

Trinity River Restoration Program- science and flows in an adaptively managed regulated river

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Trinity River Restoration Program

US Bureau of Reclamation

Weaverville, CA

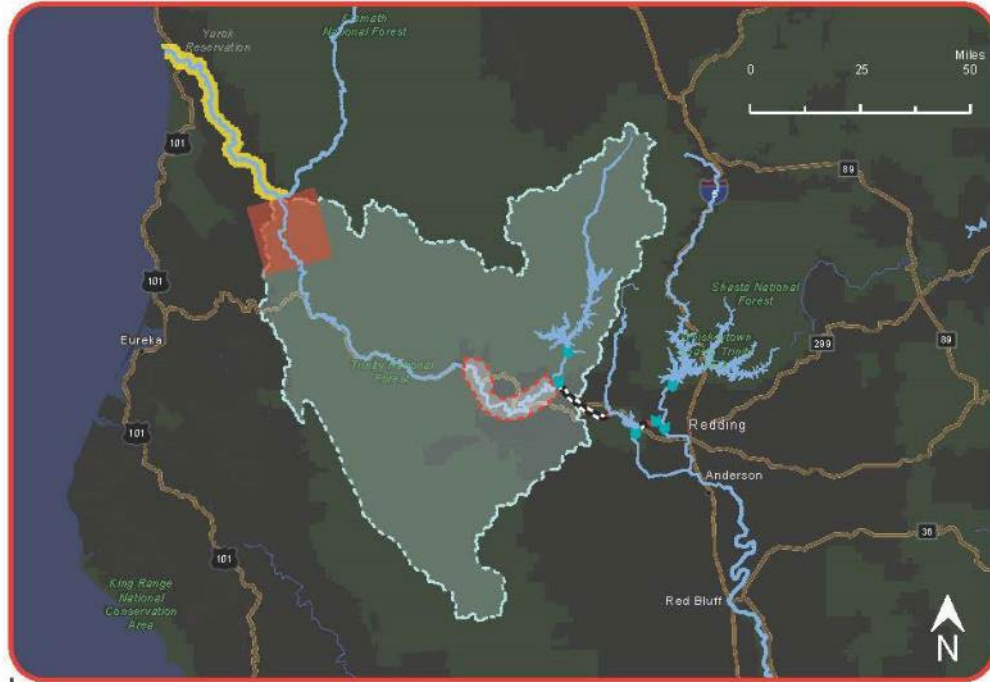
National Conference on Ecosystem
Restoration

Albuquerque, NM

April 16, 2024



Greater Trinity Watershed



Area Enlarged



Legend

- Greater Trinity Watershed
- Yurok Reservation
- Hoopa Valley Reservation
- Trinity River Restoration Program 40 Mile Restoration Reach
- Private Lands
- Public Lands
- Bureau of Reclamation Dam Infrastructure
- Bureau of Reclamation Tunnel Infrastructure

Date: 1/9/2023
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Anadromous Fish



