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Species in the Spotlight

Central California Coast Coho Salmon

August 19, 2021

Presented by Erin Seghesio

NOAA Fisheries West Coast Region



Credit: Derek Acomb, CDFW

Species in the Spotlight: Taking Action to Save the Most Endangered Marine Species



Atlantic Salmon



**Central California
Coast Coho**



Cook Inlet Beluga



Hawaiian Monk Seal



Pacific Leatherback



North Atlantic Right Whale



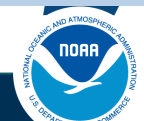
**Sacramento River
Winter-Run Chinook Salmon**



**Southern Resident
Killer Whale**



White Abalone



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SPECIES *in the* SPOTLIGHT
Priority Actions: 2016-2020
**Central California
Coast Coho Salmon**
Oncorhynchus kisutch



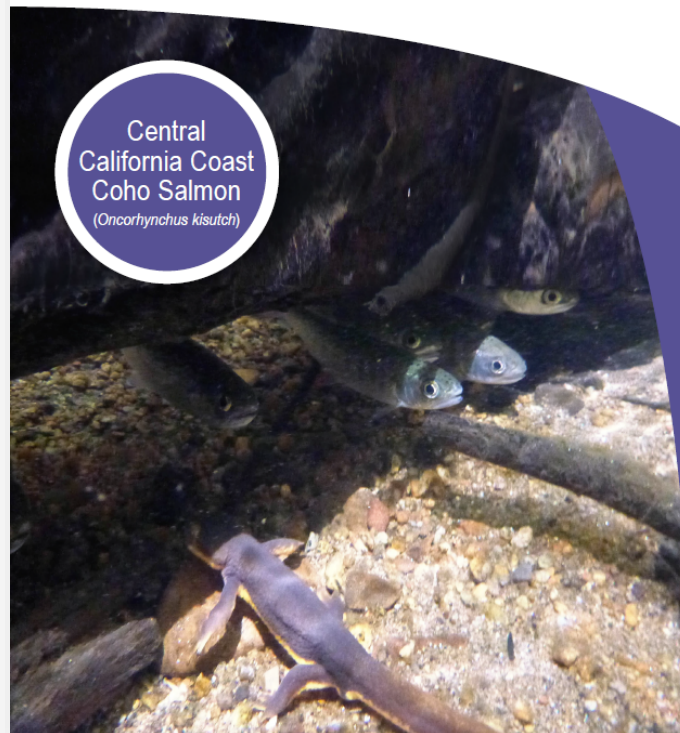
SPECIES in the SPOTLIGHT

Priority Actions 2021–2025



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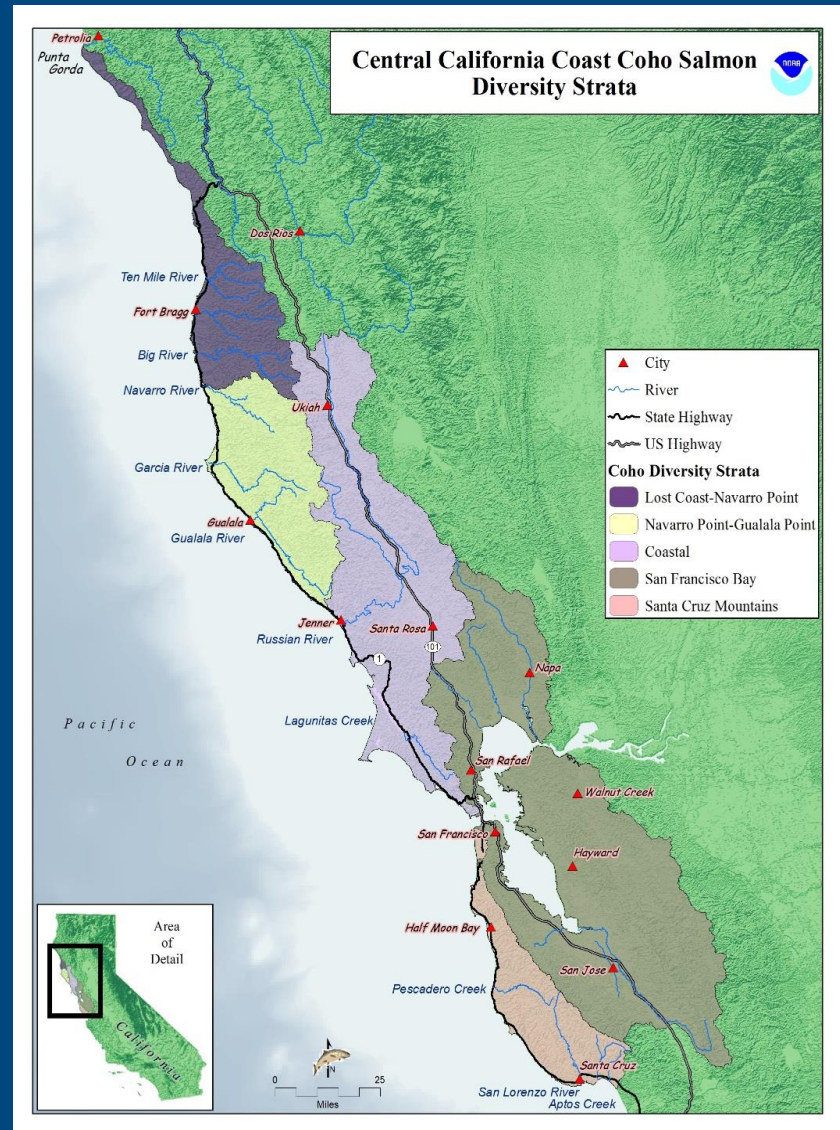
Central
California Coast
Coho Salmon
(Oncorhynchus kisutch)



