Accelerating Restoration—New Tools to Get the Job Done

A Concurrent Session at the 39th Annual Salmonid Restoration Conference held in Fortuna, California from April 24–28, 2023

Session Coordinators:

- Ruth Goodfield, NOAA Restoration Center
- Erika Lovejoy, Sustainable Conservation
- Jake Shannon, North Coast Regional Water Quality Control Board

The major laws created to protect the environment— while essential—do not provide a separate approval process for advancing beneficial projects that fix environmental problems. Without alternative pathways in place, restoration projects are subject to the same regulatory procedures as housing, shopping malls, and other development projects. It can be a very expensive, lengthy and complex process and sometimes a major disincentive to getting this important work done.

The State's Cutting Green Tape Initiative and Governor Newsom's Executive Order N-82-20 both call for immediate actions to simplify the permitting process so essential projects to restore degraded habitats, recover endangered species, and adapt to climate change can be implemented at an accelerated pace and larger scale while complying with existing regulations. Project proponents desire more regulatory certainty, efficiency, and partnership with the agencies to achieve their collective environmental goals.

Sustainable Conservation has been collaborating with project proponents and state and federal agencies as a technical partner to help create innovative, dedicated regulatory pathways for restoration that both meet environmental protection mandates and efficiently move projects forward. The NOAA Restoration Center has been a major leader and early adopter of this type of work, and now, through a collaborative effort between the U.S. Army Corps of Engineers, NOAA Restoration Center, U.S. Fish & Wildlife Service, and the State Water Resources Control Board, along with input from the California Department of Fish and Wildlife (CDFW), two new statewide alternative pathways for projects of all sizes were approved in August. They serve as companions to CDFW's Habitat Restoration and Enhancement Act and other existing tools for efficiently permitting restoration projects.

Sustainable Conservation will provide a high-level overview of the significant progress made to simplify permitting for restoration in California, technical resources available to help project proponents and agency staff utilize new regulatory tools, and highlights of future work to incentivize and accelerate restoration. This presentation will set the stage for agencies to present on the details of their groundbreaking new authorizations designed to "cut green tape" and create a more coordinated, expedited, and collaborative process for regulatory review of restoration..

Presentations

- Slide 4, **Solving the Puzzle to Accelerate Restoration—Statewide Progress on Efficient Permitting**, Erica Lovejoy, *Sustainable Conservation*
- Slide 19, **Permitting Efficiences for Restoration Projects Through NOAA Restoration Center**, Ruth Goodfield, *NOAA Restoration Center*
- Slide 49, **Aquatic Restoration Projects Made Easier in California Thanks to New Statewide Programmatic Endangered Species Action Section 7 Consultation Available to Federal Agencies**, Marissa Reed, U.S. Fish and Wildlife Service
- Slide 70, **Applying New Tools to Support Aquatic Habitat Restoration Projects**, Jake Shannon and Jonathan Warmerdam, *North Coast Regional Water Quality Control Board*
- Slide 83, **Cutting the Green Tape with the California Department of fish and Wildlife**, Brad Henderson, *CDFW*
- Slide 117, **Constraints and Initial Solutions to Increasing the Pace and Scale of Riverscape Restoration: Summary from the 2023 NOAA Organized Riverscape Restoration Workshop**, Brian Cluer, *NOAA Fisheries*

Concurrent Session: Accelerating Restoration – New Tools to Get the Job Done

Salmonid Restoration Federation Conference

Session Outline

Speakers

- Erika Lovejoy, Sustainable Conservation
- Bob Pagliuco, NOAA Restoration Center
- Marissa Reed, US Fish and Wildlife Service
- Jake Shannon, North Coast Regional Water Board
- Brad Henderson, CA Dept of Fish and Wildlife
- Brian Cluer, NOAA Fisheries

Followed by Panel Discussion – Sharing Big Ideas!

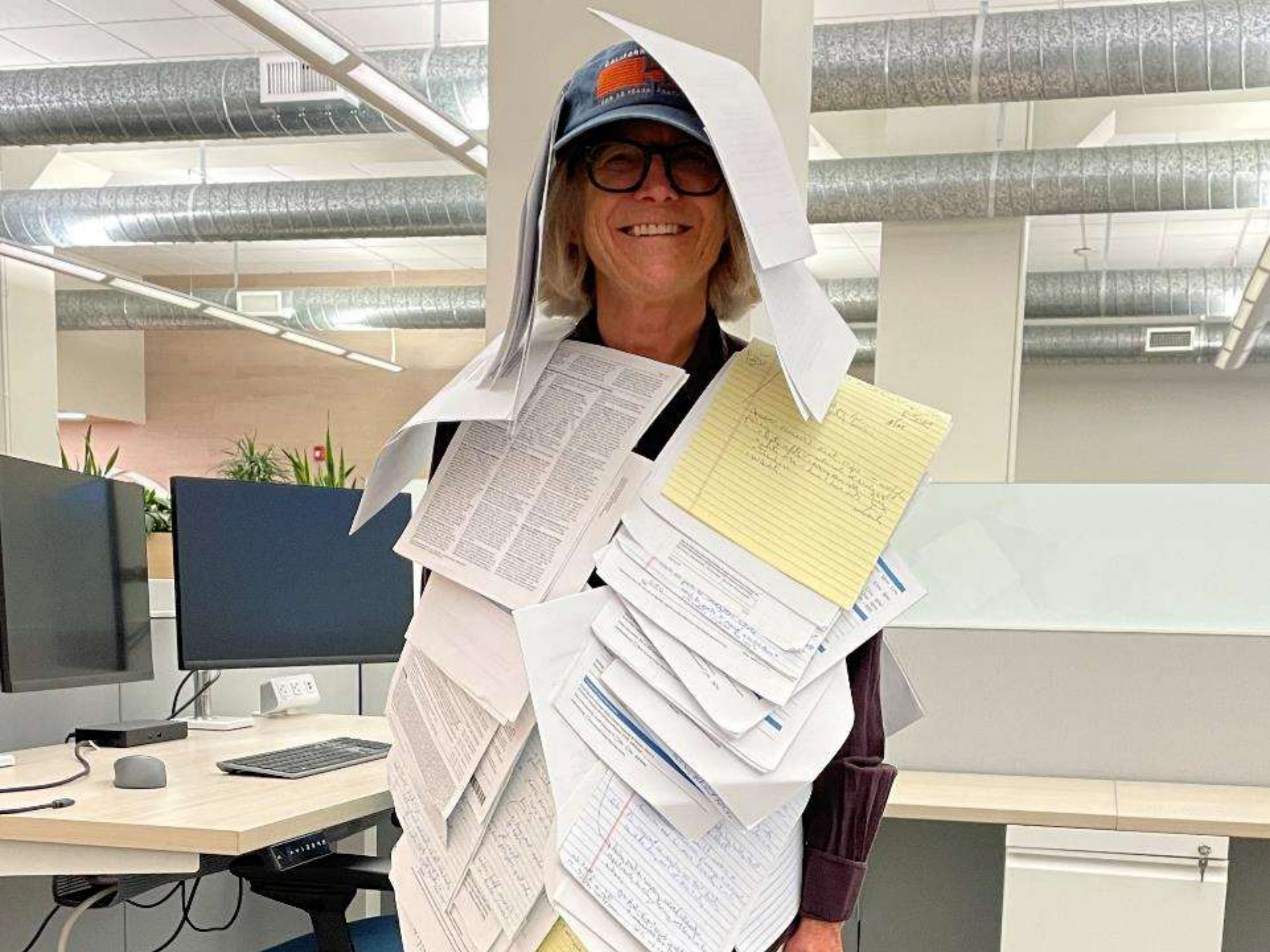
Solving the Puzzle to Accelerate Restoration – Statewide Progress on Efficient Permitting

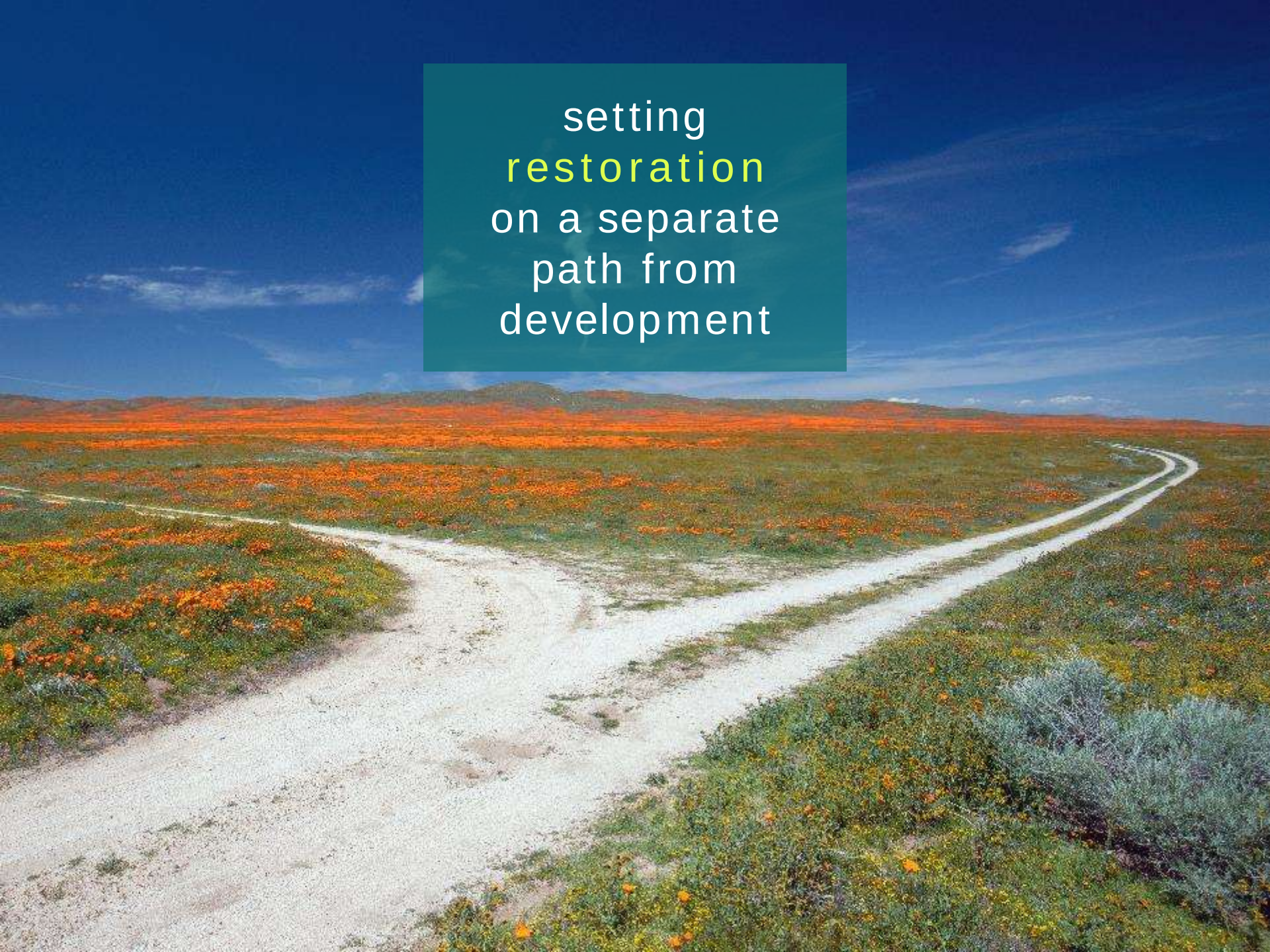
Erika Lovejoy
co-authors: Stephanie Falzone, Katie Haldeman

April 28, 2023

Salmonid Restoration Federation Conference

Sustainable Conservation




setting
restoration
on a separate
path from
development

PROGRAMMATIC PERMITS

Pre-written permit for qualifying projects

- Clear requirements = accelerates planning
- Predictable timelines = regulatory certainty
- Time/$ savings = more $ for on-the-ground work

Sustainable Conservation

U.S. FISH & WILDLIFE SERVICE

US Army Corps of Engineers

NOAA

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

U.S. DEPARTMENT OF COMMERCE

CALIFORNIA DEPARTMENT OF FISH & WILDLIFE

CEQA

CALIFORNIA COASTAL COMMISSION

CALIFORNIA Water Boards

STATEWIDE PROGRAMMATIC PERMITTING TOOLBOX

Completed

- ☑ General Order (SHRP) *Small Projects*
- ☑ CatEx 15333 *Small Projects*
- ☑ HREA *Small Projects*

- ☑ Programmatic BOs
- ☑ CDs for NOAA Programmatic BOs

NEW!

- ☑ General Order *Larger* Projects
- ☑ SRGO PEIR or CDFW SERP
- ☑ Programmatic BO
- ☑ Federal ESA Coverage

- ☑ Restoration CD or Restoration Management Permit

NEW STATEWIDE PERMITS

Sustainable Conservation

Federal

State

US Fish and Wildlife Service Statewide Programmatic Biological Opinion (PBO)

Statewide Restoration General Order (SRGO) and CEQA PEIR

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NEW!

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Catalysts!

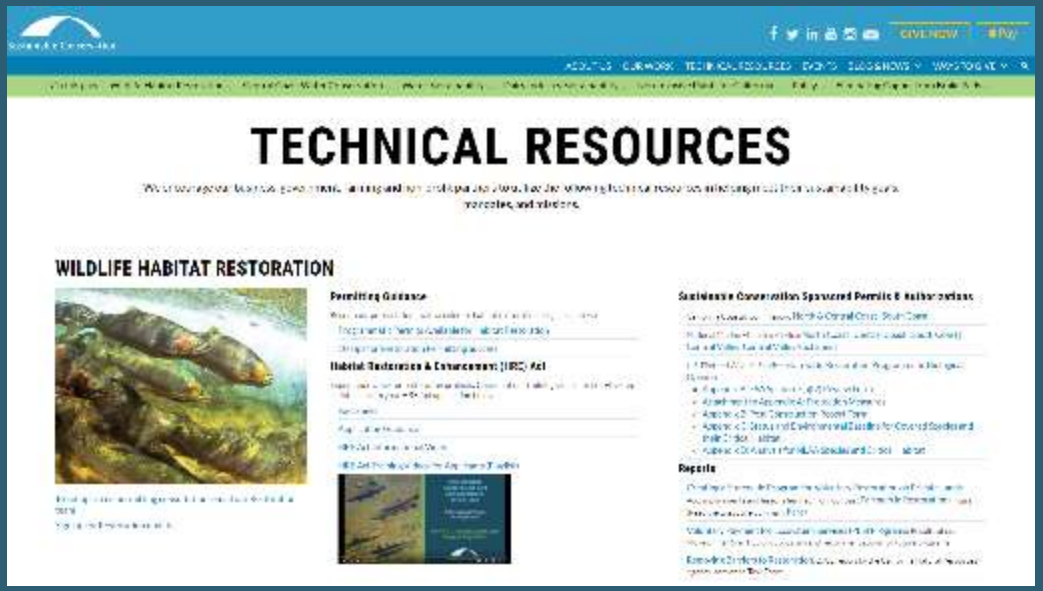
30x30 CALIFORNIA

CUTTING GREEN TAPE
REGULATORY EFFICIENCIES
FOR A RESILIENT ENVIRONMENT
November 2020

CALIFORNIA LANDSCAPE STEWARDSHIP NETWORK

Wade Crowfoot
California Natural Resources Secretary

Where to Get More Info

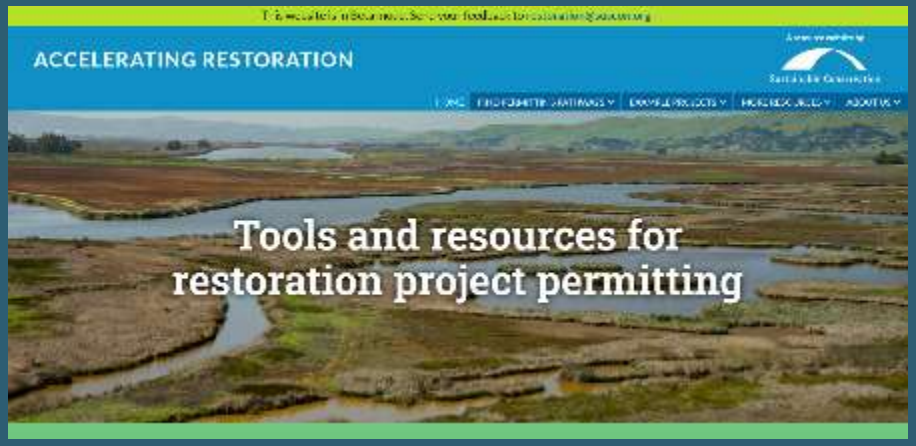


suscon.org/technical-resources

- Email us at restoration@suscon.org
- Sign up for email newsletter
- Links to permit documents and guidance docs

Coming soon...

Accelerating restoration website and protection measures selection tool



Sustainable Conservation

STATEWIDE INITIATIVE FUNDERS

Photo credit: James Wong/DWR

Never bring an umbrella to a **brainstorm...**

Ted Lasso

...On how to come up with bold, new ideas

Panel Discussion

NOAA FISHERIES

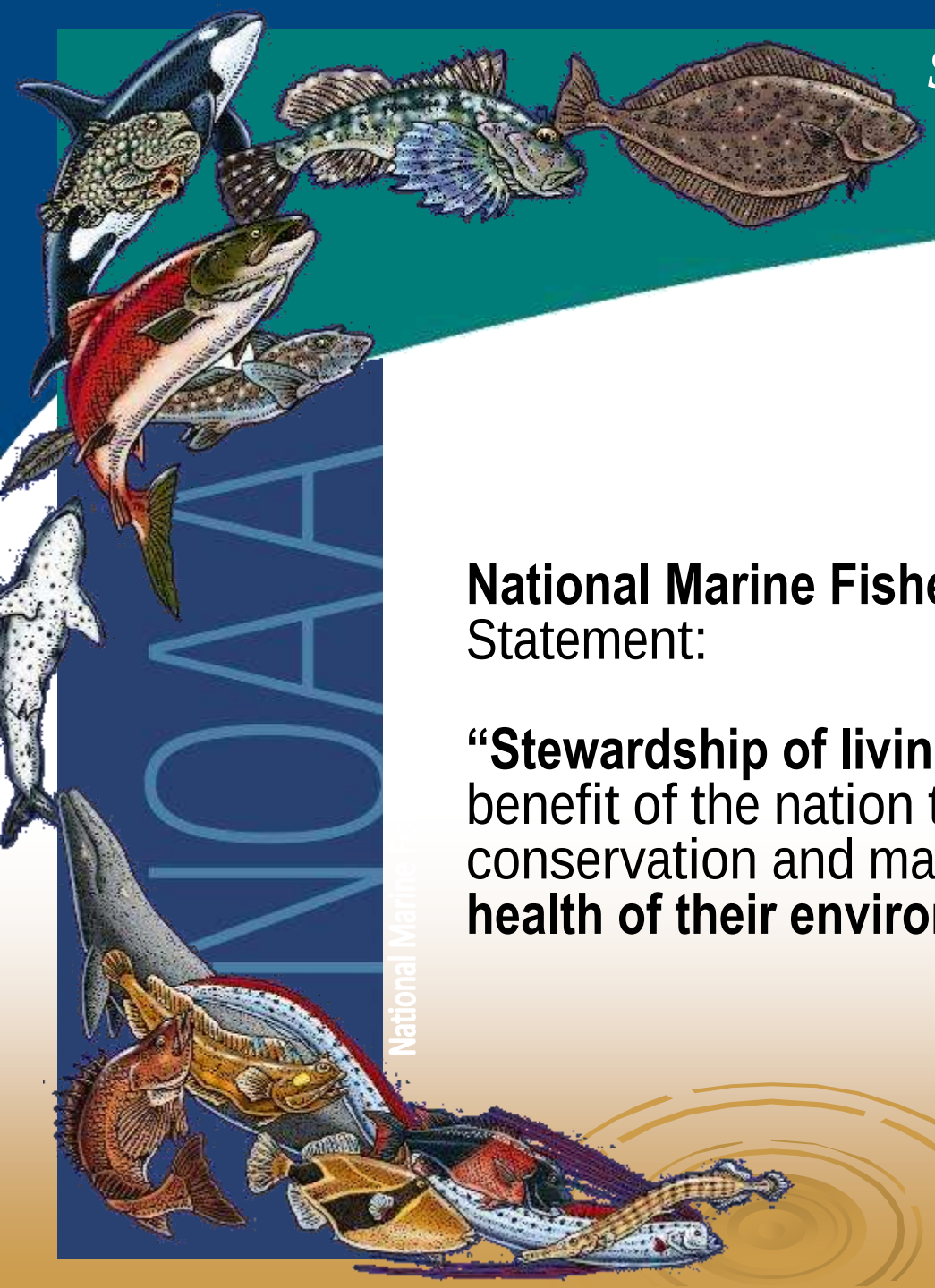
Restoration Center

Permitting Efficiencies for Restoration Projects through the NOAA Restoration Center

An Overview of the NOAA Restoration Center's Programmatic Biological Opinions and Coastal Commission Consistency Determinations in CA

Ruth Goodfield, contractor with NOAA Restoration Center

Salmon Restoration Federation Conference, April 28, 2023



National Marine Fisheries Service's Mission Statement:

"Stewardship of living marine resources for the benefit of the nation through science-based conservation and management and promotion of the **health of their environment."**

ESA and Incidental Take of Listed Species

NOAA FISHERIES

Endangered Species Act of 1973 - provides for the conservation of species that are endangered or threatened throughout all or a significant portion of their range, and the conservation of the ecosystems on which they depend.

