

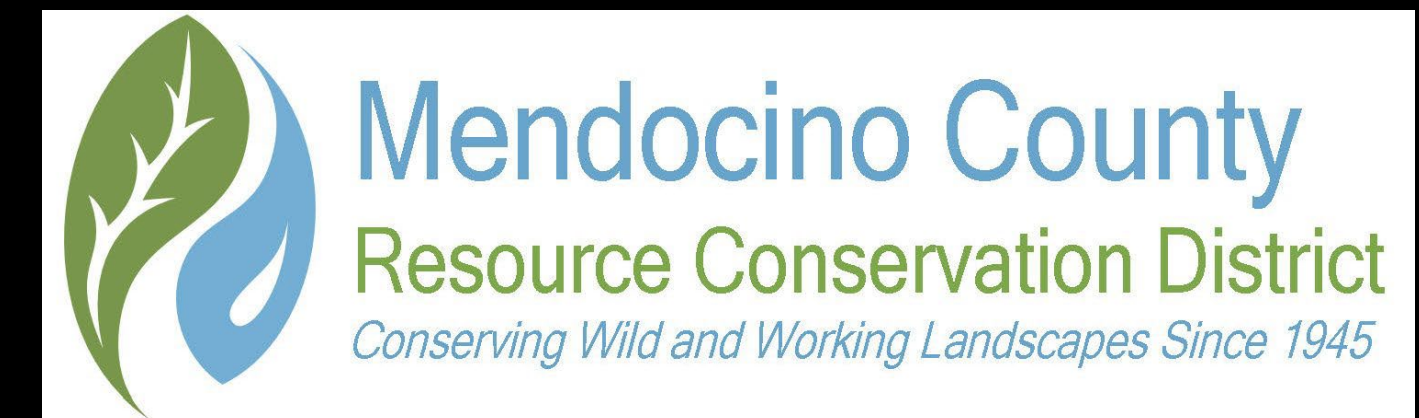
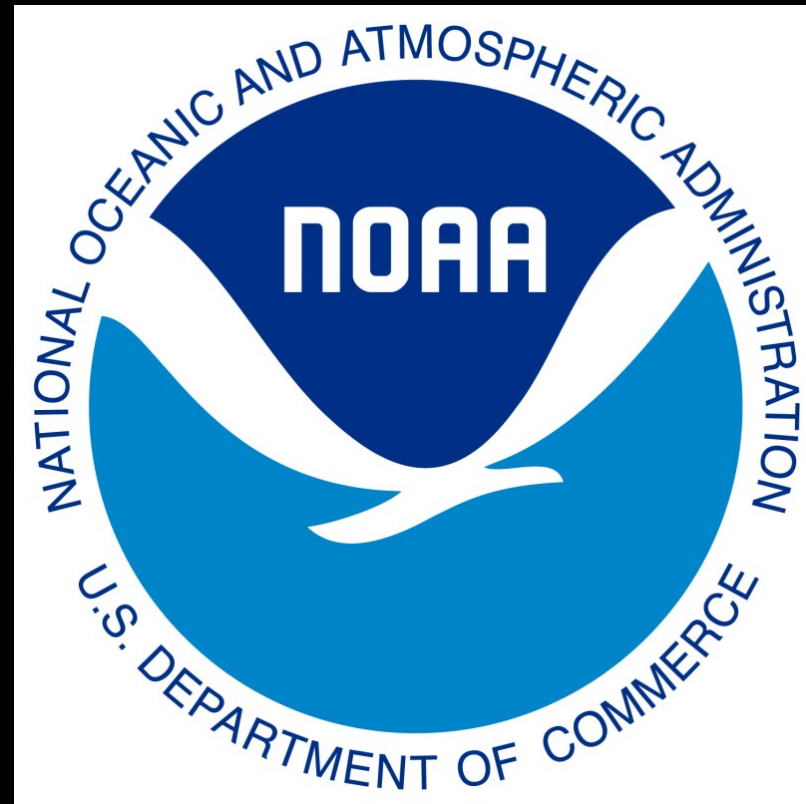


TNC's North Coast Restoration Program

PETER VAN DE BURGT, NORTH COAST RESTORATION PROJECT MANAGER
AUGUST 17, 2026

It takes a village

Landowners
Tribes
Community groups
Timber managers
People



TNC North Coast Restoration

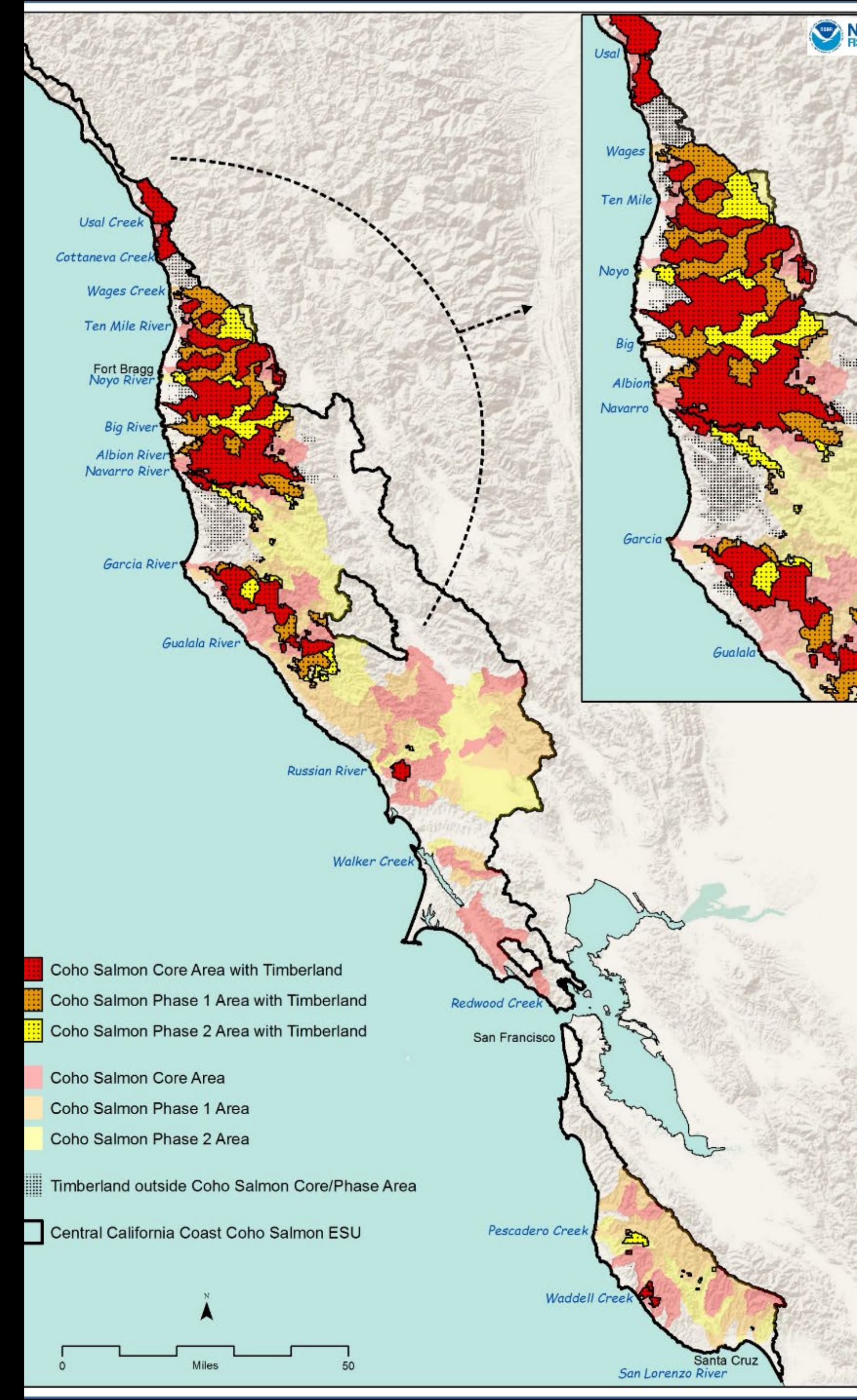
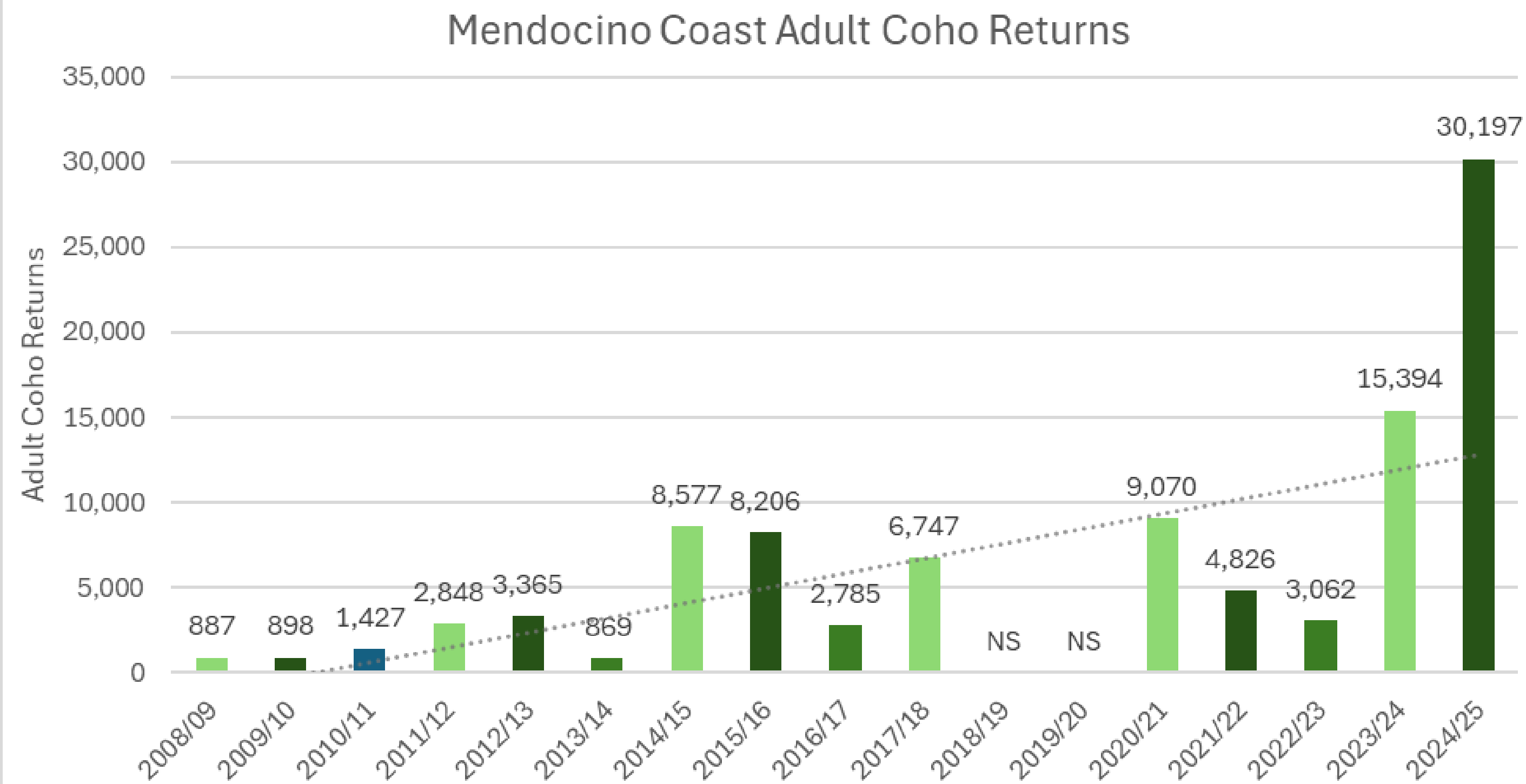
Three key watersheds:

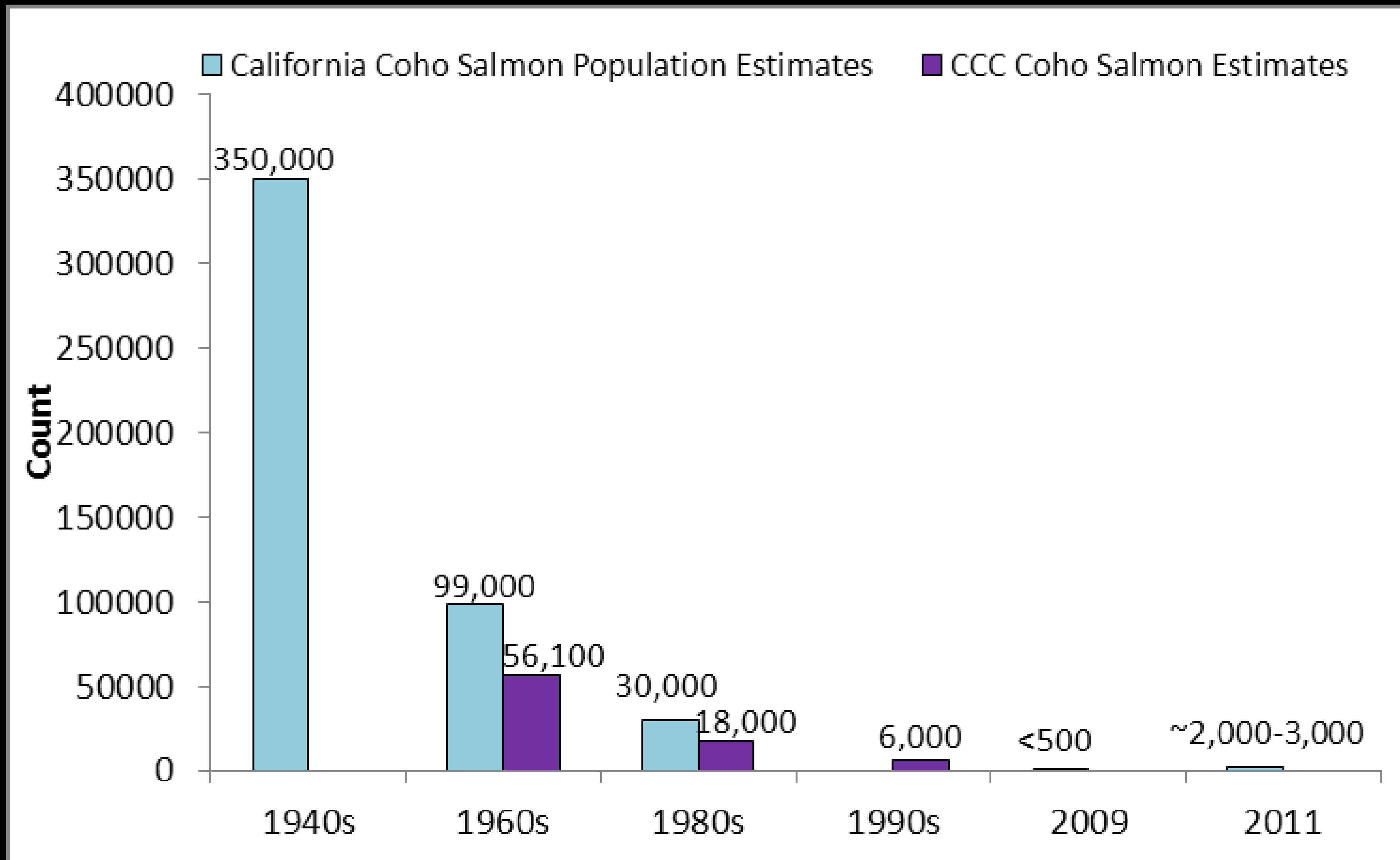
- Ten Mile
- Garcia
- Navarro

Active habitat restoration & scientific monitoring

Focus on winter habitat restoration in lower watersheds







Historical Estimates of Coho Spawners Across ESU (NMFS 2012)







Image Credit Held-Poage
Research Library and the
Mendocino County Historical
Society
https://www.krisweb.com/kristenmile/krisdb/webbuilder/bw_p22.htm

1952



1985



Floods



1964



Photo taken by Peter Stackpole, December 22, 1964
Provided courtesy of Margaret Perry

