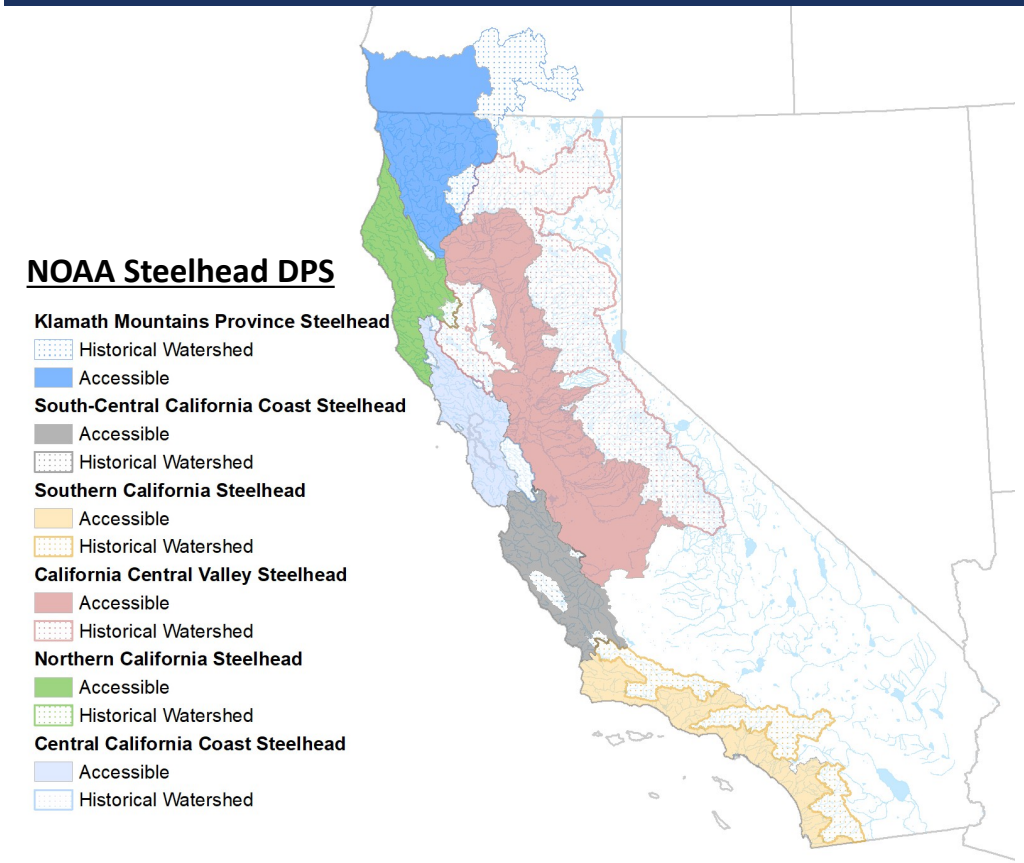
CALIFORNIA STEELHEAD: MANAGEMENT AND STOCK STATUS UPDATE



DECEMBER 9, 2025

Erin Ferguson
California Department of Fish and Wildlife
980 Riverside Parkway
West Sacramento, California 95605
Erin.Ferguson@wildlife.ca.gov

CALIFORNIA STEELHEAD
DISTINCT POPULATION SEGMENTS (DPS)



- **Klamath Mountains Province**
  Status: Listing Not Warranted (2001)
- **Northern California**
  Status: ESA Threatened (2000)
  CESA Endangered (2022)
- **Central California Coast**
  Status: ESA Threatened (1997)
- **Central Valley**
  Status: ESA Threatened (1998)
- **South-Central California Coast**
  Status: ESA Threatened (1997)
- **Southern California**
  Status: ESA Endangered (1997)
  CESA Endangered (2025)

STEELHEAD ECOTYPES IN CALIFORNIA WATERS

Winter Steelhead (ocean maturing)

- Present in all California DPS
- Predominant run observed throughout California
- Enter freshwater in fall/winter and spawn within weeks to months upon entry
- Status highly variable throughout the State

Fall Steelhead (stream maturing)

- Observed in Trinity & Klamath watersheds in the Klamath Mountain Province DPS
- Enter freshwater in summer/fall and spawn late fall/winter
- Run timing coincides with Trinity River Hatchery Steelhead

Summer Steelhead (steam maturing)

- 23 streams in the Klamath Mountains Province and Northern California DPS
- Enter freshwater in spring and early summer, move to headwaters and hold over in deep pools and spawn late fall/winter
- This life history is prone to threats and should be evaluated for additional protection measures

"Half-Pounder" runs

- Observed in the Klamath Mountains Province and Northern California DPS
- Defined as sub-adults that have spent 2-4 months in estuary or nearshore before returning to the river to overwinter



A winter steelhead caught and floy tagged before being released on Pudding Creek. (CDFW Photo)

CALIFORNIA STEELHEAD POPULATION THREATS

- Passage Barriers – dams and diversions
- Stream Flow/ water management
- Elevated water temperature
- Water quality
- Habitat degradation / disconnected floodplains
- Urbanization and channelization
- Lagoon breaching
- Migration paths in Delta
- Drought
- Impacts from wildfire
- Invasive plant species
- Poor forest and land use practices
- Fish predation
- Hatchery influence
- Non-native fish competition



GUIDANCE DOCUMENTS

- **Recovery Plans**
  - Final Coastal Multispecies Recovery Plan for California Coastal Chinook Salmon, Northern California Steelhead and Central California Coast Steelhead (2016)
  - Recovery Plan for the ESU of Sacramento River Winter-run Chinook Salmon and CV Spring-run Chinook Salmon and the DPS of California Central Valley Steelhead (2014)
  - Final Recovery Plan for South Central California Steelhead (2013)
  - Southern California Steelhead Recovery Plan (2012)
- **Viability Assessment for Pacific Salmon and Steelhead Listed Under the ESA: Southwest (NMFS 2023)**
- **NMFS Status Reviews**
  - Northern California Steelhead (2024)
  - Central California Coast Steelhead (2024)
  - California Central Valley Steelhead (2024)
  - South Central California Coast Steelhead (2023)
  - Southern California Steelhead (2023)
- **Monitoring Plans**
  - California Coastal Salmonid Population Monitoring; Strategy, Design, and Methods (CDFG Fish Bulletin 180, 2011)
  - A Comprehensive Monitoring Plan for Steelhead in the California Central Valley (CDFG 2010)
  - Implementation Plan for the Central Valley Steelhead Monitoring Plan (CDFW 2014)
  - Integration of Steelhead Viability Monitoring, Recovery Plans and Fisheries Management in the Southern Coastal Area (CDFG Fish Bulletin 182, 2022)

STEELHEAD POPULATION MONITORING METHODS

- **Adults**
  - Redd surveys
  - Fixed count stations (Weirs, Video, DIDSON)
  - Large Fykes
  - Snorkel Surveys
  - PIT Tag Arrays
  - Acoustic Telemetry
- **Juveniles**
  - PIT Tag Arrays
  - Outmigrant Traps
  - Snorkel Surveys
  - E-fish
  - Acoustic Telemetry



** Northern and Central Coast monitoring areas typically focus on Coho salmon*

** Temporal and spatial limitations due to limited resources, large flow events, equipment malfunctions, etc.*

** Full population estimates are difficult to achieve in some monitoring areas*

CA STEELHEAD MANAGEMENT NEWS

- **AB 1319 ESA-> CESA**
- **Salmon Strategy for a Hotter Drier Future**
- **Central Valley Steelhead JPE****
- **Upcoming changes to the Steelhead Report Card****
- **CalTrout State of the Salmon III – (2027)**
- **Klamath Dam Removals****
- **So. CA steelhead– CESA listed endangered****
- **Iron Gate (Klamath River; 2024) and Mad River Hatchery close (2025)**



Summer steelhead in the Middle Fork Eel River. (CDFW Photo)