DEFINITION of TAKE: To harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct (Section 3)

CIVIL PENALTIES: Fines up to $25,000 per violation (Section 11)

CRIMINAL PENALTIES: Fines up to $50,000 or imprisoned for up to one year, or both (Section 11)

Permits and Authorizations needed for Restoration Projects in CA

US Army Corps of Engineers

U.S. FISH & WILDLIFE SERVICE

NOAA

CALIFORNIA DEPARTMENT OF FISH & WILDLIFE

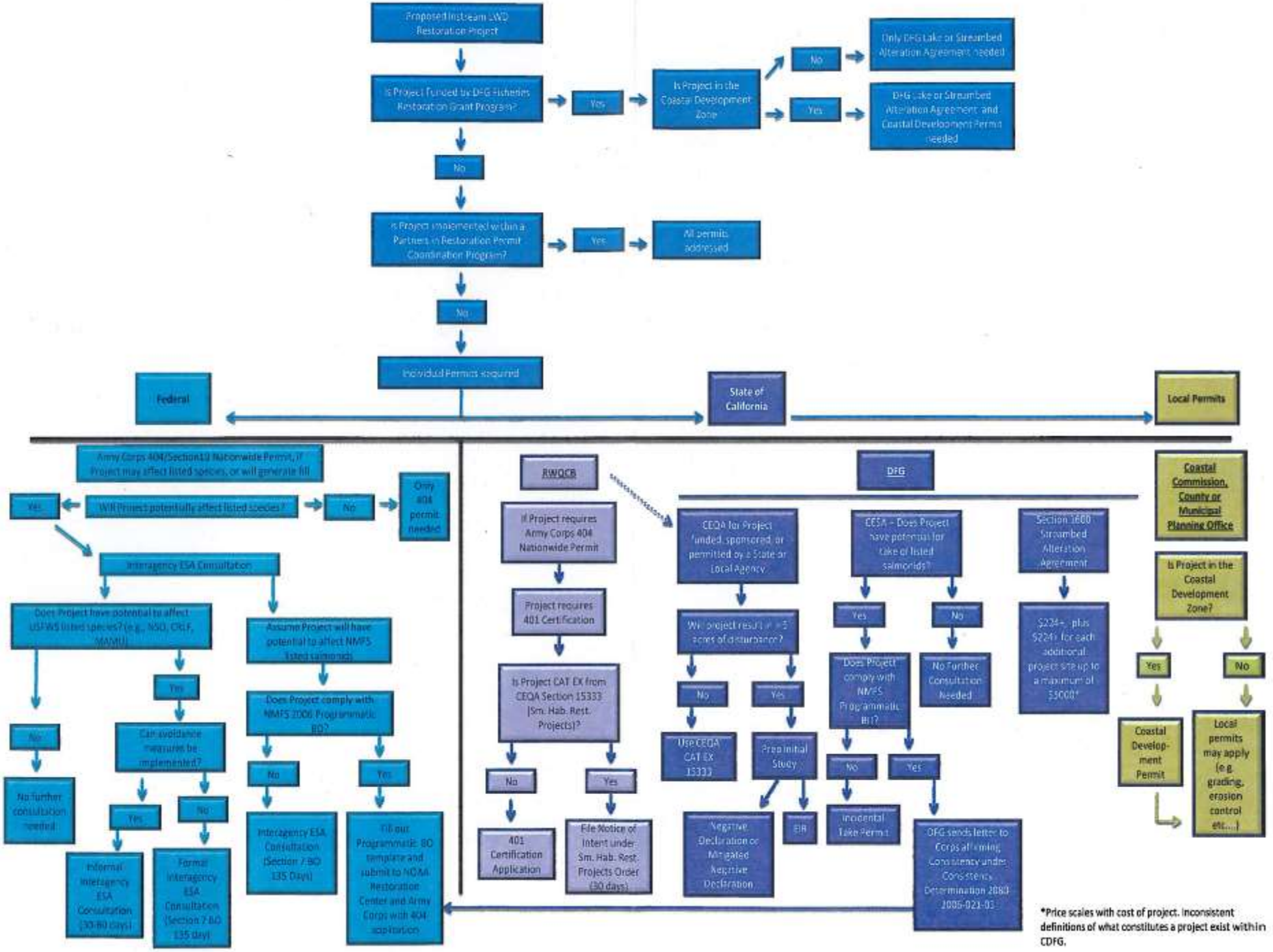
CALIFORNIA COASTAL COMMISSION

CEQA

Water Boards

County

NEPA



*Price scales with cost of project. Inconsistent definitions of what constitutes a project exist within CDFG.

Programmatic or "Simplified" *Permitting*

A more efficient regulatory process for qualifying projects that:

- ✓ Covers specific project types and habitat
- ✓ Lays out conditions up front
- ✓ Saves time and resources
- ✓ Protects T and E Species

Traditional ESA Section 7 Permit Process

- Develop and define project
  - Construction approach
  - Timing and sequencing
- Prepare BA
  - Conservation measures
  - Effects analysis
- Initiate consultation, agency review, and interaction
- Potential changes in approach, new measures added
- Up to 135 day review

versus

Programmatic ESA Section 7 Process

- Develop project by reviewing PBO sideboards to inform best approach to:
  - Construction, timing
  - Conservation measures
- No BA preparation
- Effects analysis is prescribed
- Consultation and agency review accelerated
- Shorter review time

NOAA RC Programmatic Biological Opinions

NOAA FISHERIES

- Santa Rosa – 2006 and 2016
- Northern CA/Arcata – 2012 and 2022
- Southern CA/Long Beach – 2015
- Central Valley/Sacramento – 2018

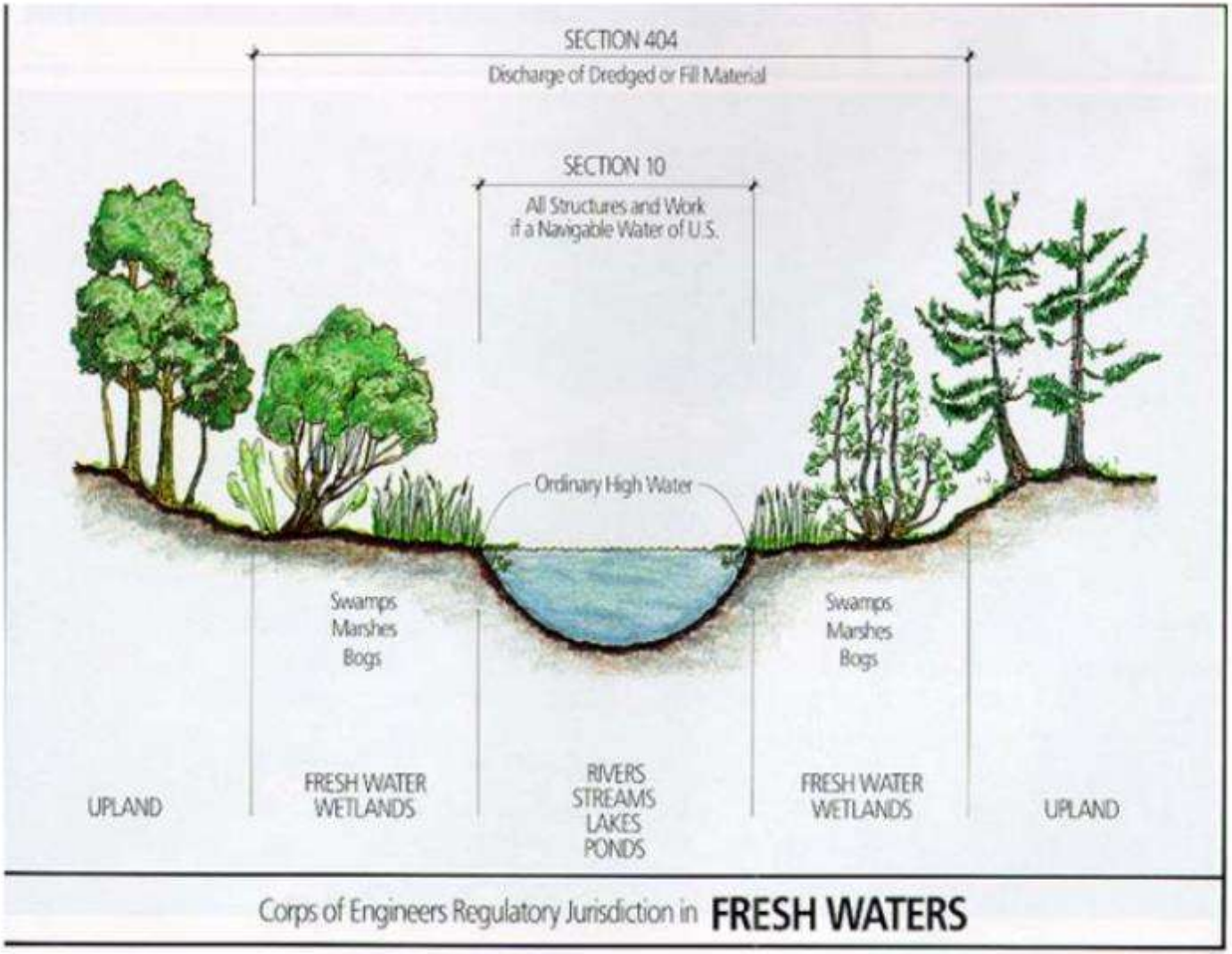
Federal Nexus

- NOAA Restoration Center funding (or technical assistance)
- US Army Corps Issuance of Section 404 (CWA) or Section 10 (HRA)

NOAA RC Programmatic is not a blanket permit (i.e., it is not a Regional General Permit) and only provides Federal ESA coverage

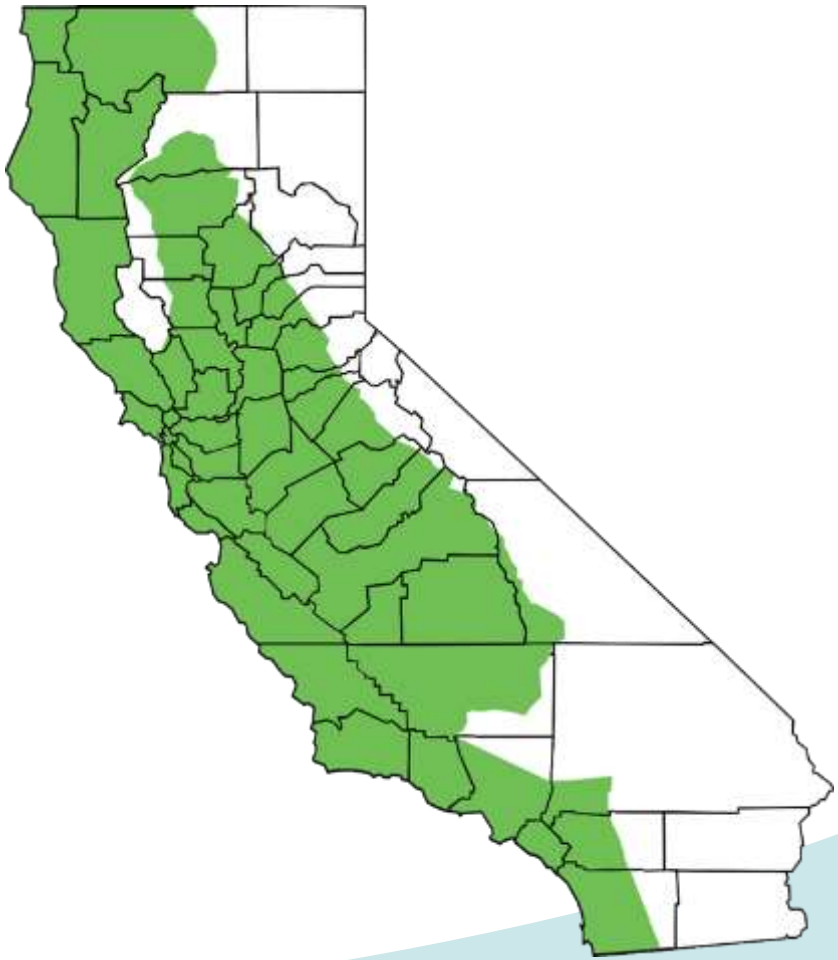
US Army Corps of Engineers Jurisdiction

NOAA FISHERIES

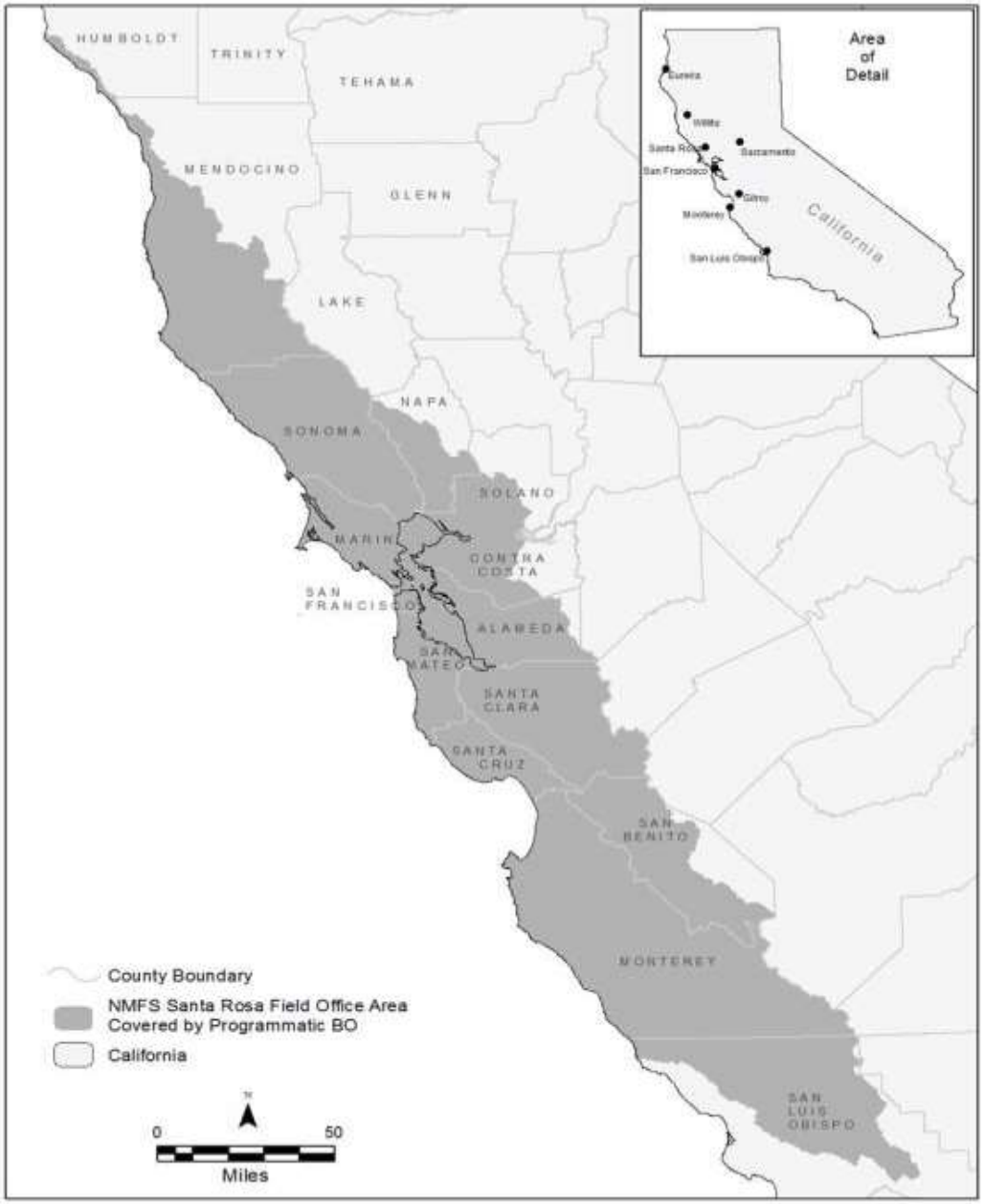


NOAA FISHERIES

Current Coverage: andromous waters of California



Central Coast-Mendocino/Santa Rosa PBO



- PBO Duration: 2016-indefinite
- Coverage - all coastal anadromous streams and estuaries (excluding the San Francisco Bay) from San Luis Obispo County (Salinas River and tributaries) north to, but not including, the Mattole River.
- Species Covered
  - Endangered CCC coho salmon ESU
  - Threatened NC steelhead Distinct Population Segment (DPS)
  - Threatened CCC steelhead DPS
  - Threatened S-CCC steelhead DPS
  - Threatened CC Chinook salmon ESU
  - Critical Habitat and EFH

Covered Activities – Santa Rosa

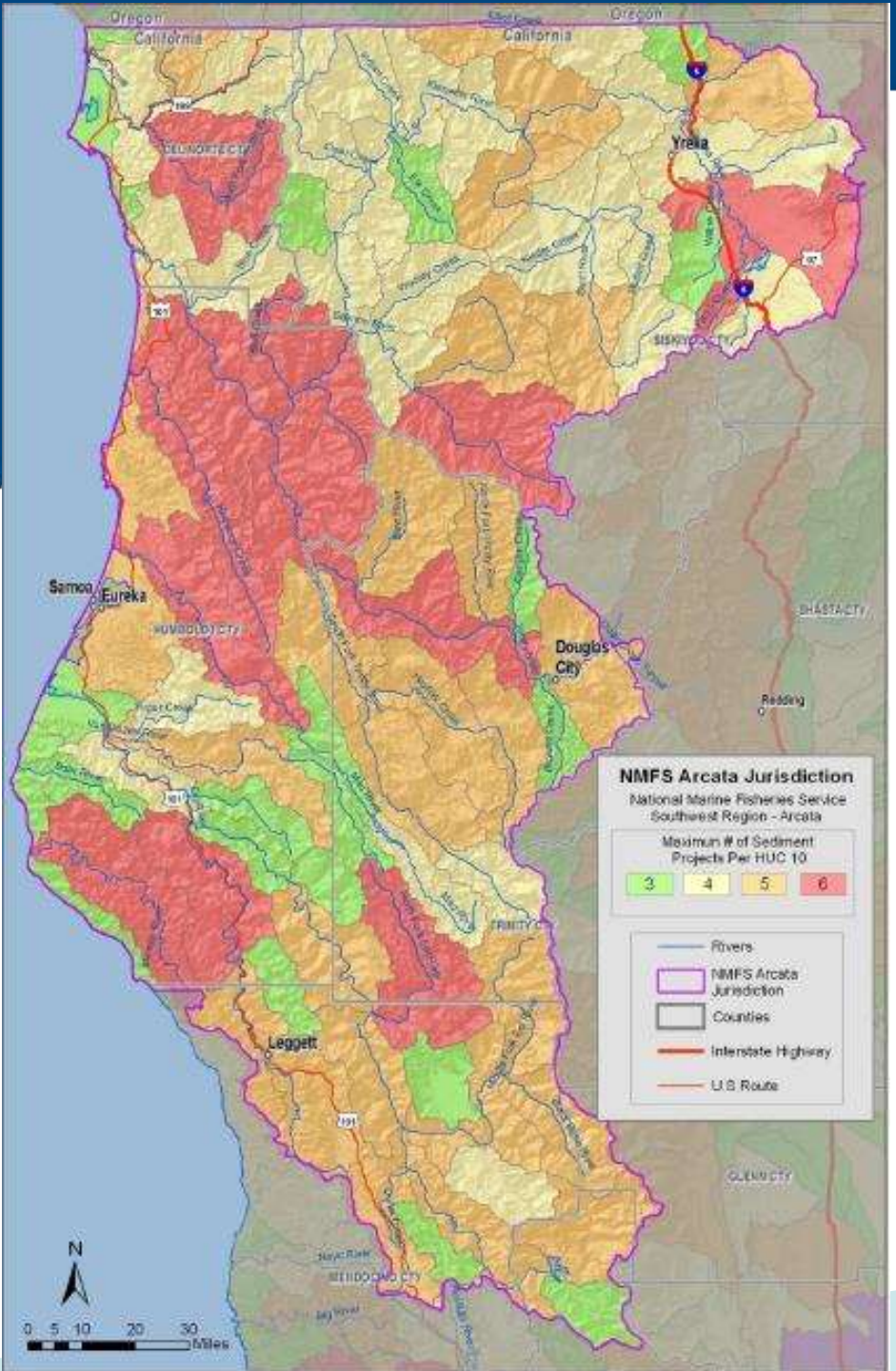
NOAA FISHERIES

- Instream Habitat Improvements
- Instream Barrier Modification/Passage Improvement
- Stream Bank and Riparian Habitat Restoration
- Upslope Watershed Restoration
- Creation of Off-channel/Side-channel Habitat Features
- Removal of Small Dams
- Water Conservation Projects
- Beaver Dam Analogues

Santa Rosa PBO Limitations

NOAA FISHERIES

- Maximum of 40 projects per year to be authorized under the Program
- Construction window is from June 15 Through October 31.
- Dewatered area ≤ 1000 feet
- ≤ 1 acre disturbed for staging area
- Any stream crossing removals in a salmonid bearing stream must be 1500 meters apart.
- Crossings in a non-fish bearing stream must be 100 feet apart.
- Overstory canopy cannot be reduced by more than 20%
- Removal of native trees with defects, cavities, leaning toward the stream channel, nest, late seral characteristics, and large snags > 16 in diameter at breast height (dbh) will be retained.*
- Downed trees (logs) > 24 in. dbh and 10 ft. long will be retained on upslope sites or used for instream habitat improvement projects.