1998



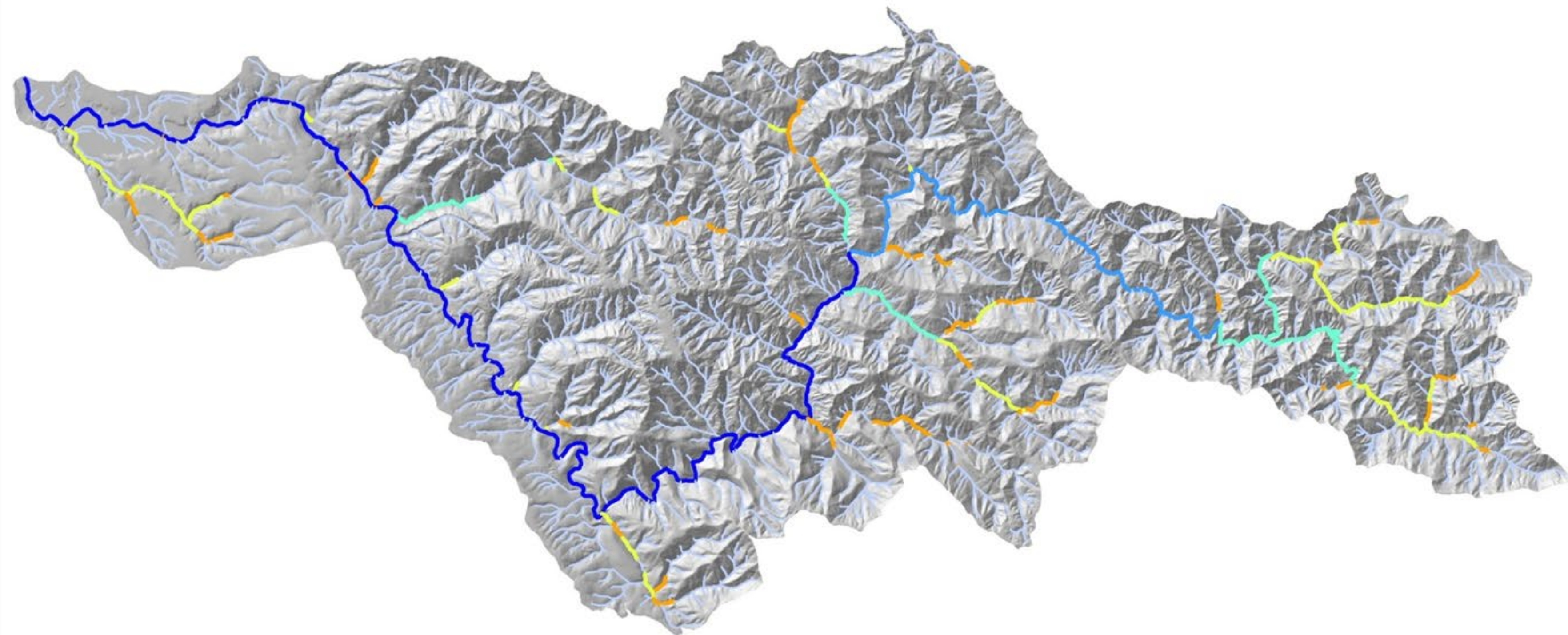
2012



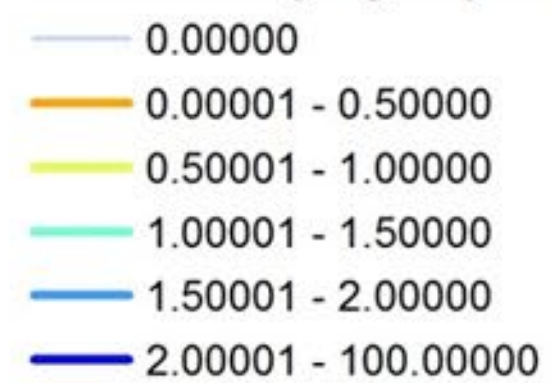
2025





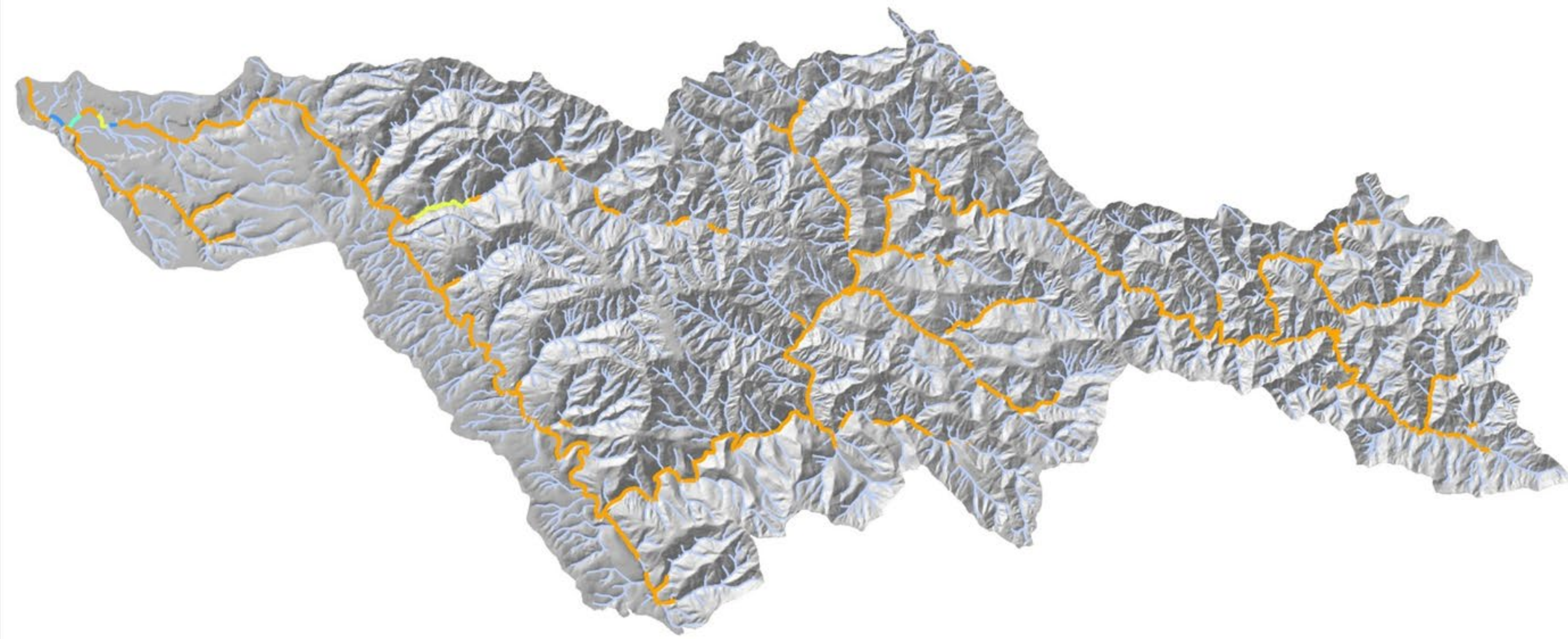


Winter Carrying Capacity (fish/m) -Historical Conditions



RIPPLE Results: Garcia River





Winter Carrying Capacity (fish/m) -Current Conditions

- 0.00000
- 0.00001 - 0.50000
- 0.50001 - 1.00000
- 1.00001 - 1.50000
- 1.50001 - 2.00000
- 2.00001 - 100.00000