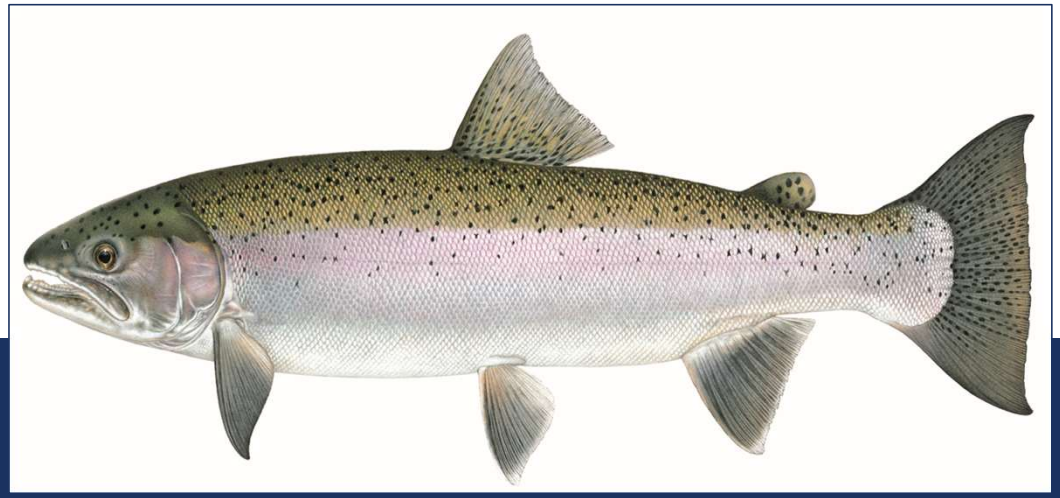


Image: Joseph R. Tomelleri

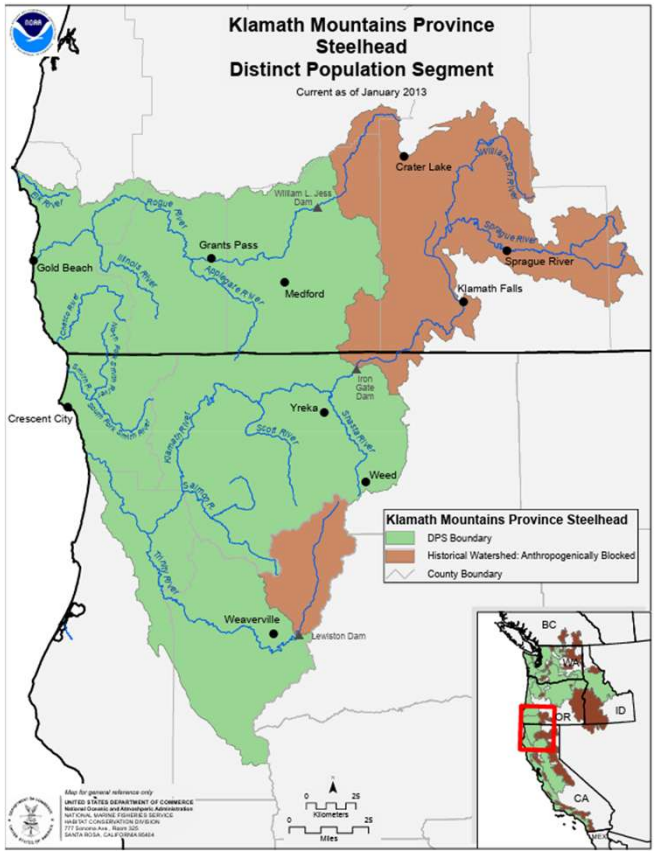
DPS INFORMATION

NOAA FISHERIES STEELHEAD DPS STATUS REVIEWS

Klamath Mountain Province

Fall Steelhead
Winter Steelhead
Summer Steelhead
Half Pounders

- Listing not warranted (2001)
  - No Status Review
  - No Viability assessment
- Risk Factors
  - Stream Flow and diversions
  - Historical/current land use practices
  - Manmade and natural factors
    - Climate change, drought, wildfires



KLAMATH DAM REMOVALS





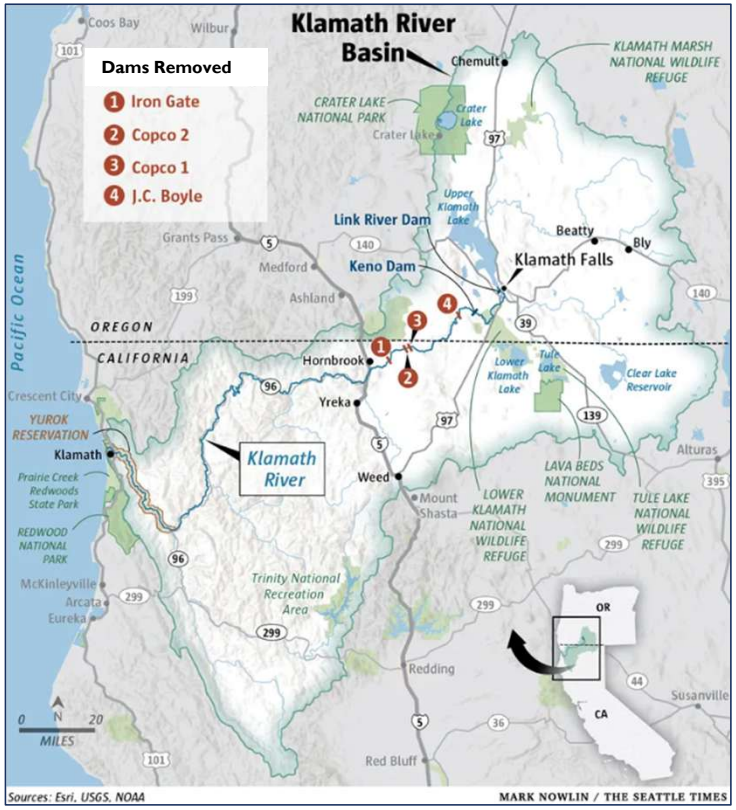






Photo Credits – Swiftwater Films

NOAA FISHERIES STEELHEAD DPS STATUS REVIEWS

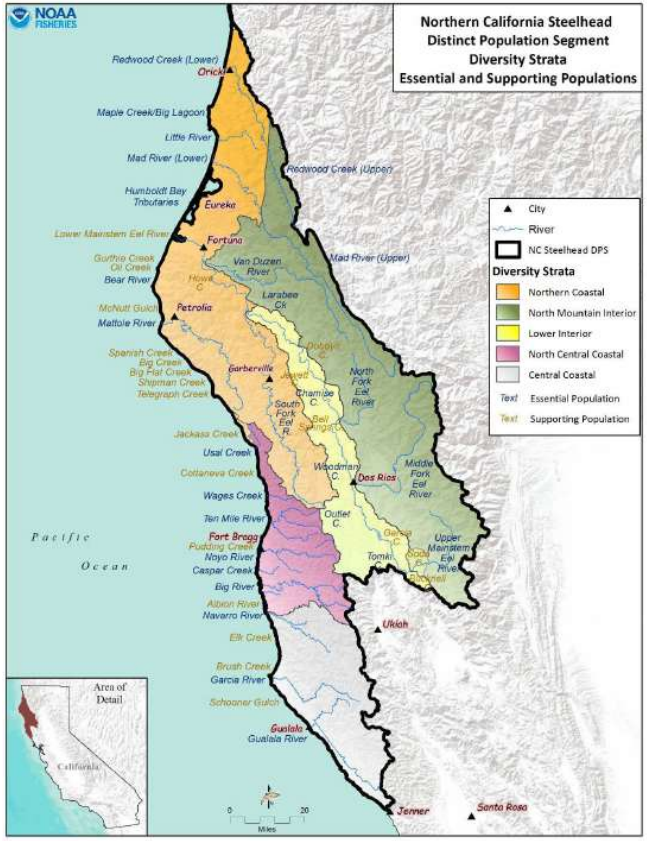
Northern California Coast

Winter Steelhead

Summer Steelhead*

- ESA Threatened
- CESA Endangered* - 2022

- 5 YR status trend (2024): mixed
- Viability (2023): Moderate extinction risk
- Risk Factors
  - Manmade and natural factors
    - Climate change, drought, wildfire
  - Surface/ground water diversions
  - Decreased habitat complexity
  - Estuary degradation



NOAA FISHERIES STEELHEAD DPS STATUS REVIEWS

Central California Coast

Winter Steelhead

- ESA Threatened
- 5 YR status trend (2024): uncertain
- Viability (2023): Moderate extinction risk
- Risk Factors
  - Lack of data makes assessment challenging
  - Degraded habitat conditions
  - Passage
  - Manmade and natural factors
    - Climate change, drought, wildfire, poor ocean conditions

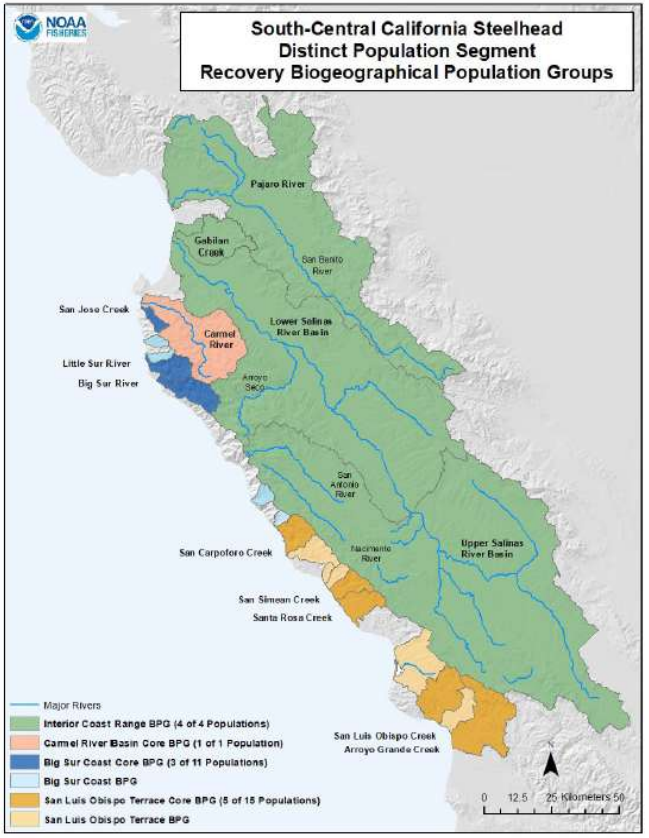


NOAA FISHERIES STEELHEAD DPS STATUS REVIEWS

South Central California Coast

Winter Steelhead

- ESA Threatened
- 5 YR status trend (2023): negative
- Viability (2023): Moderate extinction risk
- Risk Factors
  - Manmade and natural factors
    - Climate change, drought, wildfire
  - Land and water development
    - Habitat fragmentation
    - Passage

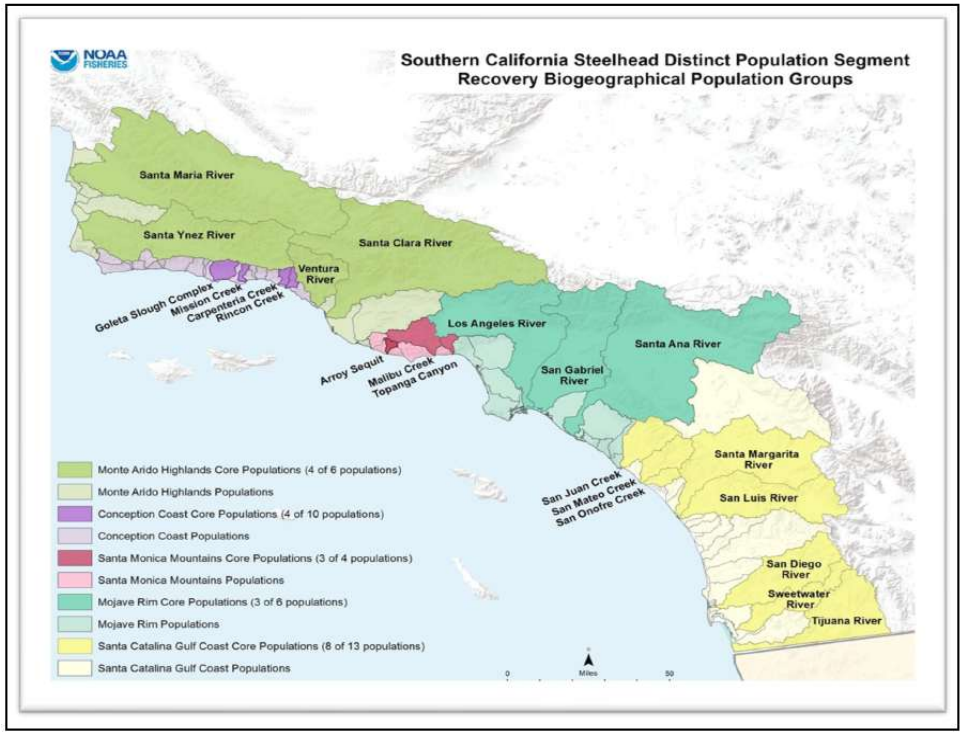


NOAA FISHERIES STEELHEAD DPS STATUS REVIEWS

Southern California

Winter Steelhead

- ESA Endangered
- CESA Endangered (2025)
- 5 YR status trend (2023): negative
- Viability (2023): High extinction risk
- Risk Factors
  - Manmade and natural factors
    - Climate change, drought, wildfire
  - Degraded habitat conditions
    - Little to no flow
    - Fragmentation
    - Water quality/ temperature