Northern CA/Arcata PBO

PBO Duration: 2022- Indefinite

Coverage from the Mattole River to the OR border

Species Covered

- Threatened Southern OregoniNorthern California Coast (SONCC) coho salmon ESU
- Threatened California Coastal (CC) Chinook Salmon ESU
- Threatened Northern California (NC) steelhead DPS
- Threatened Southern DPS of Pacific Eulachon
- Endangered Southern Resident Killer Whales DPS
- Threatened Southern DPS of North American Green Sturgeon
- Critical Habitat and EFH

Covered Activities - Arcata

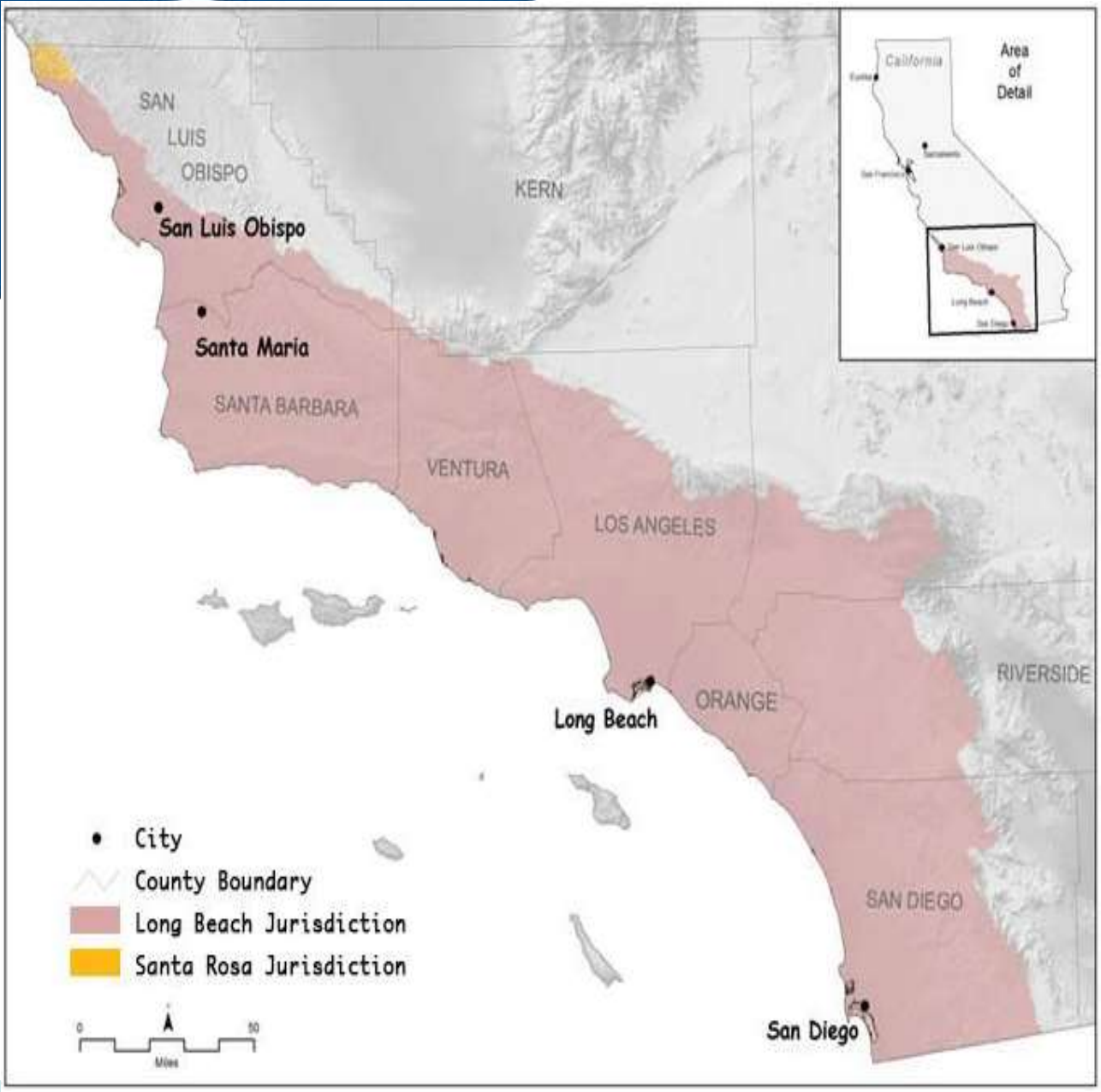
- Improvements to stream crossings and fish passage
- Removal of small dams, tide gates, levees, bank revetments, and other legacy
- Riparian Restoration and Protection
- Restoration and enhancement of off-channel and side-channel habitat
- Restoration and enhancement of tidal, subtidal, and freshwater wetlands
- Floodplain restoration (includes stage zero)
- Water conservation projects for enhancement of fish and wildlife habitat
- Removal of pilings and other in-water structures
- Removal of non-native terrestrial and aquatic invasive species and revegetation with native plants
- Instream Restoration
- Upslope Watershed Restoration

Arcata PBO Limitations

NOAA FISHERIES

- No maximum to the number of projects covered, instead, we limited the number of floodplain reconnection projects over 100 acres, and small dam removals, to one project, per HUC-12, per year.
- No longer a 1,000 ft total limit for stream dewatering activities, but a 1,000 ft at a time limit.
- We added the OR portion of the Klamath River in anticipation of dam removal
- Added language to the Incidental Take Statement so that CDFW could tier off of these documents and issue Consistency Determinations for larger projects, further increasing efficiencies
- Allows for late arriving action agencies and others to ask for concurrence of their inclusion under this program and increase efficiencies for their Section 7 responsibilities.

Southern CA/Long Beach PBO



- PBO Duration: 2015-2025
- Northern San Luis Obispo County line to the U.S.-Mexico border.
- Species Covered
  - Threatened South-Central California Coast Steelhead DPS
  - Endangered Southern California Coast Steelhead DPS

Covered Activities – Long Beach

NOAA FISHERIES

- Instream Habitat Improvements
- Instream Barrier Modification/Passage Improvement
- Bioengineering/Riparian Habitat Restoration
- Upslope Watershed Restoration
- Creation of Off-channel/Side Channel Habitat
- Water Conservation Projects
- Fish Screens
- Removal of Small Dams (explosives allowed)

Southern CA/Long Beach PBO Limitations

NOAA FISHERIES

- Maximum of 15 projects per year to be authorized under the Program
- Dewatered area ≤ 500 feet
- No dam removal projects that impound more than 900-cubic yards of sediment
- No riprap bank protection, other than bridge installation projects where the minimum amount of riprap needed to protect against scour is permitted
- No construction of new or retrofitting of older fish ladders/fish ways
- ≤ 0.5 acre disturbed for staging area
- The general construction season is from June 1 to November 30.
- *Downed trees (logs) > 24-in. dbh and 10-ft. long will be retained on upslope sites or used for instream habitat improvement projects.*

Central Valley/Sacramento PBO

- PBO Duration: 2018- Indefinite
- USFWS is an Action Agency
- Covered Species:
  - Sacramento River winter-run Chinook salmon ESU
  - Central Valley spring-run Chinook salmon ESU
  - Central Valley steelhead DPS
  - Southern DPS of North American Green sturgeon
  - Critical Habitat and EFH

Central Valley/Sacramento - Covered Activities

NOAA FISHERIES

- Levee setback/breaching & floodplain restoration
- Wetland restoration & enhancement
- Creation of off-channel/side-channel habitat
- In-stream habitat improvements
- Bio-engineered streambank stabilization & riparian restoration
- In-stream barrier removal/modification
- Fish screens/diversion screening
- In-stream flow enhancement/ water conservation
- Upslope watershed restoration
- Invasive spp. removal & riparian revegetation (Includes Herbicides)
- Piling and Other Instream Structure Removal to Benefit Water Quality and Habitat
- Seasonal inundation of active ag land for primary productivity
- Fish monitoring

Sacramento PBO Limitations

NOAA FISHERIES

- Maximum of 60 projects per year to be authorized under the Program
- No use of undersized riprap (100 yr flow)
- No managed surrogate floodplain projects that require manual ingress and egress of juvenile salmonids.
- Dewatered area ≤ 1000 feet
- ≤ 0.5 acre disturbed for staging area
- Instream construction seasons vary according to stream/species.

Administrative Process

- Corps staff receives 404 application or a Section 7 biologist receives a consultation request
- Pre-application call /discussion
- Checklist application form to RC staff
- RC staff review application w NMFS staff
- RC staff sends email confirming project falls under the programmatic

NOAA FISHERIES

NOAA RC ARCATA OFFICE PROGRAMMATIC BIOLOGICAL OPINION POST-PROJECT MONITORING FORM

GENERAL QUESTIONS (continued)

Species	Captured	Injured	Killed
Southern Oregon / Northern California Coast (SONCC) Coho			
California Coastal (CC) Chinook			
Upper Klamath / Trinity River (UKTR) Chinook			
Northern California (NC) Steelhead			
Klamath Mountains Province (KMP) Steelhead			

Project Terms and Conditions

NOAA RC ARCATA OFFICE PROGRAMMATIC BIOLOGICAL OPINION POST-PROJECT MONITORING FORM

INSTRUCTIONS

General Information

Applicant Name

General Questions

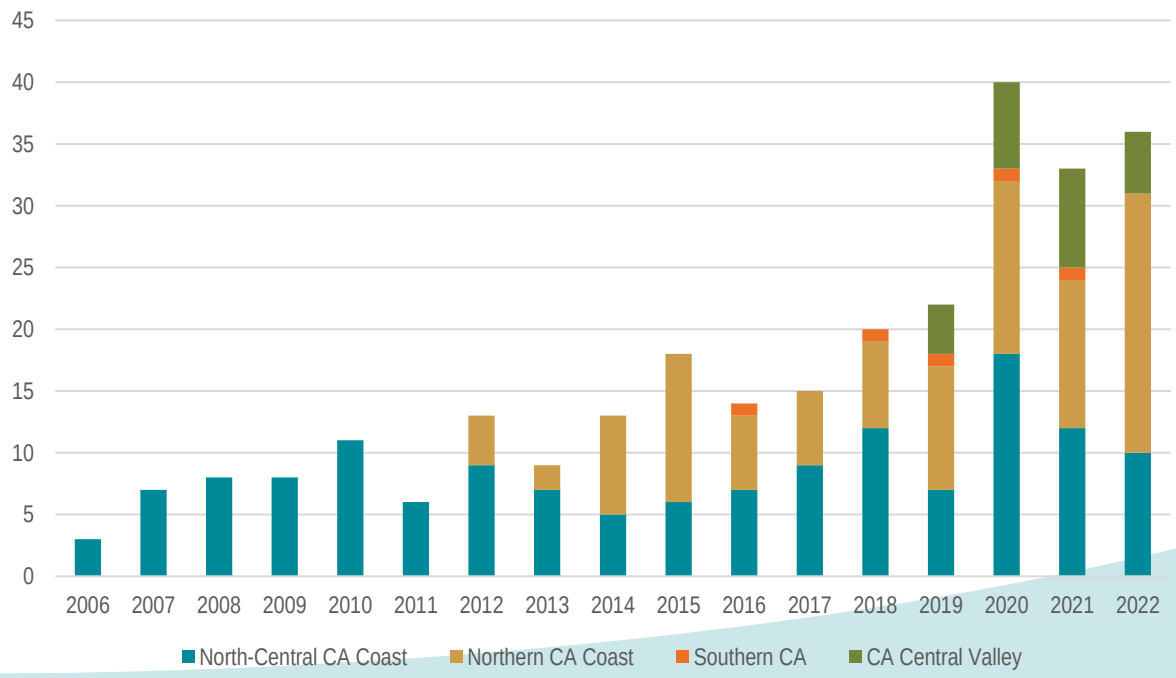
NOAA RC ARCATA OFFICE PROGRAMMATIC BIOLOGICAL OPINION POST-PROJECT MONITORING FORM

PROJECT TERMS AND CONDITIONS (continued)

Additional Information for Monitoring Reports

COST SAVINGS (NOAA RC Economic Analysis 2015)

- Individual Permit (Consultant, USACE, NMFS PRD, NMFS RC)
  - NOAA RC BO & Applicant BA costs: $25,000 to $64,000
  - Cost of BA often comes out of grant funding
- Programmatic Permit
  - Under $300 per project; annual costs less than $2,000
- Cost savings of $24,000-$63,000 per project = more money on the ground for restoration!



$7 to $17 million saved since 2006!

NOAA / California Coastal Commission Consistency Determination

- NOAA RC – funding OR technical assistance
- Alternate pathway for a coastal permit (no $)
- North, Central and South Coasts

CCC CD Coverage and Benefits

NOAA FISHERIES

- Northern and Central Coast CD – 2013 – Covers Oregon Border to San Luis Obispo County line.
- Southern CA CD – 2015-Covers Santa Barbara to Mexican Border
- Increased number of environmentally beneficial projects within Coastal Zone to restore coastal resources including listed species and sensitive habitats
- Short application process
- Provide the same regulatory rigor and oversight through a more efficient and collaborative process
- Reduce costs and time for project applicants and Commission staff

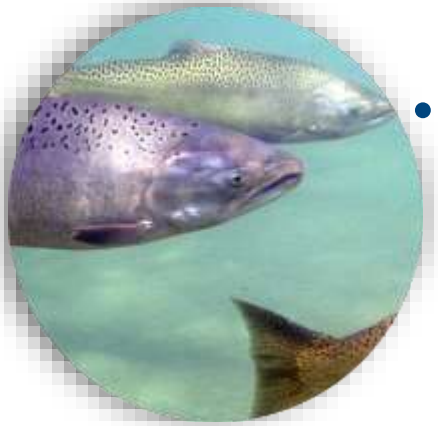
Covered Project Types

- Riparian planting/fencing
- In-stream habitat enhancement (LWD, boulders, bioengineering)
- Fish passage barrier removal
- Small dam removal
- Restoring tidal flow
- Water conservation projects
- Off channel habitat projects
- SAV restoration
- Native oyster reefs
- Wetland restoration

CCC CD	Number of Projects
Northern CA (2013)	29
Southern CA (2016)	Almost 1

Conclusions

- Programmatic ESA Permitting for Restoration Projects are available throughout all anadromous waters in CA.
- Coastal Commission Consistency Determinations are available throughout CA.
- As new programmatic BOs are developed, additional project types and more realistic protection measures are included.
- The Programmatic BO's have saved millions in taxpayer dollars since 2006.
- We should continue to look for opportunities to develop programmatics statewide



Questions?

Arcata – bob.Pagliuco@noaa.gov
Santa Rosa – joe.pecharich@noaa.gov
Long Beach and Sacramento – ruth.goodfield@noaa.gov

California Statewide Restoration Programmatic Consultation

Marissa Reed, USFWS Pacific Southwest Region Section 7 Coordinator

Overview

- Introduction
- Covered Project Types
- Conservation Requirements
- Incidental Take
- Using the Programmatic Consultation
- Questions

Introduction

Purpose: facilitate implementation of aquatic, riparian, floodplain, and wetland restoration projects

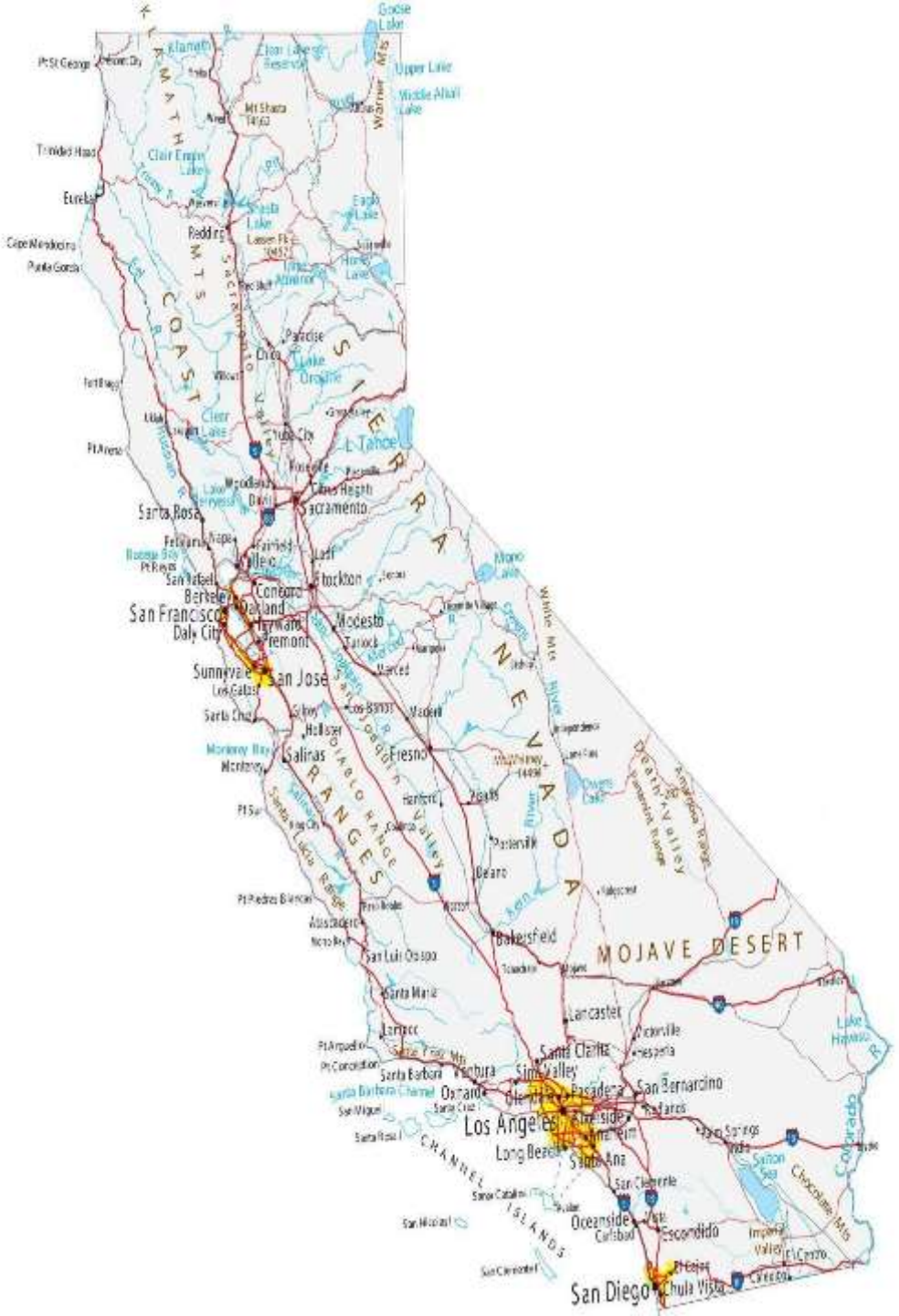
Intent: promote consistency and expedite regulatory review

