

# Proposed Readoption of Emergency Regulation for Scott River and Shasta River Watersheds

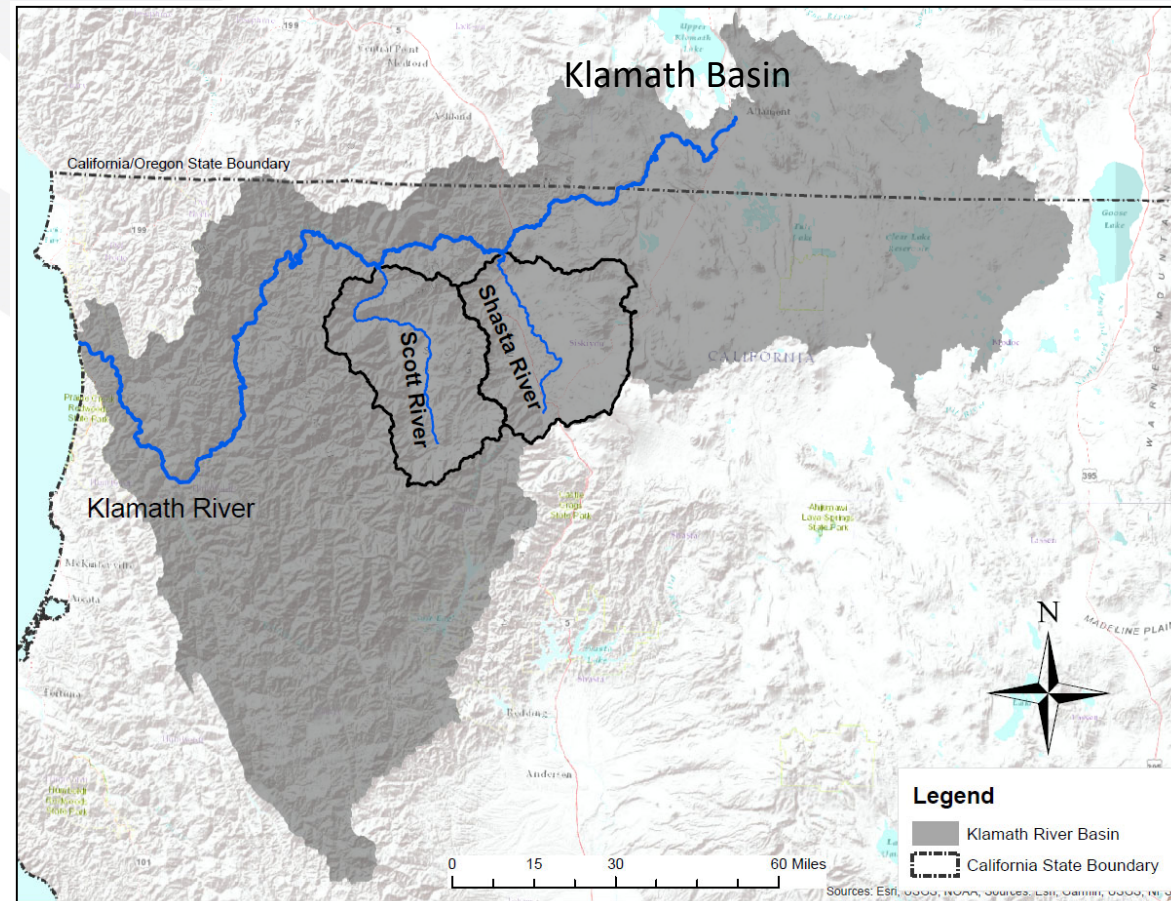
Agenda Item #4  
January 7, 2025 Board Meeting



Division of Water Rights

# Presentation Outline

- Recent Related Items
- Emergency Authority & Current Conditions
- During the Emergency Regulation
- California Department of Fish and Wildlife's (CDFW's) Presentation
- Highlights Related to November Outreach
- Proposed Regulation Overview (updates and change sheet highlighted)
- Comments
- Next Steps



## Recent Board Items Related to Today's Proposed Action

- February 1, 2024: Current emergency regulation effective (expires Jan 31, 2025)
- October 16, 2024: Board adopts [Resolution No. 2024-0036](#) providing direction on immediate and longer-term flow efforts, including exploring potential readoption of emergency regulation or alternatives thereto
- November 12, 2024: Public meeting held to solicit input on potential readoption of emergency regulation, changes to the regulation (if readopted), and alternatives thereto
- Ongoing Outreach:
  - Biweekly Scott-Shasta flows subgroup meetings
  - Meetings with County and Watermaster staff
  - Other meetings and communications



# Emergency Authority

- Water Code, section 1058.5 allows Board to adopt emergency regulations to address a declared drought emergency
  - May 10, 2021, Governor Newsom declares drought emergency for 41 counties including Siskiyou County
  - March 24, 2023, terminates drought provisions in select watersheds, but explicitly keeps drought fishery protection terms for Klamath River watershed
  - September 4, 2024, terminates drought provisions in select watersheds, but explicitly keeps drought fishery protection terms for Klamath River watershed