Spring and fall Chinook



Coho



Winter and summer steelhead



Pacific lamprey

Dredger Mining

Photo Courtesy of Trinity Historical Society

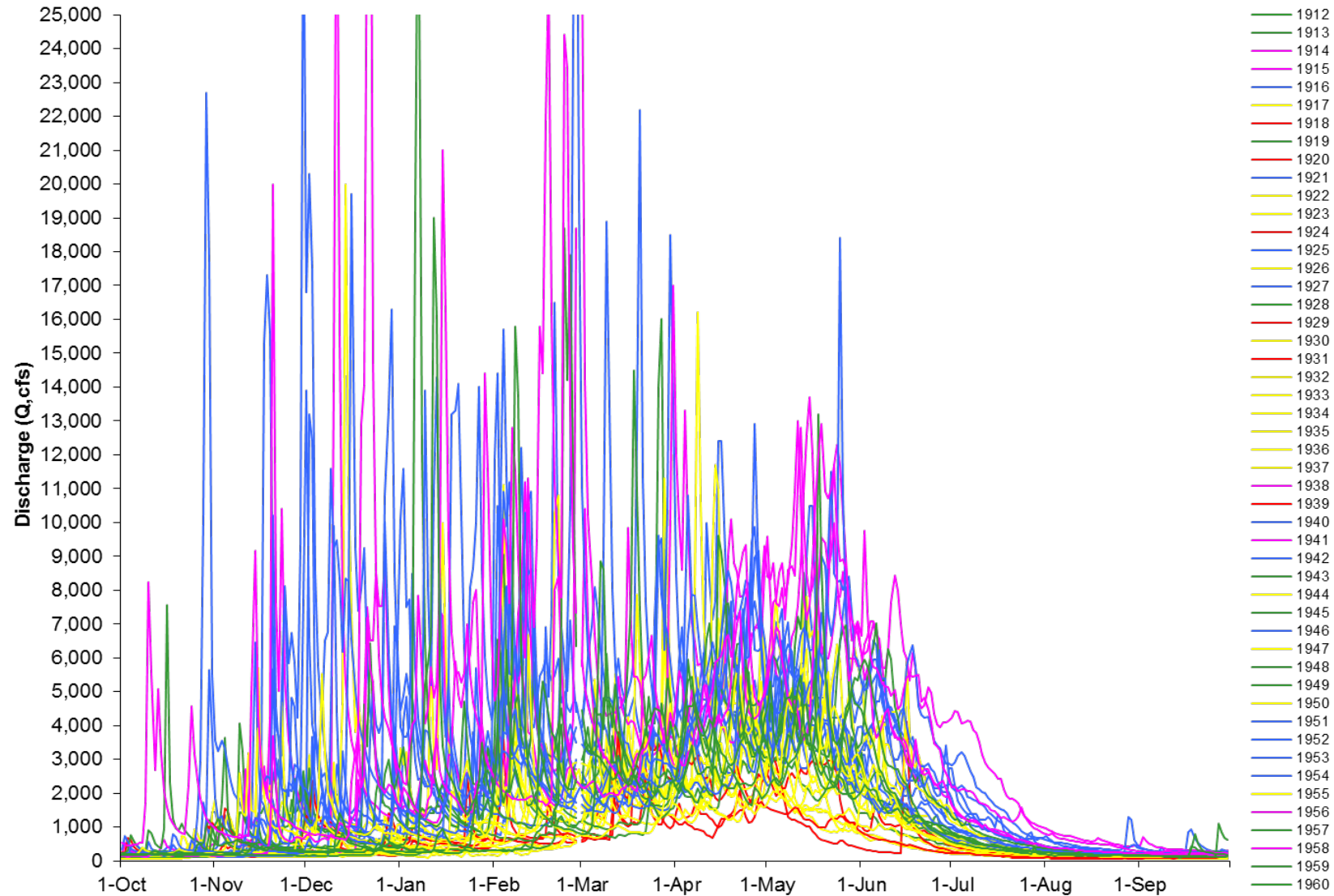


DREDGER, NEAR WEAVERVILLE, CALIF.

J. R. EASTMAN "B-1278"



Trinity River at Lewiston Unimpaired Hydrographs WY1912-1960









TRINITY RIVER FLOW EVALUATION

Final Report

A report to the:

Secretary
U.S. Department of the Interior
Washington, D.C.

Prepared by:

U.S. Fish and Wildlife Service
Arcata Fish and Wildlife Office
1125 16th Street, Room 209
Arcata, CA 95521

and

Hoop Valley Tribe
P.O. Box 417
Hoop, CA 95546

In Consultation with:

U.S. Geological Survey
U.S. Bureau of Reclamation
National Marine Fisheries Service
California Department of Fish and Game

U.S. Department of the Interior
Record of Decision

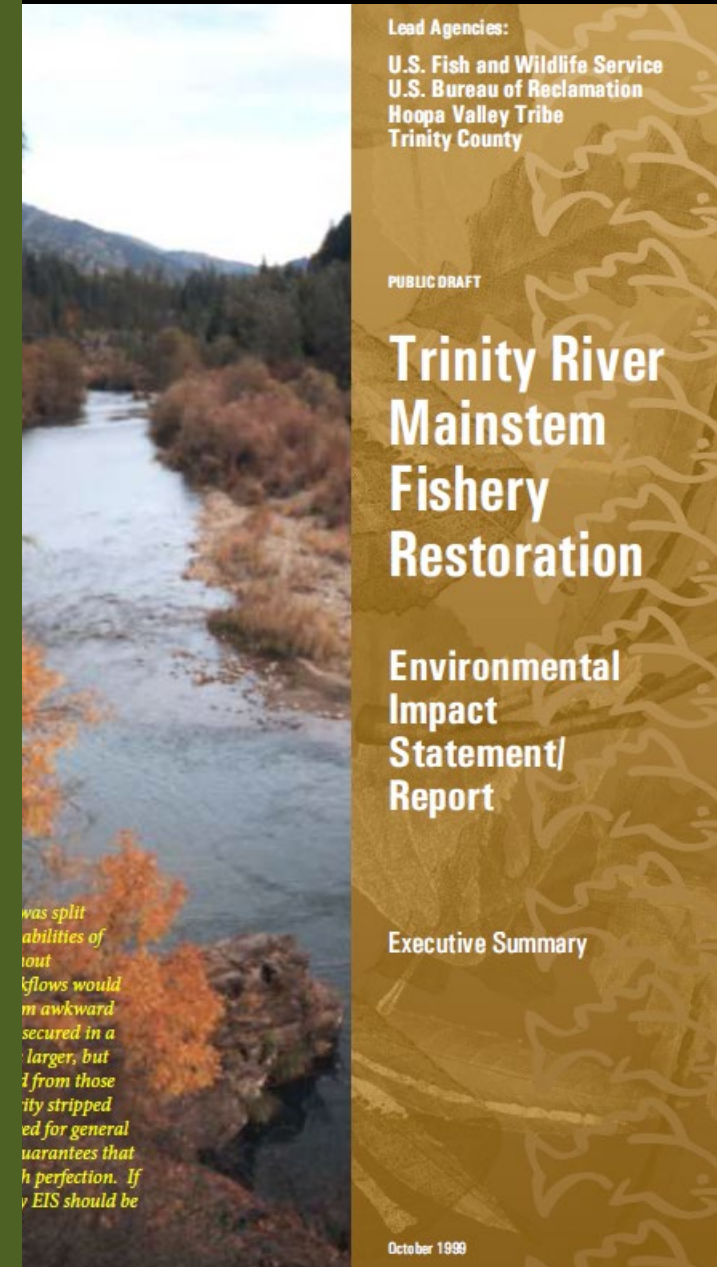
Trinity River Mainstem Fishery Restoration
Final Environmental Impact Statement/Environmental Impact
December 2000

I. Introduction and Statement of Decision

The Trinity and Klamath Rivers in northern California once teemed with salmon and steelhead. Historically, hundreds of thousands of salmon and steelhead would enter the Klamath estuary and migrate upstream during several months of the year. While traveling through the lower 44 miles of the Klamath River, many of these fish would die at the confluence of the Trinity River and continue their journey to the middle and upper reaches of the Trinity River. Adult salmon and steelhead would spawn in the clean gravels of the mainstem Trinity River.