Cooperating Agencies: NOAA RC, USACE, USFWS

- Any agency can use this consultation following the late arriving action agency process

Action Area: state of California

Covered Resources: 57 species and 36 critical habitats



Covered Project Types

- Stream crossings and fish passage
- Water control and other structure removal
- Bank stabilization
- Off-channel and side-channel habitat
- Water conservation
- Floodplain, wetland, and riparian restoration
- Invasive species management

Conservation Requirements

Eligibility Criteria

Prohibited Acts

General Protection Measures

Protection Measures by Guild

Species Specific Protection Measures

Eligibility Criteria

- ✓Meet definition of restoration project
  - *net increase in resource function and services*
- ✓Consistent with recovery plans

Prohibited Activities

- Permanent dams or concrete-lined channels
- Disruption to the movement of aquatic life
- Listed aquatic species stranding
- Barriers to anadromous fish passage
- Net loss of aquatic resource functions and/or services
- Net loss of vernal pool habitat
- Net loss of designated critical habitat function
- Extending the range of predatory fish in Sierra Nevada

Protection Measures

➢General

- Construction BMPs
- Water quality & hazardous materials
- Vegetation/habitat disturbance
- Herbicide use

➢Guild

- amphibians, reptiles, birds, mammals, invertebrates, fish, and plants

➢ Species-specific

Incidental Take

➢Covered species

- take coverage for 36 species

➢Take limits

- self-imposed, annual
- amount varies by:

  -field office

  -project

  -population

  -recovery unit

  -pond

  -occupied pool

Using the programmatic biological opinion

- Confirm eligibility with lead federal agency
- Complete ESA Section 7(a)(2) Review Form
- Submit review to local USFWS ES office
- Monitoring and reporting

Administrative Process

Submission of and USFWS concurrence with review form

USFWS updates take tracking sheet

Reporting Requirements:

Notify USFWS of dead or injured individuals within 48 hours

Post construction report form due December 1

Annual report due in December when ongoing actions

Annual meeting among Action Agencies in January

USFWS ESA SECTION 7(a)(2) REVIEW FORM

This Endangered Species Act (ESA) Section 7(a)(2) Review Form is for the multi-agency implementation of restoration projects in California under the Statewide Programmatic Restoration Effort (Effort). This form serves to document that restoration projects proposed under the Effort are in compliance with the U.S. Fish and Wildlife Service (USFWS) Programmatic Biological and Conference Opinion (PBO)(USFWS File Number: 2022-0005149-S7). Follow the steps below before submitting this form.

While the action area of this programmatic consultation is the entire state of California, it is the responsibility of the Project Proponent to coordinate with and receive permission from any landowners for which activities may occur, including federal lands, in order to proceed under this programmatic consultation.

INSTRUCTIONS:

1) Read the PBO to determine if the project fits the Project Eligibility Criteria.
2) Review the Program Administration for ESA Section 7 Compliance with USFWS Flow Chart in the PBO. Please note that USFWS ES welcomes early coordination on any such projects expecting to use the PBO. Either the Action Agency or Action Agency and Project Proponent can contact the local USFWS ES Field Office for technical assistance prior to submitting this form.
3) Complete pages 1-10 of this form in their entirety. Attach all necessary documents, maps, and photos as outlined in the Project Description Checklist on page 3. Attach biologist information as outlined on page 7.
4) For the Guild and Species-Specific Measures (pages 10-18), either indicate that the measures do not apply or complete and include measures only for guild/species that are applicable to the project.
5) Complete the project approval and signatures page (page 19).
6) Report all injury or mortality of listed species to the respective USFWS ES within 48 hours.
7) Provide the information requested in the Post-Construction Report Form to the respective USFWS Field Office by December 1st. If the monitoring/success criteria are not complete at that time, an additional report is due each year on December 1st until complete. The standard for revegetation success is 60% percent absolute cover compared to pre-project conditions at the project site or at least 60% cover compared to an intact, local reference site. If an appropriate reference site or pre-project conditions cannot be identified, success criteria will be developed for review and approval on a project-by-project basis, based on the specific habitat impacted and known recovery times for that habitat and geography.

PROJECT INFORMATION

Proposed Start Date (mm/dd/yyyy):

Proposed End Date (mm/dd/yyyy):

Coordinates of Project Location (Decimal Degrees): Lat: **Long:**

Project Types

	Check all that apply
Improvements to Stream Crossings and Fish Passage	☐
Removal of small dams, tide gates, flood gates, and legacy structures	☐
Bioengineered bank stabilization	☐
Restoration and enhancement of off-channel and side-channel habitat	☐
Water conservation projects for enhancement of fish and wildlife habitat	☐
Floodplain restoration	☐
Removal of pilings and other in-water structures	☐
Removal of nonnative terrestrial and aquatic invasive species and revegetation with native plants	☐
Establishment, restoration, and enhancement of tidal, subtidal, and freshwater wetlands (incl. vernal pools and managed wetlands)	☐
Establishment, restoration, and enhancement of stream and riparian habitat and upslope watershed sites	☐

Project Description attached Y/N?

Project Area Map(s) attached Y/N?

COVERED WILDLIFE SPECIES / CRITICAL HABITAT LIST

NO EFFECT SPECIES LIST

List all species from the project's Official Species List generated by the USFWS Information and Planning and Consultation (IPaC) online tool (https://ipac.ecosphere.fws.gov/) that you have determined will not be affected by project activities:

AFFECTED SPECIES

Complete the following table by indicating which species will be affected by the project; whether there are effects to critical habitat; whether the species occurs or is assumed to occur within the project area with the year of the most recent known occurrence; and whether incidental take of the species is anticipated. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. The PBO includes a table with the self-imposed take limits for covered animal species, as appropriate, the table is included as

Attachment A of this form.

	Project level effects (Check for yes)	Critical habitat effects (Check for yes)	Species occurs in project vicinity (Check for yes)	Year of most recent occurrence (if known)	NLAA or amount of estimated take
Amphibians					
arroyo (=arroyo southwestern) toad	☐	☐	☐		
California red-legged frog	☐	☐	☐		
California tiger salamander – Central California DPS	☐	☐	☐		
California tiger salamander – Santa Barbara County DPS	☐	☐	☐		
Foothill yellow-legged frog	☐	NA	☐		
mountain yellow-legged frog – northern California DPS	☐	☐	☐		
Santa Cruz long-toed salamander	☐	NA	☐		
Sierra Nevada yellow-legged frog	☐	☐	☐		
Yosemite toad	☐	☐	☐		

GENERAL PROTECTION MEASURES

See attached general protection measures for further details.

GENERAL PROTECTION MEASURES	Will be implemented	Not applicable	Modified measure proposed
GPM-1, Receipt and Copies of All Permits and Authorizations.	☐	☐	☐
GPM-2, Construction Work Windows.	☐	☐	☐
GPM-3, Construction Hours.	☐	☐	☐
GPM-4, Environmental Awareness Training.	☐	☐	☐
GPM-5, Environmental Monitoring.	☐	☐	☐
GPM-6, Work Area and Speed Limits.	☐	☐	☐
GPM-7, Environmentally Sensitive Areas and/or Wildlife Exclusion.	☐	☐	☐
GPM-8, Prevent Spread of Invasive Species.	☐	☐	☐
GPM-9, Practices to Prevent Pathogen Contamination.	☐	☐	☐
GPM-10, Equipment Maintenance and Materials Storage.	☐	☐	☐
GPM-11, Material Disposal.	☐	☐	☐
GPM-12, Fugitive Dust Reduction.	☐	☐	☐
GPM-13, Trash Removed Daily.	☐	☐	☐
GPM-14, Project Cleanup after Completion.	☐	☐	☐
GPM-15, Revegetate Disturbed Areas.	☐	☐	☐
GPM-16, Wildfire Prevention.	☐	☐	☐

GUILD MEASURES AND SPECIES-SPECIFIC MEASURES

Amphibians:

Does the project affect this guild: Y/N?_____ (If yes, complete the tables below. If no, proceed to the next guild.)

See attached protection measures for further detail.

GENERAL AMPHIBIAN PROTECTION MEASURES	Will be implemented	Not applicable	Modified measure proposed
AMP-1, Wildlife Passage Design.	☐	☐	☐
AMP-2, Rain Event Limitations.	☐	☐	☐
AMP-3, Preconstruction Survey.	☐	☐	☐
AMP-4, Disease Prevention and Decontamination.	☐	☐	☐
AMP-5, Lighting.	☐	☐	☐
AMP-6, Clearing and Grubbing Vegetation.	☐	☐	☐
AMP-7, Pump Screens.	☐	☐	☐
AMP-8, Removal of Nonnative Invasive Species.	☐	☐	☐
AMP-9, Placement of Suitable Erosion Control Material.	☐	☐	☐
AMP-10, Encounters with Species.	☐	☐	☐
AMP-11, Species Observations and Handling Protocol.	☐	☐	☐

USFWS

STATEWIDE RESTORATION PROGRAMMATIC BIOLOGICAL OPINION
POST-CONSTRUCTION REPORT FORM

INSTRUCTIONS

- Report all injury or mortality of listed species to USFWS ES within 48 hours.
- Submit the Post-Construction Report Form to USFWS ES (and copy the Action Agency) by December 1st each year. If there are ongoing revegetation or species monitoring beyond the report due date, provide a report annually on December 1st until success criteria have been met, or monitoring has ceased[1].
- Any incidental take that occurred during project construction must also be reported on page 2 of this form.

General Information

Project Proponent					
Lead Action Agency					
Project Name					
USACE Action ID Number					
Project Start Date Project		Stream		Latitude (decimal degrees)	
End Date		Watershed		Longitude (decimal degrees)	

Project Details

List of affected Covered Species and/or Critical Habitat. List must correspond to the Covered Species listed on the USFWS-approved ESA Section 7(a)(2) Review Form.

Disturbance/ Restoration

- Total linear feet of stream disturbed .....
- Total linear feet of stream dewatered .....
- Total acres restored .....
- Total linear feet of upstream habitat made accessible .....
- Total linear feet of stream bank stabilized or planted with riparian species .....

Covered Species Relocation

- Name/contact information for the USFWS-Approved Biologist(s) involved in the relocation.
- Where were the Covered Species relocated?
- Number of captures, releases, injuries, and mortalities.
- Please attach monitoring data for all relocation events. Attach as a separate file.

Project Details

Actual amount of incidental take :

Amount of disturbance to critical habitat :

Amount of disturbance to suitable habitat :

Summarize any challenges or information associated with the implementation of the General Protection Measures, Conservation Measures, and Species Protection Measures.

Provide any other information that was not included in the ESA Section 7(a)(2) Review Form or that has changed from what was provided in the ESA Section 7(a)(2) Review Form.

Pacific Southwest Regional Office
Marissa Reed
marissa_reed@fws.gov

Arcata Fish & Wildlife Office
Brad Nissen
Bradley_nissen@fws.gov

Bay-Delta Fish & Wildlife Office
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Yreka Fish & Wildlife Office
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Questions

Applying New Tools to Support Aquatic Habitat Restoration Projects

Jake Shannon

Restoration Specialist

North Coast Regional Water Quality Control Board

CALIFORNIA Water Boards

April 28, 2023

- Background on Water Boards
  - Structure
  - Permitting Authority
  - Support of Restoration
- New and Existing Restoration Permitting Tools

Water Board Structure and Permitting Authority

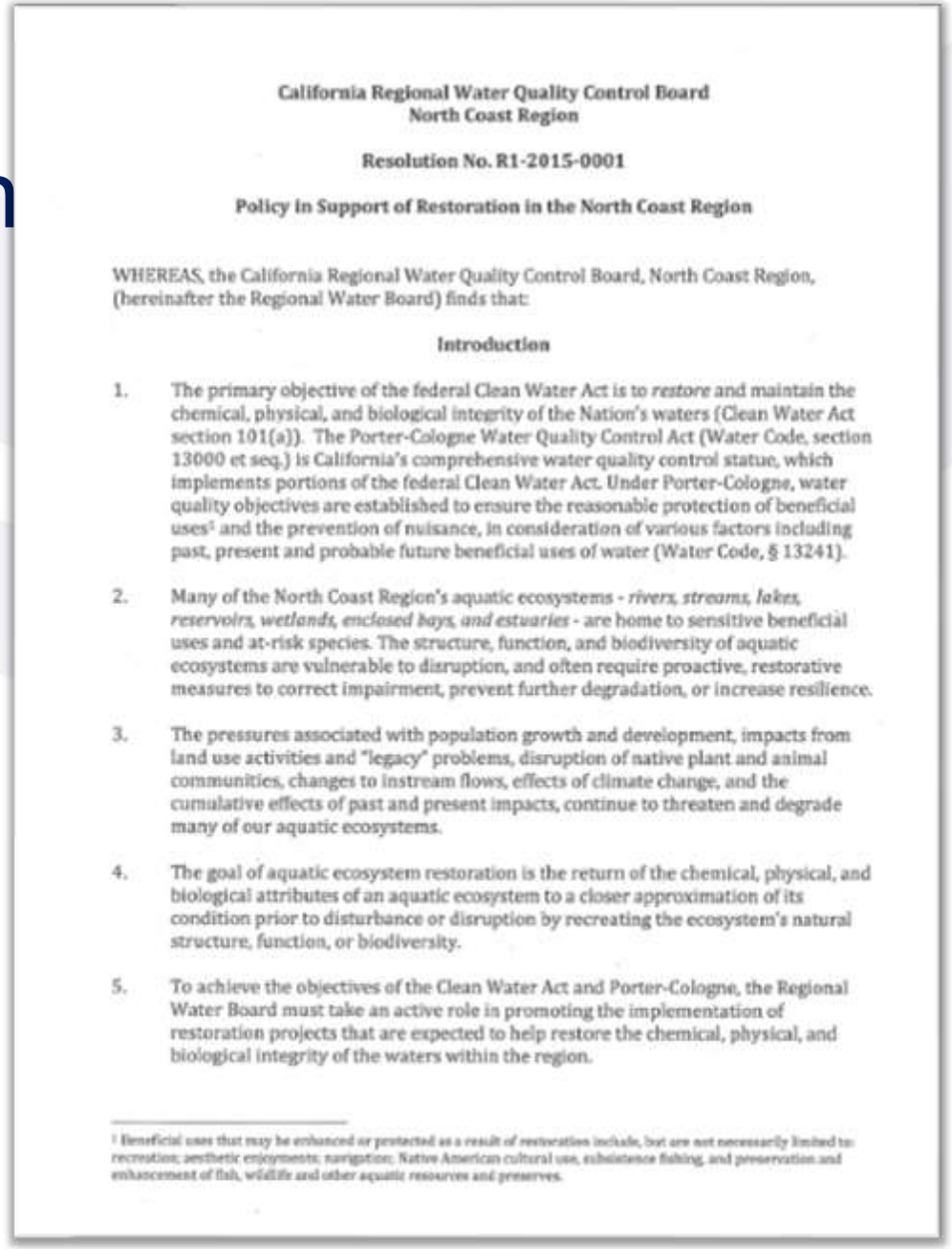
- State Water Board and nine semi-autonomous Regional Water Boards
- Charged with protecting California's water resources

CWA section 401 Water Quality Certifications

- Includes the *placement of fill* or *discharges to waters* associated with restoration projects

Policy in Support of Restoration in the North Coast Region

- Describes the importance of restoration projects
- Identifies obstacles that slow or preclude restoration actions
- Outlines our ongoing effort to support restoration



California Regional Water Quality Control Board
North Coast Region

Resolution No. R1-2015-0001

Policy in Support of Restoration in the North Coast Region

WHEREAS, the California Regional Water Quality Control Board, North Coast Region, (hereinafter the Regional Water Board) finds that:

Introduction

1. The primary objective of the federal Clean Water Act is to *restore* and maintain the chemical, physical, and biological integrity of the Nation's waters (Clean Water Act section 101(a)). The Porter-Cologne Water Quality Control Act (Water Code, section 13000 et seq.) is California's comprehensive water quality control statue, which implements portions of the federal Clean Water Act. Under Porter-Cologne, water quality objectives are established to ensure the reasonable protection of beneficial uses[1] and the prevention of nuisance, in consideration of various factors including past, present and probable future beneficial uses of water (Water Code, § 13241).

2. Many of the North Coast Region's aquatic ecosystems - *rivers, streams, lakes, reservoirs, wetlands, enclosed bays, and estuaries* - are home to sensitive beneficial uses and at-risk species. The structure, function, and biodiversity of aquatic ecosystems are vulnerable to disruption, and often require proactive, restorative measures to correct impairment, prevent further degradation, or increase resilience.

3. The pressures associated with population growth and development, impacts from land use activities and "legacy" problems, disruption of native plant and animal communities, changes to instream flows, effects of climate change, and the cumulative effects of past and present impacts, continue to threaten and degrade many of our aquatic ecosystems.

4. The goal of aquatic ecosystem restoration is the return of the chemical, physical, and biological attributes of an aquatic ecosystem to a closer approximation of its condition prior to disturbance or disruption by recreating the ecosystem's natural structure, function, or biodiversity.

5. To achieve the objectives of the Clean Water Act and Porter-Cologne, the Regional Water Board must take an active role in promoting the implementation of restoration projects that are expected to help restore the chemical, physical, and biological integrity of the waters within the region.

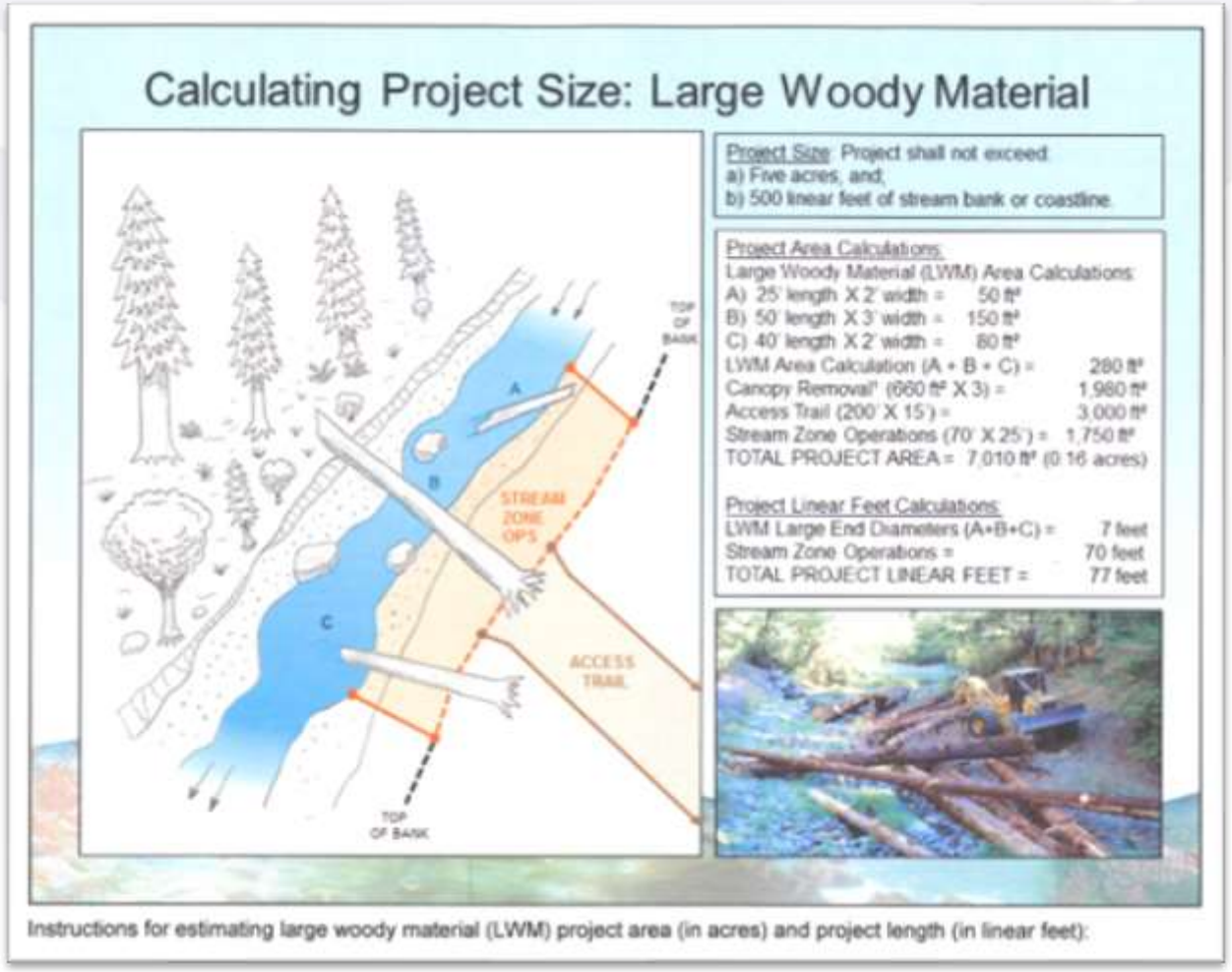
[1] Beneficial uses that may be enhanced or protected as a result of restoration include, but are not necessarily limited to: recreation; aesthetic enjoyment; navigation; Native American cultural use, subsistence fishing, and preservation and enhancement of fish, wildlife and other aquatic resources and preserves.