EXECUTIVE DEPARTMENT  
STATE OF CALIFORNIA

PROCLAMATION OF A STATE OF EMERGENCY

**WHEREAS** climate change is intensifying the impacts of droughts on our communities, environment, and economy, and California is in a second consecutive year of dry conditions, resulting in drought or near-drought throughout many portions of the State; and

**WHEREAS** recent warm temperatures and extremely dry soils have further depleted the expected runoff water from the Sierra-Cascade snowpack, resulting in a historic and unanticipated estimated reduction of 500,000 acre feet of water – or the equivalent of supplying water for up to one million households for one year – from reservoirs and stream systems, especially in the Klamath River, Sacramento-San Joaquin Delta, and Tulare Lake Watersheds; and

**WHEREAS** the extreme drought conditions through much of the State present urgent challenges, including the risk of water shortages in communities, greatly increased wildfire activity, diminished water for agricultural production, degraded habitat for many fish and wildlife species, threat of saltwater contamination of large fresh water supplies conveyed through the Sacramento-San Joaquin Delta, and additional water scarcity if drought conditions continue into next year; and

**WHEREAS** Californians have saved water through conservation efforts, with urban water use approximately 16% below where it was at the start of the last drought years, and I encourage all Californians to undertake actions to further eliminate wasteful water practices and conserve water; and

**WHEREAS** on April 21, 2021, I issued a proclamation directing state agencies to take immediate action to bolster drought resilience and prepare for impacts on communities, businesses, and ecosystems, and proclaiming a State of Emergency to exist in Mendocino and Sonoma counties due to severe drought conditions in the Russian River Watershed; and

**WHEREAS** additional expedited actions are now needed in the Klamath River, Sacramento-San Joaquin Delta, and Tulare Lake Watersheds; and

**WHEREAS** it is necessary to expeditiously mitigate the effects of the drought conditions within the Klamath River Watershed Counties (Del Norte, Humboldt, Modoc, Siskiyou, and Trinity counties), the Sacramento-San Joaquin Delta Watershed Counties (Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, El Dorado, Fresno, Glenn, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Joaquin, Shasta, Sierra, Siskiyou, Solano, Stanislaus, Sutter, Tehama, Trinity, Tuolumne, Yolo, and Yuba counties), and the Tulare Lake Watershed Counties (Fresno, Kern, Kings, and Tulare counties) to ensure the protection of health, safety, and the environment; and

**WHEREAS** under Government Code Section 8558(b), I find that the conditions caused by the drought conditions, by reason of their magnitude, are or are likely to be beyond the control of the services, personnel, equipment, and facilities of any single local government and require the combined forces of a mutual aid region or regions to appropriately respond; and



# Current Conditions in Scott-Shasta

- Klamath River watershed has been experiencing ongoing, long-term drought since 2000, with periods of extreme drought punctuated with periods of improved conditions with impacts to fisheries throughout this period; emergency minimum flow requirements are not met without curtailment during most, recent water years
- This has contributed to fishery declines, including
  - West Coast ocean salmon commercial and recreational fishing and in-river salmon sport fishing shutdown multiple times in the last 20 years, including most recently in 2023 and 2024
  - In the same time frame tribal fishing, including at various times ceremonial, subsistence and commercial fishing repeatedly closed
- Fish impacted by most recent severe drought conditions will be returning in Fall 2025, specifically coho that out-migrated in 2022 and fall-run Chinook that generally out-migrated in 2022-23