Background of Program

- **Trinity River Flow Evaluation Report**
 - Rearing habitat limited salmonid populations
 - Geomorphic processes were stalled
- **Environmental Impact Statement**
 - Preferred alternative- combination of increased and seasonally variable flows, channel rehabilitation, sediment augmentation, and watershed (erosion) restoration
 - Actions were to be coupled with adaptive management program
- **Record of Decision**
 - Affirmed tribal role in restoration
 - Allocated flow volumes and gravel augmentations by water year
 - Identified channel rehabilitation sites



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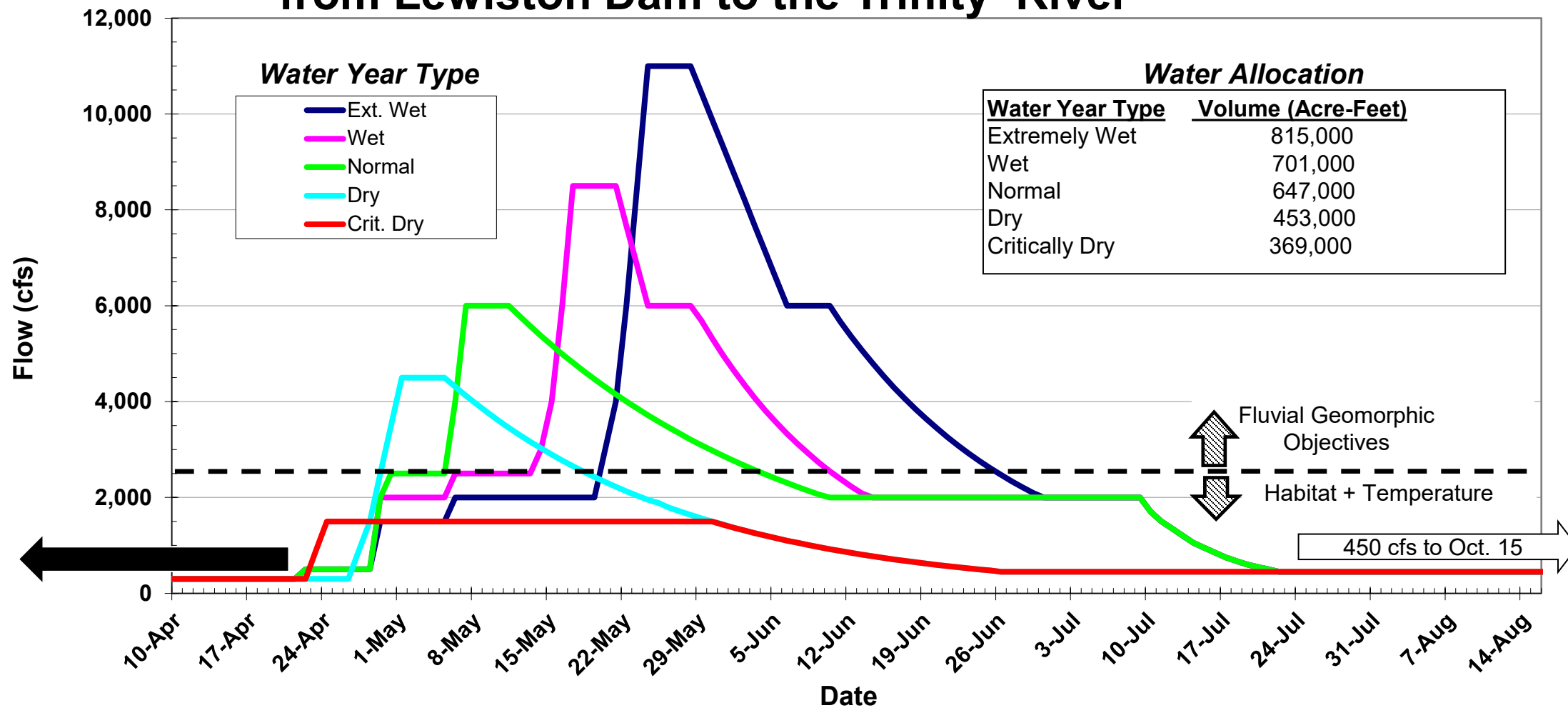


Trinity River Restoration Program

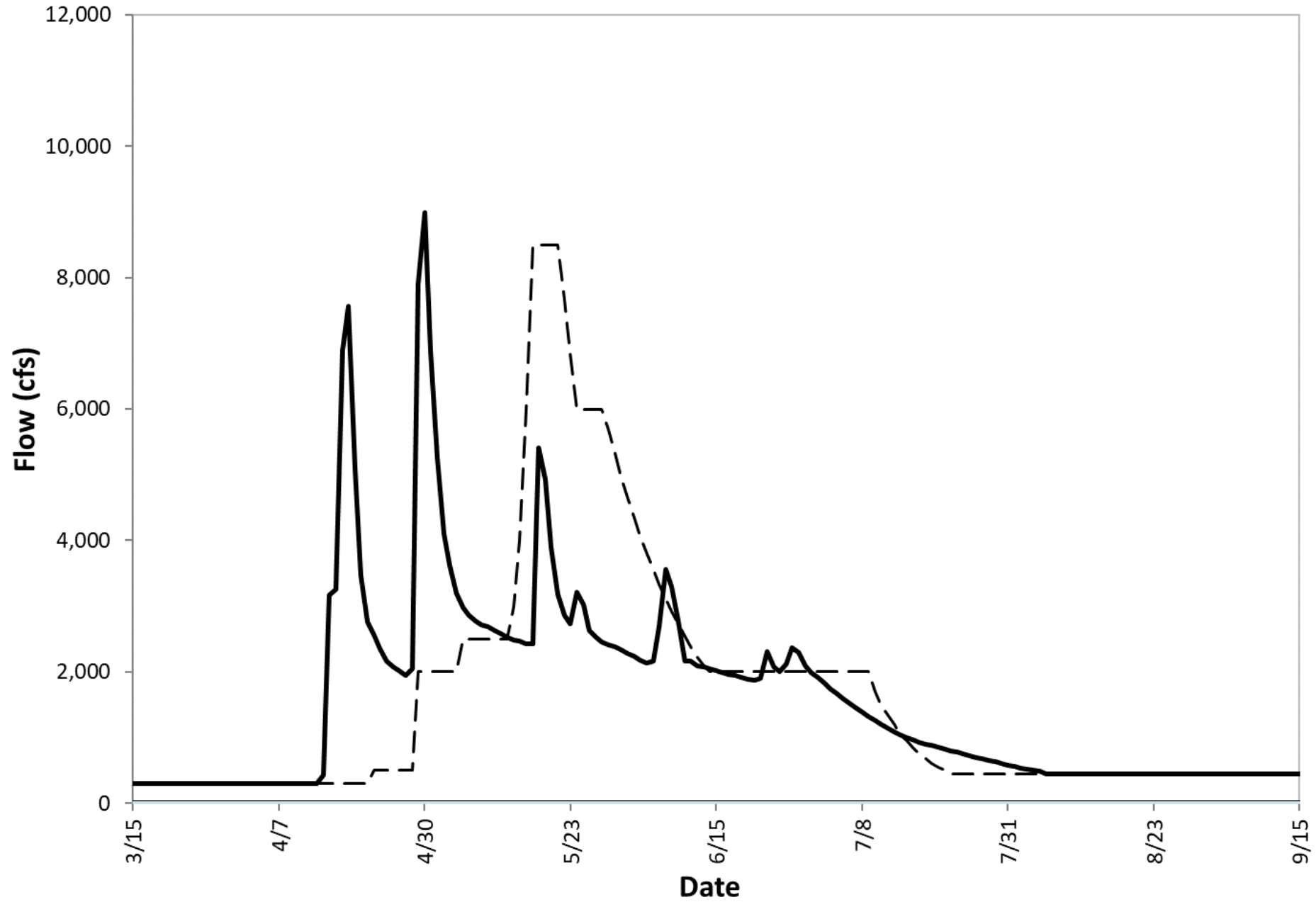
The long-term goals of this Program are to restore the form and function of the Trinity River; restore and sustain natural production of anadromous fish populations in the Trinity River to pre-dam levels; and to facilitate full participation by dependent tribal, commercial, and sport fisheries through enhanced harvest opportunities.