NOAA FISHERIES STEELHEAD DPS STATUS REVIEWS

California Central Valley

Winter Steelhead

- ESA Threatened
- 5 YR status trend (2024): Uncertain
- Viability (2023): Moderate extinction risk
- Risk Factors
  - River conditions
    - Flow, temperature, water quality
  - Passage (dams block 80% historical access)
  - Habitat degradation/ access to floodplains
  - Manmade and natural factors
    - Climate change, drought, wildfire impacts
  - Hatchery influence
  - Lack of natural production





Photo Credit: Aaron Neely, Trinity River

STEELHEAD ANGLING

CALIFORNIA STEELHEAD REPORT AND RESTORATION CARD PROGRAM

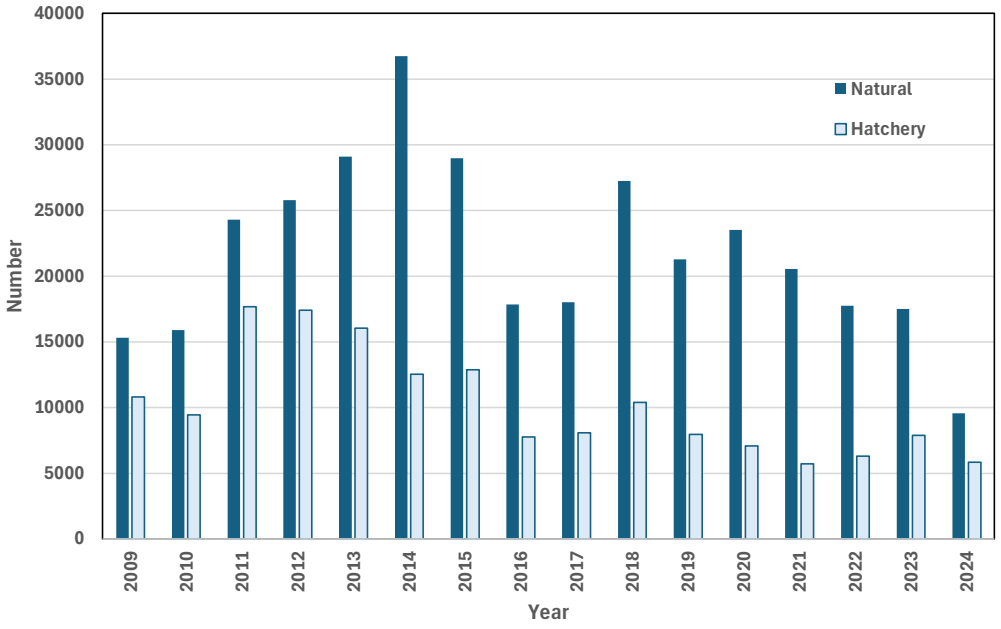
- **Program established in 1993 with the following objectives:**
  - Gather angler data to provide catch data
  - Effort, origin, harvest and location
  - Tool for fisheries management decisions
  - Generate revenue for steelhead projects
  - Funds are prioritized for projects that can provide angler benefit through restoration, monitoring and education.
- **Data Reporting**
  - Mandatory reporting in 2003
  - ~ 51,000 Cards purchased annually (2003-2024, SD=5,230)
  - ~ 30% annual return rate (2003-2024, SD=8%)
  - Online reporting available in 2011
  - Public Data dashboard in 2024



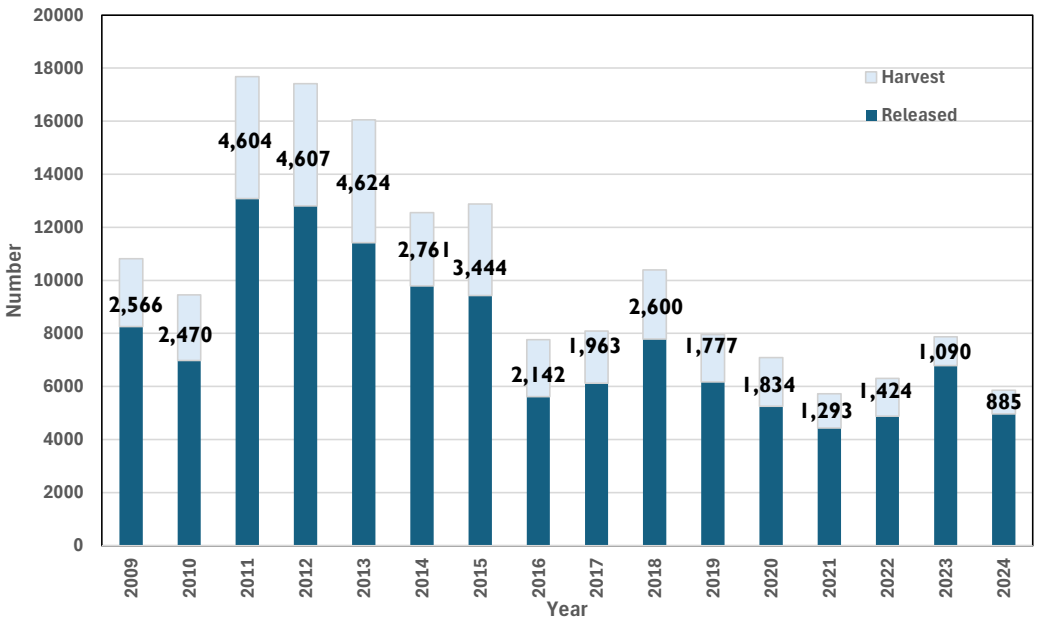
wildlife.ca.gov/conservation/inland-fisheries/steelhead-report-card

CA STEELHEAD REPORT CARD PROGRAM

California Steelhead Report Card Data
Statewide Angler Reported Catch of *O. mykiss* (>16") 2009-2024



California Steelhead Report Card Data
Report of Harvest of Hatchery origin *O. mykiss* (>16") 2009-2024