RIPPLE Results: Garcia River

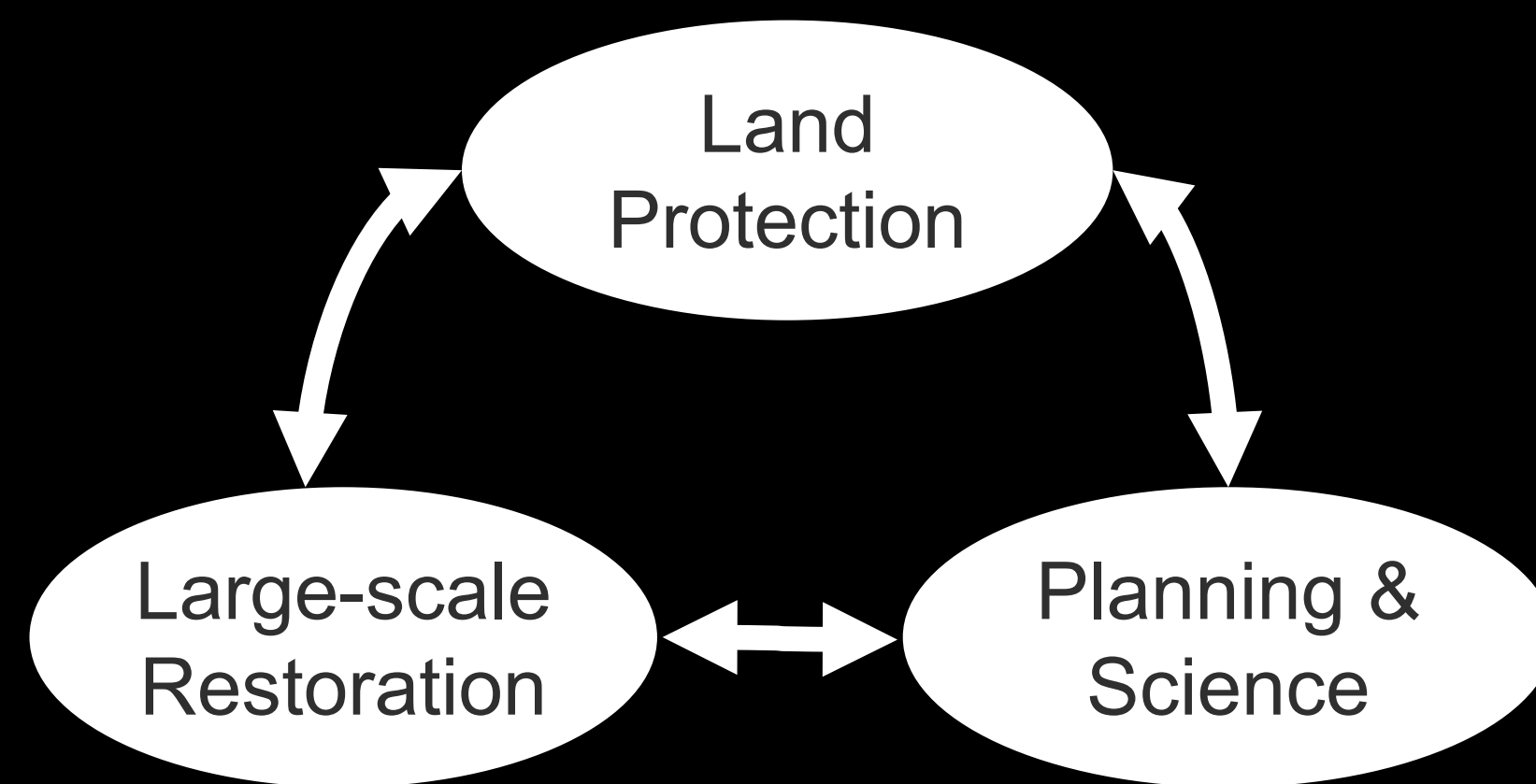


TNC North Coast Restoration

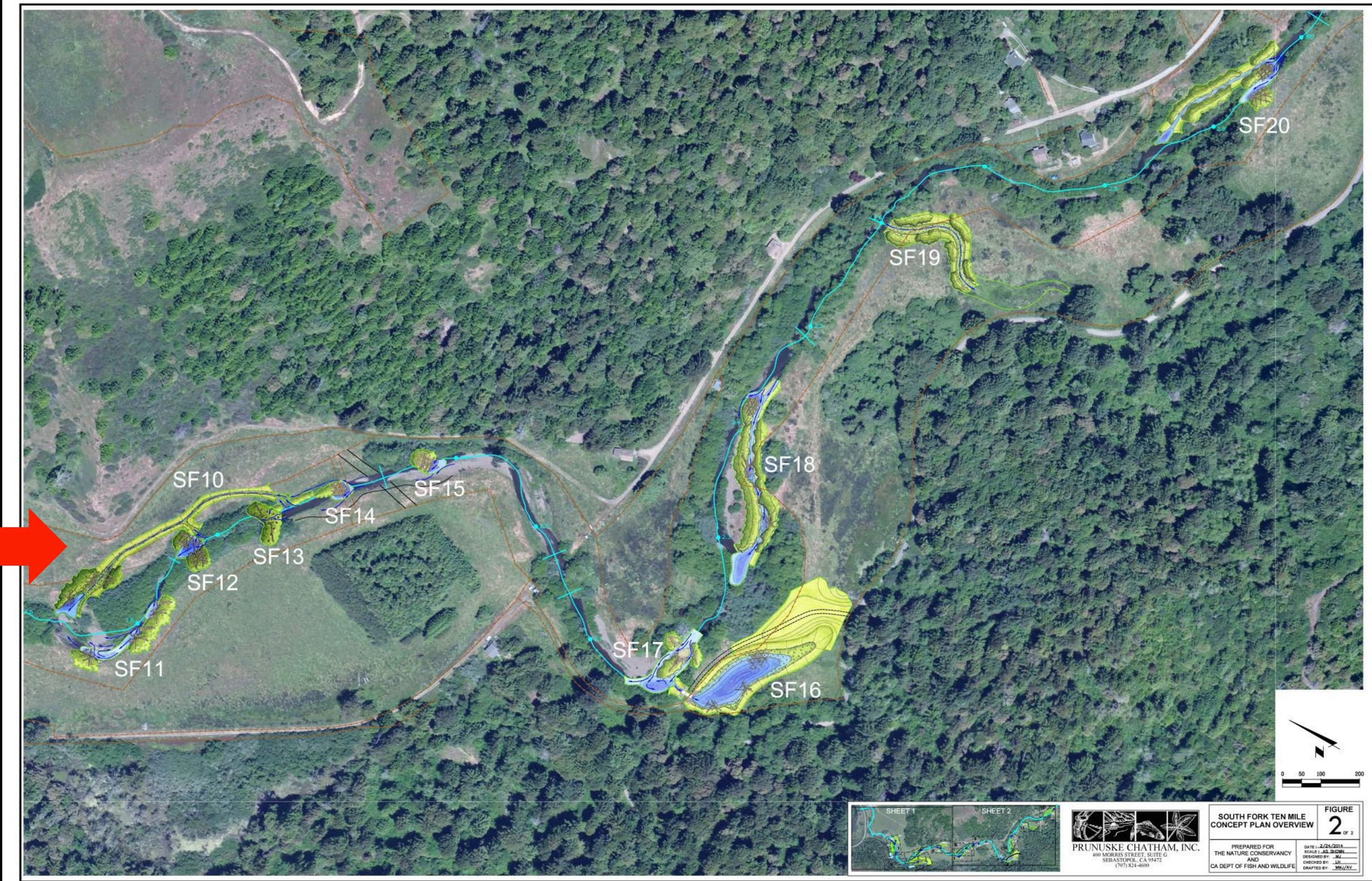
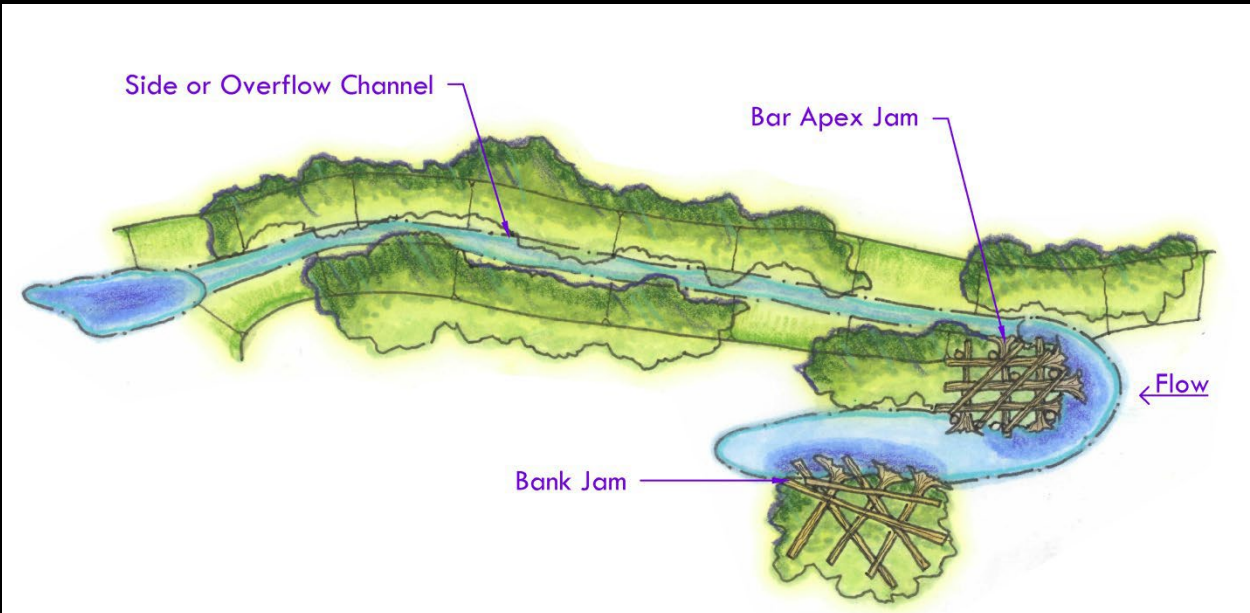
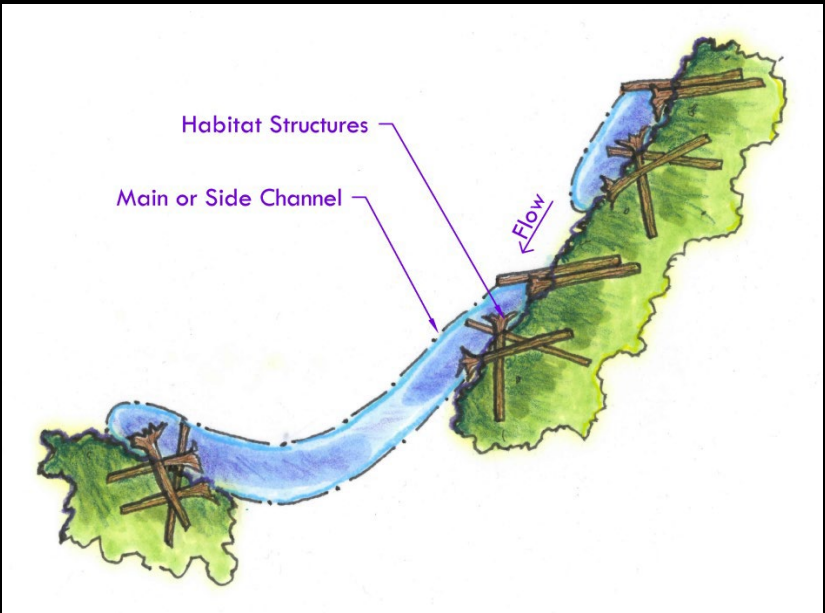
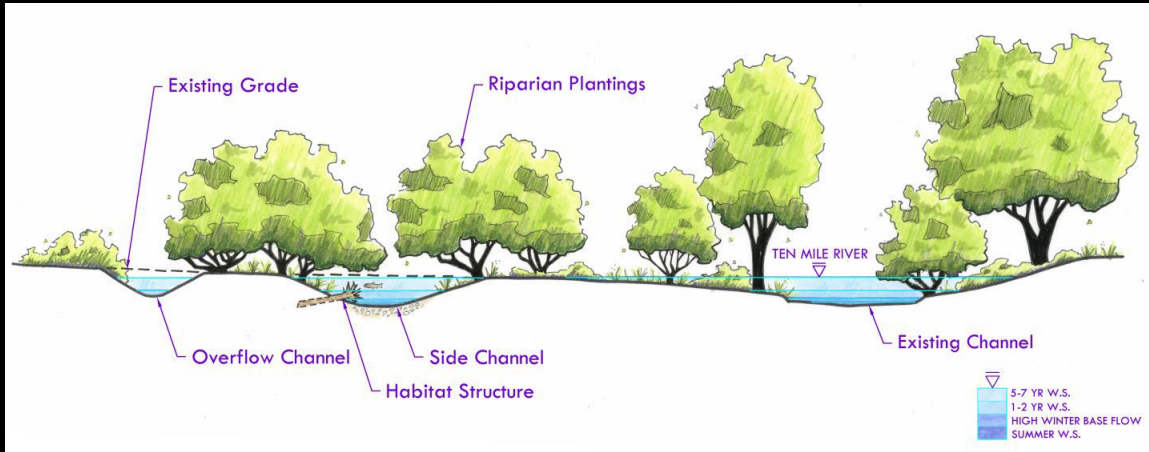
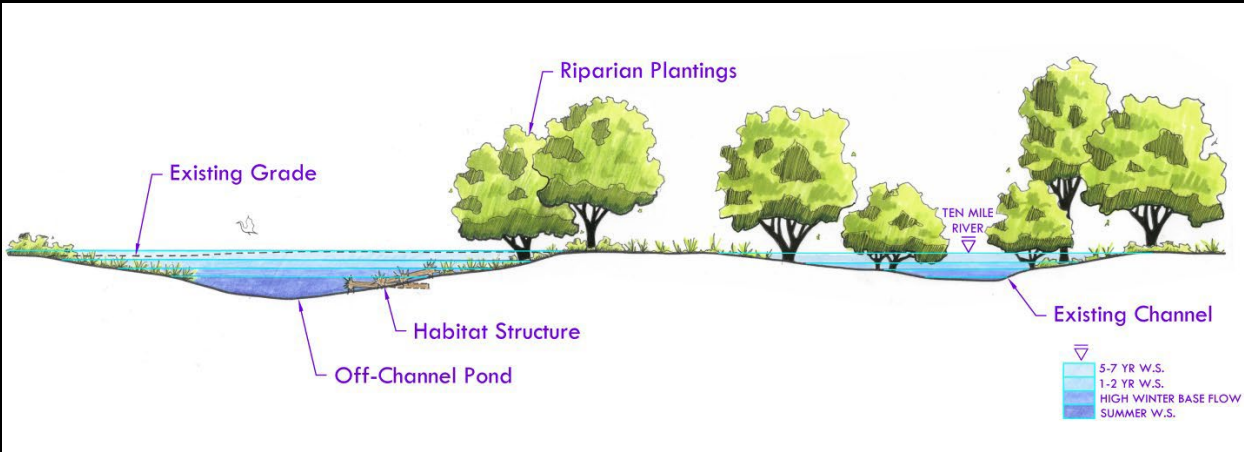
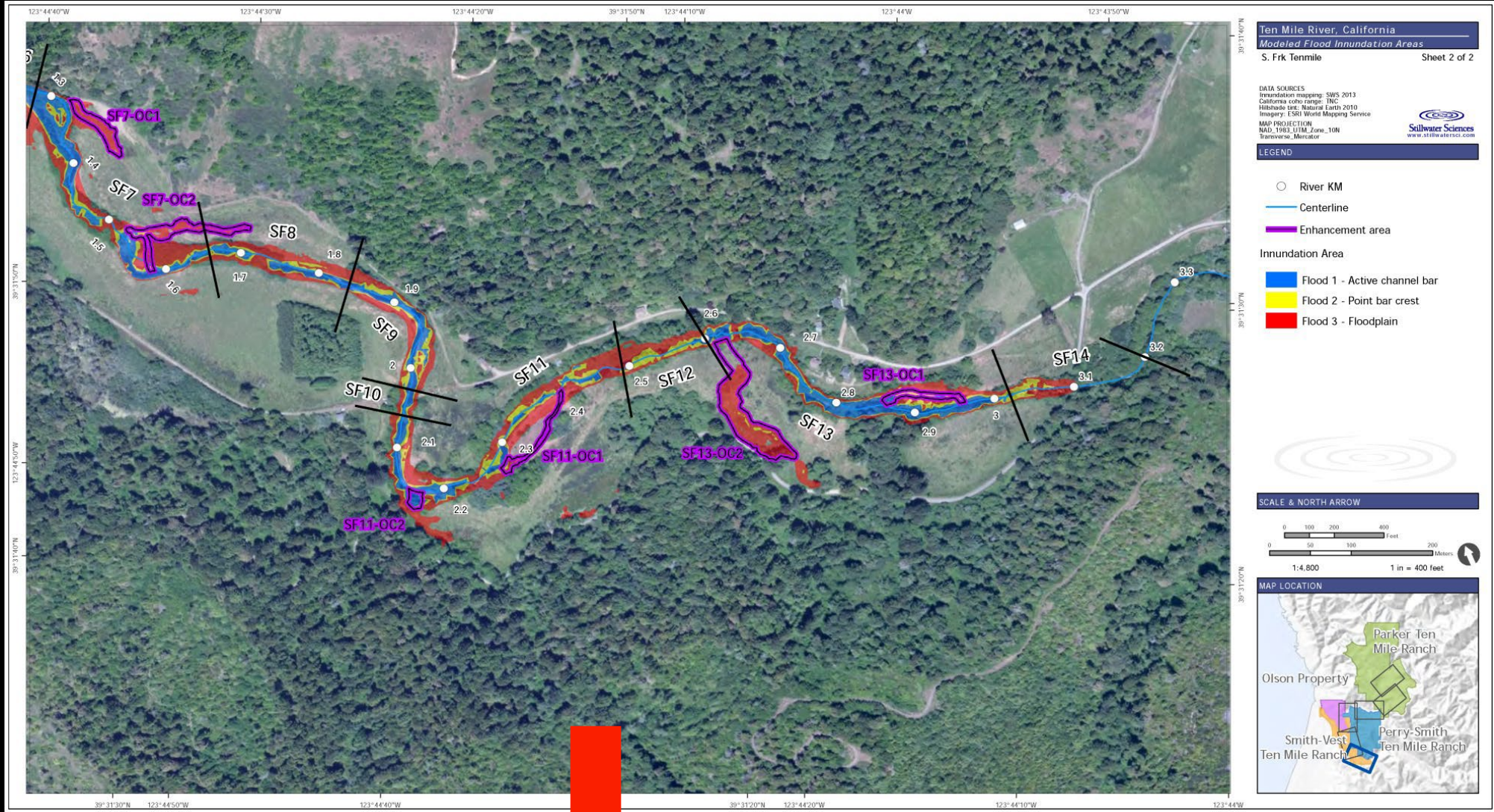
Three key watersheds:

- Ten Mile
- Garcia
- Navarro

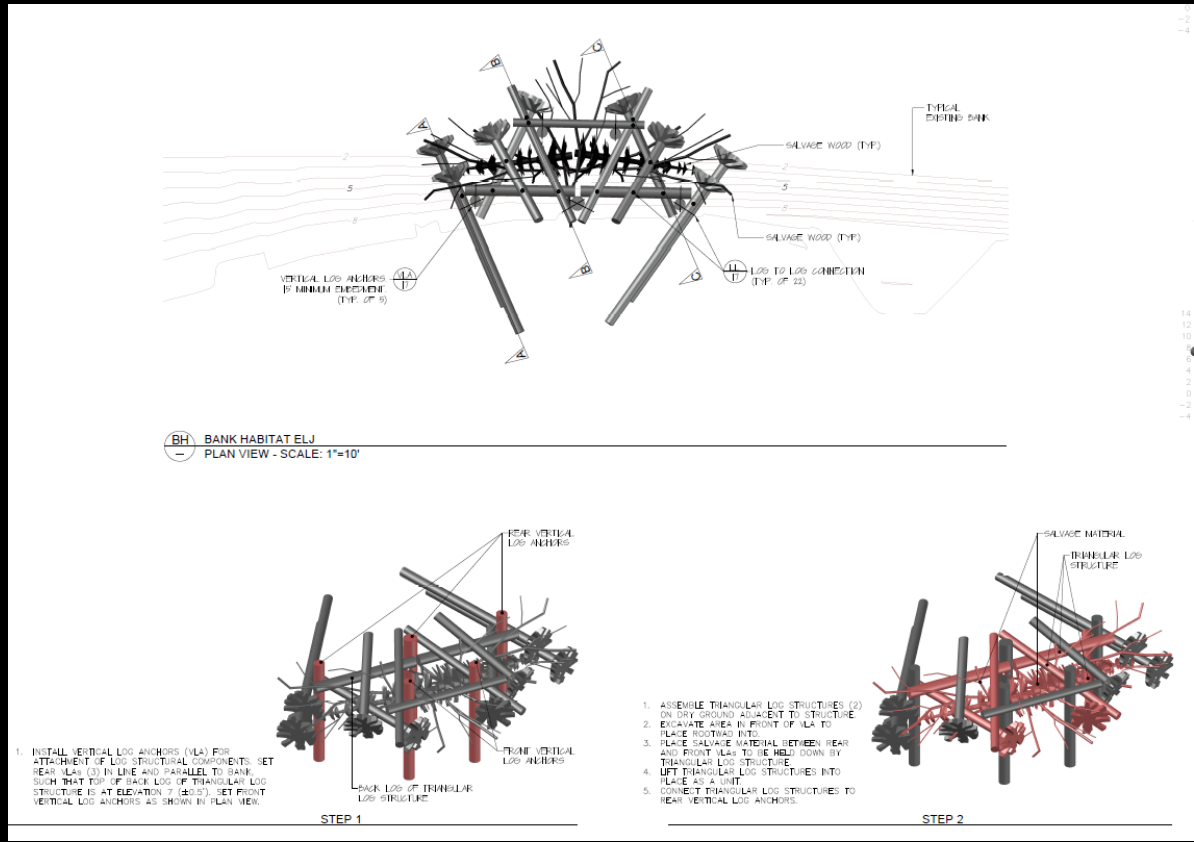
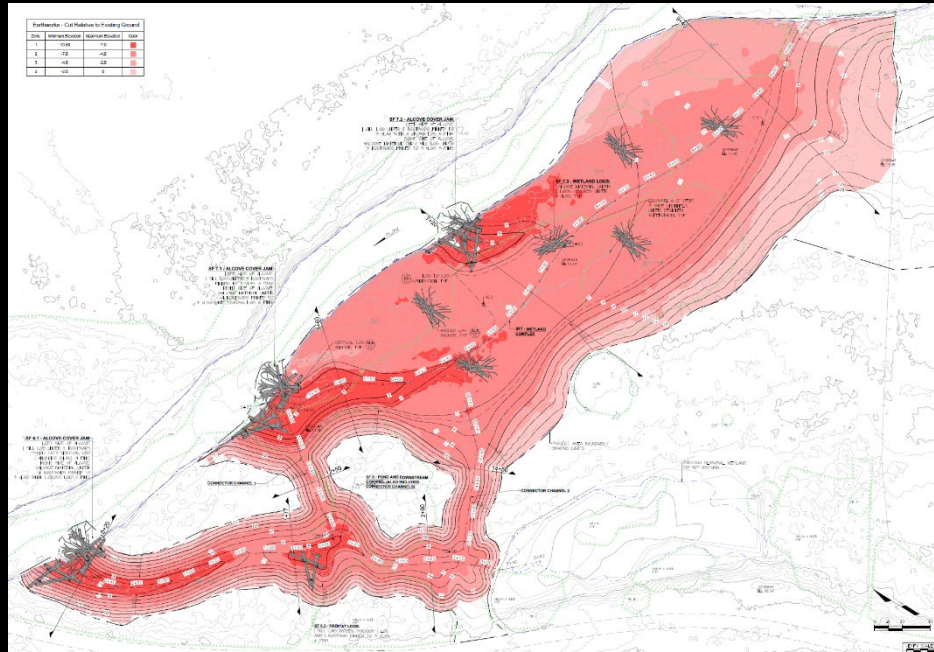
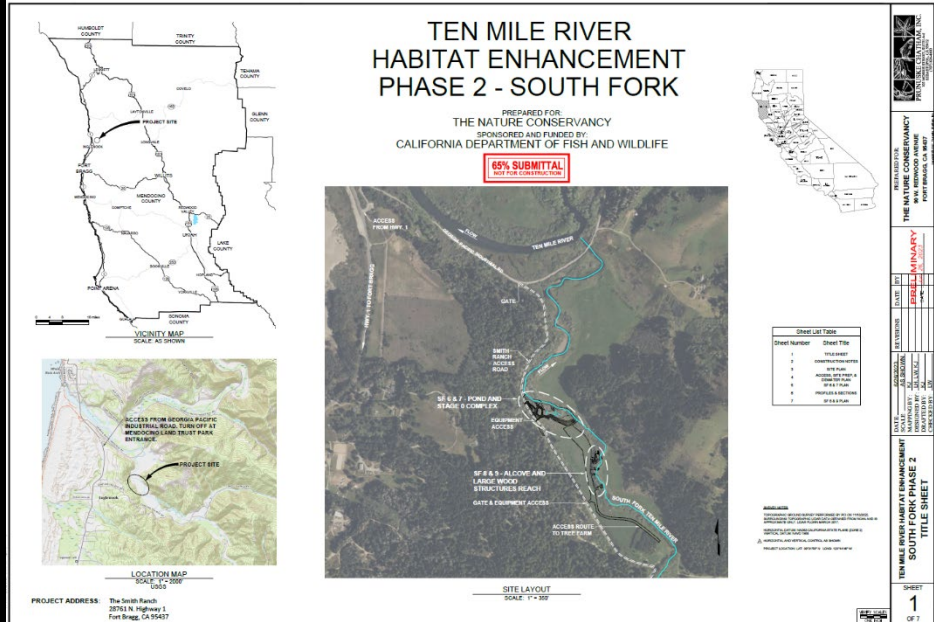
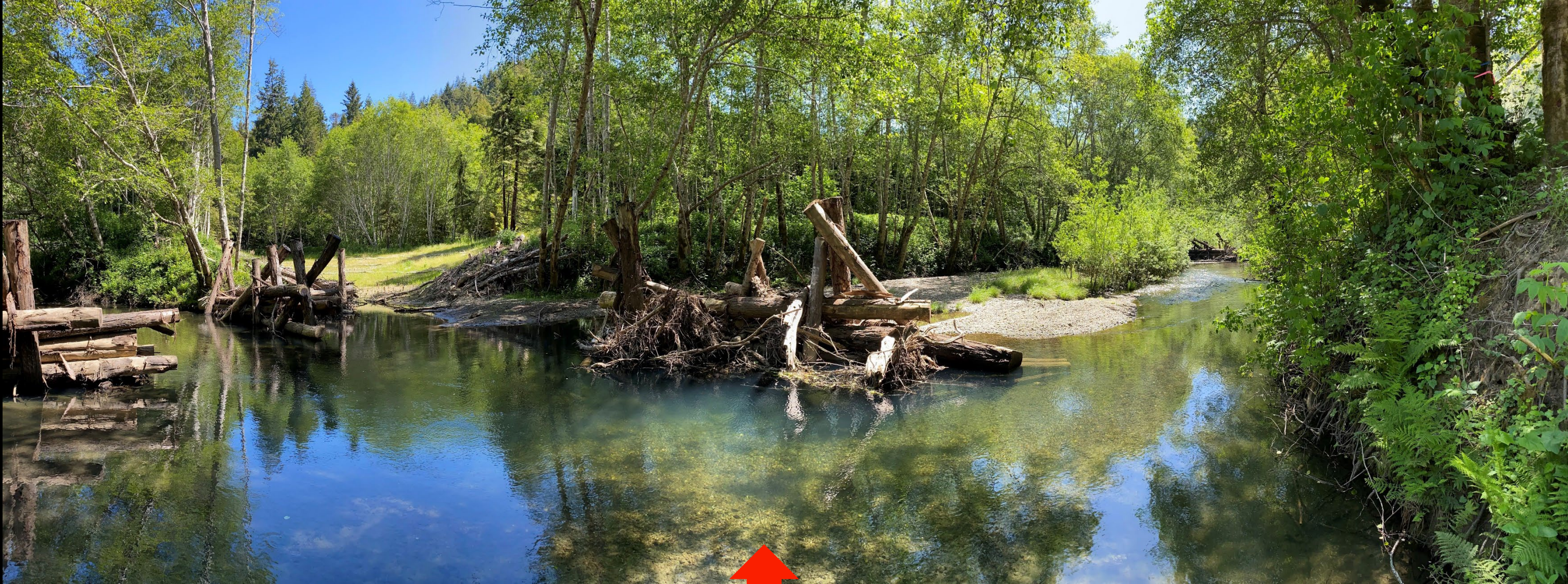
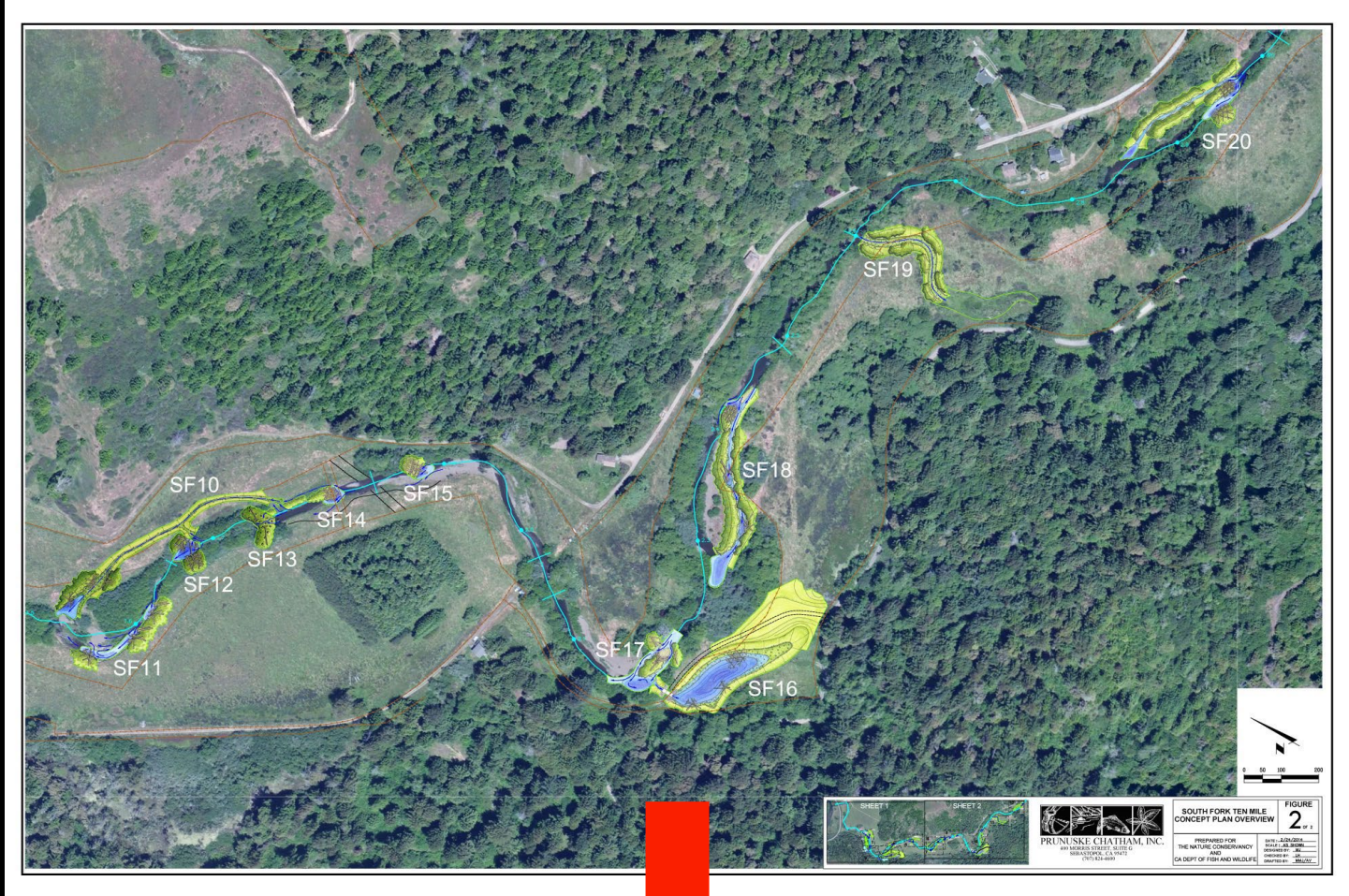
Focus on winter habitat restoration in lower watersheds