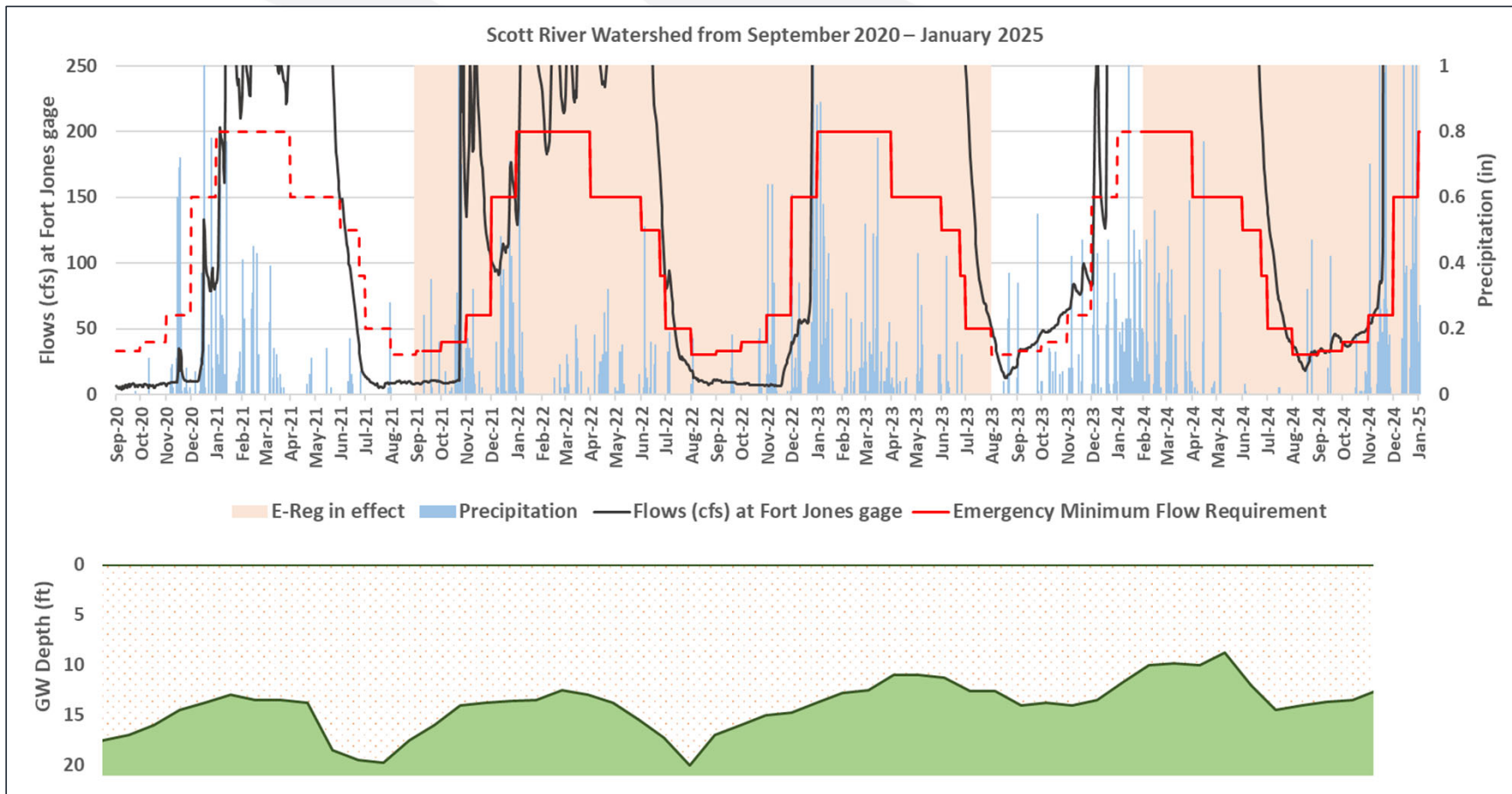
# Current Conditions in Scott-Shasta (cont.)

- Snow water equivalent is estimated to be well above average for this time of the year; however,
  - Snowpack at this time of year is not a good indicator of the cumulative snowpack for the water year or of flows during drier months,
  - High flow events and/or localized flooding are not a good indicator of river flows in drier periods
  - Most snowpack in the Klamath River watershed falls between January – March; snowpack is dynamic and can rise and fall rapidly throughout Winter, as seen with 8-inch snowmelt event at Scott Middle Boulder 3 station January 1-2, 2025
  - Water availability for the Scott River and Shasta River watersheds in Summer 2025 highly depends on the cumulated snowpack in April and May

# During Emergency Regulation

- Improved flow during Chinook, coho, and steelhead migration
- Improved water temperatures
- Improved juvenile rearing habitat (Scott tributaries)
- Improved groundwater elevation (Scott) that supports:
  - Earlier surface water connection
  - Increased cold water discharge
- Improved canyon habitat conditions (Shasta)
- Improved understanding of watersheds + data
  - GW Metering, ET Stations, Stream Gages – contract underway with USGS for limited period, County GW Levels
- Increased dialogue
- Water efficiency projects with long-term effects

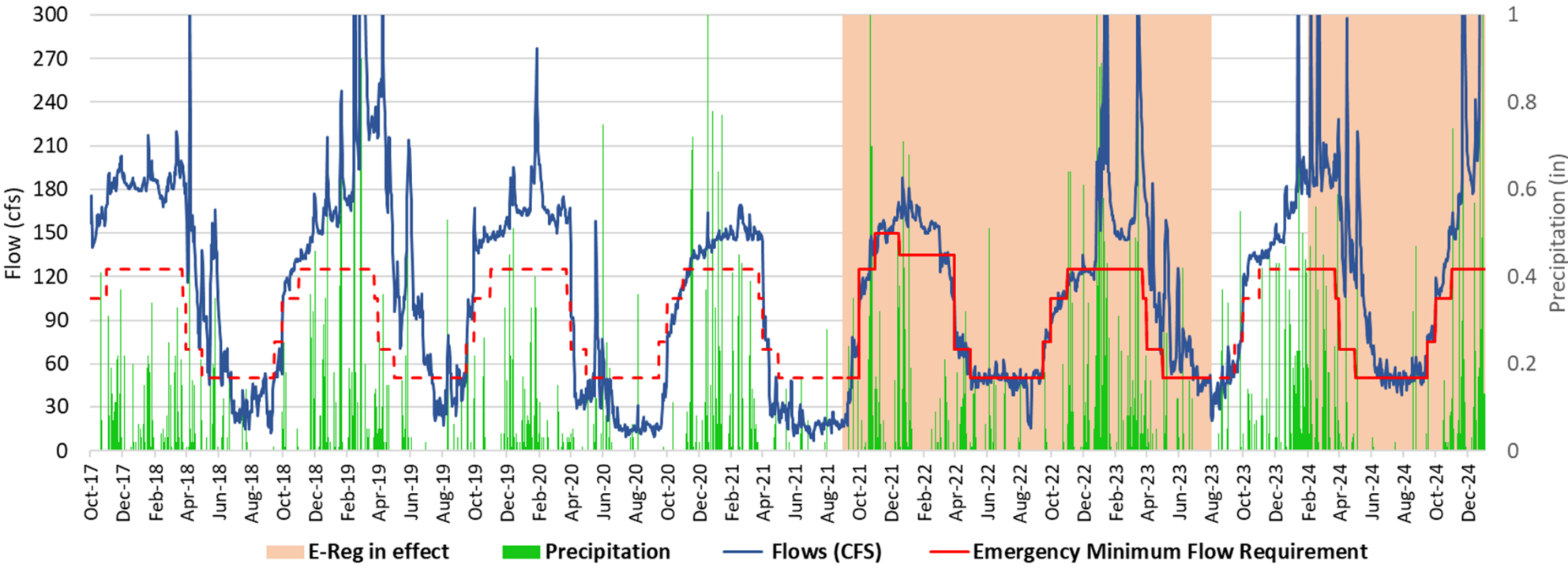
# Scott River Flow Conditions (under regulation)