CENTRAL VALLEY ANGLER SURVEY O. MYKISS FISHERY TRENDS

Sacramento River

Years – 1991-1993, 1999-2000, 2009-2015, 2022-2024

Ave. Effort = 147,708 ± 57,474 hrs

Ave. Catch = 97,904 ± 42,811

Ave. Harvest = 3,710 ± 5,706

Retention Rate = 3.8%

Ave. CPUE = 0.86

American River

Years – 1991-1993, 1999-2000, 2009-2015, 2022-2024

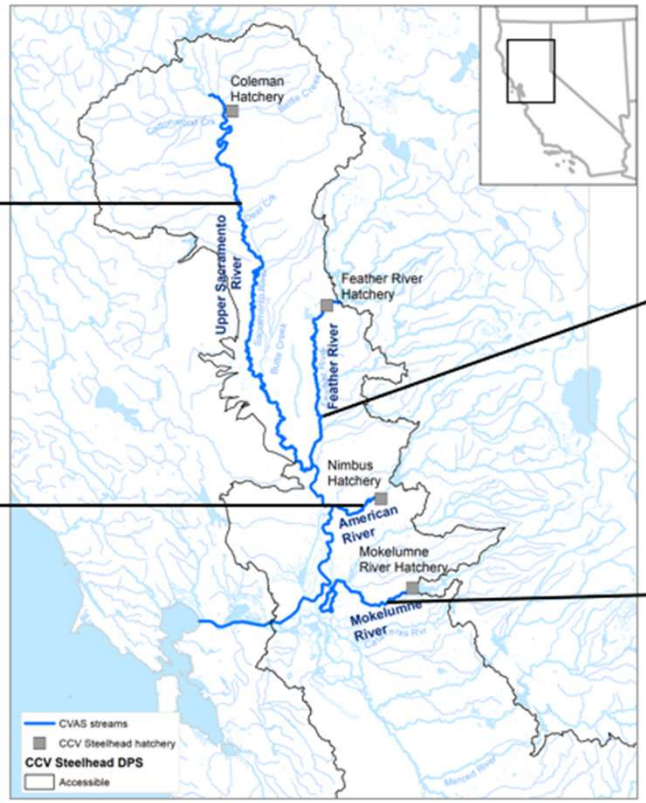
Ave. Effort = 55,670 ± 30,322 hrs

Ave. Catch = 6,859 ± 3,672

Ave. Harvest =1,196 ± 724

Retention Rate = 17.4%

Ave. CPUE = 0.13



Feather River

Years – 1991-1993, 1999-2000, 2009-2015, 2022-2024

Ave. Effort = 22,881 ± 15,663 hrs

Ave. Catch = 4,667 ± 3,169

Ave. Harvest = 718 ± 877

Retention Rate= 15.4%

Ave. CPUE = 0.28

Mokelumne River

Years – 2009-2015, 2022-2024

Ave. Effort = 11,620 ± 4,942 hrs

Ave. Catch = 4,090 ± 4,560

Ave. Harvest = 68 ± 98

Retention Rate = 1.7%

Ave. CPUE = 0.39

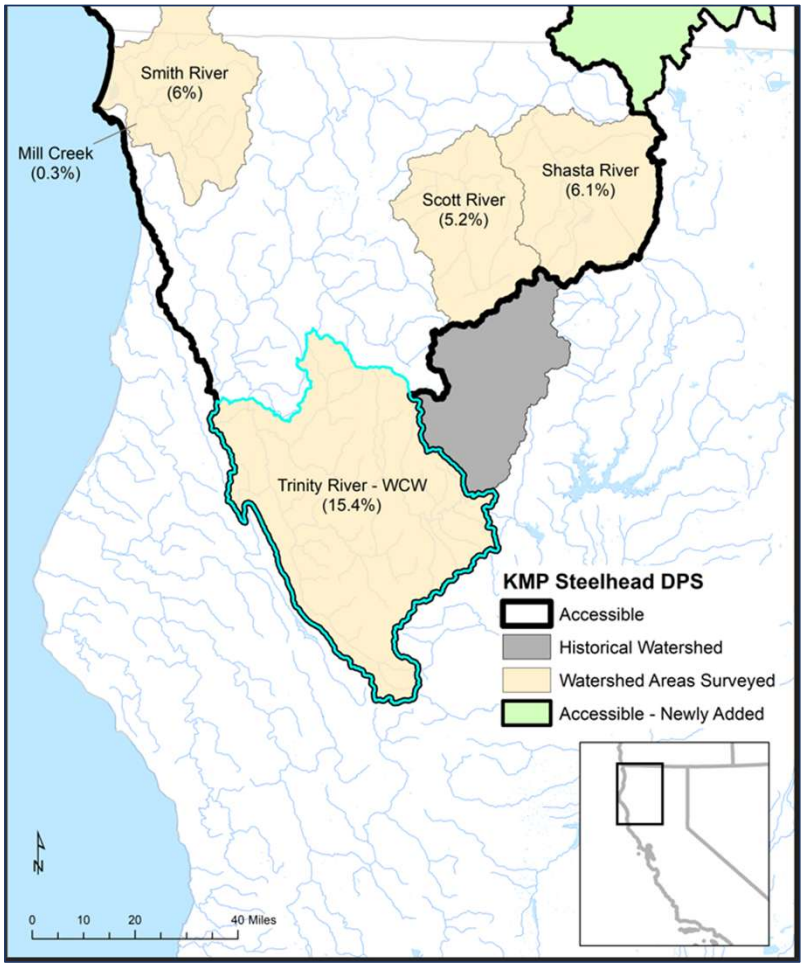
QUESTIONS?



Erin.Ferguson@wildlife.ca.gov

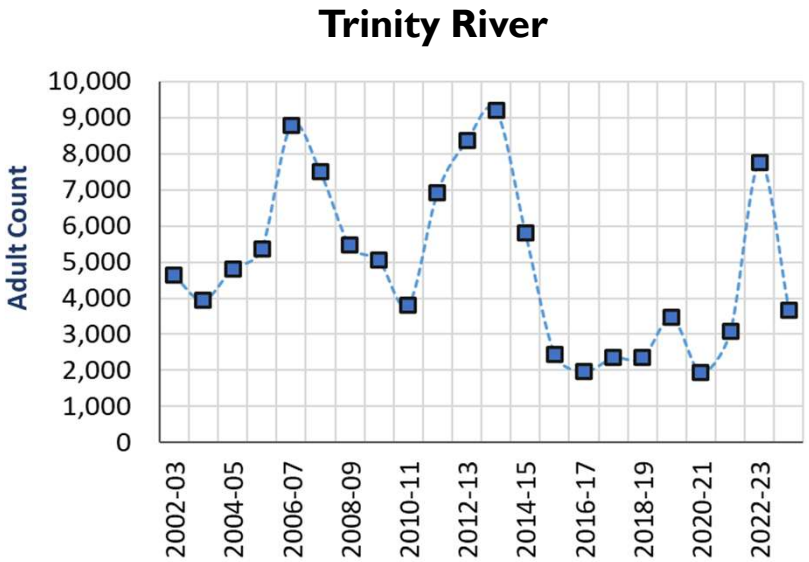
CALIFORNIA MONITORING PLAN
POPULATION TREND DATA

FULL DATASETS AVAILABLE AT:
WILDLIFE.CA.GOV/CONSERVATION/FISHES/SALMONID-MONITORING/CMP

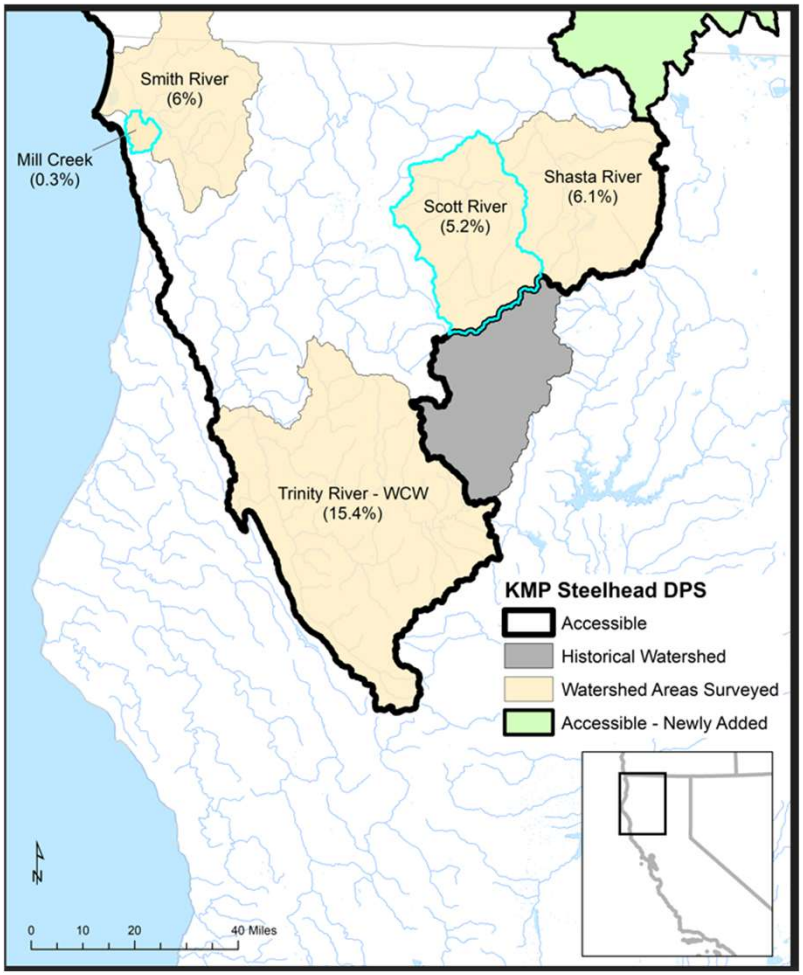


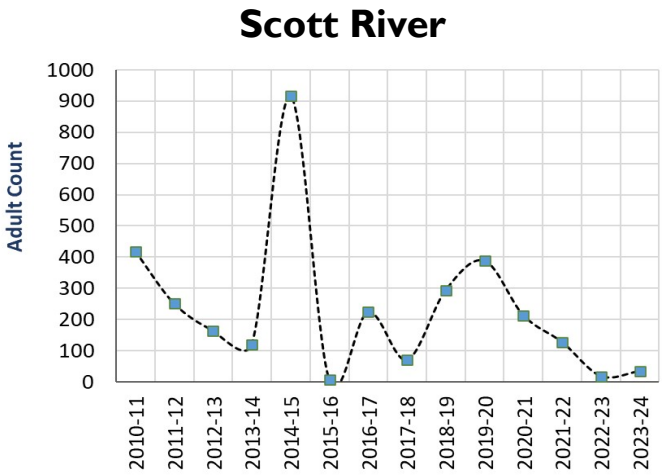
KLAMATH MOUNTAINS PROVINCE STEELHEAD DPS

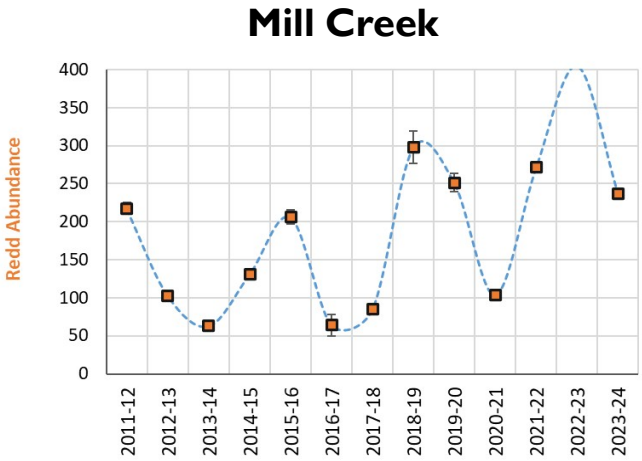
- Largest monitoring area sampled is Trinity River watershed (upstream of Willow Creek Weir)