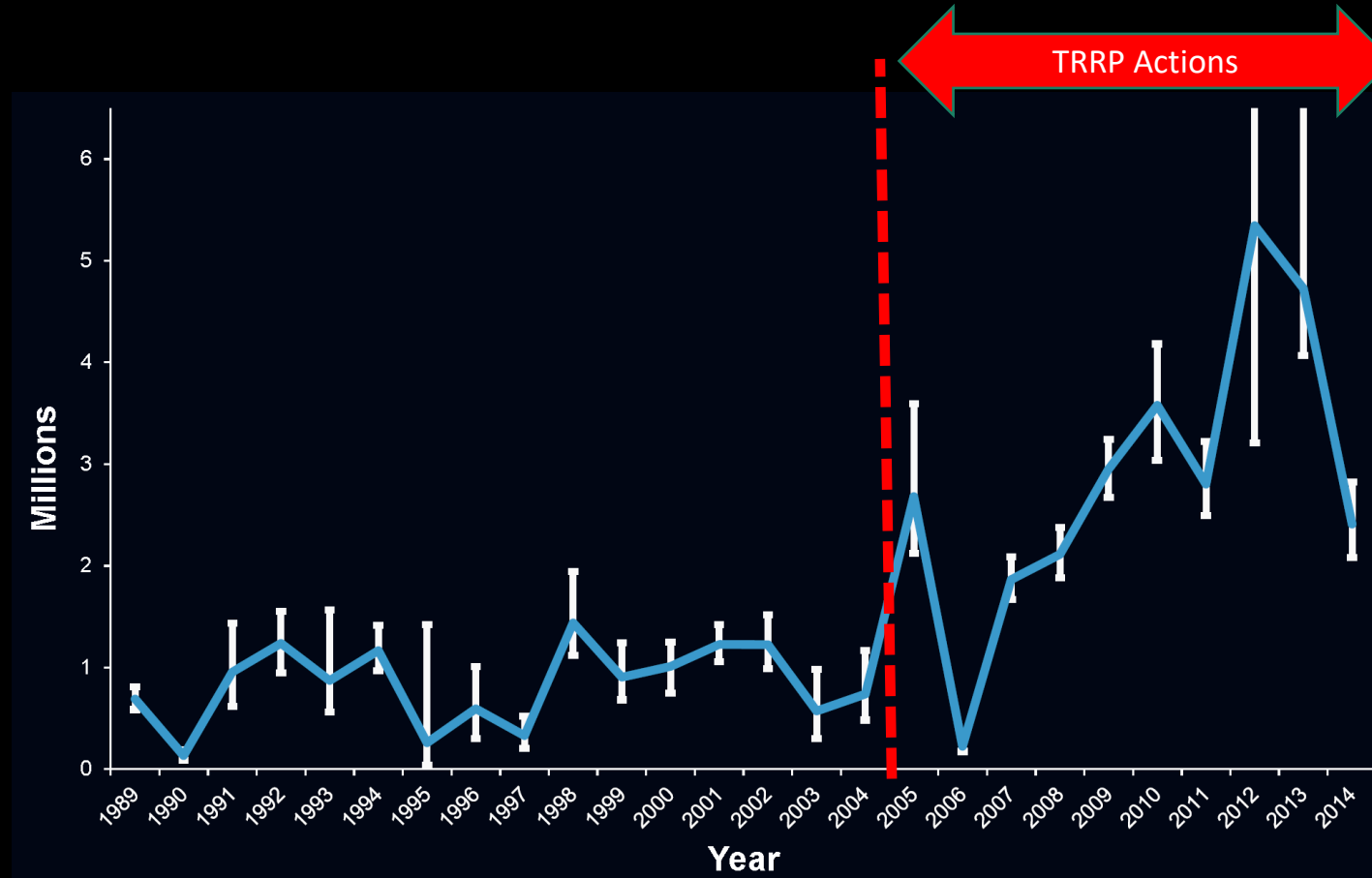
ROD Recommended Flow Releases from Lewiston Dam to the Trinity River