Enhancement Plans



From Plan to Action



October 2018



April 2023

December 2022



Side-channel constructed 2020

ELJs

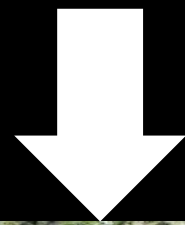
2021



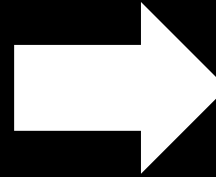
April 2023



December 2021



December 2022



Garcia estuary constructed 2022



Tidal wetland complex constructed 2024



Mainstem Ten Mile 2025





Ten Mile Mill Creek 2025



Adaptive Management



Monitoring

SOUTH FORK TEN MILE RIVER COHO SALMON RESTORATION MONITORING PROJECT



Monitoring Is Hard



But you can learn cool stuff

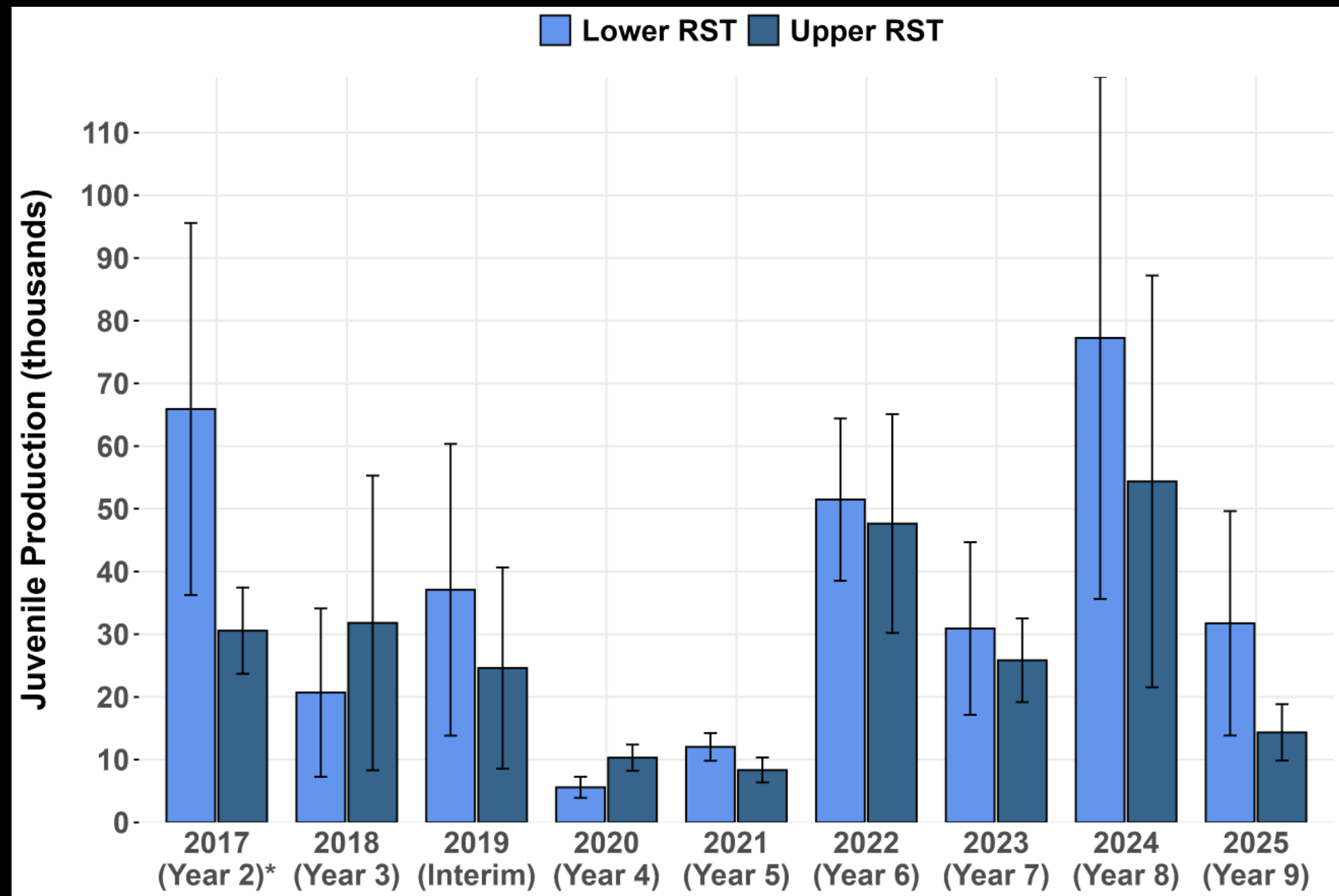


Table 3-17. Comparison of estimated average juvenile Coho Salmon smolts produced per watershed for South Fork Ten Mile River with estimates from spring trapping programs in other Northern California watersheds. Data sources are indicated in footnotes.

Watershed	Drainage area (km ²)	Coho Salmon juvenile production (in spring)				Average smolts/km ²
		Mean	Min	Max	Years of record	
SF Ten Mile R ¹	100	27,534	8,345	54,369	5 (2018–2025)	275.3
Mill Cr (Smith R) ²	100	8,140	7,416	9,383	4 (2014–2017)	81.4
Prairie Cr ³	103	19,714	8,446	34,807	9 (2011–2020)	191.4
Freshwater Cr ⁴	92	10,150	4,535	16,795	14 (2007–2020)	110.3
Pudding Cr ⁵	45	15,314	5,154	26,668	16 (2005–2020)	340.3
SF Noyo R ⁵	45	5,702	313	13,727	21 (1999–2020)	126.7
Caspar Cr ⁵	22	3,358	92	9,934	21 (1999–2019)	152.6
Little R ⁵	18	1,138	0	2,202	19 (1999–2017)	63.2

¹ South Fork Ten Mile estimates are from the Upper RST.

² Walkley et al. 2017

³ Deibner-Hanson and Henderson 2021

⁴ Anderson et al. 2020

⁵ McGuire et al. 2021

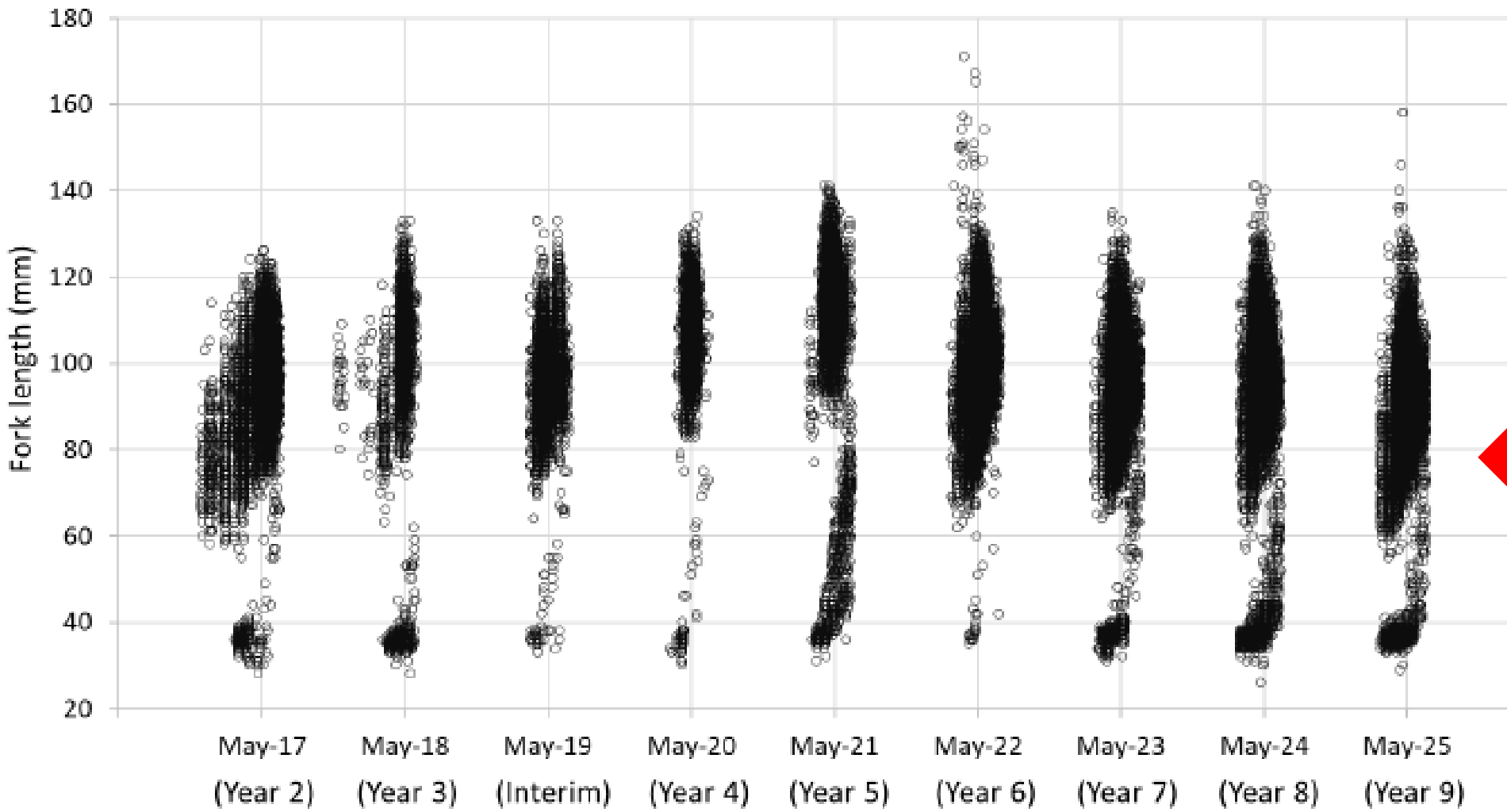


Figure 3-15. Fork lengths of all juvenile Coho Salmon measured at both rotary screw traps over time during each year of trapping. Each year is shown separately in Appendix K. Note that Years 2 and 3 include fish captured during fall and winter trapping conducted in those years.