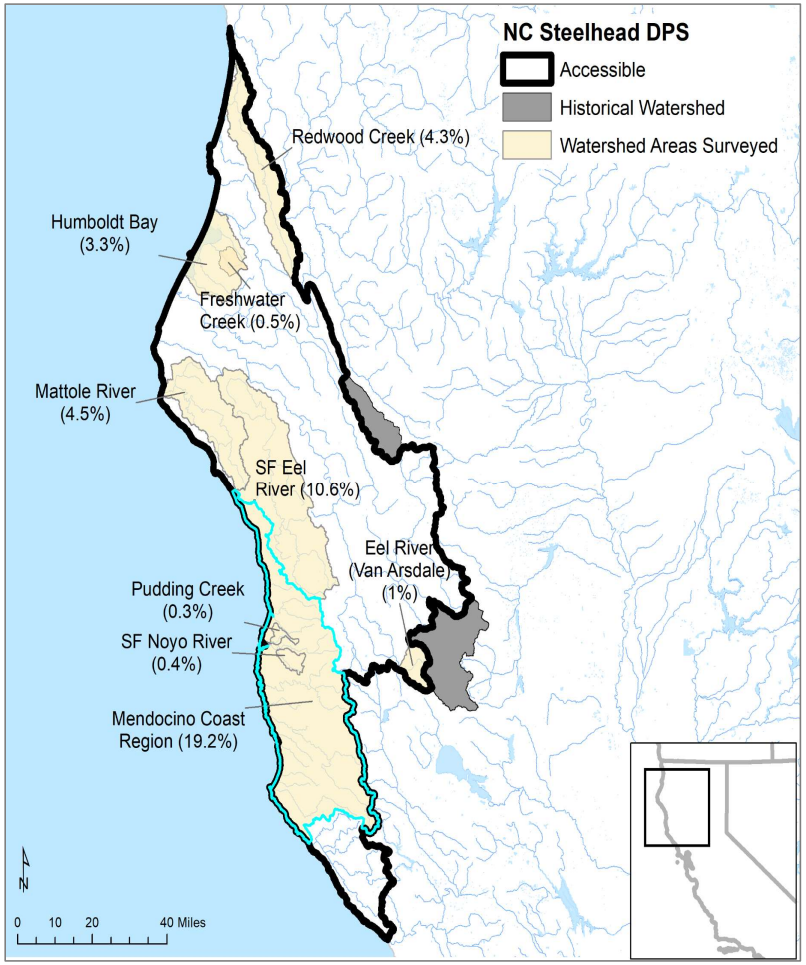


KLAMATH MOUNTAINS PROVINCE STEELHEAD DPS



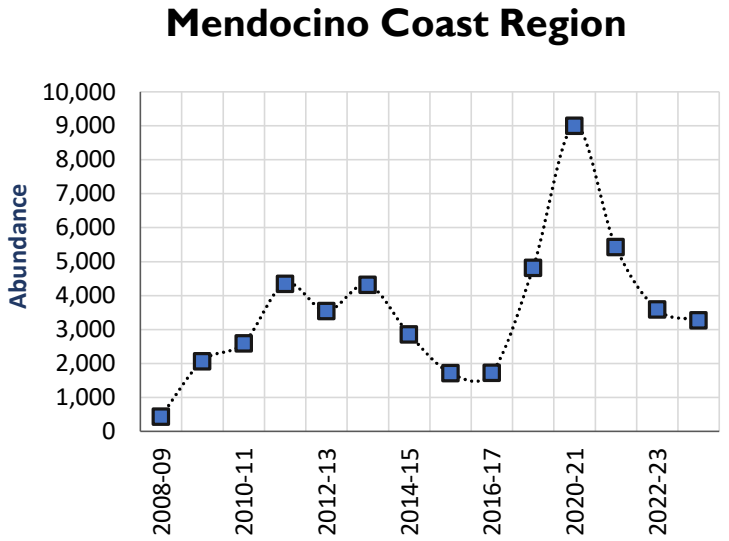




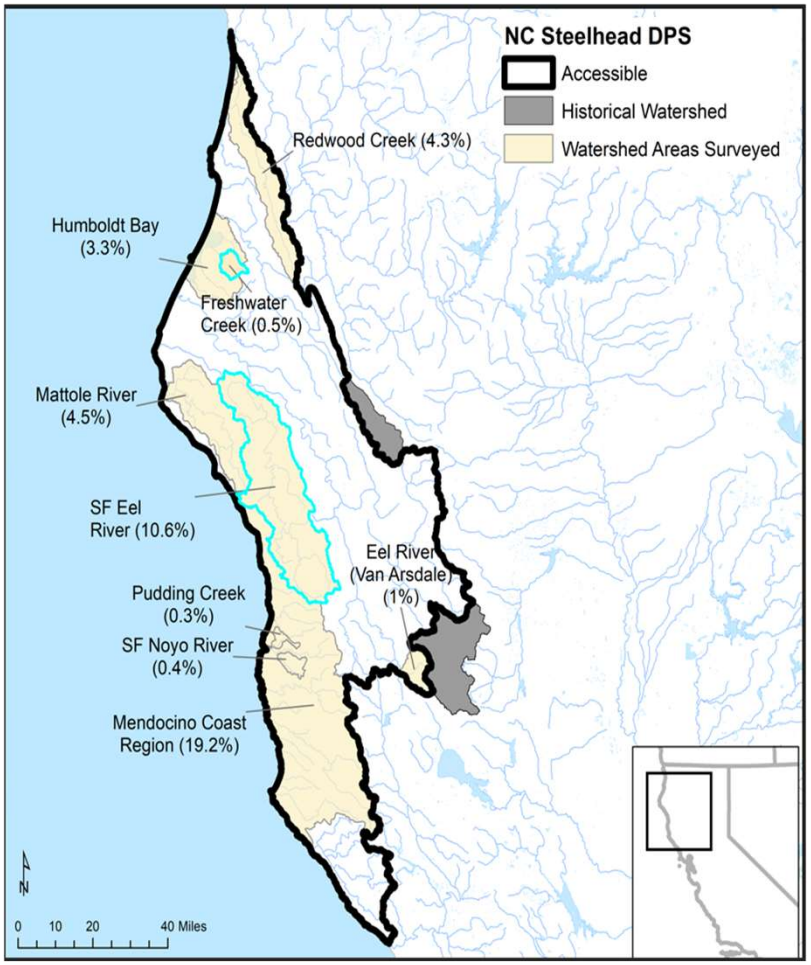


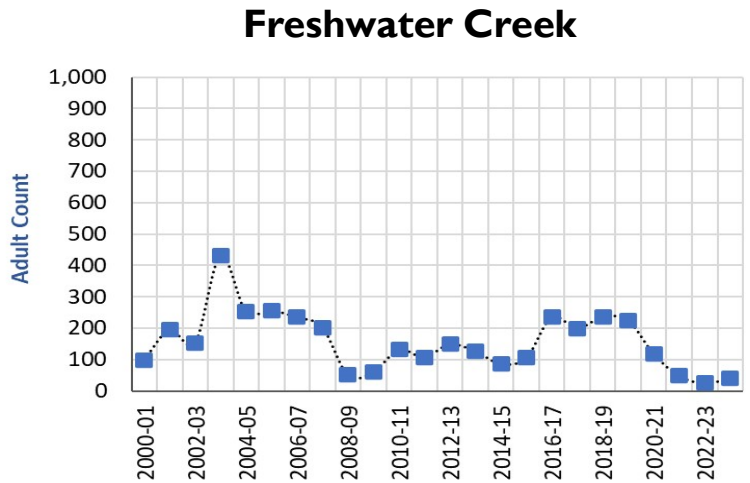
NORTHERN CALIFORNIA STEELHEAD DPS

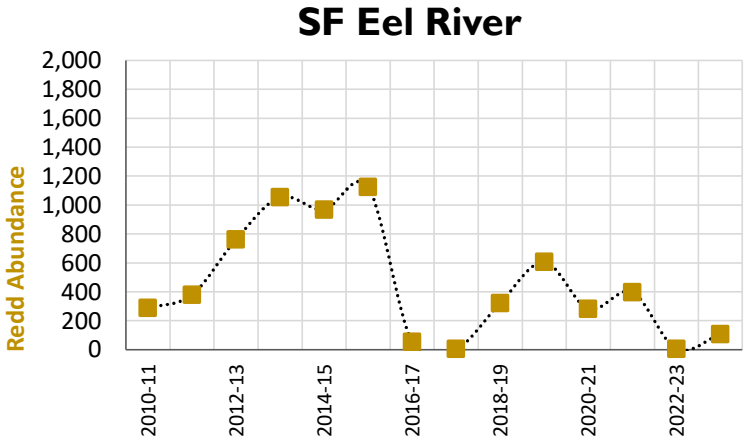
- Largest monitoring area sampled was Mendocino Coast Region
  - 3,239 km^2
  - 19% of accessible DPS