2019

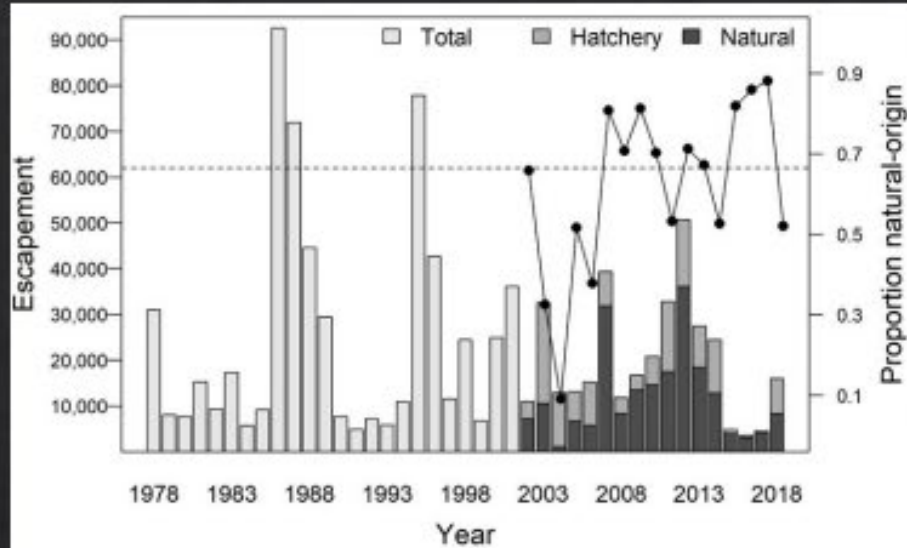


Natural Juvenile Chinook Production

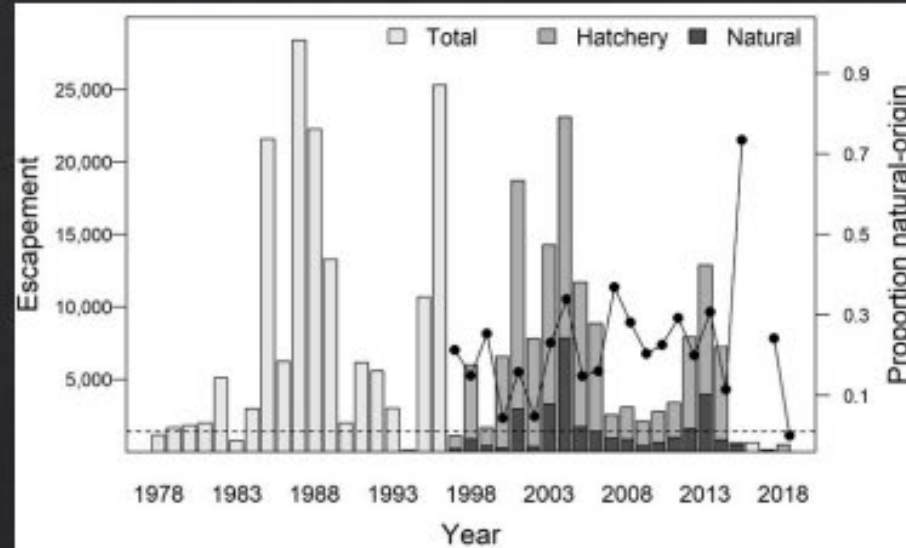


Natural Area Escapement

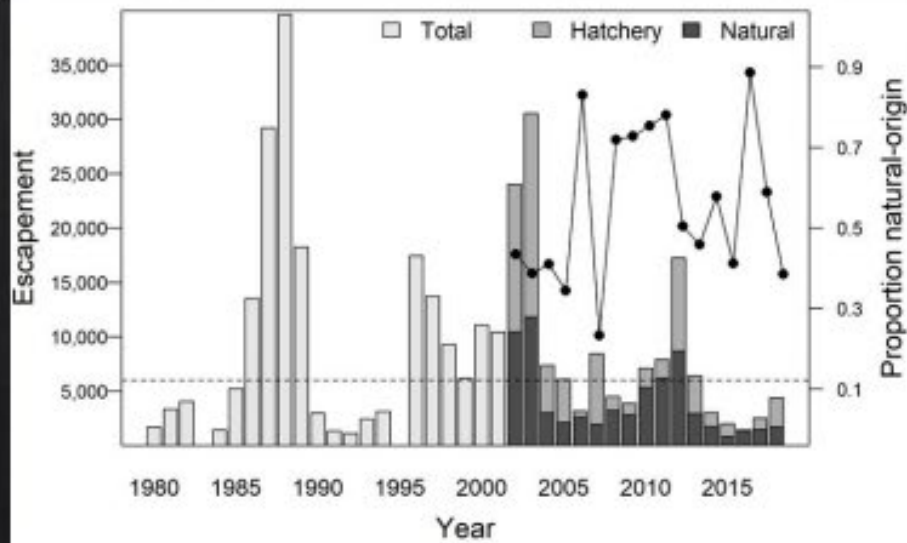
Fall-run