# Shasta River Flow Conditions (under regulation)

USGS Yreka Gage flows compared to the Shasta River minimum flow requirements: Oct 2017-Jan 2025



# Summary of Groundwater Metering (under groundwater local cooperative solutions)

- Metering is big undertaking and area for improvement
  - Need for timely installation of meters, collection and submittal of water use data
- Under Groundwater Local Cooperative Solutions:
  - 59 meters for 2024 irrigation season (covering 5,543 acres)
  - 62 new meters after 2024 irrigation season (covering 5,671 additional acres)
    - 23 pursued National Resource Conservation Service funding
  - 7 groundwater wells met the less than 30-acre criterion

**\* Financial assistance underused and continues to be available for metering equipment \***

# Summary of Groundwater Metering (under groundwater local cooperative solutions)

- 2024 Example of Metering Benefit Related to Estimating Water Usage
  - Fields with alfalfa and small grain rotation, and seasonal pasture
  - April – September Totals
    - Estimated Baseline Water Use: 159 in/ac
    - Groundwater Local Cooperative Solution Target Use: 109 in/ac (under 30 percent reduction)
    - Actual Metered Water Use: 44 in/ac (~70% less than estimated baseline)
- Other benefits of metering
  - Increase irrigation efficiency
  - Identification of leaks and system loss
  - Reduce water pumped and associated energy costs

**\* Financial assistance available for metering equipment \***



# SHASTA & SCOTT RIVER EMERGENCY DROUGHT REGULATION INSTREAM FLOW SETTING PROCESS

**JANUARY 7TH, 2024**

**PRESENTED BY:**

Crystal Robinson, California Department of  
Fish and Wildlife

Klamath Watershed Program Yreka, CA



# Presentation Outline

Trustee Agency

Scott and Shasta Fisheries Update

- Current Update
- Klamath Dam Removal

Emergency Instream Flow Recommendations

- Scott and Shasta Juvenile and Adult Summer Rearing
- Scott Watershed Connectivity Surveys
- Shasta Canyon - Why 50 cfs?
- Local Cooperative Solutions Equal or Better – Case Study: French Creek

Summary/Closing

# CDFW Trustee For Fish and Wildlife Agency Role

As trustee for California's fish and wildlife resources, CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species.



Shasta River Chinook Salmon, photo credit: The Nature Conservancy

# Scott & Shasta Fisheries Update

# Scott & Shasta River Adult Salmonid Update

Adult Salmon Video Weir  
Data (Preliminary):

Scott River (as of 12/13)

Chinook: 599

Coho: 706

Shasta River (as of 12/23)

Chinook: 4,944

Coho: 41

Steelhead escapement will  
be reported in the end of  
season report.



Chinook Salmon passing through the Shasta River video fish counting station. 9/8/2024 CDFW Klamath River Project



# Klamath Dam Removal

## Water Quality Conditions

- Increased Suspended Sediment Concentrations
- Decreased Dissolved Oxygen
- Changes to Water Temperature