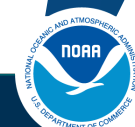
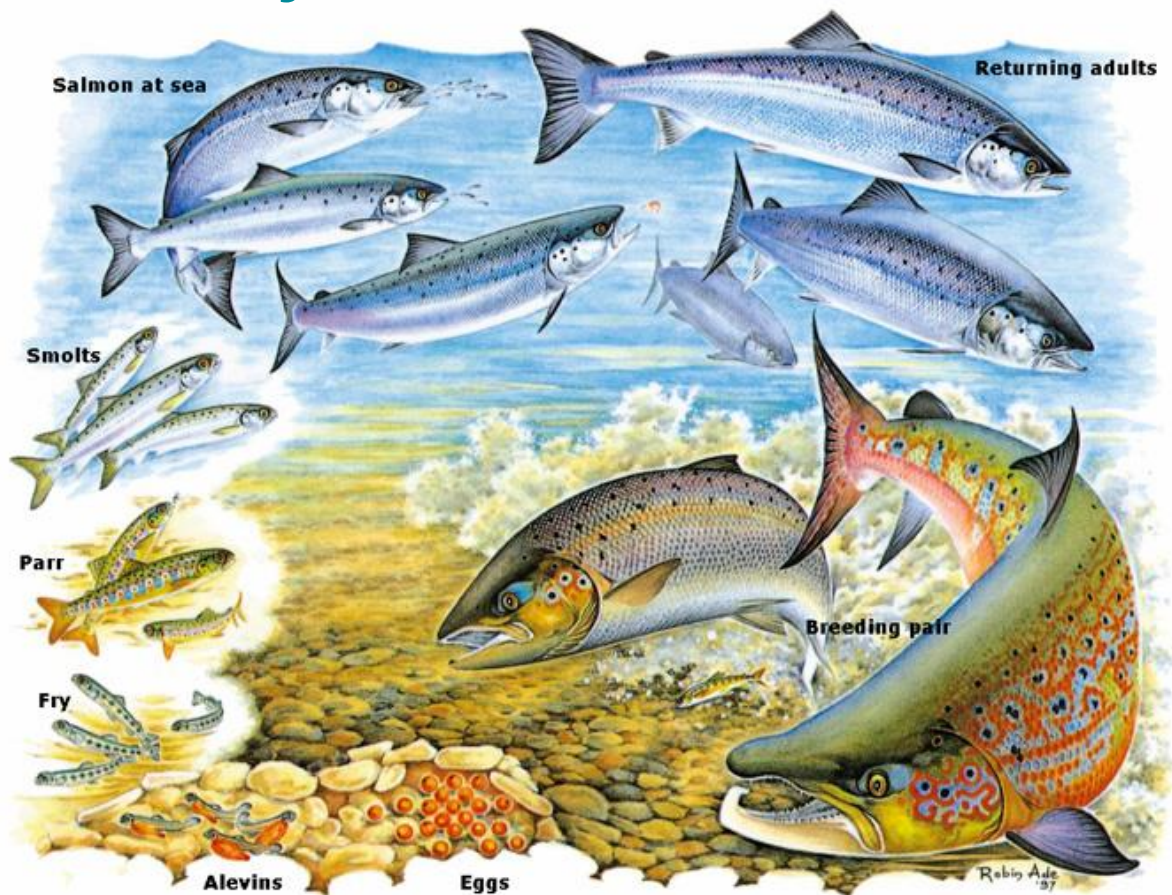
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Central California Coast Coho Salmon