Chinook
Salmon



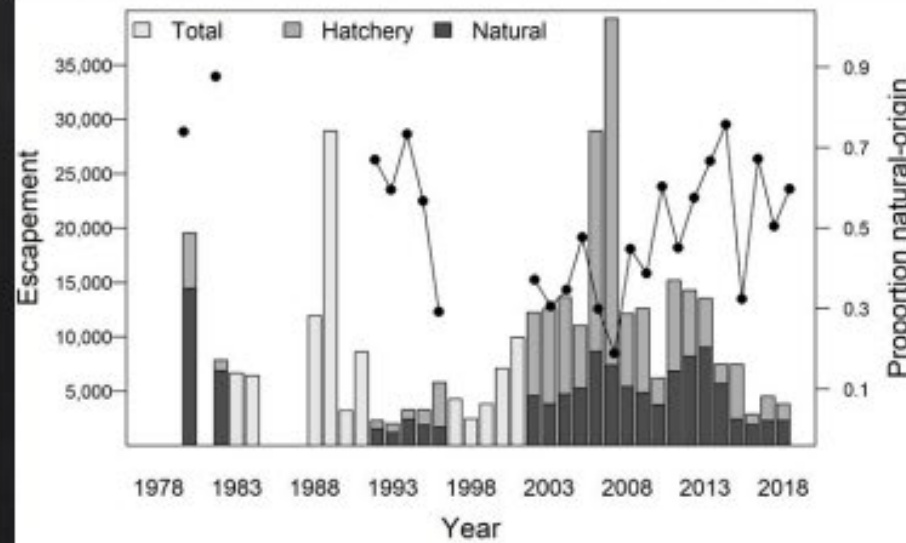
Coho
Salmon



Spring-
run
Chinook
Salmon



Steelhead



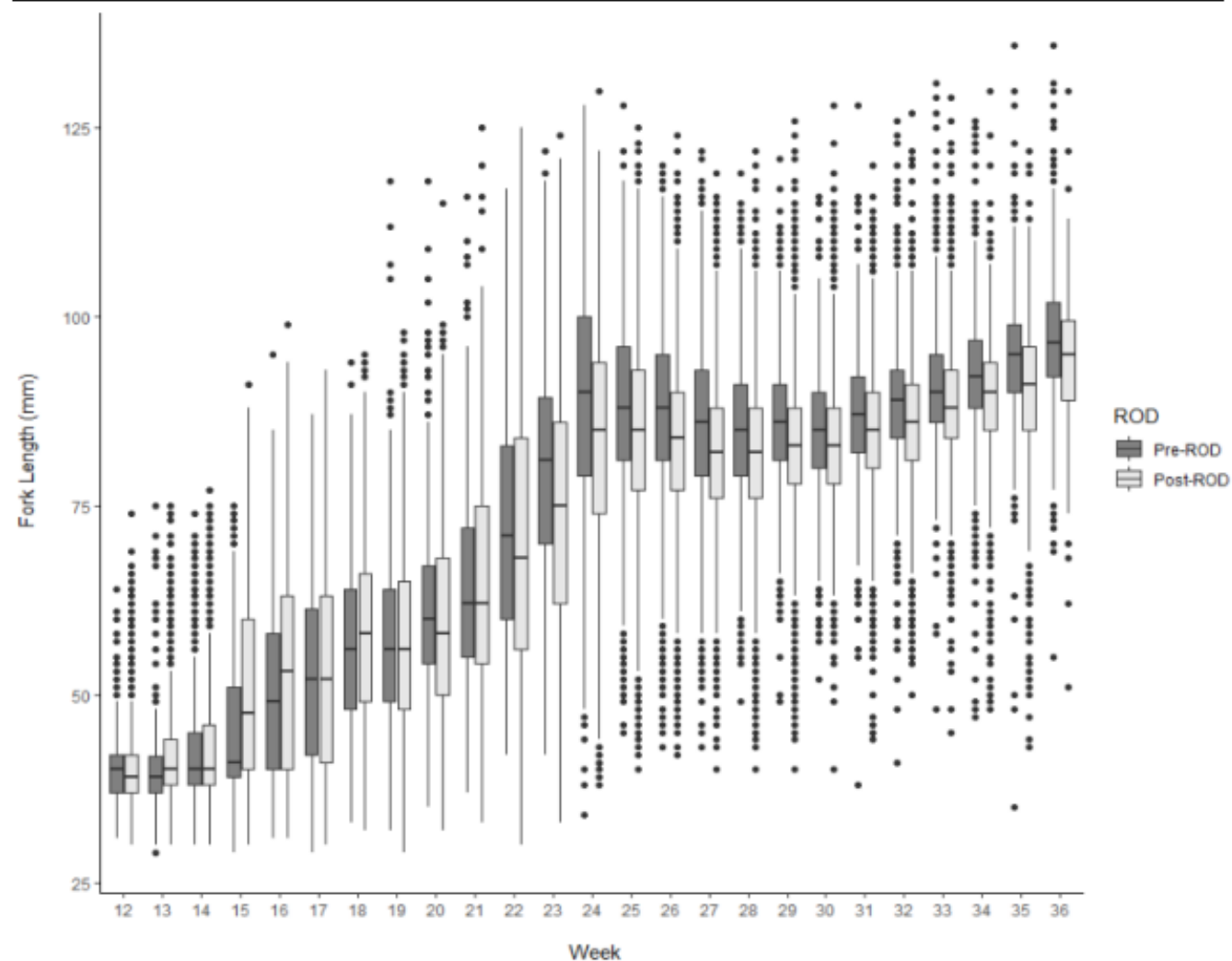
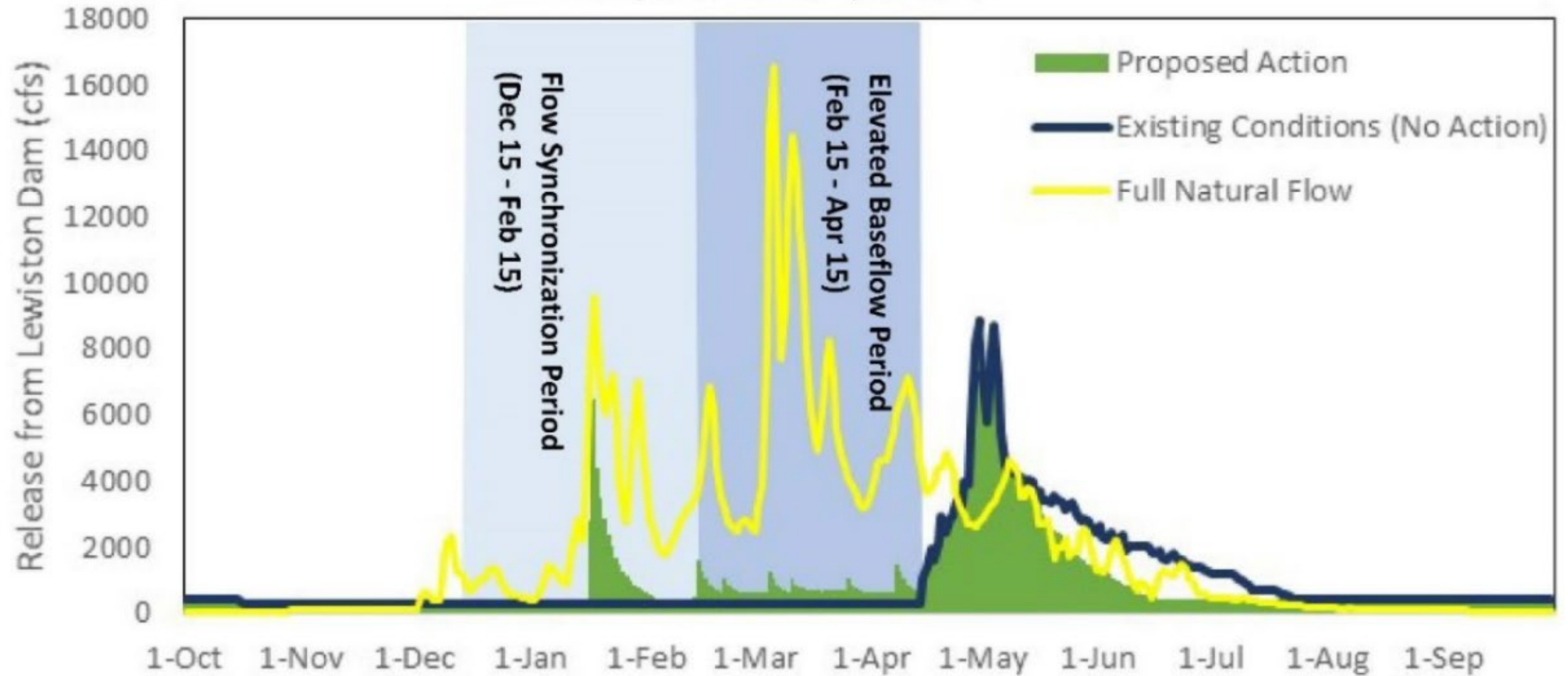