## Assumed Fisheries Response

- Migration Timing Shift



Demolition of Copco 1. Photo credit: Shane Anderson of Swiftwater Films

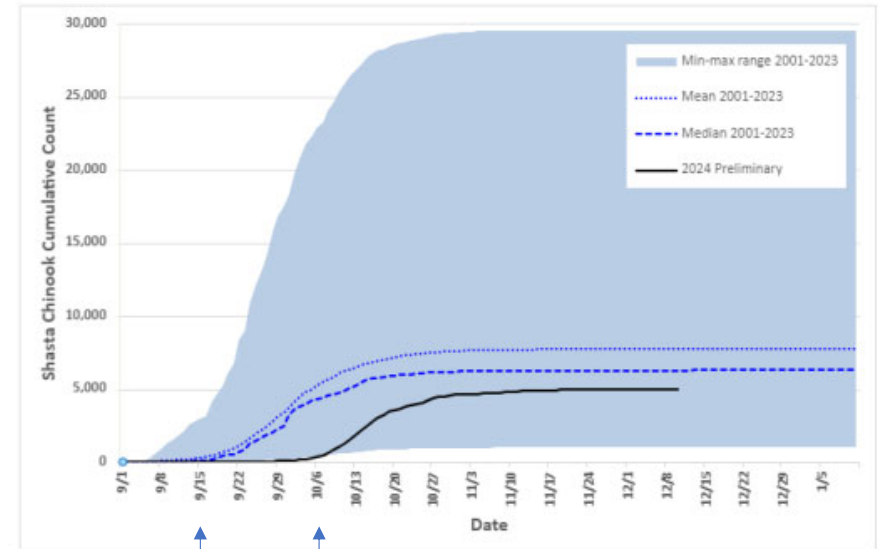
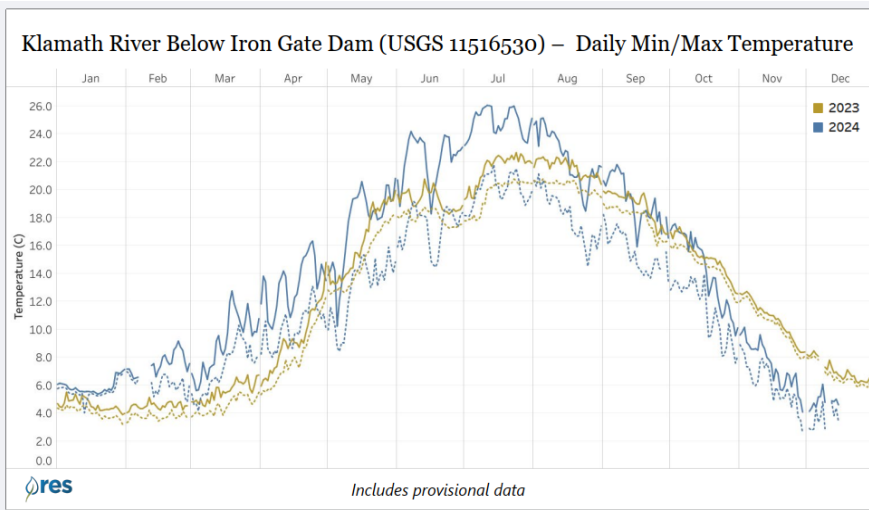
# 2024 Migration Timing Shifts – Scott & Shasta

## Scott River

- Chinook ~ 1.5 -2 weeks later than median/mean
- Coho ~ same migration timing

## Shasta River

- Chinook ~ 3 weeks later than median/mean
- Coho ~ 2 weeks later than median/mean



22-yr Median & Mean  
Run Timing Begins

2024 Run Timing Began

# Emergency Instream Flow Recommendation - Results

# Scott River – Baseflow Canyon Fish Surveys

## 2022 – Presence/Absence Survey

- Juvenile O.mykiss, Chinook & Coho present

## 2023 – Presence/Absence/Enumeration & Adult Dive Survey

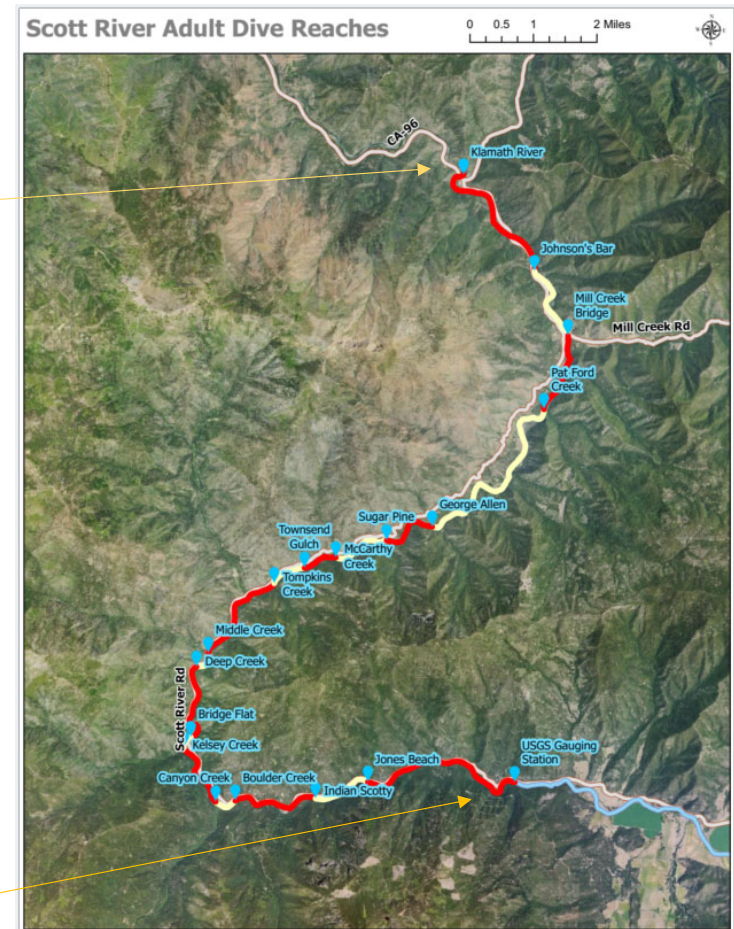
- Juvenile O.mykiss, Chinook & Coho present
- August 15<sup>th</sup> :
  - Adult steelhead (n=52)
  - Pacific lamprey (n=23)