- Range: Mendocino County — Santa Cruz County in California
- Extirpated from San Francisco Bay streams



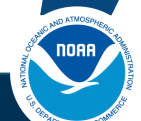
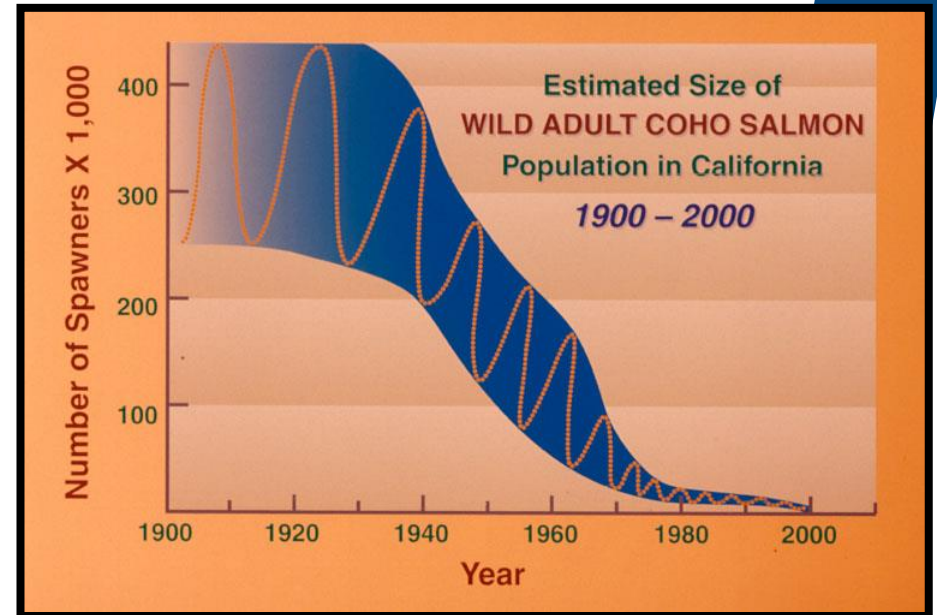
Salmon Life Cycle



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Once Abundant, Now Nearly Gone

- CCC Coho Salmon
 - 1996: Listed as Threatened
 - 2005: Reclassified as Endangered
- 99% reduction in total population
- Persisted in abundance for a million years.
 - 1 human Lifetime Facing Extinction



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Key Efforts (2015-2020)

- Enhanced over 200 miles of habitat:
 - Added more than 6,000 LWD pieces
 - Removed passage barriers
- Completed NMFS' first Safe Harbor Agreement
- Expanded captive rearing to Southern Mendocino Streams
- Improved broodstock husbandry and evaluation of release strategies