Big fish

SF Ten Mile is awesome

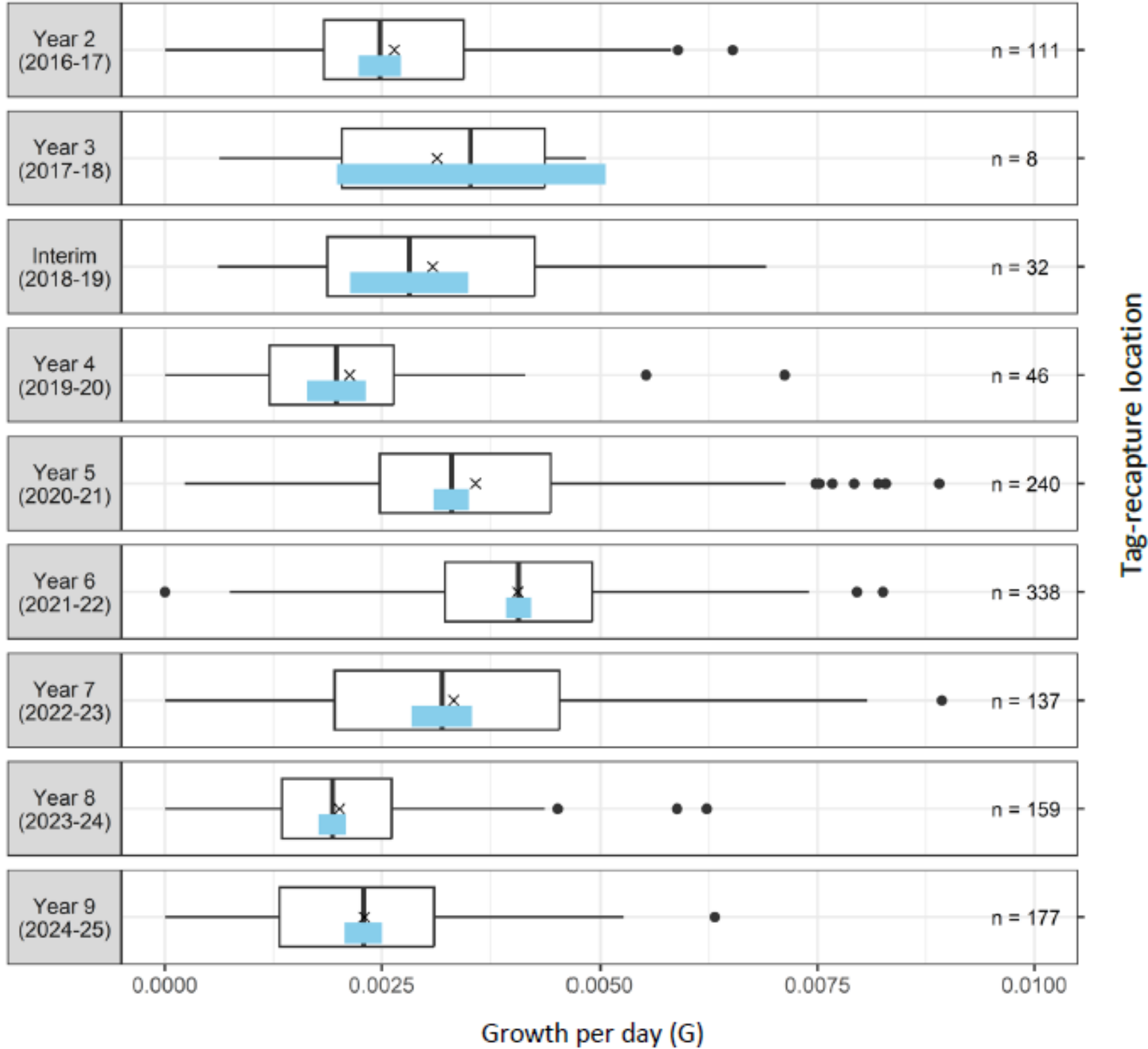


Figure 3-16. Instantaneous growth rates of juvenile Coho Salmon tagged at the rotary screw traps on or after March 1 and recaptured during the same spring trapping season. The median is indicated by horizontal bars, the 25th or 75th percentiles by box edges, minimum and maximum by vertical lines (whiskers), the mean by "X," and outliers by points. Blue bar represents 95% confidence intervals around the mean. Two means are significantly different if the bars do not overlap. Only individuals recaptured ≥ 14 days after tagging were included. For individuals recaptured more than once, only the last recapture was used.

High growth rates despite smolt density

Flow negatively impacts survival & growth

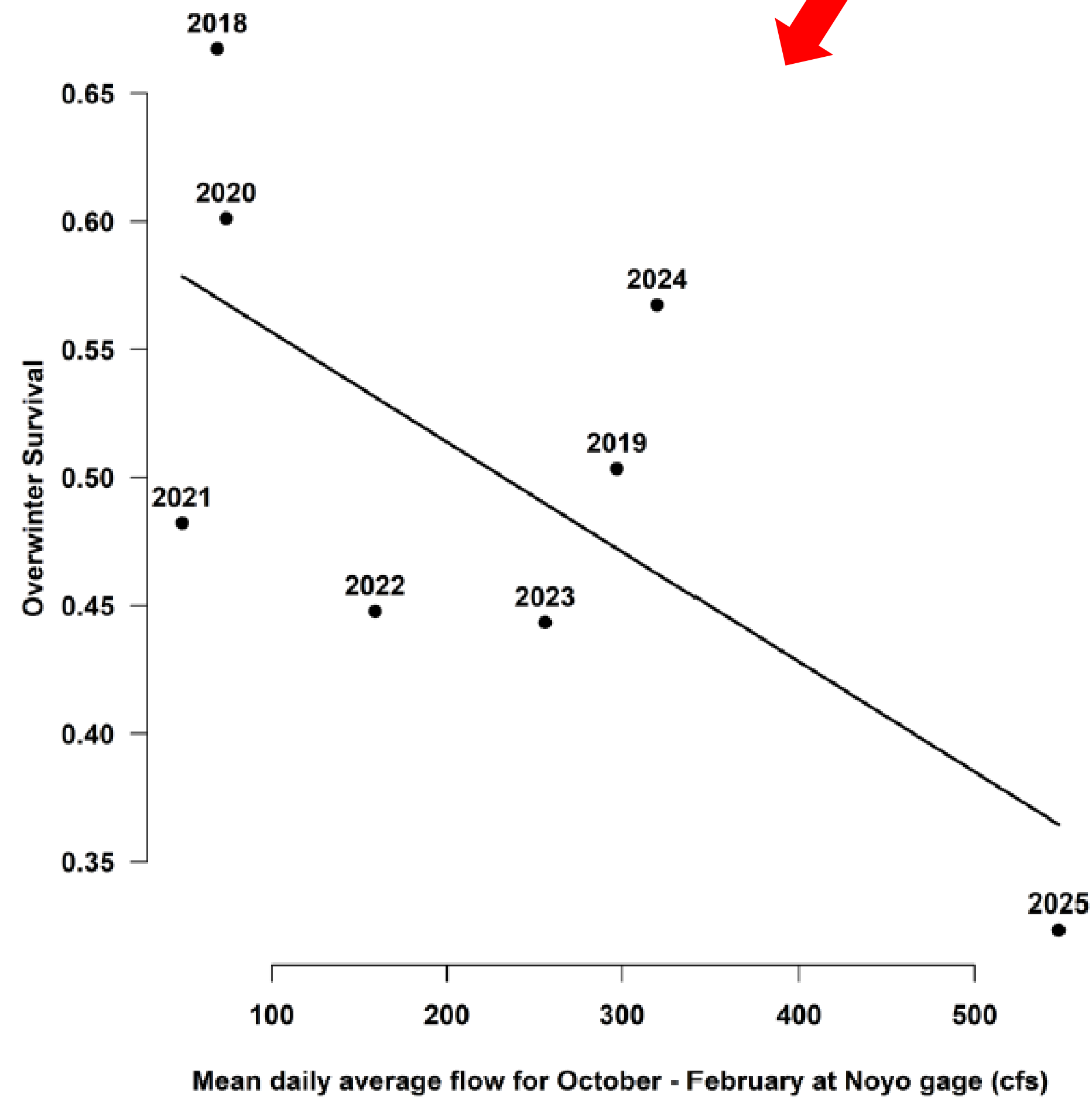


Figure 3-22. Trendline showing a moderately strong negative linear relationship between mean daily winter flow and overwinter survival (OWS).