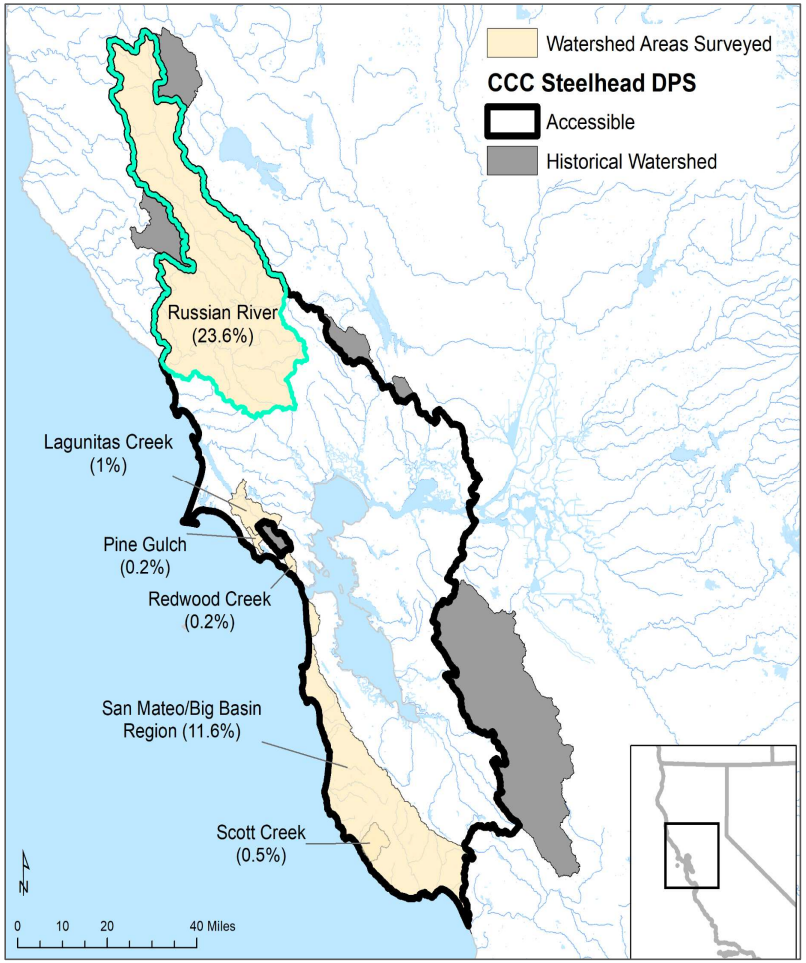
NORTHERN CALIFORNIA STEELHEAD DPS



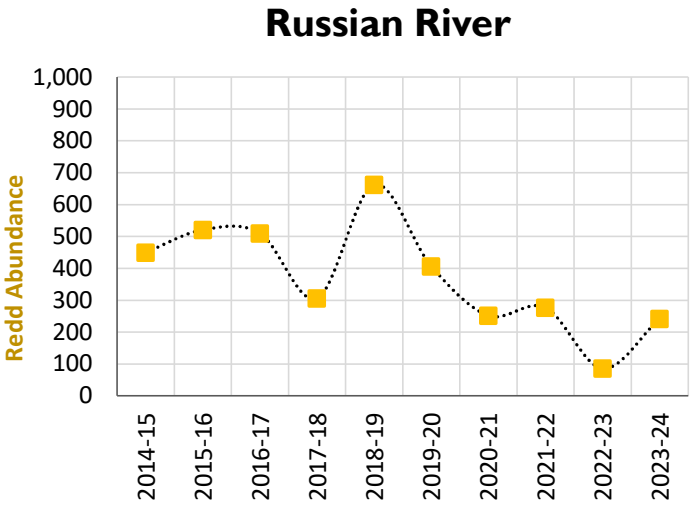




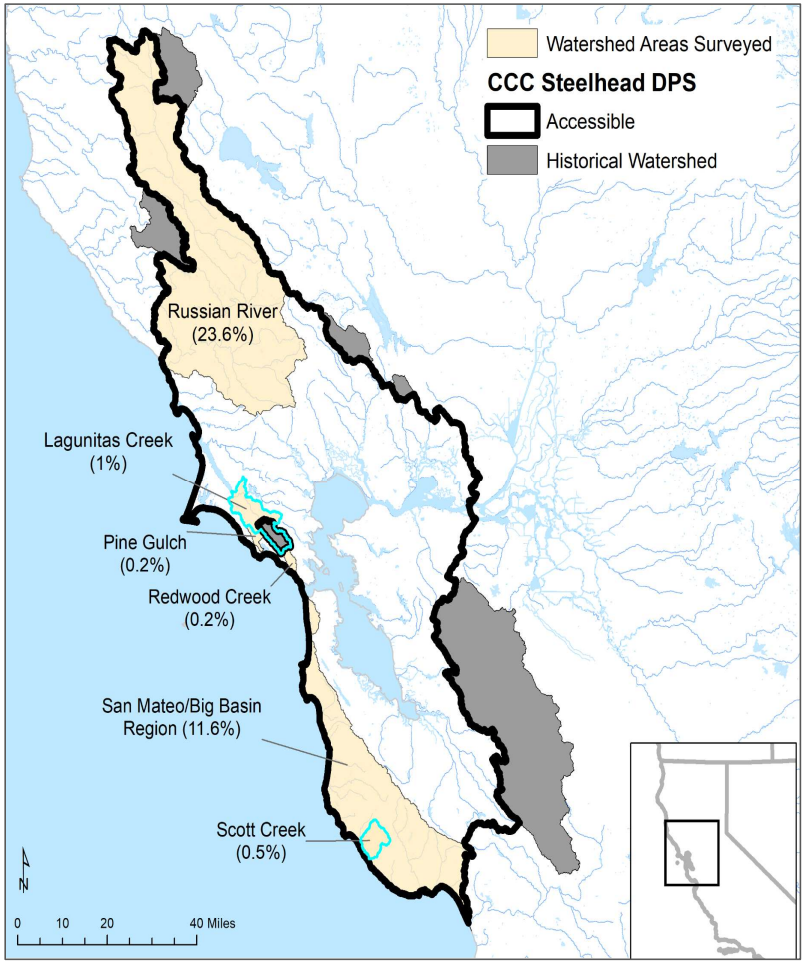
CENTRAL CALIFORNIA COAST STEELHEAD DPS

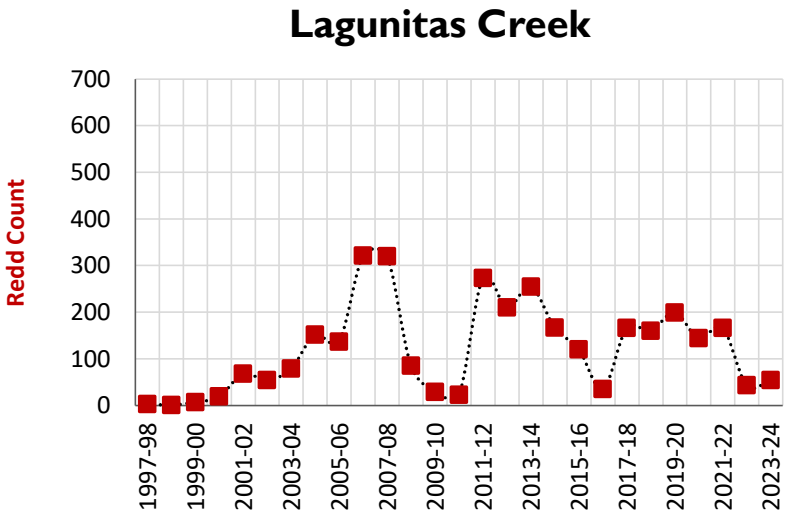


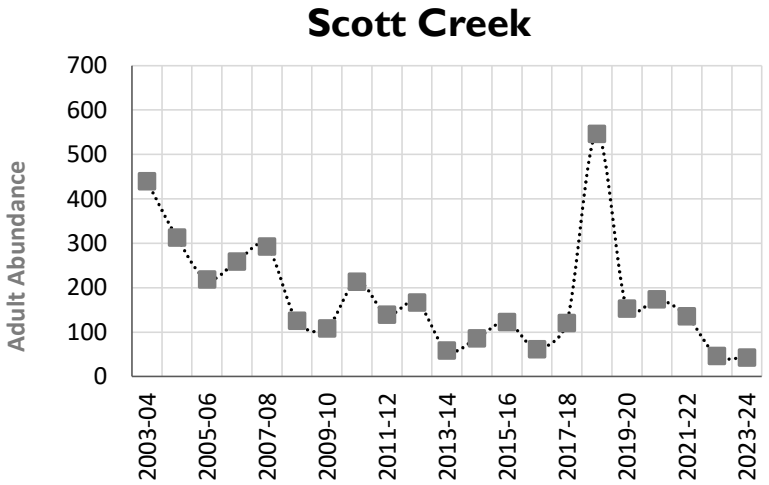
- Largest monitoring area sampled was Russian River watershed
  - 3,326 km^2
  - 24% of accessible DPS