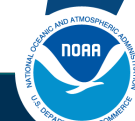
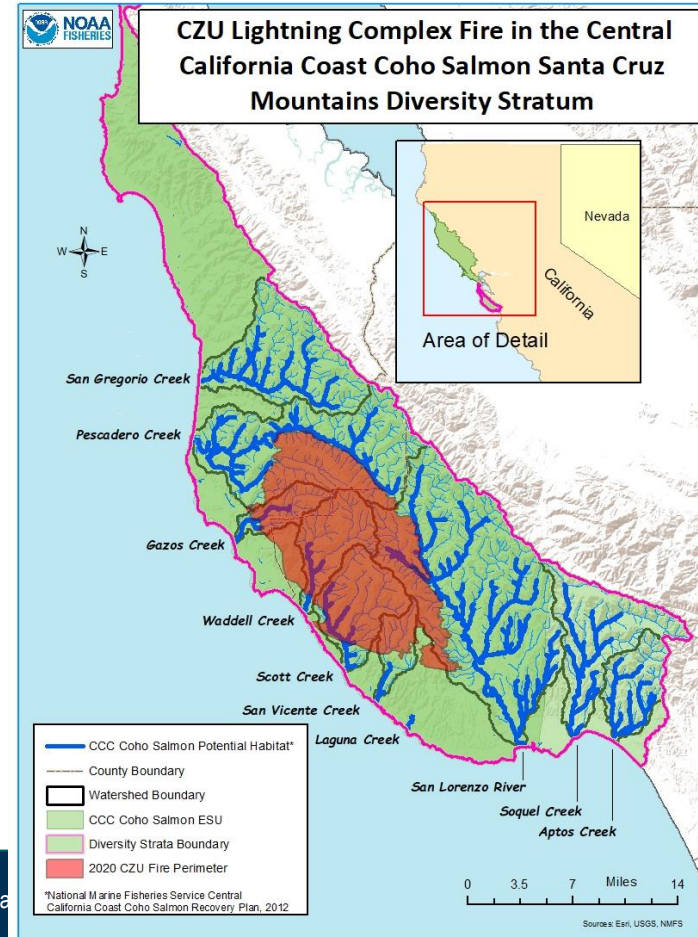
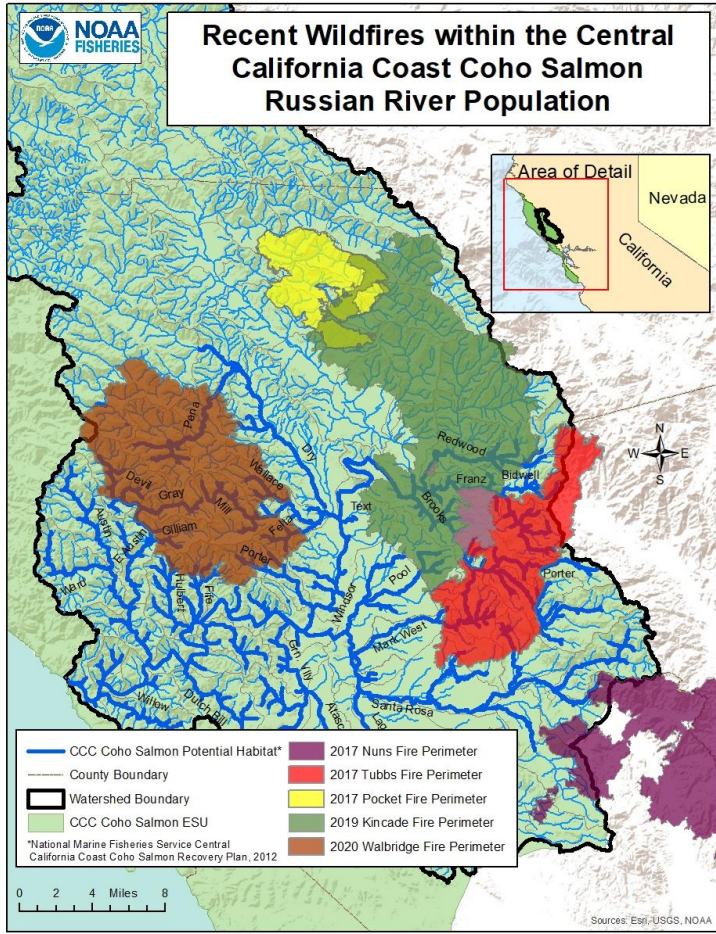
Credit: Jonathan Warmerdam, NCRWQCB



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Emerging Challenge

- Climatic extremes and fires



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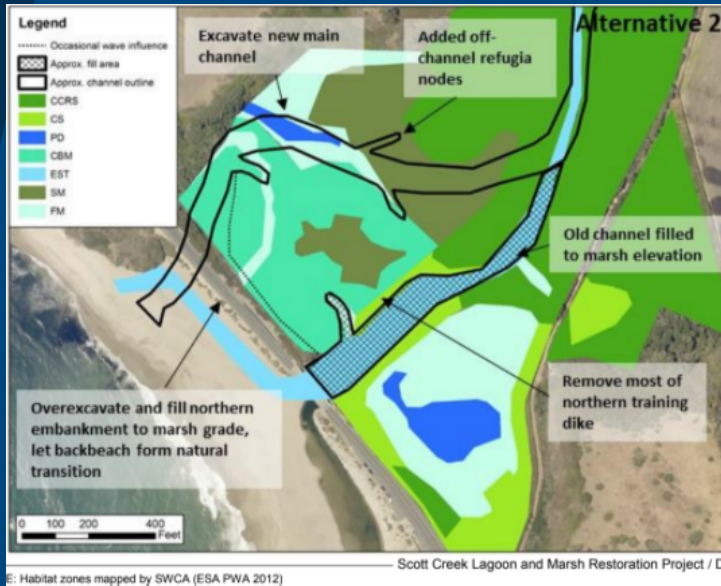
SIS Actions (2021-2025)