Figure 10. Box-plot of fork length for non-adipose fin-clipped age-0 Chinook Salmon captured at the Willow Creek trap site grouped by week and Record of Decision (ROD) period. Bars indicate standard error (SE) of the mean and points represent outliers beyond SE bars.

Trinity River Flow Management

example from water year 2016



Winter Flow Timeline (1 of 2)

- 2020-, technical workgroups sought guidance from TMC on shifting a portion of ROD water earlier in the year than mid-April. TMC voted to direct workgroups to develop a proposal and associated environmental compliance documents
- 2021- White paper describing methods and anticipated benefits was reviewed by SAB, finalized, and proposed to TMC in 2021 for implementation in WY 2022. TMC voted 6 in favor, 2 opposed (motion failed)
- 2022- Flow workgroup members conducted outreach to Trinity County Board of Supervisors, and TMC **approved** implementation of variable winter flows for WY 2023

Winter Flow Timeline (2 of 2)

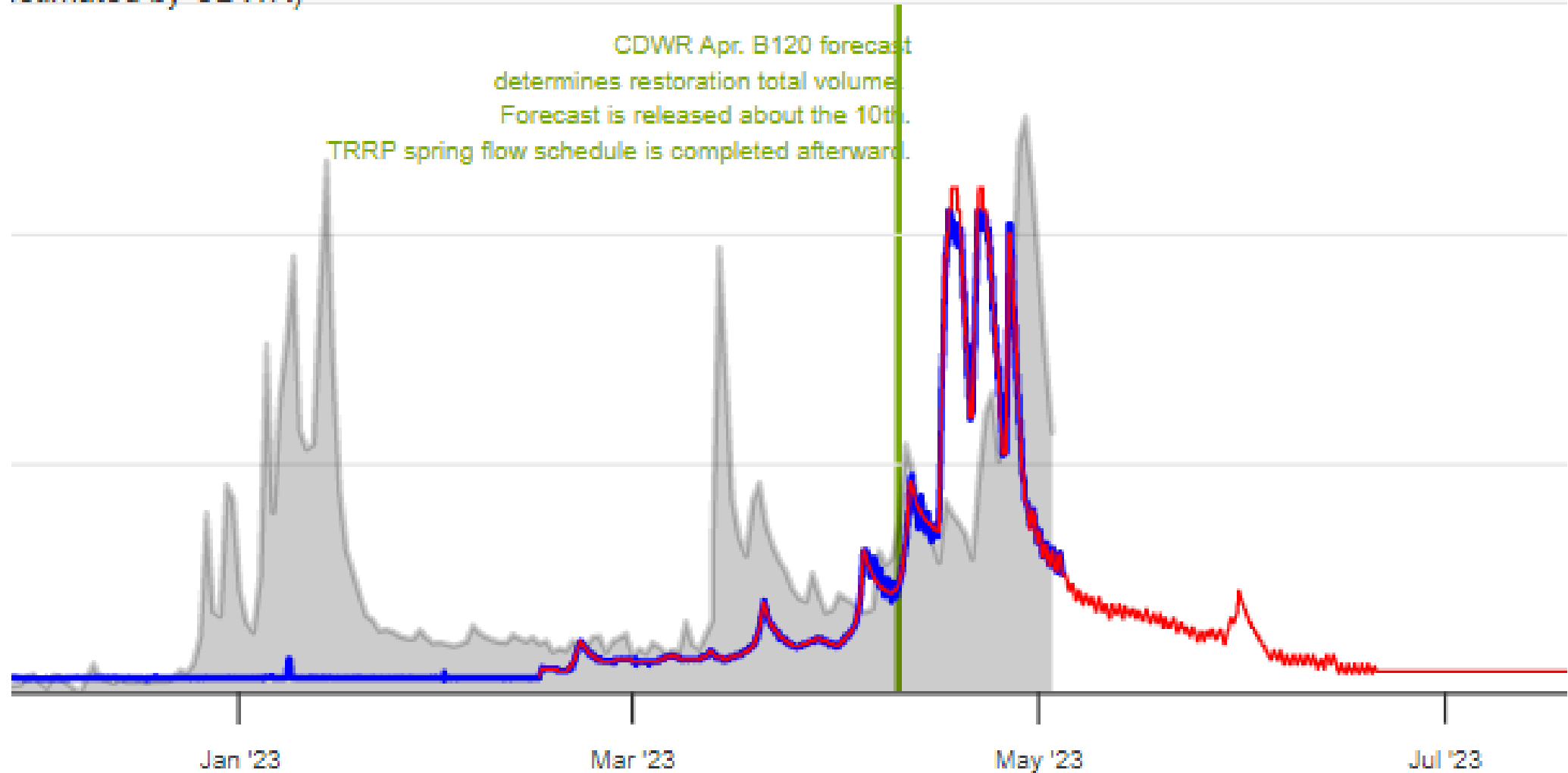
- 2022 (continued)- Hoopa Valley Tribe (only 'no' vote) attached a request for a preliminary injunction to an existing lawsuit, which resulted in a partial implementation of winter variable flows.
- 2023- Technical workgroups again proposed winter flow variability for WY 2024. TMC voted 6 in favor, 2 opposed, at two different meetings (motion failed)
- 2024- Flow workgroup continues to work with Trinity County to reach a compromise.