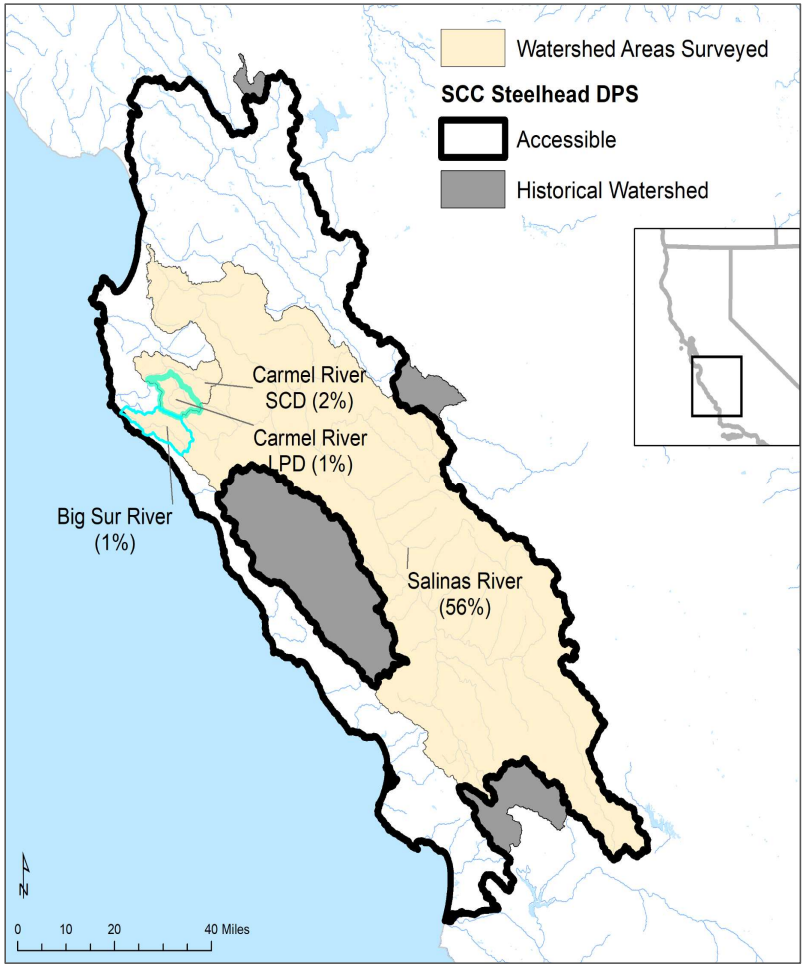
CENTRAL CALIFORNIA COAST STEELHEAD DPS

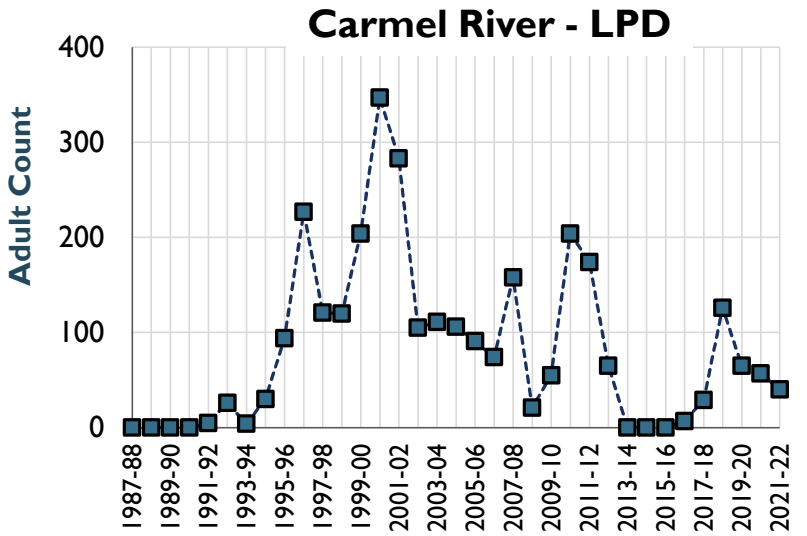


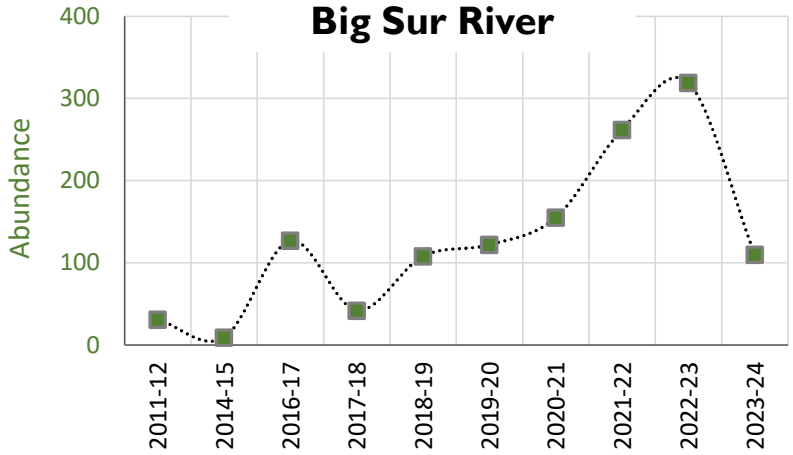




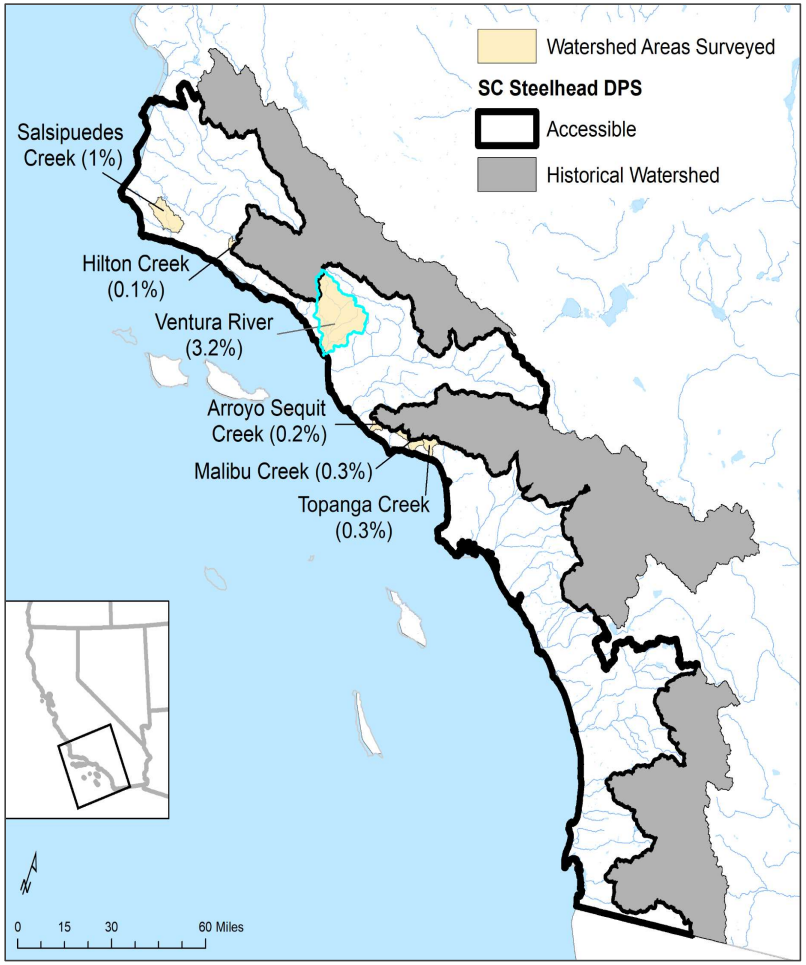
SOUTH-CENTRAL CALIFORNIA COAST STEELHEAD DPS



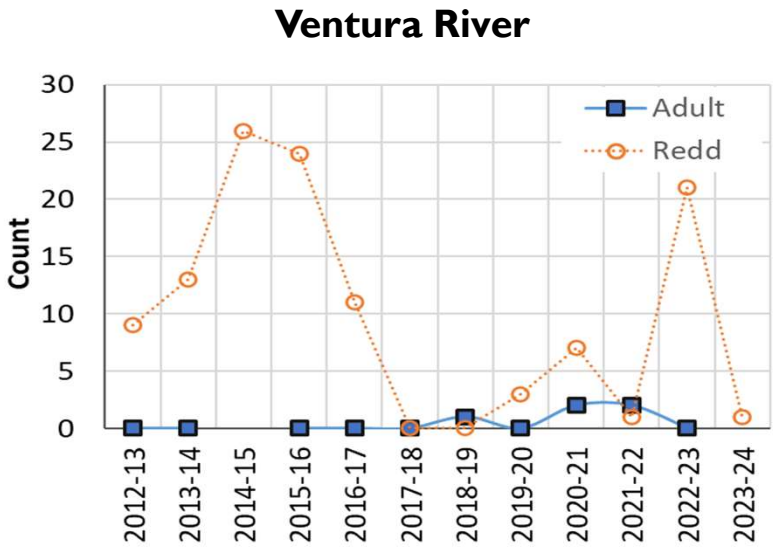




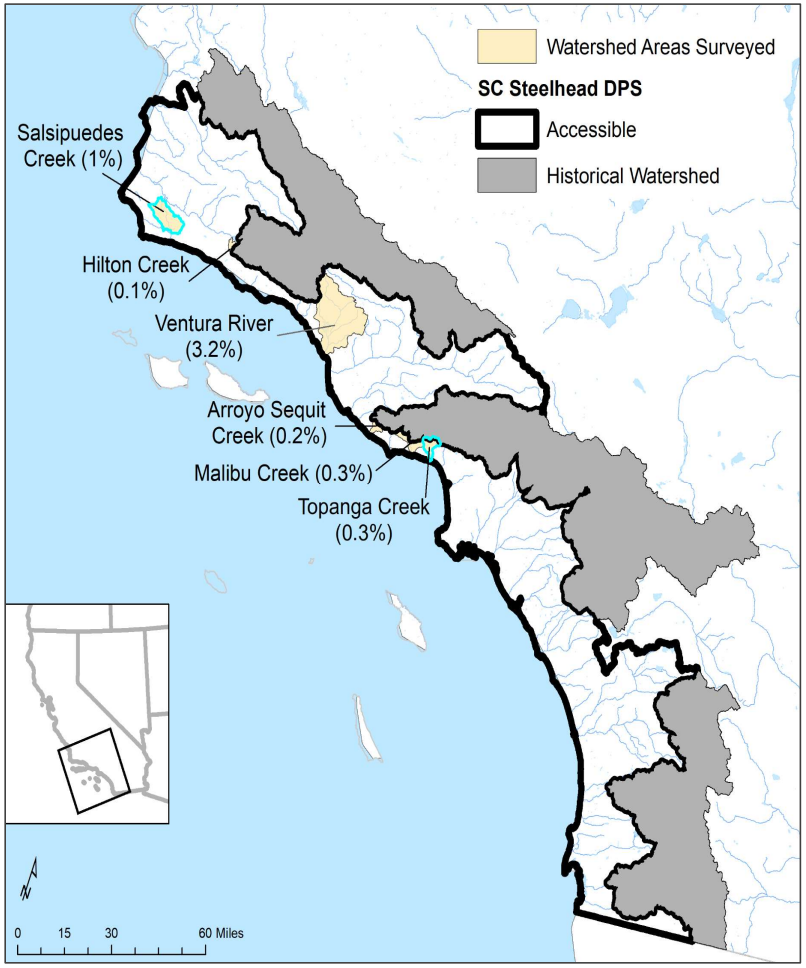
SOUTHERN CALIFORNIA STEELHEAD DPS

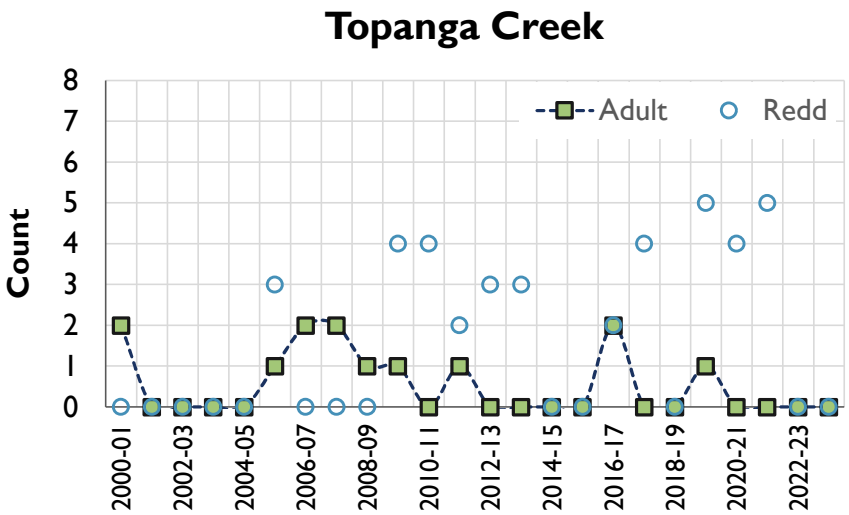


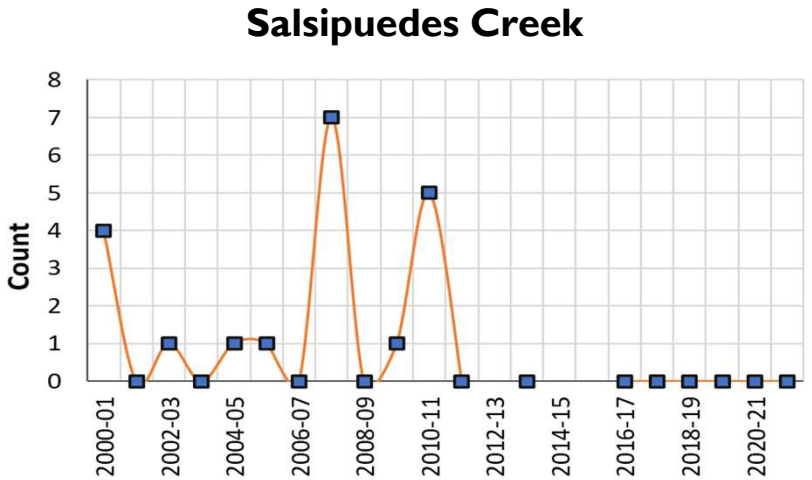
- Largest monitoring area sampled was Ventura River watershed
  - 584 km^2
  - 3.2% of accessible DPS