- Summit to Sea—Watershed Restoration
- Improving Instream Flow
- Continue and Expand Captive Broodstock Programs
- Partnering and Outreach
- Monitoring and Research—Dynamic and Changing Landscape



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Summit to Sea— Watershed Restoration



Credit: The Nature Conservancy

Ecosystem-Scale

Watershed-Scale



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Improve Instream Flow

- Safe Harbor Agreements
- Sustainable Groundwater Management Act
- San Mateo Resource Conservation District's Ponds for Farms, Fish and People



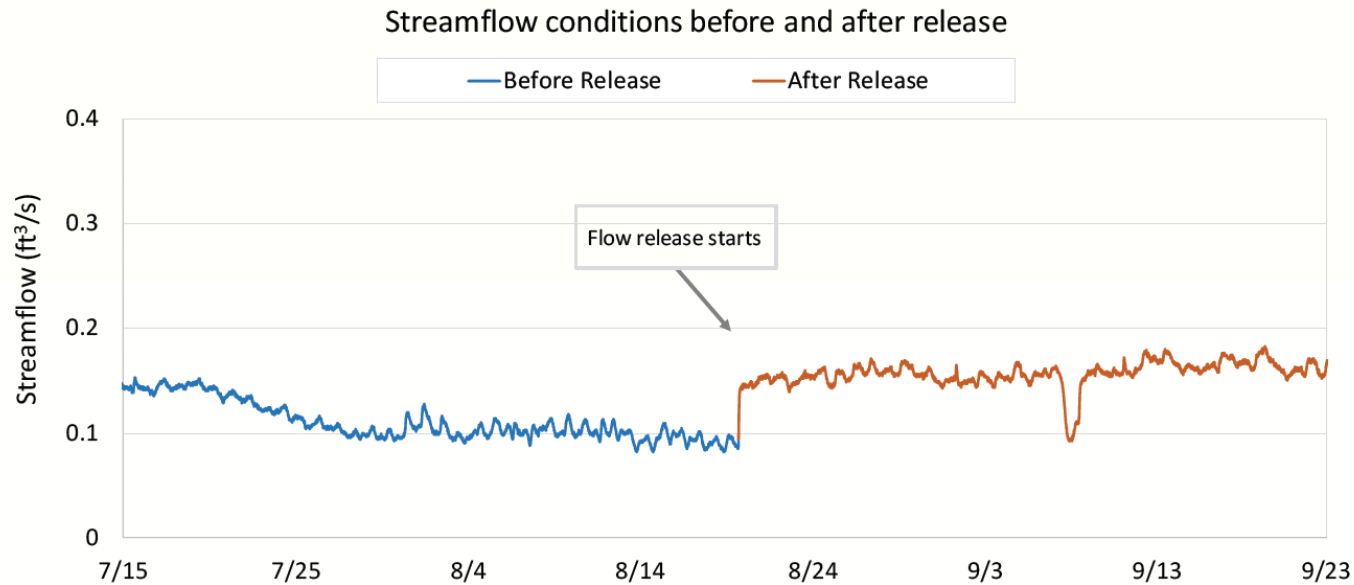
Credit: Russian River Coho Water Resources Partnership



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Safe Harbor Agreements

- Augmentation of summer flows using off-channel water sources
 - Coastwide programmatic