Water Year 2023 Progression

Daily Averages Oct 1 - Sept 30

(Average, USGS)

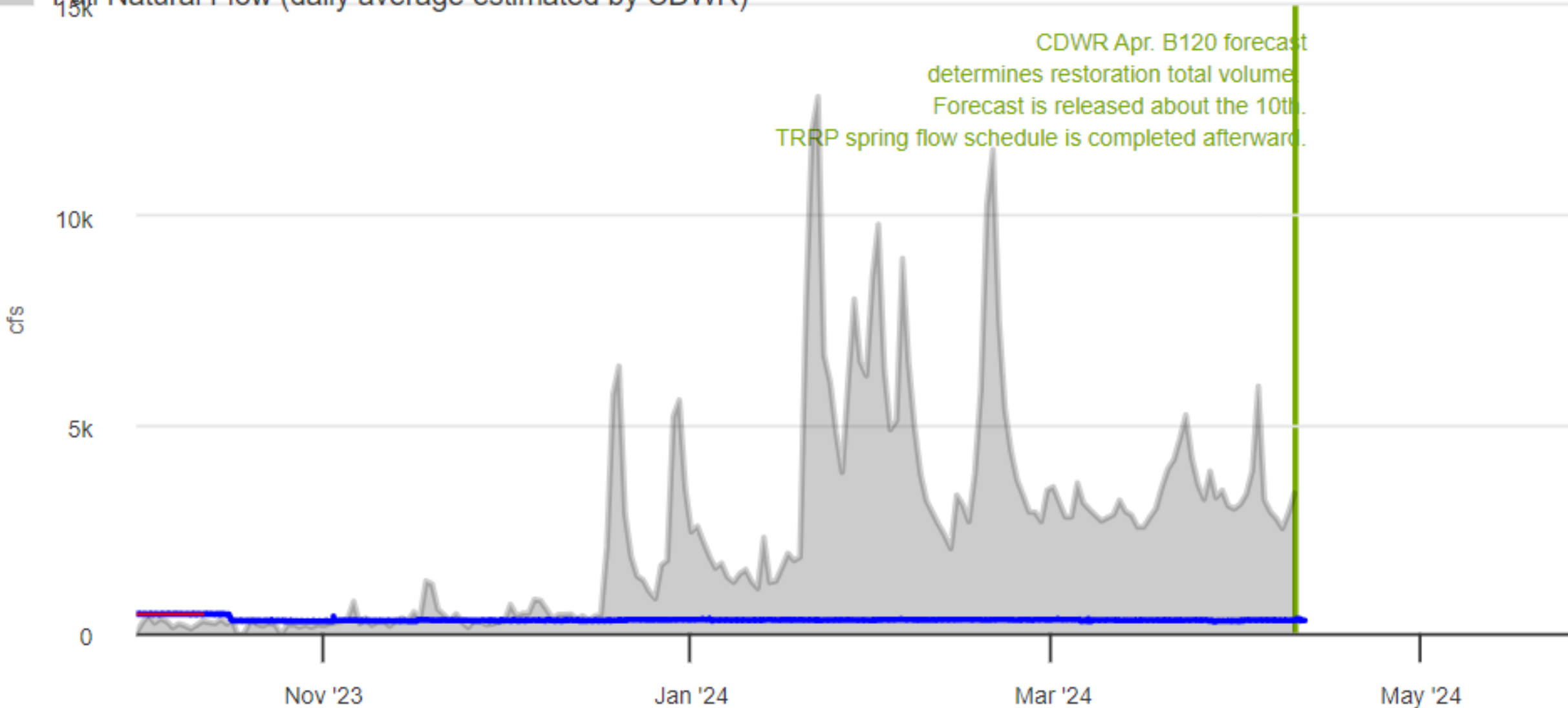
(Estimated by CDWR)



Water Year 2024 Progression

Daily Averages Oct 1 - Sept 30

- Flow Schedule
- Flow Released to River (daily average, USGS)
- Full Natural Flow (daily average estimated by CDWR)



CDWR Apr. B120 forecast determines restoration total volume. Forecast is released about the 10th. TRRP spring flow schedule is completed afterward.

Lessons learned (pending)



Questions?