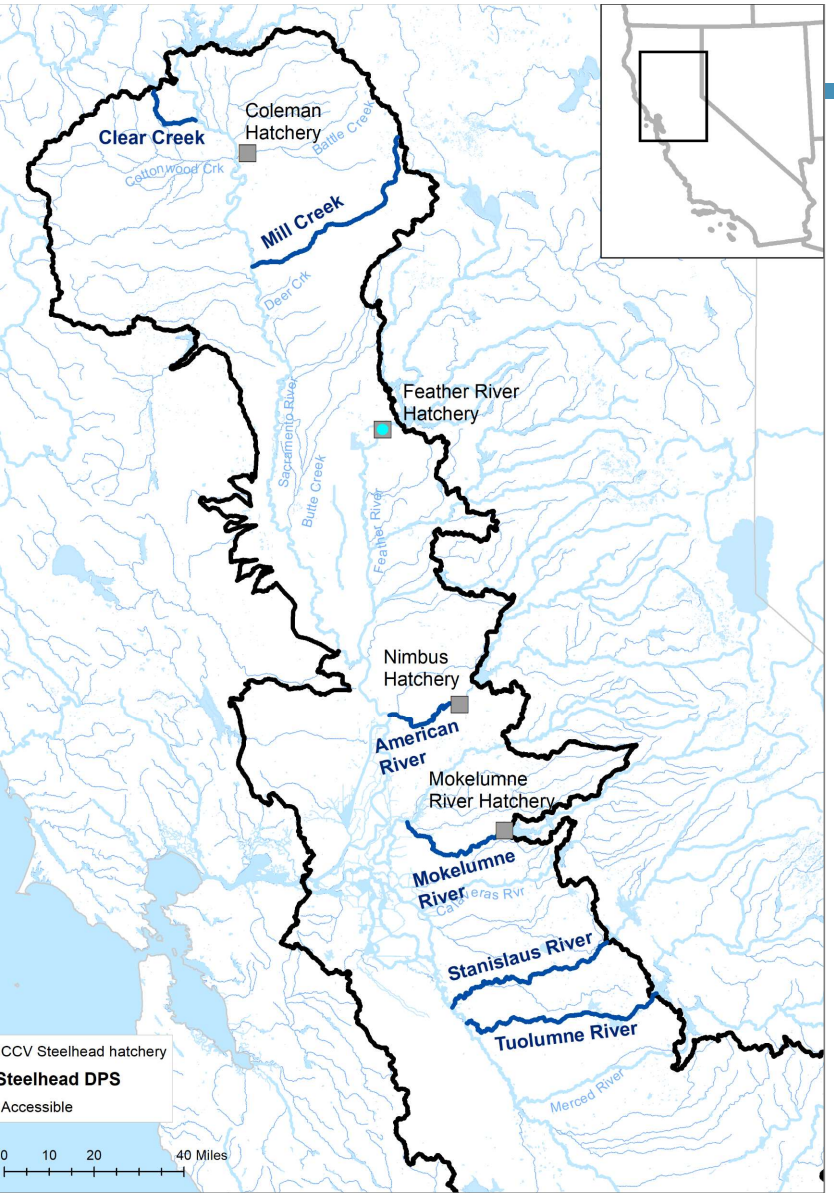


SOUTHERN CALIFORNIA STEELHEAD DPS





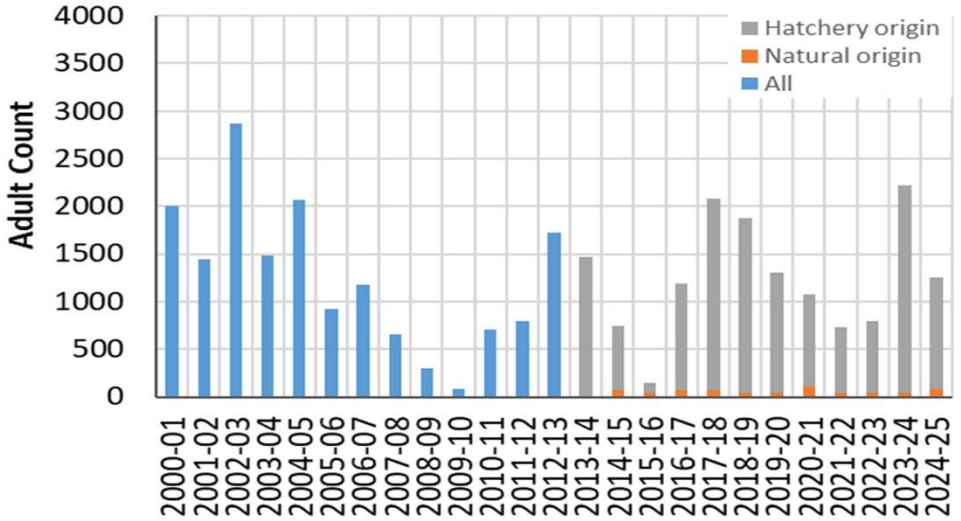


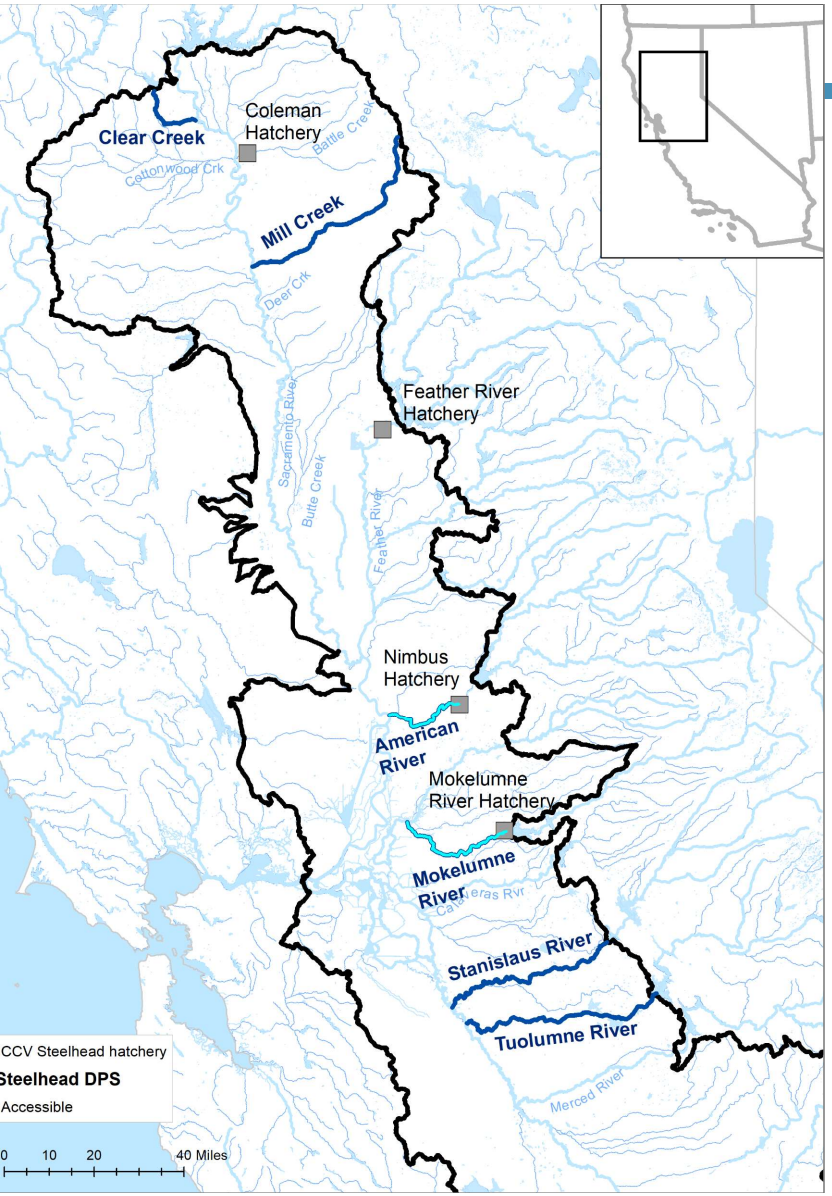


CENTRAL VALLEY STEELHEAD DPS

- Four hatcheries produce steelhead in the CCV
- Challenges in distinguishing resident and anadromous adults

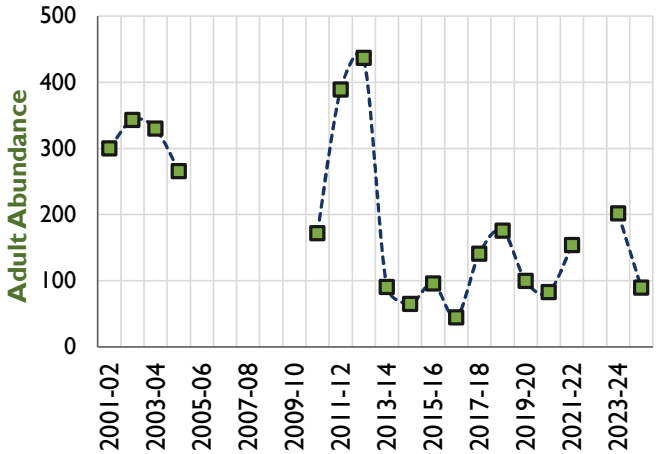
Feather River Hatchery



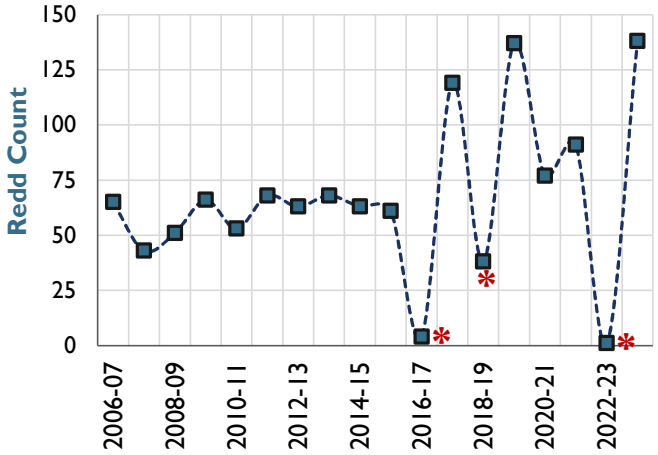


CENTRAL VALLEY STEELHEAD DPS

American River



Mokelumne River



* incomplete