## 2024 – Adult Dive Survey

- August 7<sup>th</sup> :
  - Adult steelhead (n=67)
  - Pacific lamprey (n=2)

Klamath/Scott  
Confluence

USGS Fort Jones  
Flow Gage





# Shasta River – Big Springs & Canyon Baseflow Surveys

## 2022 – Presence/Absence Survey

- Canyon : O.mykiss present
- Big Springs Complex: O.mykiss present

## 2023 – Presence/Absence/ Enumeration Survey

- Canyon: Chinook & O.mykiss present
- Big Springs Complex: O.mykiss present

## 2024 – Enumeration Survey

- Canyon (CDFW): Chinook & O.mykiss present
- Big Springs Complex (Karuk Tribe): O.mykiss present

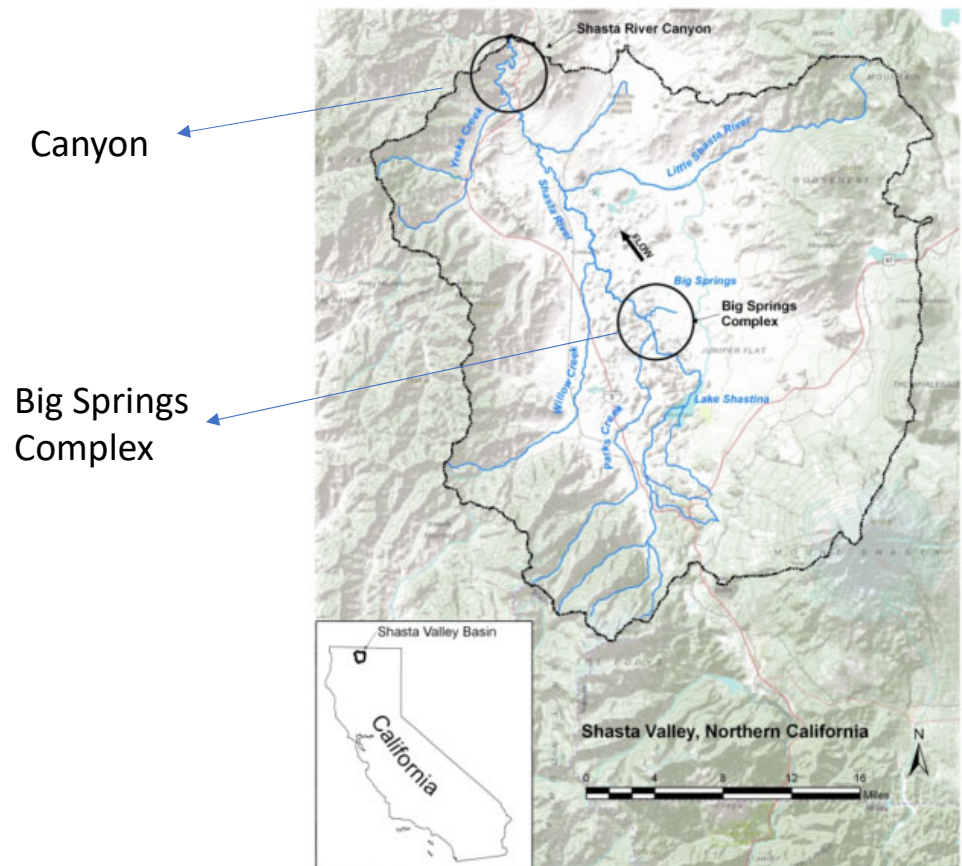


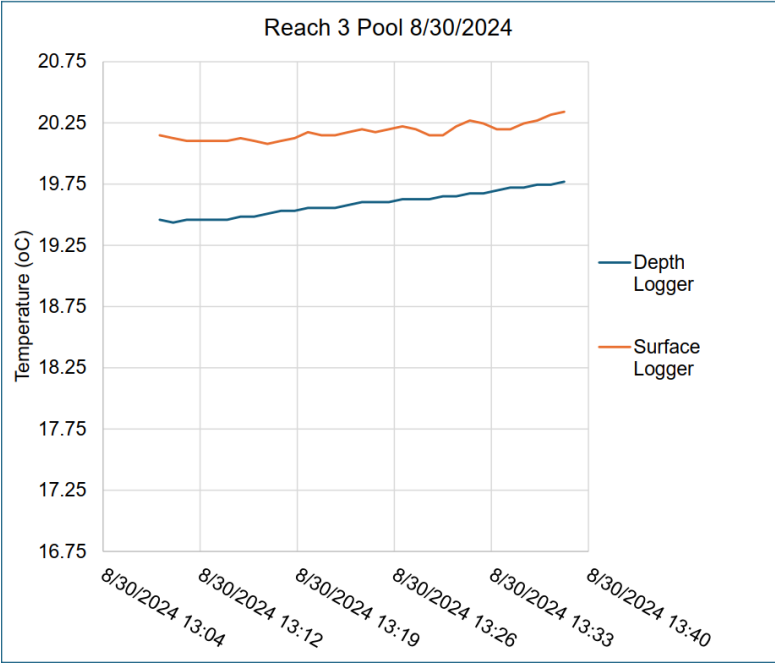
Figure 1. The Shasta River Basin, Big Springs Complex, and Shasta Canyon, Siskiyou County, CA.