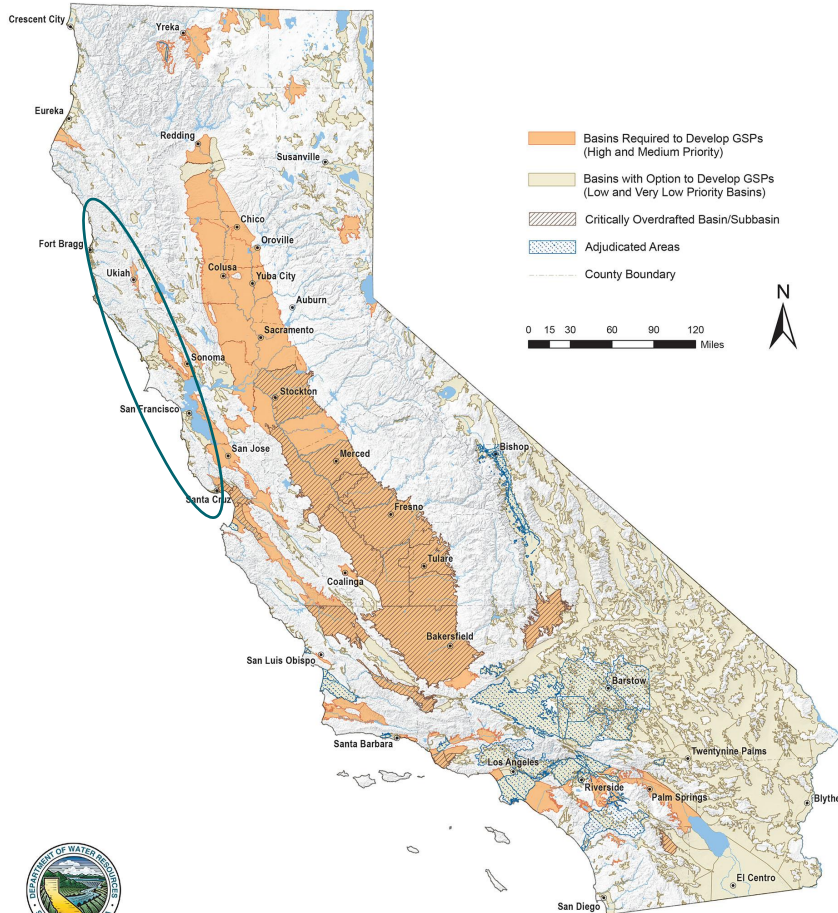
Gage data from a dry year (2017) show a flow release increased streamflow conditions by approximately 175%.

Credit: Russian River Coho Water Resources Partnership



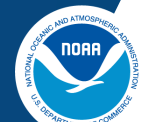
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Sustainable Groundwater Management Act (SGMA)



Department of Water Resources, Public Affairs Office April 28, 2020

- SGMA seeks to minimize streamflow depletion impacts resulting from groundwater pumping
- NMFS has been actively engaged and emphasizing groundwater management criteria that protects salmonids.
- Plans must be completed 1/2022.
 - Review process expected to take two years



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San Mateo RCD's Ponds for Farms, Fish and People

- Building off-stream water storage
- Reduces water withdrawals during the dry season
- Provides drought preparedness



Credit: Russian River Coho Water Resources Partnership



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Continue and Expand Captive Broodstock Programs

- Russian River Coho Salmon Captive Broodstock Program
- Southern Coho Salmon Captive Broodstock Program



Credit: Dan Wilson, NMFS



Credit: Ben White, USACE



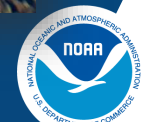
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Russian River Coho Salmon Captive Broodstock Program

- Modern facility rearing coho salmon from 3 of the 4 Diversity Strata
- Providing a needed boost to population abundance, distribution and diversity as a stop-gap
- Produces ~ 200k coho/year
 - Increased returns in the Russian River to several hundred adults annually



Credit: Manfred Kittel, CDFW



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Partnering and Outreach

- Mendocino Coho Salmon Supplementation Program Partnership
- Salmonid Habitat Restoration Priorities Partnership



Credit: Heather Gately, TNC



Credit: David White, NOAA RC



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Mendocino Coho Salmon Supplementation Program Partnership

- Initiated in 2018, due to historically low abundances throughout the diversity stratum.
- Coho rearing at Don Clausen Fish Hatchery by USACE
- Diverse Partnership

Credit: The Nature Conservancy



Salmonid Habitat Restoration Priorities (SHaRP) Partnership

- A process to identify effective restoration actions within salmonid strongholds
- Priorities are decided by collaboration and consensus based on the best available information and expertise
- Sub-watershed focus (HUC-12)
- Joint NMFS/CDFW led effort