Water Board Restoration Permitting Tools

1. General 401 Water Quality Certification for Small Habitat Restoration Projects
   - CEQA Categorical Exemption Class 33 - Small Habitat Restoration Projects
2. Statewide Restoration General Order
   - CEQA Programmatic Environmental Impact Report

General 401 Water Quality Certification for Small Habitat Restoration Projects

- Total project size cannot exceed 500 linear feet and 5 acres
- Must qualify for CEQA Categorical Exemption Class 33 - Small Habitat Restoration Projects
- Opens the door to CDFW's Habitat Restoration and Enhancement Act



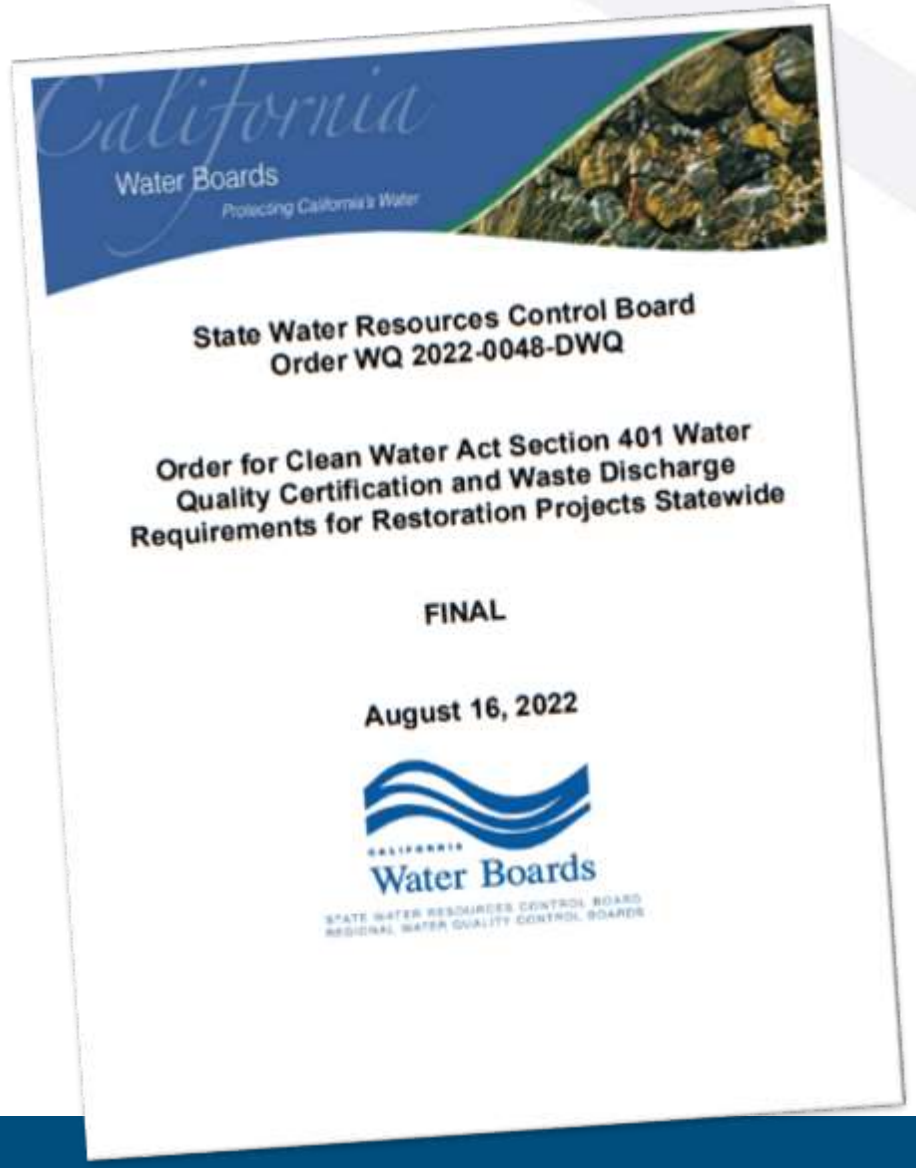
CEQA Categorical Exemption
Class 33 - Small Habitat Restoration Projects

Class 33 requirements:

- Cannot exceed 5 acres in size (no linear foot limit)
- Cannot result in significant adverse impacts to endangered, rare, or threatened species or their habitat

Not limited to use with the General 401 Certification for Small Habitat Restoration Projects

Statewide Restoration General Order



- Programmatic permitting for large-scale restoration projects
- Programmatic Environmental Impact Report for CEQA compliance
- No project size limitations
- Covers broad range of project types
- Baked-in General Protection Measures and Species Protection Measures
- Aligns with existing project design guidance from NMFS and CDFW

Eligible Project Types

- Instream, Off-Channel, Side Channel, Floodplain, and Riparian Habitat Restoration
- Fish Passage Barrier Removal
- Tidal, Subtidal, and Freshwater Wetland Restoration
- Bioengineered Bank Stabilization Restoration
- Water Conservation Projects
- Invasive Species Removal
- More

General Protection Measures

IWW-2: In-Water Vehicle Selection and Work Access. If work requires that equipment enter wetlands or below the bank of a waters of the state, equipment with low ground-pressure (typically less than 13 to 20 pounds per square inch (psi)) should be selected where feasible to minimize soil compaction. Low ground-pressure heavy equipment mats should be used if needed to lessen soil compaction. Hydraulic fluids in mechanical equipment working in the waters of the state, will not contain organophosphate esters. Vegetable based hydraulic fluids are preferred, where feasible. The amount of time this equipment is stationed, working, or traveling in the waters of the state will be minimized. All equipment will be removed from the aquatic feature during non-work hours where appropriate or returned to the agency-approved staging area in the aquatic feature.

GPM-2: Construction Work Windows. Construction work windows may be required in order to avoid impacts to aquatic resources and associated beneficial uses during the wet season. Project proponents must also follow the applicable Regional Board's construction work windows, unless otherwise approved.

Over 40 GPMs:

- Work Windows
- Erosion and Sediment Control Measures
- De-watering Plan Requirements
- Preventing the spread of invasive species

Application Process

- Pre-application consultation during planning and design stages
- CEQA determination
  - Cat. Ex. Class 33, Programmatic EIR, other
- Notice of Intent and application fee submittal
- Application review
- 21-day public notice period
- Issue the Notice of Applicability
- Construct project
- Monitoring period

Statewide Restoration General Order & CEQA Cat. Exemption Class 33

- Great for “momma bear projects”
  - Less than 5 acres in size
  - Over 500 linear feet in size
- Streamlined CEQA compliance via Notice of Exemption

Statewide Restoration General Order & Programmatic EIR

- Great for large projects or those not eligible for class 33
- No project size limits
- CEQA Lead Agency verifies consistency with Programmatic EIR

Jake Shannon, Restoration Coordination Specialist

Jacob.Shannon@waterboards.ca.gov

(707) 576-2673

For additional information

Google: “Statewide Restoration General Order”

CUTTING THE GREEN TAPE WITH CDFW

Tools and approaches to increase the pace and scale of restoration in California

Brad Henderson, Environmental Program Manager

California Department of Fish and Wildlife

Photo: Megan Rooney, CDFW

CALIFORNIA'S INCREDIBLE BIODIVERSITY ...at risk

CLIMATE CHANGE CHANGES EVERYTHING, AND WE MUST ACT!

- How do we move quickly to address threats while protecting what we have?
- One piece of solving this puzzle: CDFW's Cutting the Green Tape Program
  - Improving processes: granting, permitting, and CEQA for restoration
  - Clear mission and dedicated staff

THE DAWN OF A PARADIGM SHIFT?

"People Harm Nature"

React by Regulating

- Thoreau, Leopold, Muir, Carson…
- Environmental disasters (hydraulic mining)
- Extinctions (California grizzly bear)
- Indigenous perspectives…?

THE DAWN OF A PARADIGM SHIFT?

"People Heal Nature"

Um?

- Thoreau, Leopold, Muir, Carson…
- Environmental disasters (hydraulic mining)
- Extinctions (California grizzly bear)
- Indigenous perspectives

THE DAWN OF A PARADIGM SHIFT?

> My thinking has shifted from 'this is how we have always done it' to seeing the issue from a restoration practitioner perspective. An NGO does not care what branch I work in, they just want to do their project and not be sent to another window."
>
> STATE REGULATORY AGENCY STAFF MEMBER

From: Mickel, A.E. (2023) An Environmental Regulation Paradigm Shift: The Cutting Green Tape Story

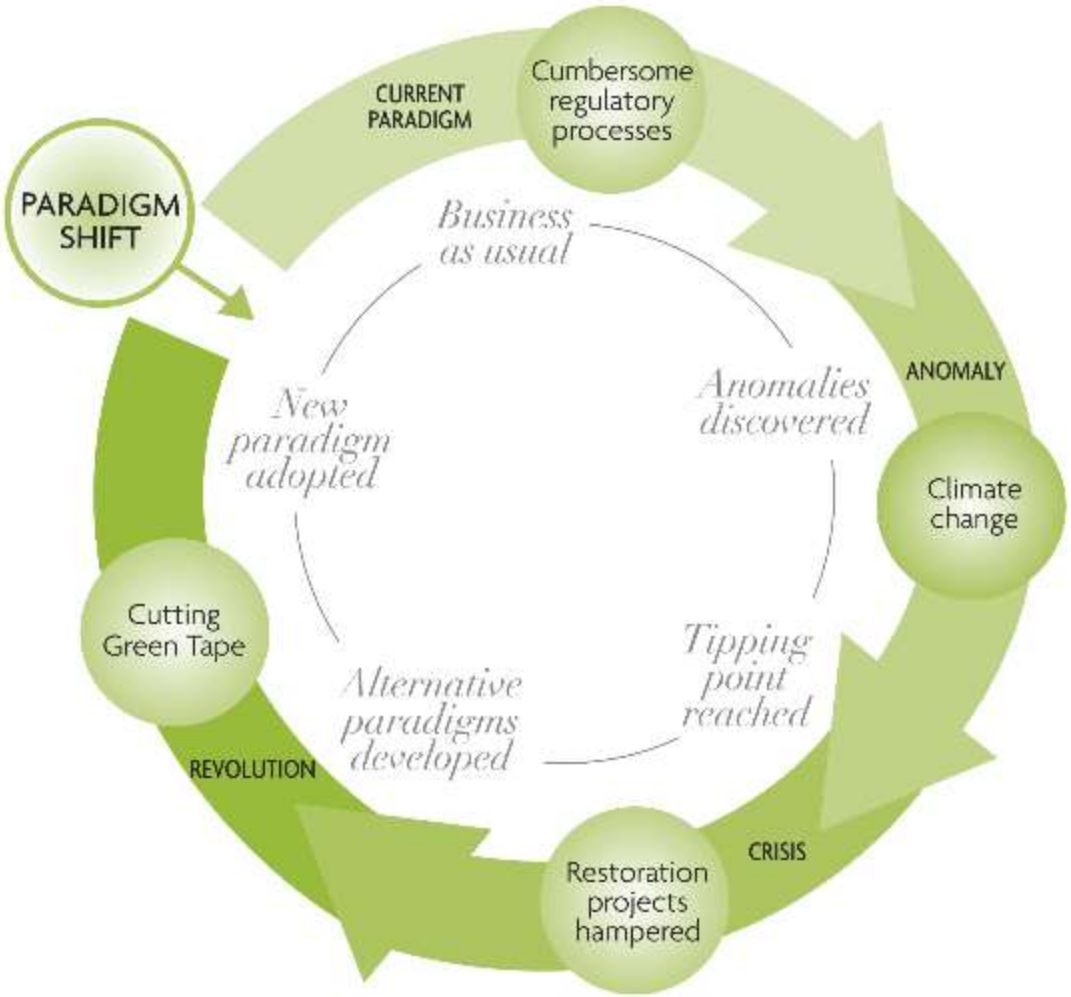


FIGURE 2. FIVE PHASES OF A PARADIGM SHIFT AS APPLIED TO CGT

We Need Different Mindsets and Tools

SRF:
Excitement, anticipation, joy!

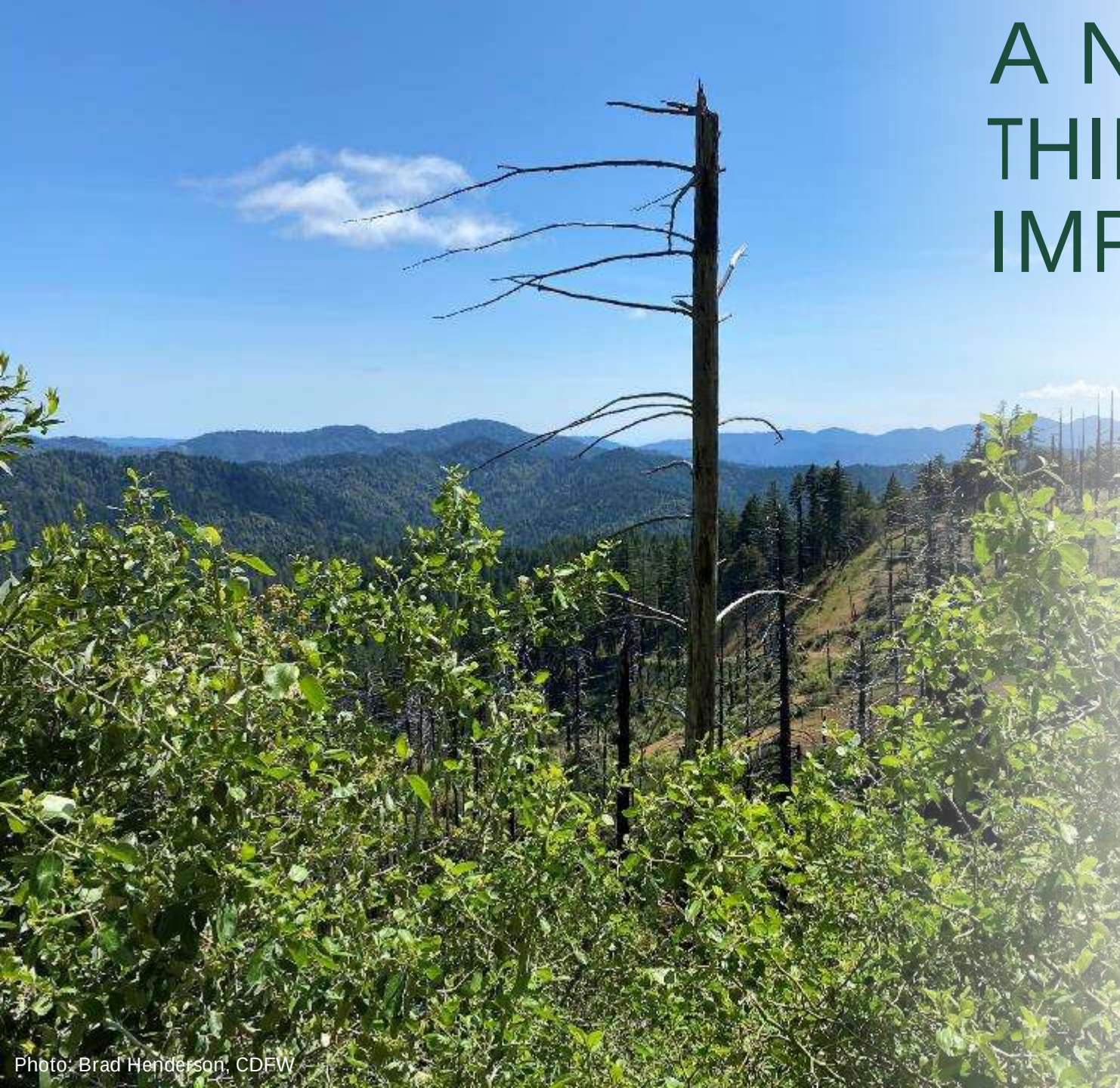
No hand-wringing!

A NEW APPROACH TO RESTORATION PERMITTING

- The old way: view restoration projects through lens of development – focused on avoiding impacts at the expense of benefits
- The new way: restoration = beneficial management for protected species

PRIOR PERMITTING OBSTACLES

- In the past, it was difficult to authorize “take” (capture, kill, pursuit) of listed and fully protected species for purposes of restoration
- This had the inadvertent effect of constraining projects (size, scope, season of work) to avoid take at all costs



A NEW WAY OF THINKING ABOUT IMPACTS:

- Temporary impacts to listed species during implementation of projects that will ultimately benefit those species are ok
- We have many ways to authorize these impacts, and dedicated staff to assist projects with permitting

Photo: Brad Henderson, CDFW

PARTNERSHIPS

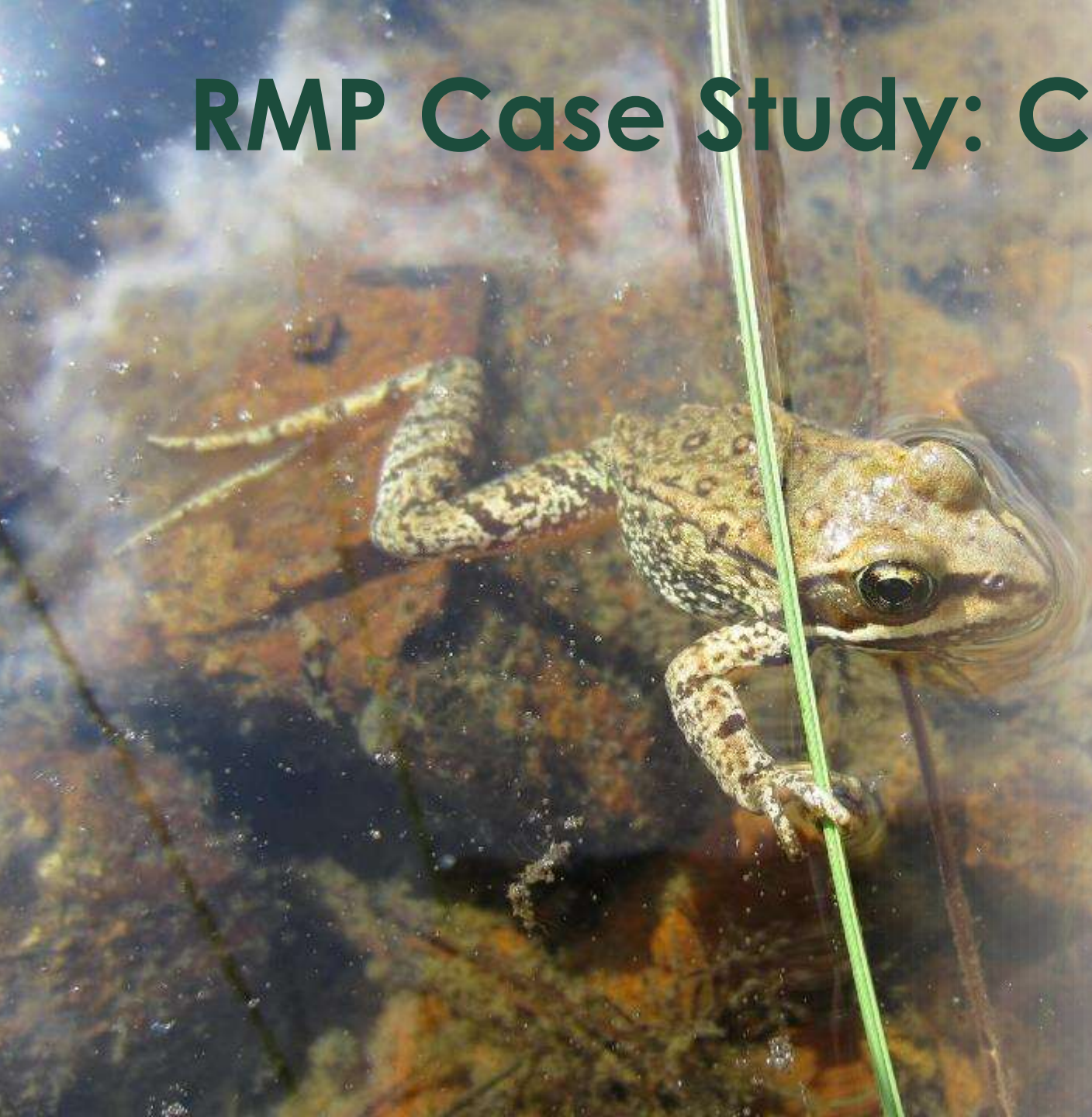
- Moving towards a collaborative approach to restoration permitting
- Permitting staff and subject matter experts within CDFW actively participate in project planning = easier to permit

On to the new tools…
nerd alert!