Map Data Source: 2014 McBain and Trush Shasta River Canyon Instream Flow Needs Assessment

# Shasta Canyon Habitat Features



- Seeps
- Side Channels
- Stratified Pools



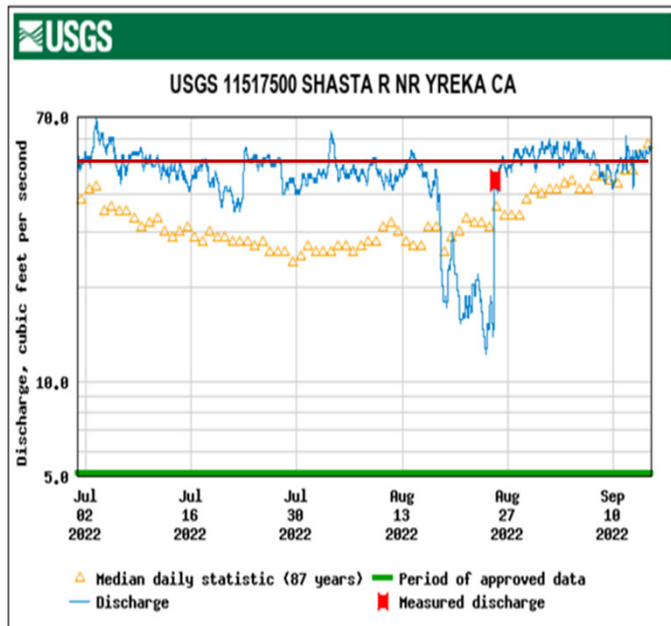
# Shasta Canyon – Why 50 cfs?

- Best Available Science
  - McBain and Trush Shasta River Canyon Instream Flow Needs Assessment 2014
- Evidence Through Implementation
  - RWQCB 2022 Temperature Analysis Memo
  - CDFW surveys 2021-2024: fish presence and habitat investigations
- Fish are Protected
  - Range of flows during drought regulation implementation

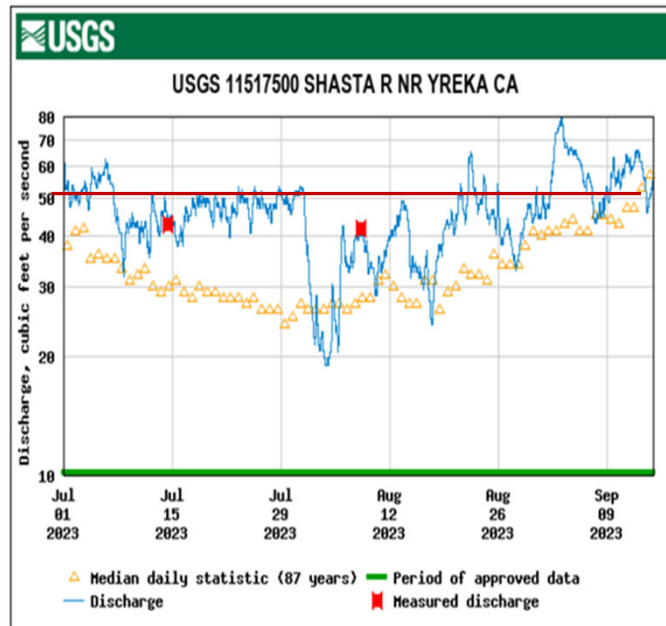




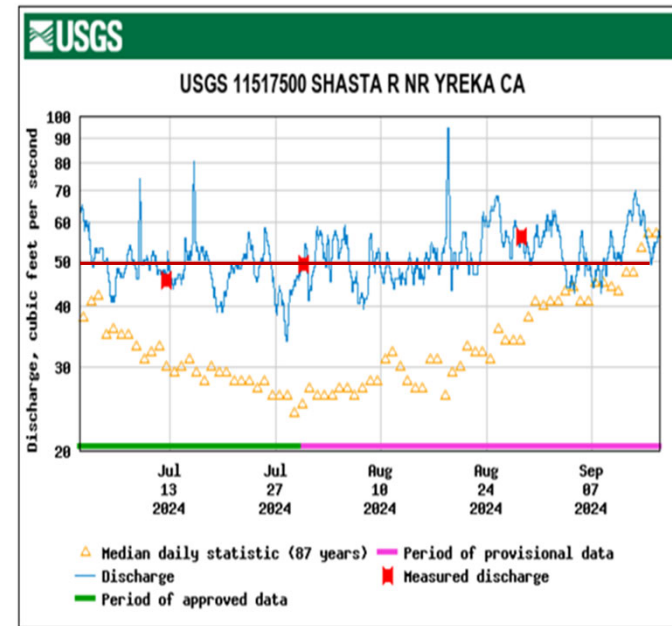
# Shasta Canyon Flow Fluctuations July 1<sup>st</sup> – September 14<sup>th</sup>



2022



2023



2024

# Local Cooperative Solutions (LCS)



# Case Study for Research LCS Equal or Better Determination

## Local Cooperative Solutions

1. Reduce water use or,
2. Preserve drought emergency minimum flows or,
3. Other fishery benefits

## French Creek LCS 2024 Benefits

1. Landowner access
2. Fish and habitat survey

French Creek	
September Condition Pre-Regulation	September 2024 LCS
0.5 cfs	3 cfs
isolated pools	fully connected
No Survey Access	Survey Access Granted