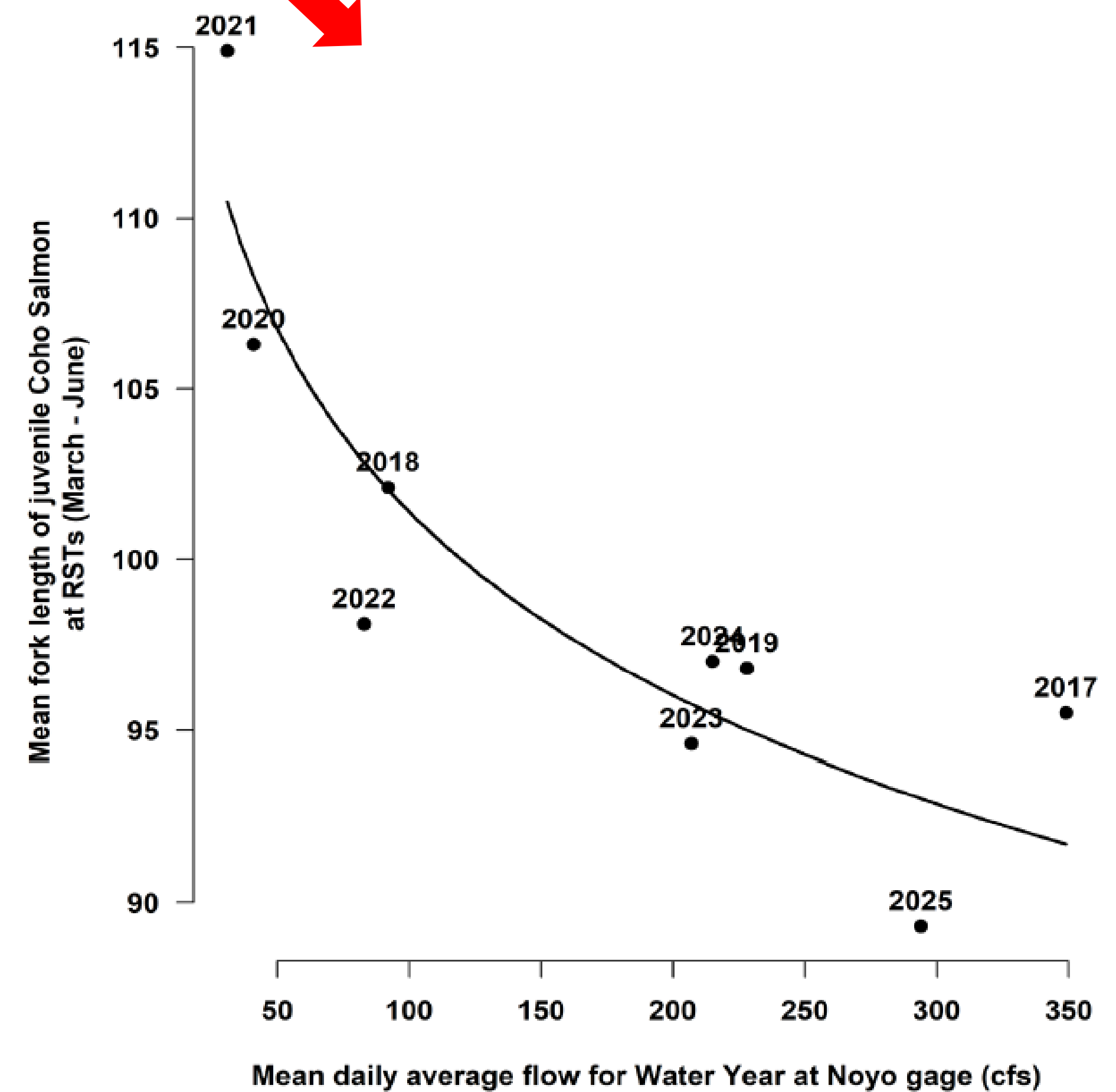


Figure 3-18. Trendline showing a strong, negative log-linear relationship between mean daily flow averaged across the water year and the mean fork length of Coho juveniles as measured in the spring at RSTs. ($r^2 = 0.81$, $P = 0.0008$)

Fish like wood



Fish really like wood in estuaries

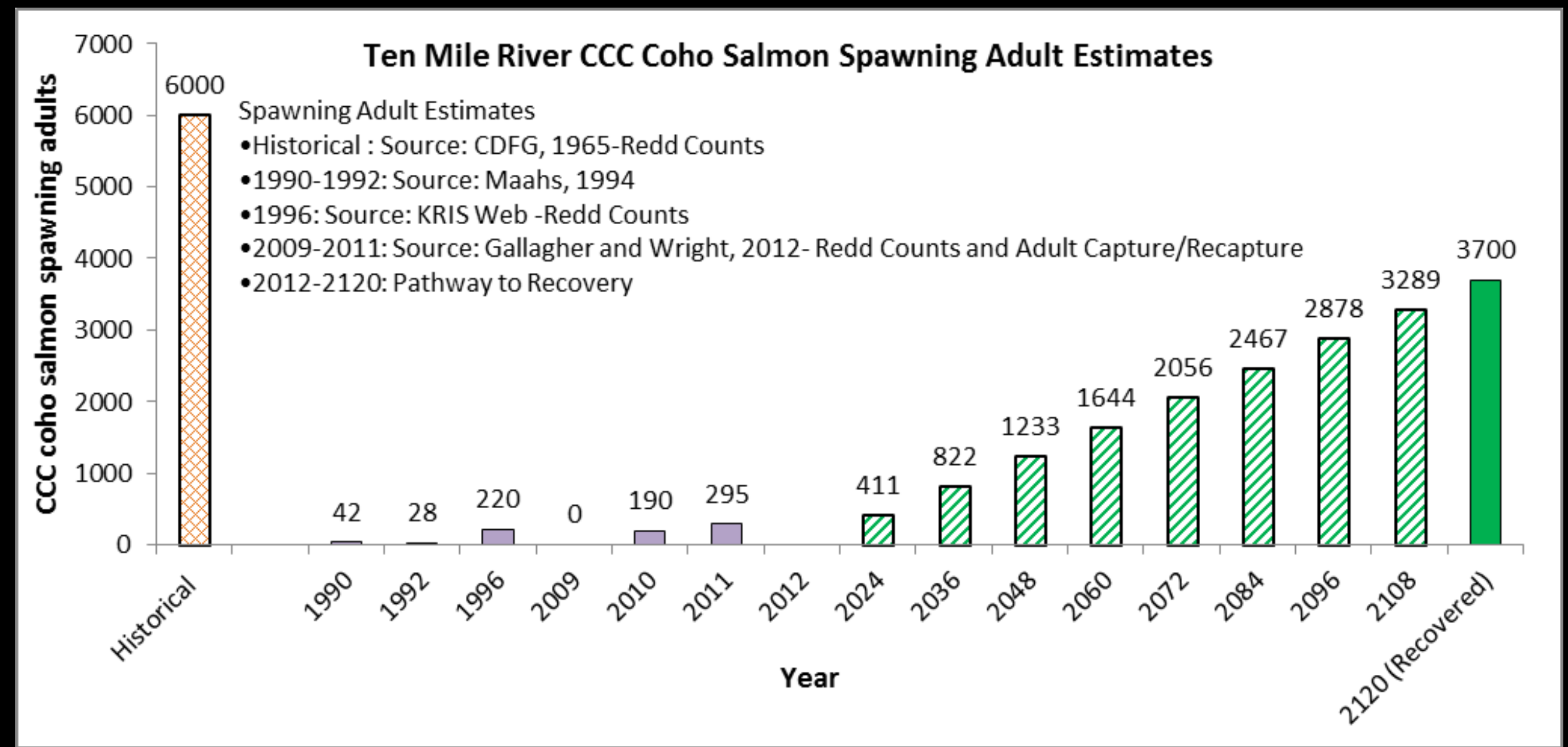
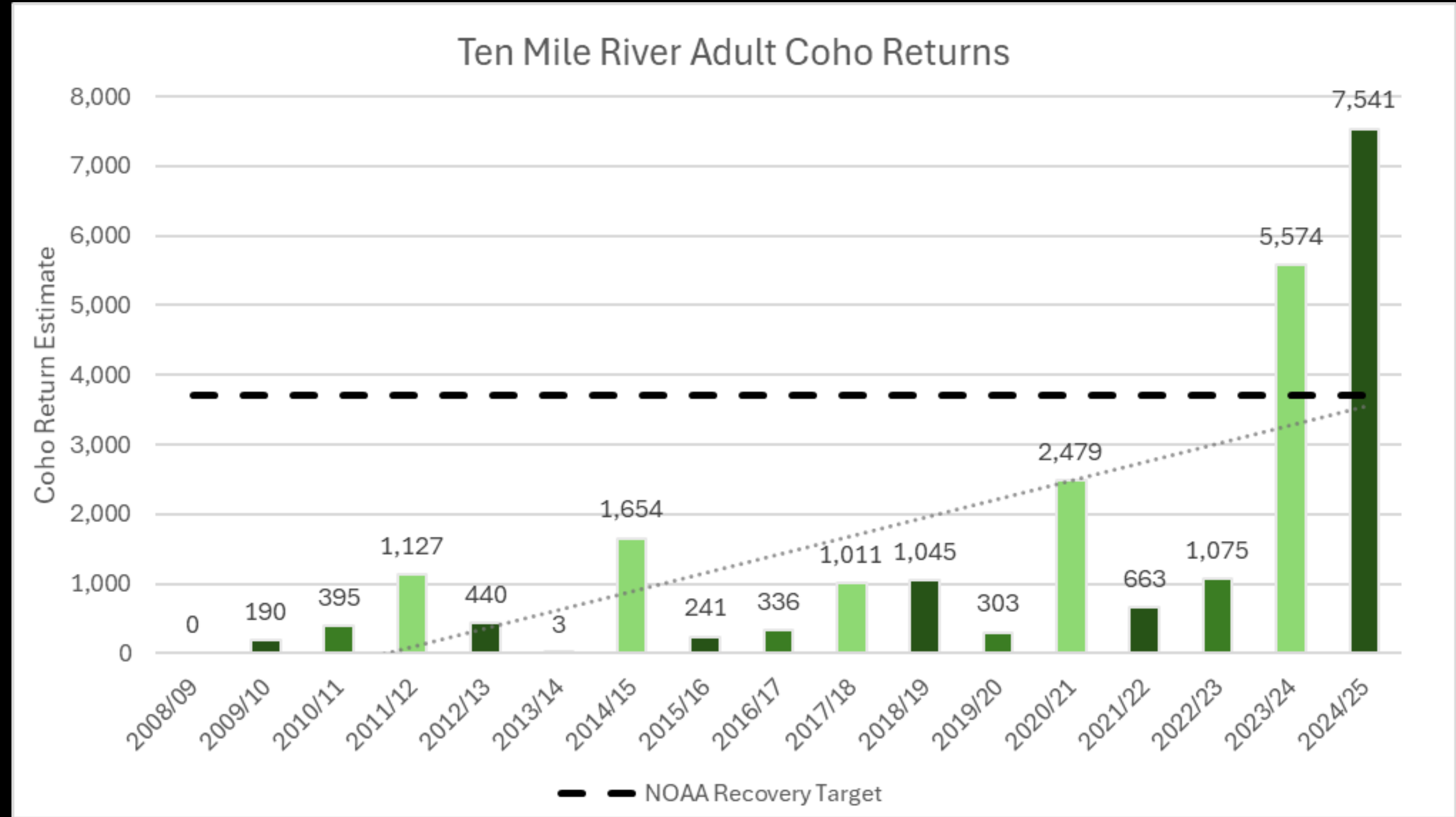




Other critters like restoration, too



(M 12 °C / 53 °F 10/05/2024 07:48:49 PM



Extinction vortex, or.... Recovery vortex?