Restoration Management Permit

- What's in a name? Management.
- A way to authorize take of CA endangered, threatened, or fully protected species for restoration projects (typically without additional mitigation)
- "Umbrella" permit that consolidates two types of take authorizations
- CGT is exploring avenues to add additional authorizations (LSAA, take of common species) to this permit

RMP Case Study: Child's Meadow



- Process-based restoration project, project partners included a nonprofit and local and federal agencies
- Proposed installation of 50+ beaver dam analogs within Child's Meadow (NE Tehama County)
- Cascades frog (*Rana cascadae*), candidate for state ESA listing, occurs onsite

RMP Case Study: Child's Meadow

Authorized Take Level

The Project is estimated to take, in the form of mortality and/or capture and relocation, individuals of the Covered Species as follows:

Table 2. Authorized Take Level

Common Name	Expected Take	Take Mechanism
Cascades Frog	20 adults	Pursuit, Catch and Capture efforts associated with surveys immediately prior to ground disturbing activities. Possibility for mortality of between 1-5 individuals by vehicle tires and ground disturbing activities, although not anticipated.

RMP Case Study: Redwoods Rising

80,000 Acres and 12 Covered Species!

18 Pages!

RMP Strategies

- Collaborative approach – work with permittees to develop permit conditions that are feasible while protecting resources
- Use standard measures from other restoration permitting tools (Statewide Restoration General Order, Programmatic Biological Opinions) whenever possible
- Have issued ~ ten so far
- No fee; flexible timeline and application process

Restoration Consistency Determination

- A new interpretation of an existing process
- Federal ESA authorization (typically an Incidental Take Statement) deemed “consistent” with CESA
- Can now use Programmatic Biological Opinions and their corresponding ITS
- Relies upon Fish and Game Code section related to management (like the RMP)

Restoration CD Case Study: Prairie Creek

- Many project partners including National and State Parks, nonprofits, tribes, and state and federal agencies
- Instream habitat restoration for salmonids
- Federal Biological Opinion covered Southern OR/Northern CA Coast coho salmon (CESA threatened)

Restoration CD Strategies

- Pre-consultation is crucial!
- CDFW staff review PBOs as soon as they are finalized to determine general consistency
- No fee; 30-day timeline for determining consistency
- Nine issued thus far; more in progress

OTHER PERMITTING TOOLS

- Habitat Restoration and Enhancement Act (Fish and Game Code 1650-1657) for small restoration projects
- Safe Harbor Agreements (Fish and Game Code 2089.2-2089.25) to protect listed species and facilitate beneficial activities on private property

Photo: Brad Henderson, CDFW

Statutory Exemption for Restoration Projects "SERP"

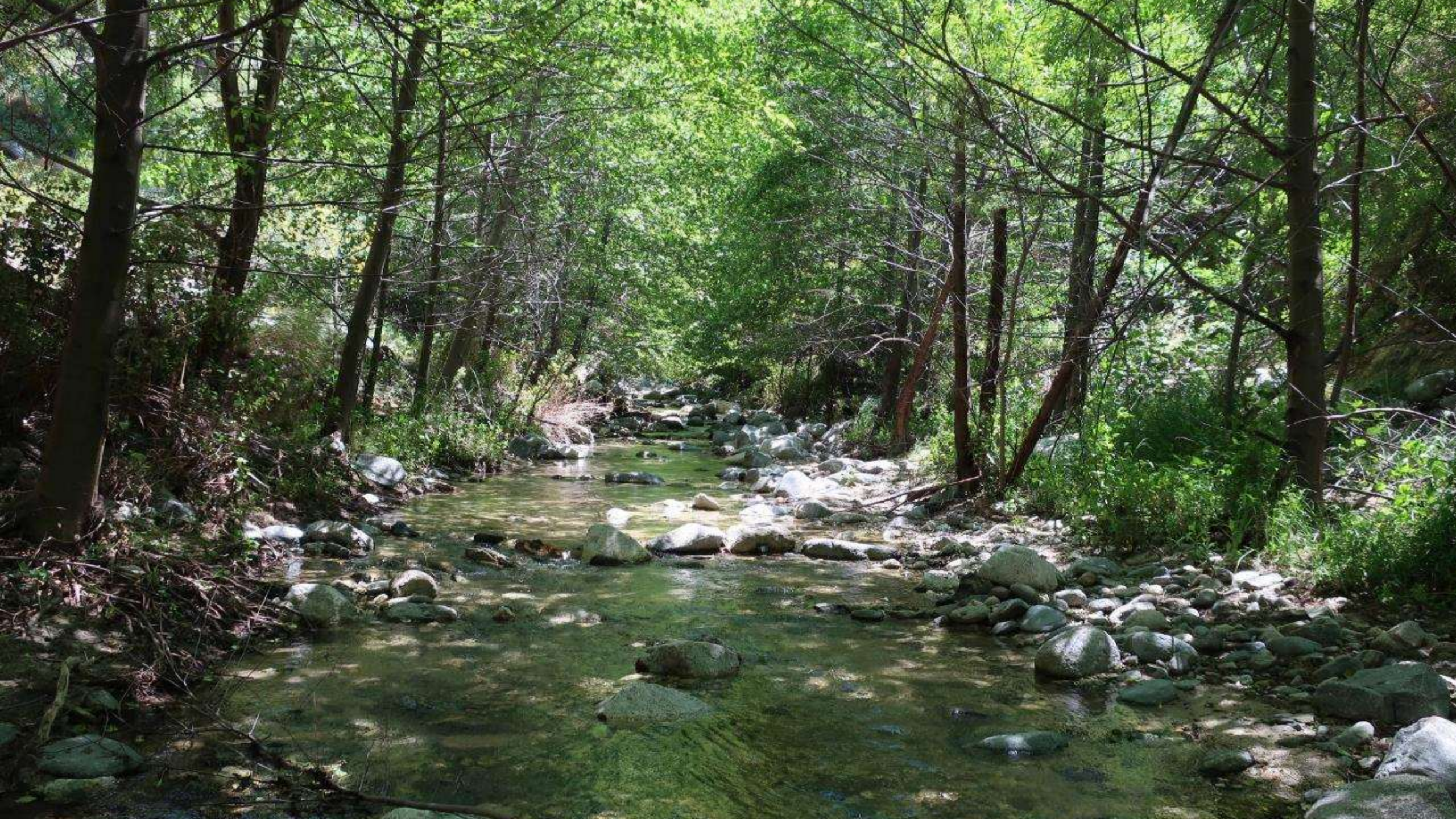
- A new, complete CEQA exemption for qualifying restoration projects – Public Resources Code 21080.56
- CGT works with CEQA lead agencies to facilitate the CDFW Director's SERP Concurrence
- 23 Concurrences to date

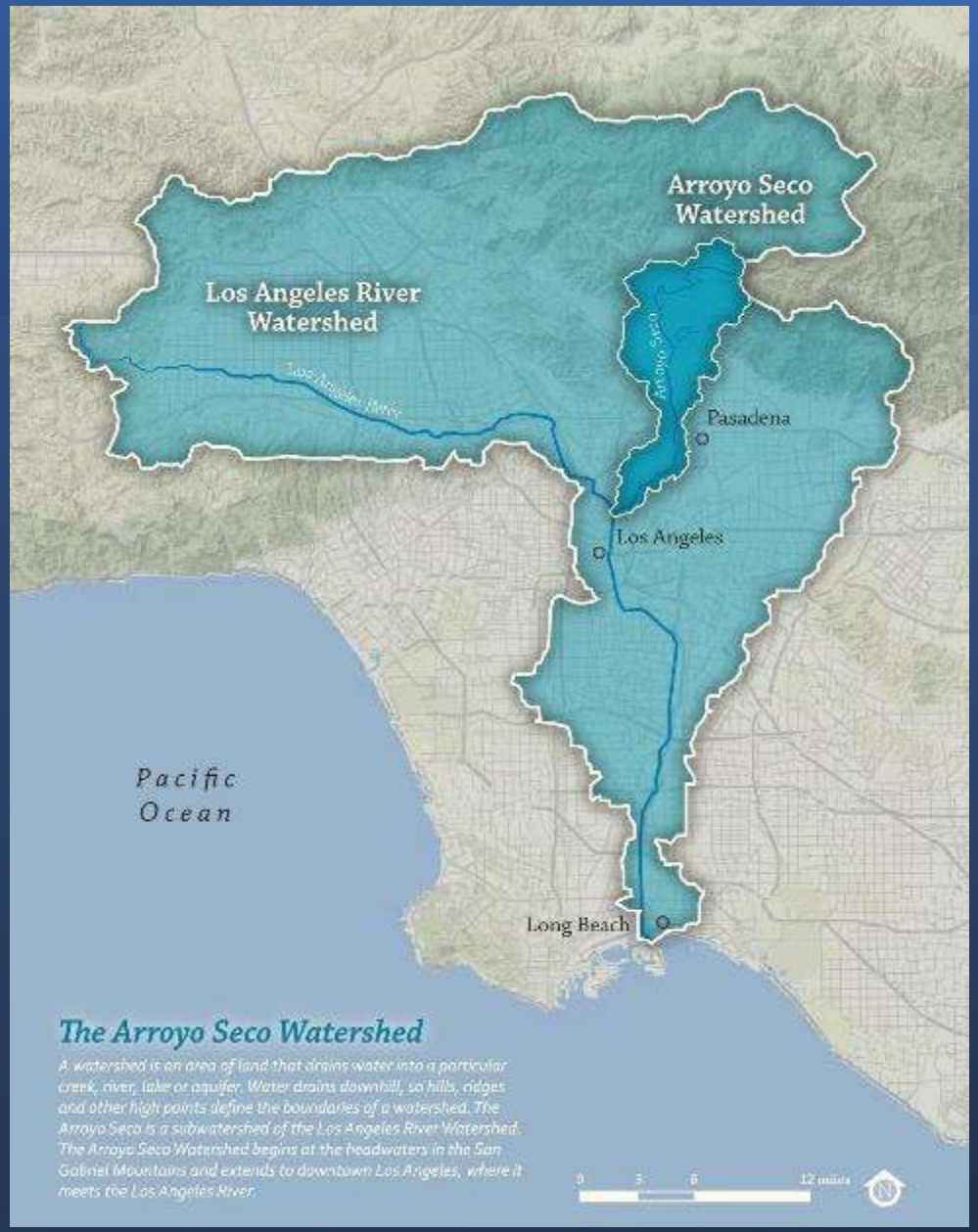
SERP Case Study: Los Angeles River

Photo: Wendy Katagi, Stillwater Sciences

SERP Case Stu[illegible]eles River

A project to connect steelhead trout spawning and rearing habitat with the Pacific Ocean in the heart of LA




Arroyo Seco Watershed
Los Angeles River Watershed
Los Angeles River
Arroyo Seco
Pasadena
Los Angeles
Pacific Ocean
Long Beach
The Arroyo Seco Watershed
A watershed is an area of land that drains water into a particular creek, river, lake or aquifer. Water drains downhill, so hills, ridges and other high points define the boundaries of a watershed. The Arroyo Seco is a subwatershed of the Los Angeles River Watershed. The Arroyo Seco Watershed begins at the headwaters in the San Gabriel Mountains and extends to downtown Los Angeles, where it meets the Los Angeles River.
0
3
6
12 miles
N

SERP Strategies

- Consultation
- Coordination
- 60-day goal
- Freeeeeee!

THE TAKE HOME:

- You don’t need to be an expert in regulations or state permitting – we are here to help you navigate the options!
- There are many useful tools in our expanding toolbox – restoration permitting is easier and faster – but we still have work to do!

MISSIONS ALIGNED

To manage California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public

To manage California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public

CONTACT US!

For general program inquiries:
restorationpermitting@wildlife.ca.gov

CGT Program Staff:
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Jen Olson, Statewide Restoration Permitting Coordinator
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Cory Saltsman, Statewide SERP Coordinator
Cory.Saltsman@wildlife.ca.gov

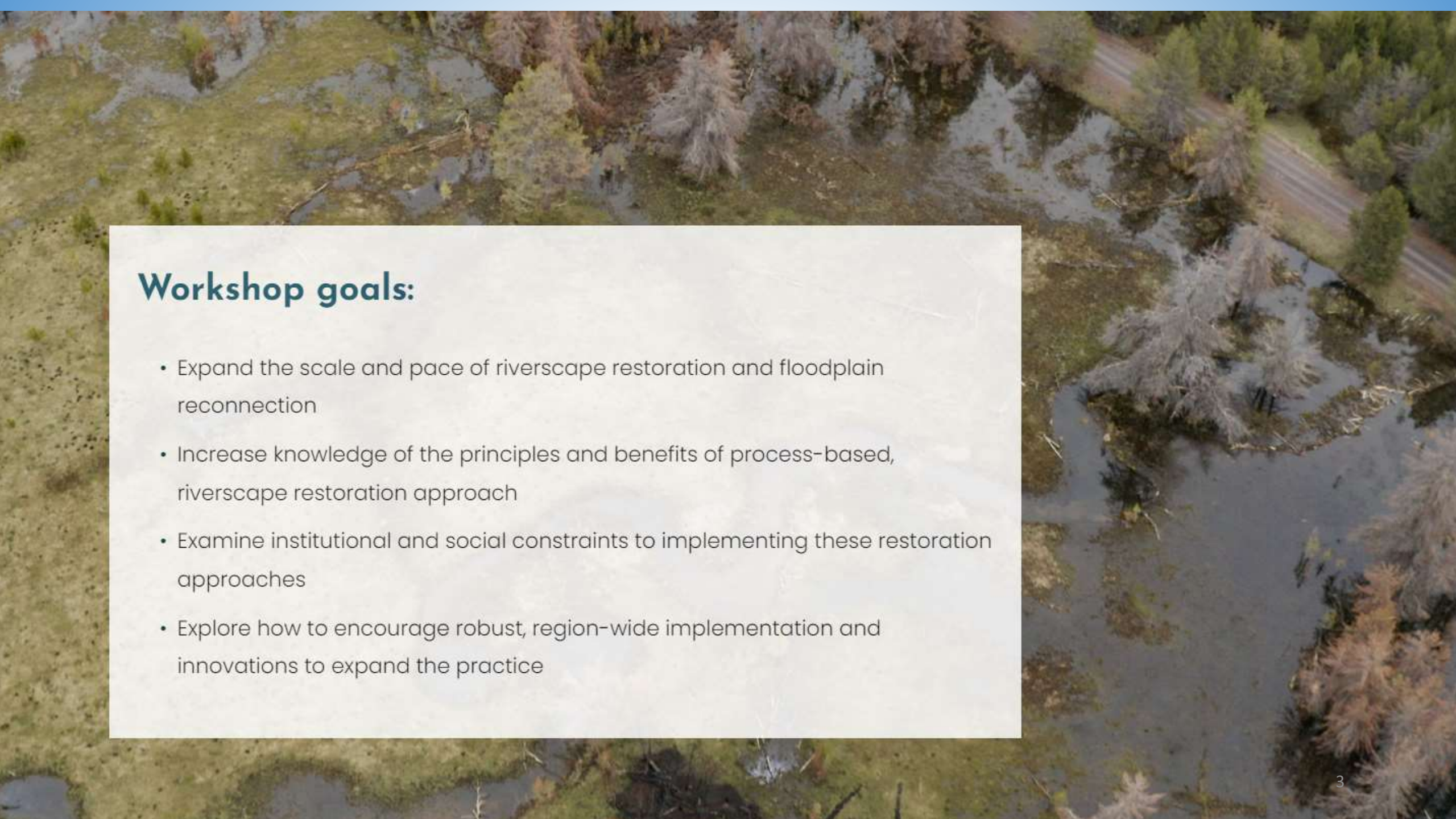
Constraints and Initial Solutions to Increasing the Pace and Scale of Riverscape Restoration: Summary from the 2023 NOAA Sponsored Riverscape Restoration Workshop

Brian Cluer,

Irma Lagomarsino, Patty Dornbusch, Charlotte Ambrose, Chris Jordan, Tommy Williams, Jennie Franks, David White, and Laurel Jennings

Healthy riverscapes depend upon [illegible] fluvial, hydrologic, and biological

Across North America these relationships are broken, and our streams and rivers are impaired.



Workshop goals:

- Expand the scale and pace of riverscape restoration and floodplain reconnection
- Increase knowledge of the principles and benefits of process-based, riverscape restoration approach
- Examine institutional and social constraints to implementing these restoration approaches
- Explore how to encourage robust, region-wide implementation and innovations to expand the practice

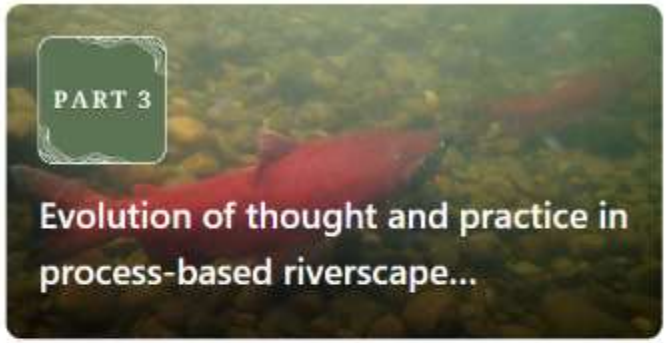
Fundamental Objectives:

- Increase the pace and scale of riverscape restoration across salmonland.
- Make lateral riverscape connectivity restoration actions as common as the traditional dressed-up longitudinal connectivity actions.
- Place NOAA Fisheries at the center of a regional conversation on the future of stream habitat restoration.
- inspire a new era of thinking and collaboration for riverscape restoration.

- 36 Speakers, 20 Panelists


PART 1
Diverse examples of process-based riverscape restoration


PART 2
Science foundations of process-based riverscape restoration


PART 3
Evolution of thought and practice in process-based riverscape...