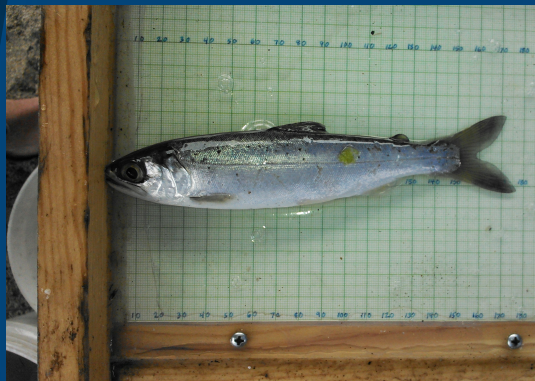


Salmon Habitat Restoration Priorities (SHaRP)

Credit: Julie Weeder, NMFS



Monitoring and Research— Dynamic and Changing Landscape



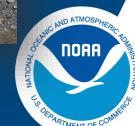
Credit: Nic Retford, NMFS



Credit: Ben White, USACE



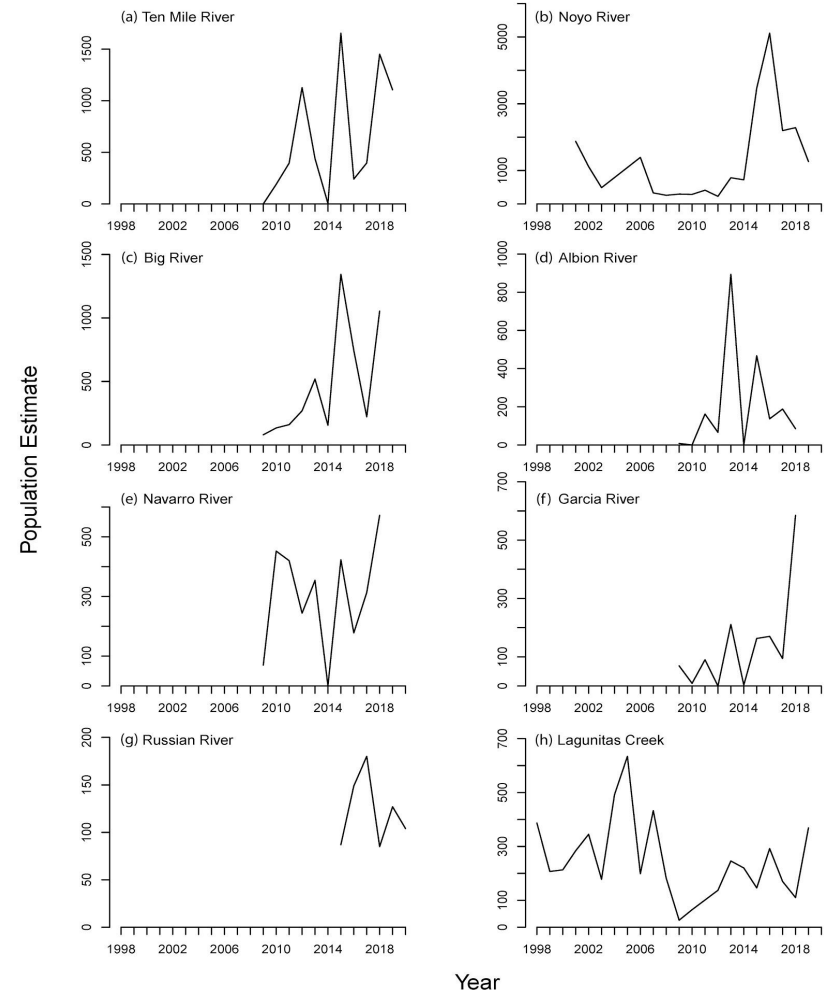
Credit: Heather Gately, TNC



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Monitoring and Research:

- Coastal Monitoring Program: increases our understanding of coho salmon's
 - status
 - life history
 - response to disturbance regimes
- Programs are being discontinued because of a lack of funding
 - threatens our ability to make informed decisions

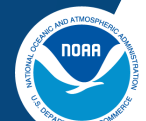


Credit: Spence *et al.* in prep

Year

Monitoring and Research:

- Allow for innovation and adaptation of conservation broodstock programs



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Thank you and Questions



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