# Summary: Flows for Scott & Shasta Rivers

- CDFW is supportive of the development of Baseline Minimum Flow Requirements
- LCS tools may be a valuable tool for future consideration
- CDFW is looking forward to collaborating with all parties in providing information on the Scientific Basis Report



# Highlights from Nov. 2024 Comments

- No alternatives submitted
- Request for minimum instream flows for tributaries and other locations
  - Not recommended at this time due to lack of gages with appropriate ratings and lack of flow targets for alternate locations
  - Different perspectives on whether such locations additional or alternative
- Timing of Curtailments
  - Curtailments initiated or lifted to best achieve flow targets, and may require some buffer to avoid rapid decreases in flow
  - Watermaster provides for more direct management in Shasta
- Concern regarding lack of enforcement

# Proposed Changes to Regulation (Section 875) Local Cooperative Solutions

- Groundwater Local Cooperative Solution Metering Requirement
  - Wells and/or point of application (e.g., pivots)
  - "Daily" pumping records changed to "weekly"
- Acceptance of late groundwater local cooperative solution requests with valid justification
- Clarifications related to groundwater local cooperative solution inspections
  - Photos and location coordinates for compliance purposes
  - Notice of inspections can be by phone or e-mail
- Clarification for CDFW 'equal or better' determination

**\* Financial assistance still available for metering equipment \***

# Additional Proposed Changes to Regulation

- Section 875: Allowance for alternative flows in Shasta River to evaluate for equal or better conditions
- Section 875: Continuation of existing curtailment orders, certifications, petitions, and approvals
- Section 875.2: Clarification on minimum human health and safety exception for fire-fighting
- Section 875.7: CDFW may notify Board of need to limit inefficient livestock diversions when flows needed to support fish passage for adult migration
- Section 875.9: Remove outdated penalties



# Proposed Regulation Comment Summary + Proposed Updates

(December 27, 2024 – January 2, 2025)

- Siskiyou County Farm Bureau
  - Two-week flow study too limiting
  - Specify temperature as goal of Shasta study
  - Goal of study should not be improvement, but equal or better determination
    - Change Sheet #1 removes specific two-week duration and clarifies that alternate flows may be implemented to evaluate equal or better conditions
- California Farm Bureau
  - Water Code provision related to emergency regulations in certain water years does not or should not apply, given hydrology
  - Inability to meet baseline flows even through curtailment
  - Should not focus on downstream meters
  - Board is not appropriately balancing needs
  - Fishery decline more than just watershed, agriculture
  - Seeks to continue working together to define acceptable alternatives

# Proposed Regulation Comment Summary + Proposed Updates

(December 27, 2024 – January 2, 2025)

- Environmental Law Foundation
  - Supports readoption of emergency regulation
  - Reiterate comments in November 20<sup>th</sup> letter for changes to regulation:
    - Need to tighten groundwater extraction limits for groundwater local cooperative solutions;
    - Provide protections for key tributaries – tributary-specific flows requirements to ensure connectivity
    - Improve transparency – less redactions of LCS applications, availability of public comments on proposed LCSs, updates on metering efforts and data collected
  - Concern with adding information access as an element of CDFW's 'equal or better' local cooperative solution determination
    - Existing Information Order Authority
    - Concern regarding meeting flow requirements
    - Concern regarding encouraging information withholding

# Fiscal Impacts

- Estimation of cost to state and local agencies and governments – primarily for water supply agencies:
  - \$1.56 million (expected-range); \$2.3 million (extreme-drought); \$374,000 (above-average WY)
- Estimated costs:
  - **Revenue losses for municipal water supply agencies:** \$765,752 (expected-range), \$972,668 (extreme-drought), \$286,750 (above-average)
  - **Revenue losses for non-municipal water supply agencies:** \$263,445 (expected-range), \$485,550 (extreme-drought), \$6,630 (above-average)
  - **County and state agricultural tax revenue losses:** \$464,535 (expected-range), \$776,094 (extreme-drought), \$11,811 (above-average)
    - Based on approximately \$6 million in total crop sale revenue loss (expected-range), \$10 million (extreme-drought), \$152,393 (above-average)
  - **Reporting costs:** \$69,621

# Next Steps for this Item

- If adopted by Board today:
  - File with Office of Administrative Law (OAL)
    - If approved by OAL, effective upon filing with the Secretary of State
    - 10 days OAL review
  
- \* Current emergency regulation expires January 31, 2025

# Stay Up-to-Date and Contact Information

- Scott-Shasta Drought Webpage:  
[https://www.waterboards.ca.gov/drought/scott\\_shasta\\_rivers/](https://www.waterboards.ca.gov/drought/scott_shasta_rivers/)
- Email:  
[ScottShastaDrought@waterboards.ca.gov](mailto:ScottShastaDrought@waterboards.ca.gov)
- Sign Up for Future Email Notifications:  
[https://www.waterboards.ca.gov/resources/email\\_subscriptions/](https://www.waterboards.ca.gov/resources/email_subscriptions/)
  - Select “Scott-Shasta Drought” under “Water Rights”