PART 4
Motivation: data-driven evidence of uplift


PART 5
Motivation: healthy riverscape benefits


PART 6
The pivot moment


PART 13
Workshop Wrap-up
Workshop wrap-up: the way forward


PART 7
Challenge: collaborative conservation


PART 8
Challenge: current land use


PART 9
Challenge: historic land use


PART 10
Challenge: cultural barriers


PART 11
Challenge: the structure of salmon funding


PART 12
Challenge: federal regulations

1238 Registrants, 1150 Attendees, 1100 USA, 41 Canada, 52 Tribe, Watershed 65, remainder Brazil Costa Rica Ecuador Germany England

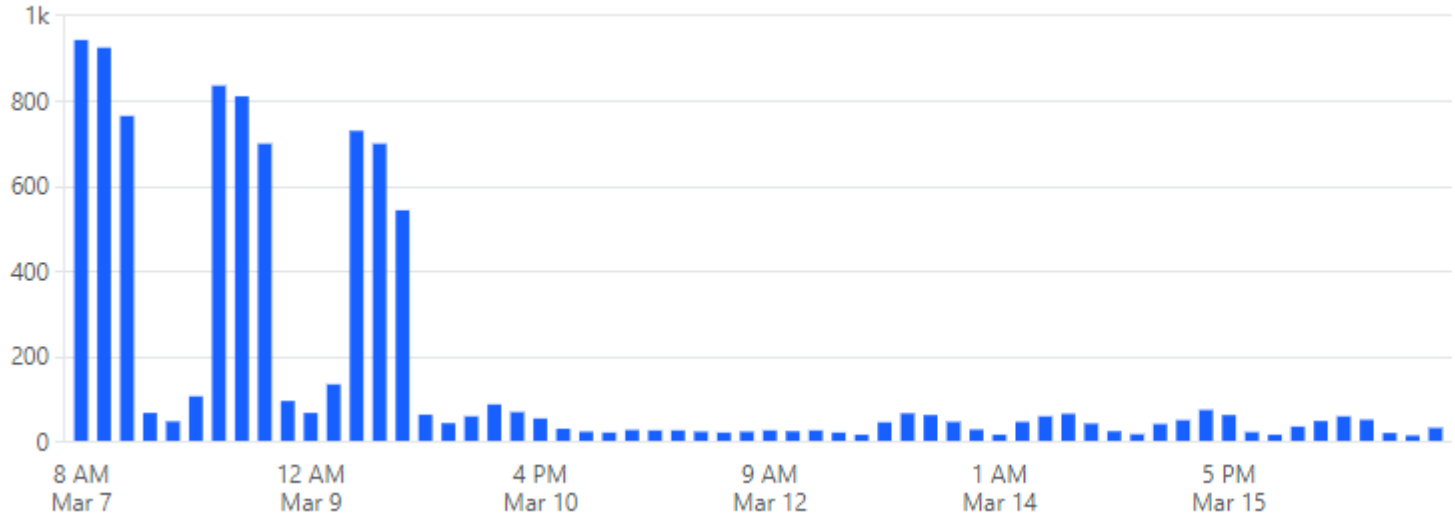
1150	--	1d 5h 4min	93%	944
Attendees	Attendees score	Avg. time spent	Turnout	Peak attendance

All times are in PDT Time zone.

Peak live attendees

944

All times



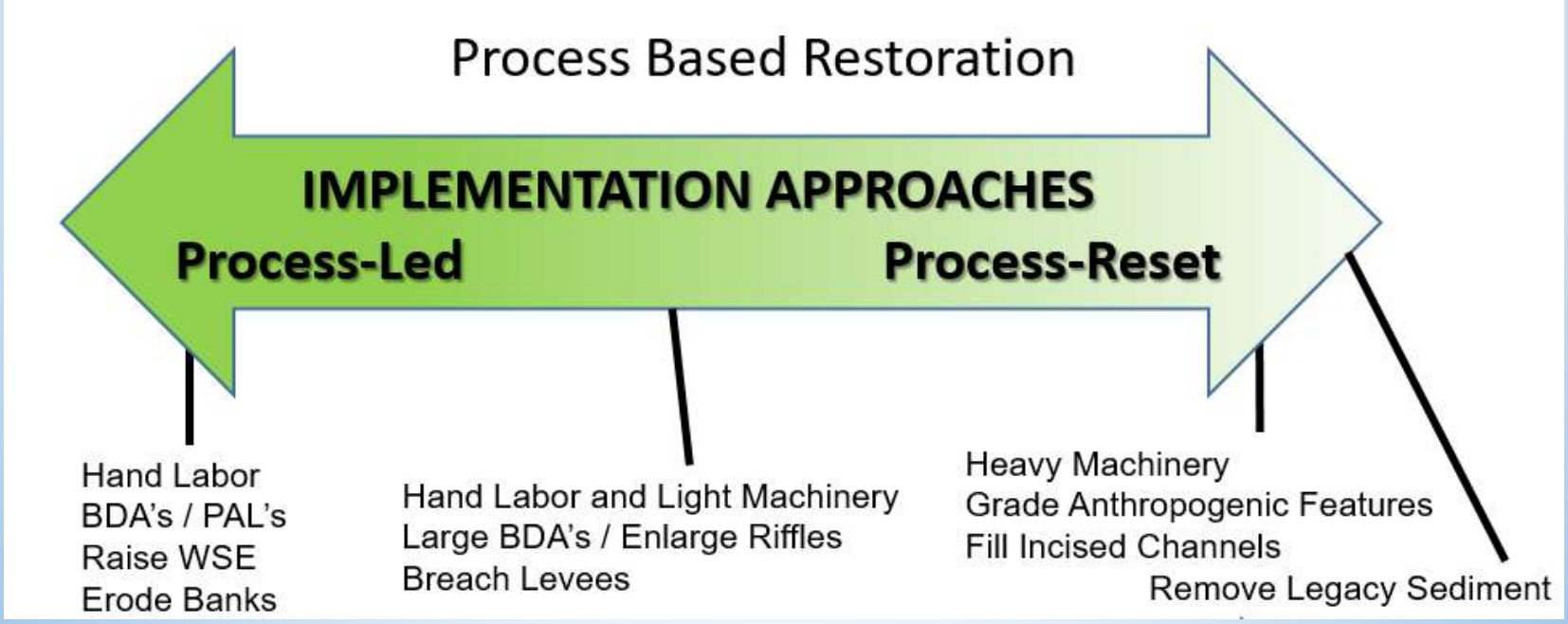
Peak live attendees

944

Registrants

1238

- Spectrum of riverscape restoration settings and examples
  - Geographies
  - Climates
  - Land Uses and Ownerships
  - Approaches



HEALTHY RIVERSCAPE BENEFITS: SEGMENT 3

Panel Discussion

OPPORTUNITIES FOR RIVERSCAPE RESTORATION ON WORKING LANDS

Moderated by
GREG ADDINGTON

PANELISTS:

JAY WILDE, BECKY HATFIELD HYDE,
JULIE RENTNER, JEREMY MAESTAS

STRUCTURE OF SALMON FUNDING:
SEGMENT 1

Panel Discussion

Salmon Habitat Restoration Funding

Moderated by
RANDI SHAW

PANELISTS:

COURTNEY SHAFF, MARC DUBOISKI,
ABBIE GONGLOFF, TIM CHOREY

FEDERAL REGULATIONS: SEGMENT 2

Panel Discussion

Federal Regulatory Panel

Moderated by
MICHELLE NIJHUIS

PANELISTS:

MICHAEL TEHAN OF NOAA
KRISTEN HAFER OF ARMY CORPS OF ENGINEERS
ZANE HADZICK OF FEMA
JARED BOTTCHER OF USFW

CULTURAL BARRIERS: SEGMENT 4

Panel Discussion

Federal Lands Management

Moderated by
HARV FORSGREN

PANELISTS:

AMY MCNAMARA, SHELBY WEIGAND,
BRETT ROPER, ALDEN SHALLCROSS

Closing Keynotes

KEYNOTE SPEAKER: Amy Bowers Cordalis

CO-FOUNDER, RIDGES TO RIFFLES

Erika Lovejoy

DIRECTOR, SUSTAINABLE CONSERVATION'S ACCELERATING RESTORATION PROGRAM

Scott Rumsey

ACTING REGIONAL ADMINISTRATOR, NOAA FISHERIES WEST COAST REGION


Press Esc to exit full screen
Chris Jordan
Jeanine Moy
Vesper Meadow
Levi Old
NE Oregon Restoration Director, Trout Unlimited
In your experience, what are the top two constraints or challenges to getting process based restoration projects on the ground?
112
50
155
20
38
194
19
101
19
28
11
Funding structure /limits
Uncertain outcomes
Landowner /community willingness
Designer capacity
Implementer capacity
Regulatory compliance
Lack of process-based design standards
Risks to existing infrastructure
Lack of monitoring /performance...
Risks to existing infrastructure
Other
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LIVE
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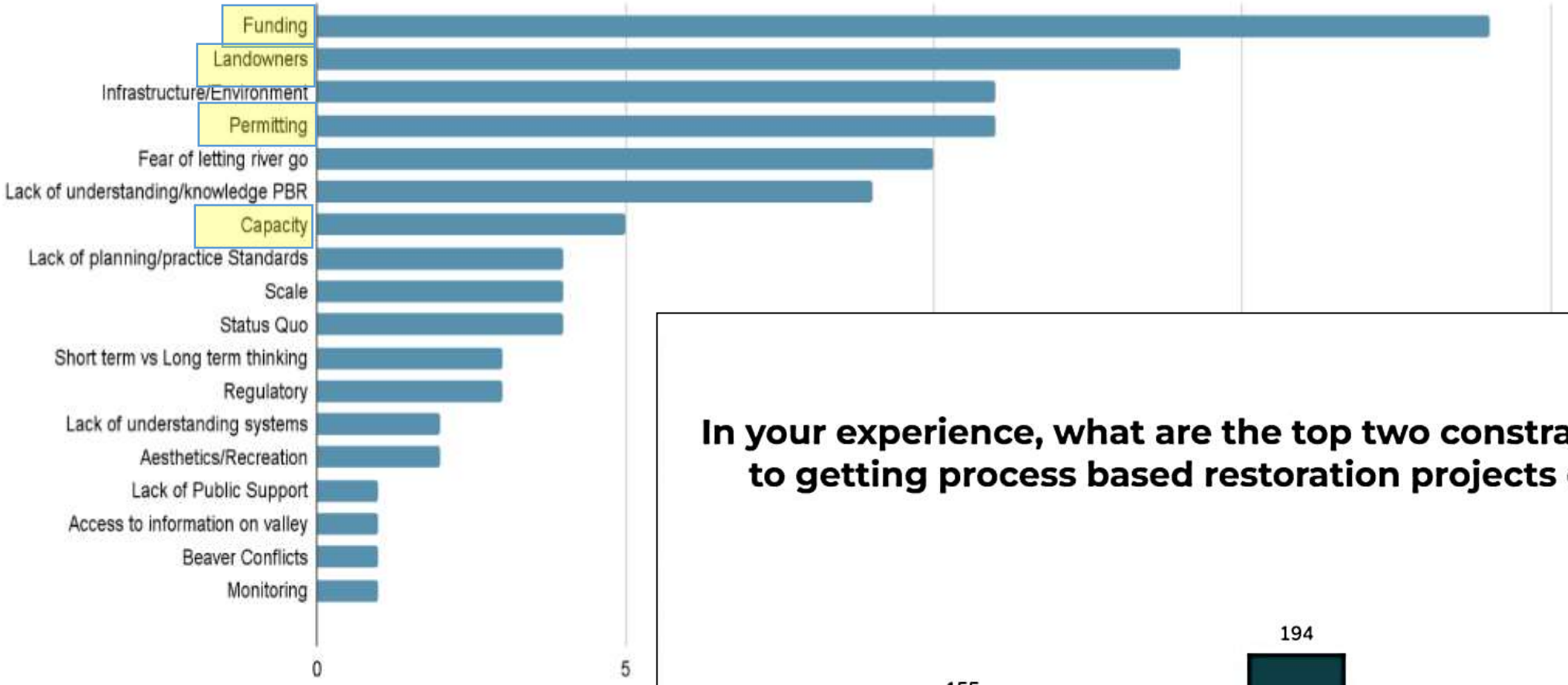
Funding
Landowners
Infrastructure/Environment
Permitting
Fear of letting river go
Lack of understanding/knowledge PBR
Capacity
Lack of planning/practice Standards
Scale
Status Quo
Short term vs Long term thinking
Regulatory
Lack of understanding systems
Aesthetics/Recreation
Lack of Public Support
Access to information on valley
Beaver Conflicts
Monitoring
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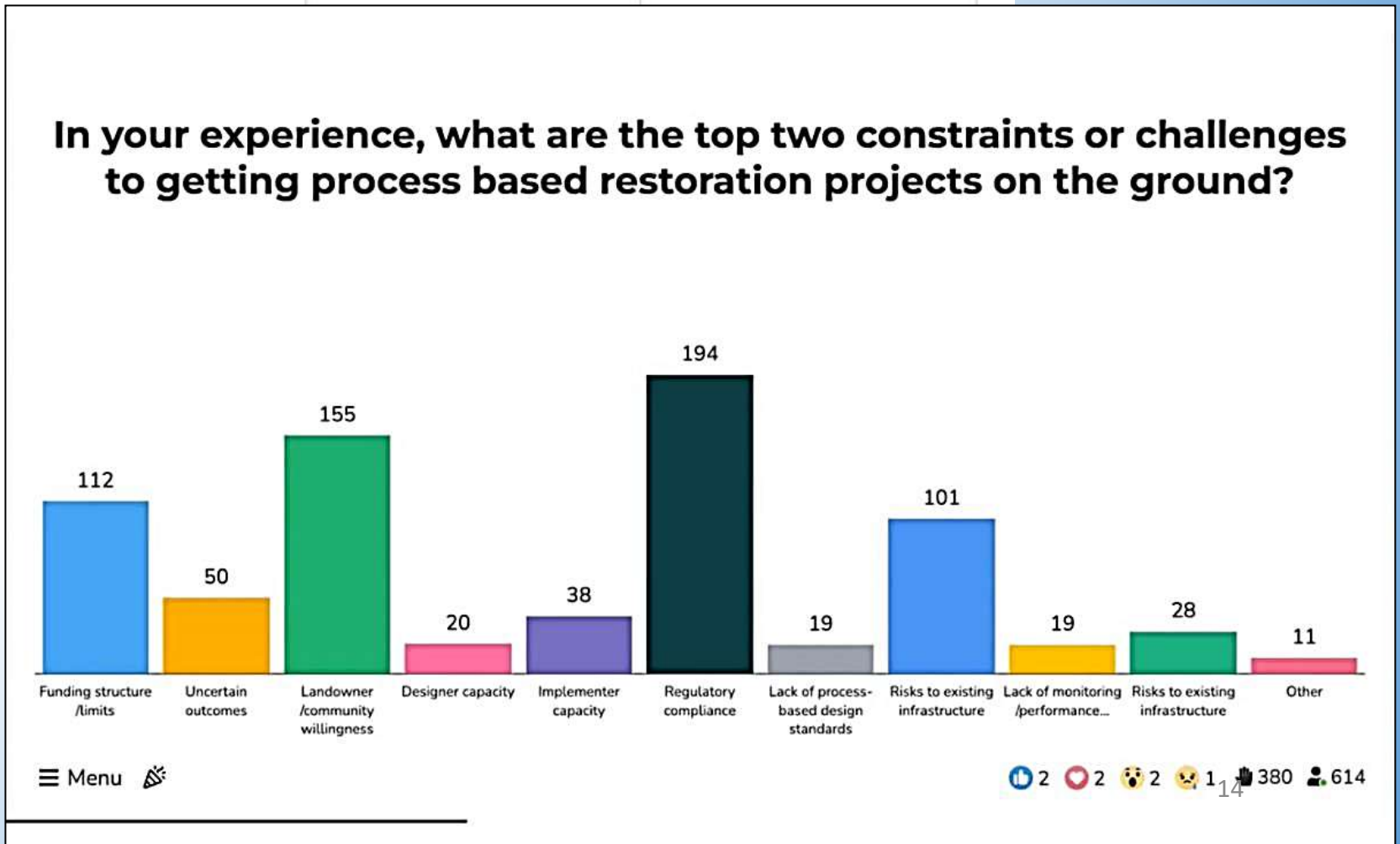
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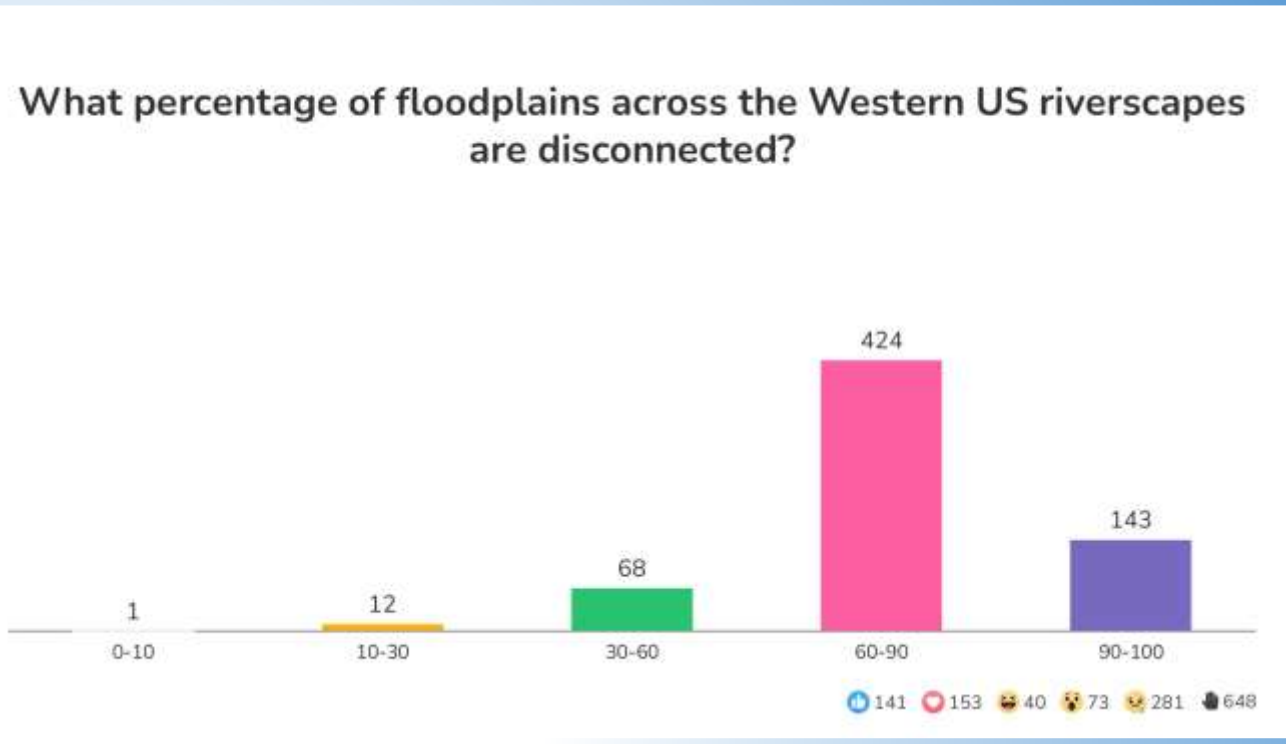
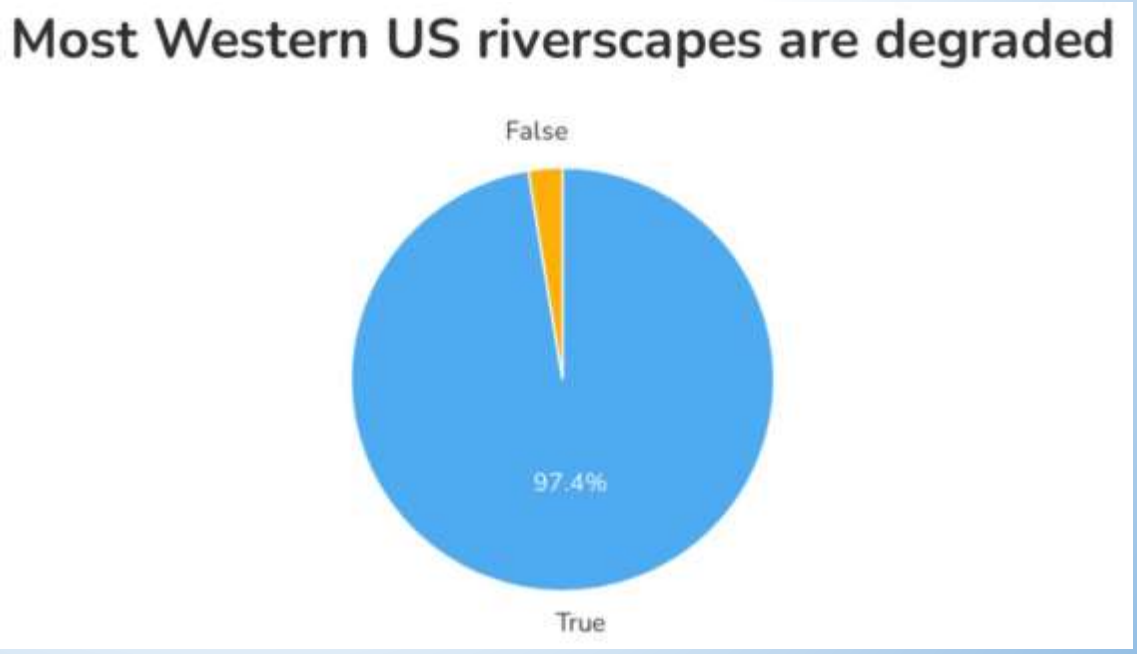
Land

Most valley bottoms are disconnected floodplains, and they are privately owned.





And yet…..some inspiring projects

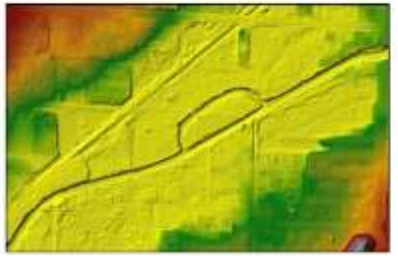
- Public lands
  - USFS, BLM, NPS
  - Less regulatory burden and fewer permits
- Trust lands
- Waste lands
  - Gravel pits, inspiring plans
- Retired lands
  - Unprofitable farms
  - Golf courses
- Relinquished lands
  - Urban buy back programs – for the good of society
  - Inspiring examples in Portland, and in Pennsylvania

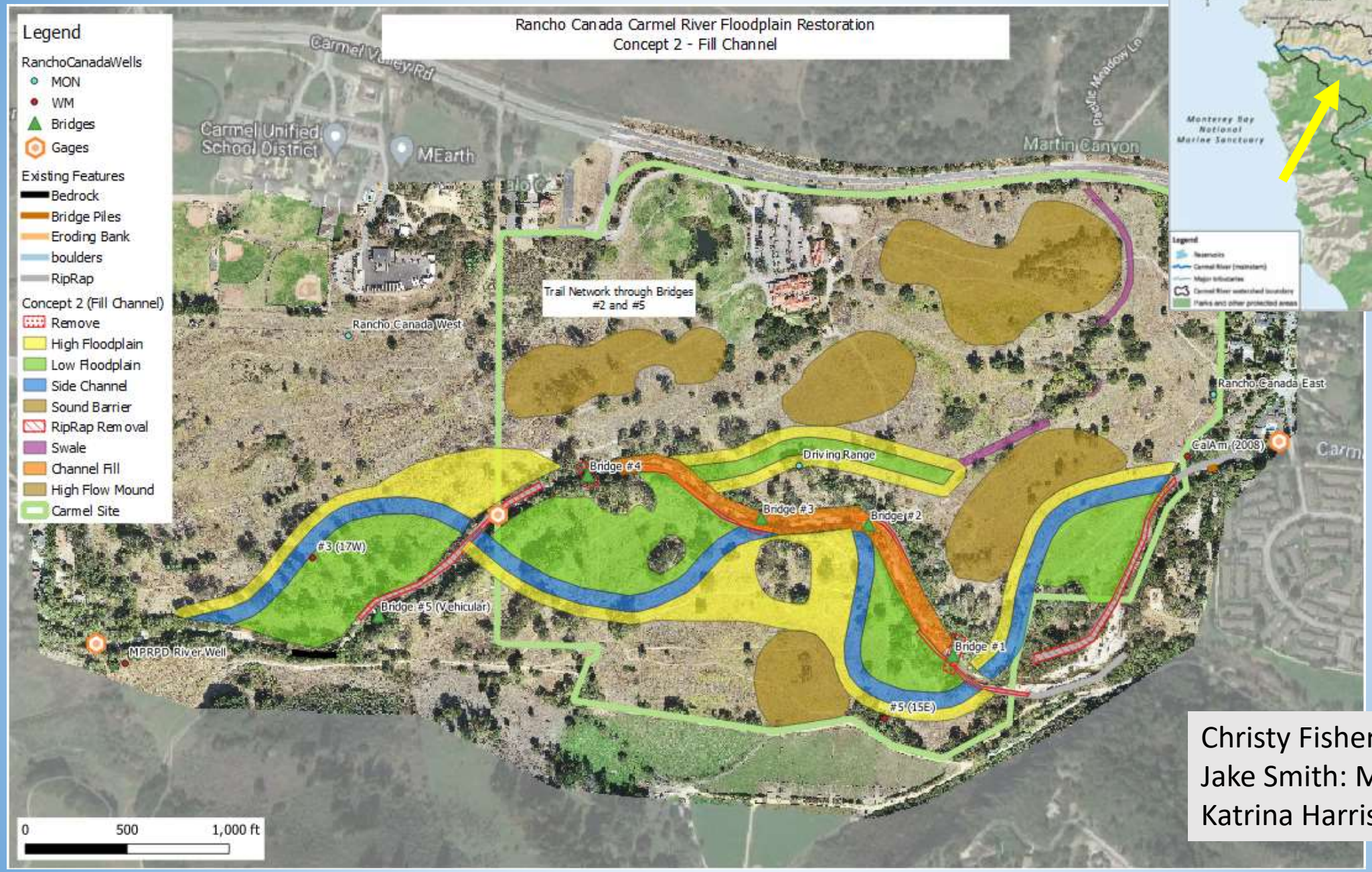
Urban land conversion

- City of Portland - Johnson Creek
- For the greater good……

Foster Floodplain – 2011 & 2012

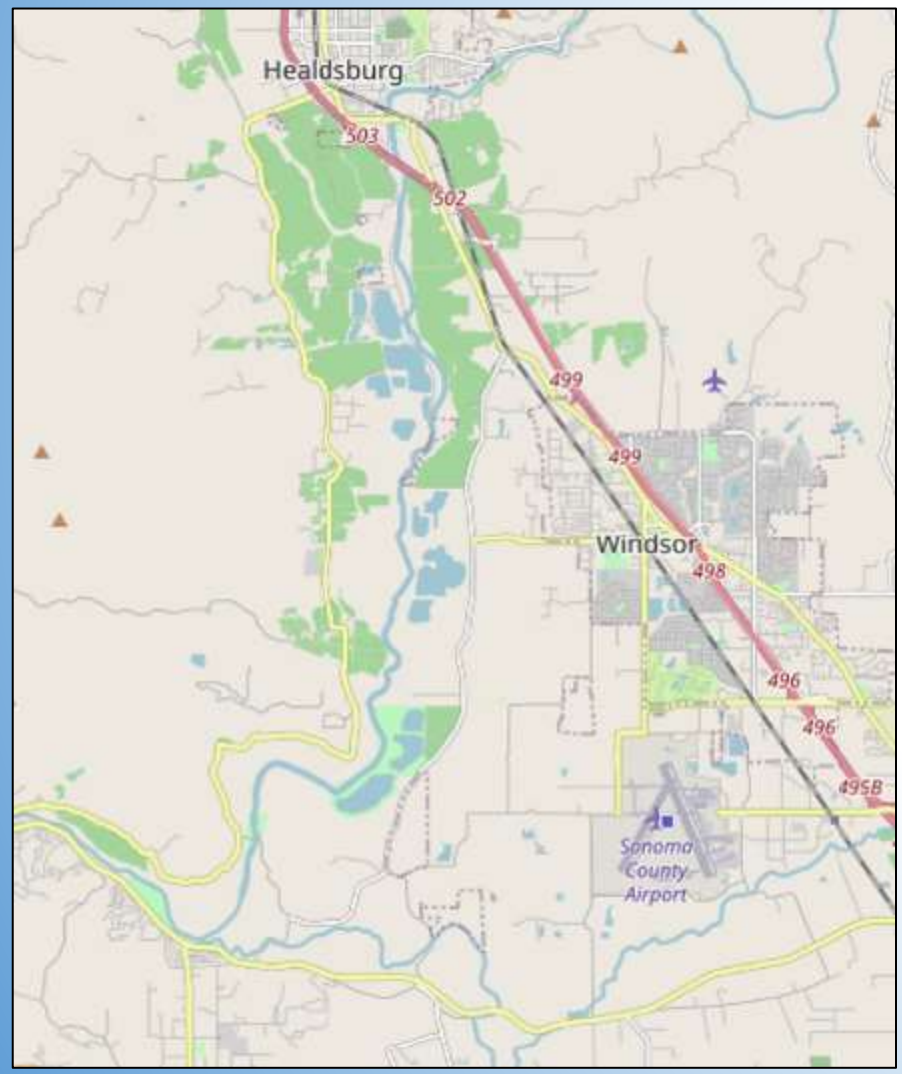
West Lents Floodplain Restoration - 2024





Christy Fisher: TPL
Jake Smith: MPRPD
Katrina Harrison: McBain

Gravel pits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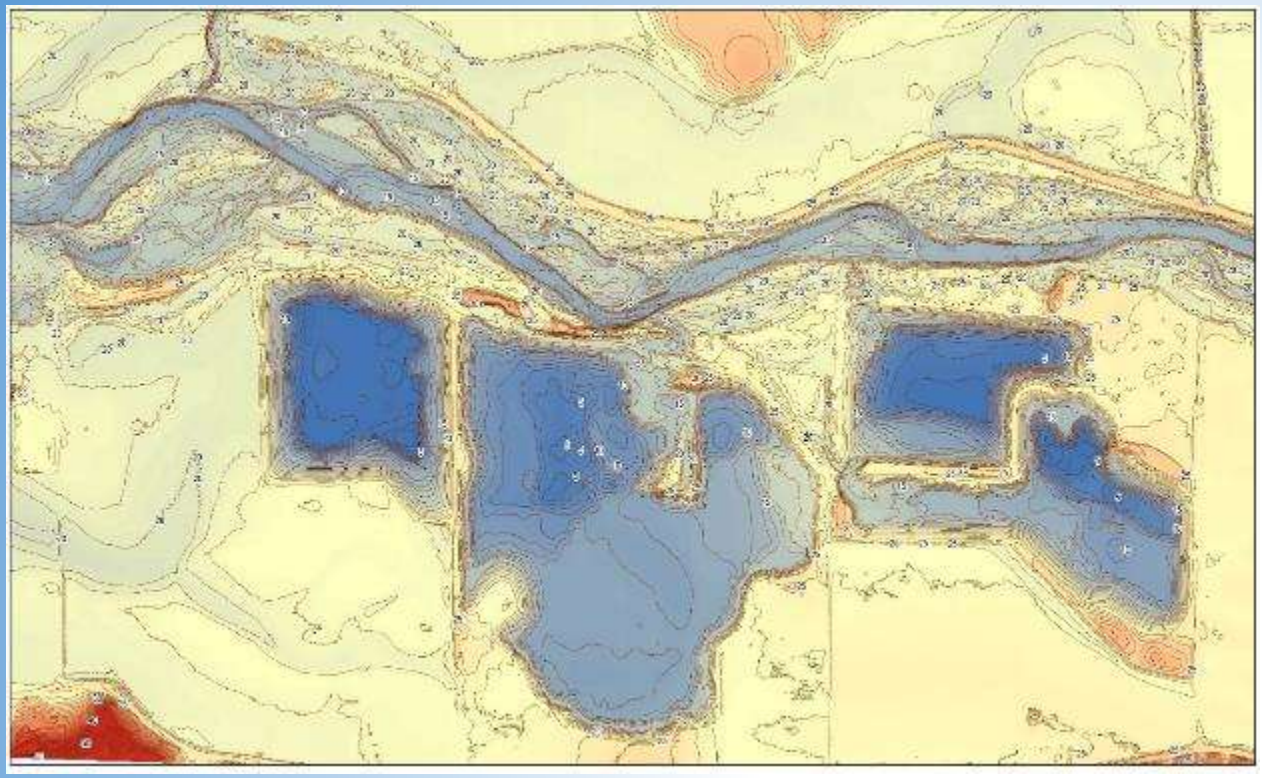
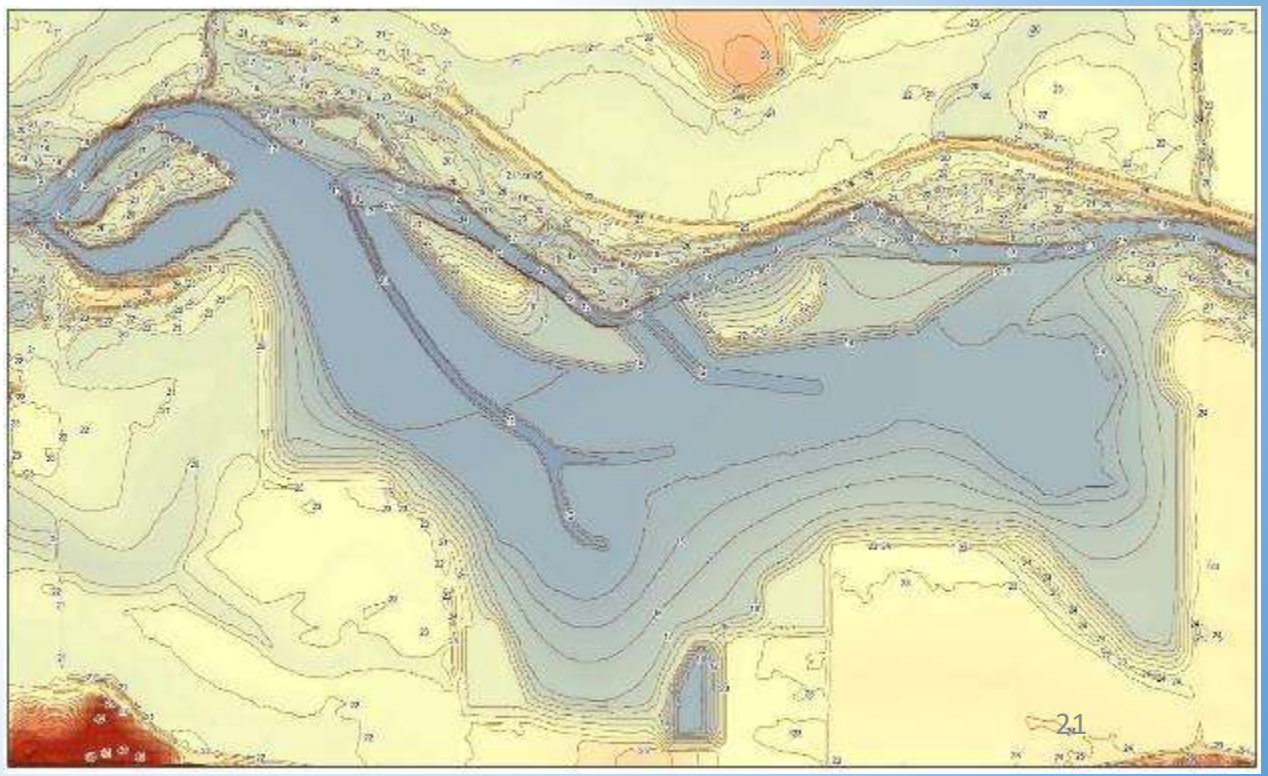
Sonoma
County
Airport



Current setting: 360 acres, ponds adjacent to the incised and leveed channel.

Ahah moment: finding that it is possible to fill the ponds with onsite material.
Proposed condition: large gently sloping seasonal floodplain.



Ag lands

Robertson's – Little Bear Creek
North Idaho
NRCS EQUIP funded

https://vimeo.com/808897225

Reconnecting floodplain

Many entities doing ‘champion’ work

Regulations and Permits

- Roots of all regulations – limit damage to already degraded environments
  - Vocabulary: “no”, “less”, “mitigate”
- Applying these regulations and permits to restoration
  - Vocabulary: “not so much”, “not to fast”, “less risk”, “uncertain”, “stabile”, “good investment”, “no take”
  - Not easy – not fast – not certain – not process based
- Adapting regulations and permits to promote riverscape restoration
  - Vocubulary to advance pace and scale: “more”, “quicker”, “adaptively monitor and manage as needed”, “large, resilient and dynamic”
  - Progression of PBO’s – scaling up, more flexible
  - “take” still a problem – vs. benefits to the ESU
- Still expensive and uncertain permit outcome
  - Fear and distrust

Funds and Grant Programs

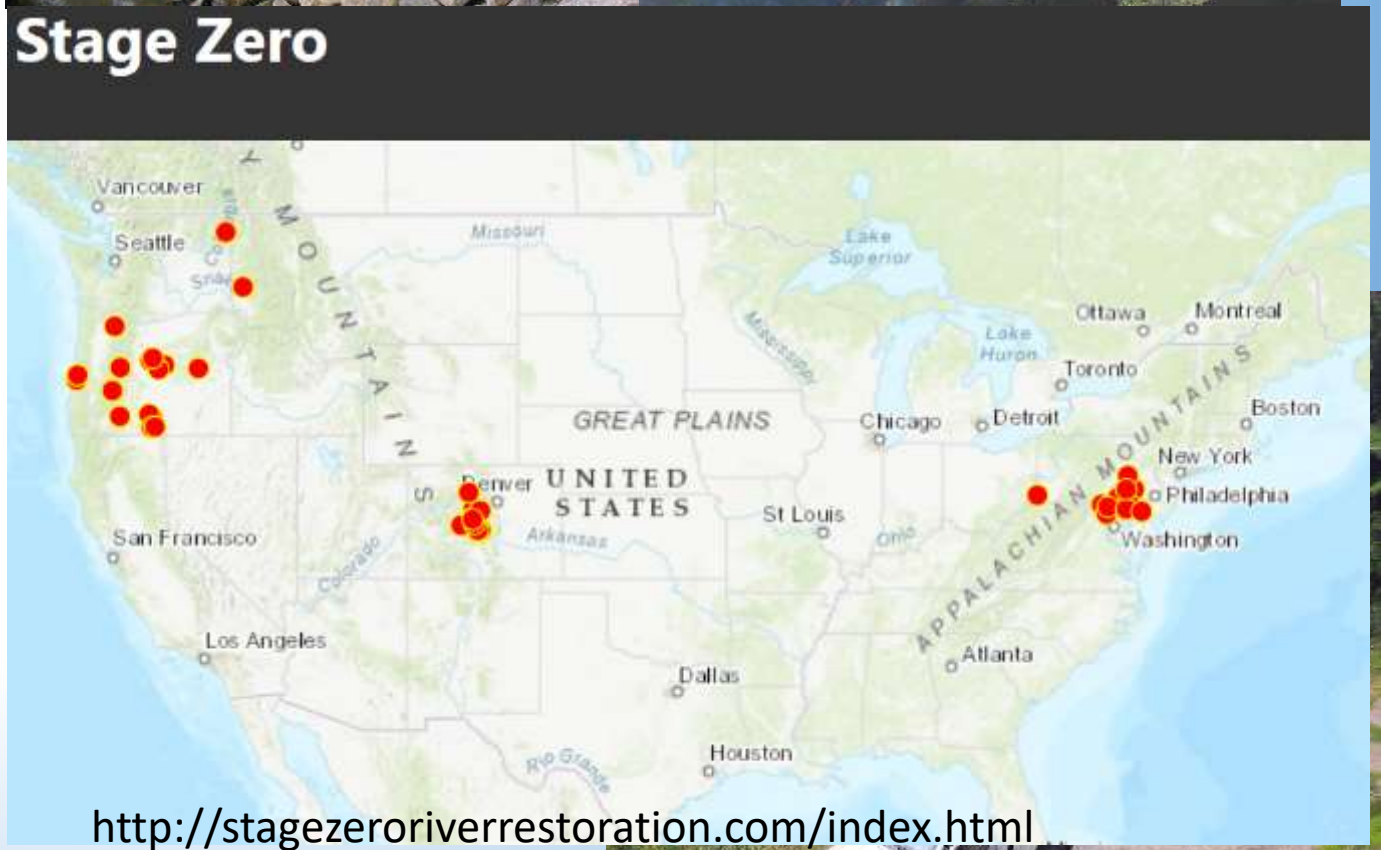
- There has never been more $ for restoration
- Some problems:
  - Many formats – even w/in same agency
  - Time consuming and expensive – gratis
  - Competitive – uncertain
  - New proposal for each step – anxiety
  - Little monitoring – not learning and sharing as fast as doing
  - Not producing outreach / education materials from new examples
- Lots of good work on these problems – more to do

Capacity

- Champions are necessary to find and develop land opportunities
  - Who is doing that? How well supported are they?
  - Projects seem to be serendipitous
- NGO's PGO's and GO's are tapped out
- Experts in identifying the problems and conceptualizing the solutions
  - Agencies are very short handed in technical assistance
  - Problem is getting worse
- Solutions?
  - More technical assistance staff - ---
  - More strategic Grants and PBO's?

Reflection:

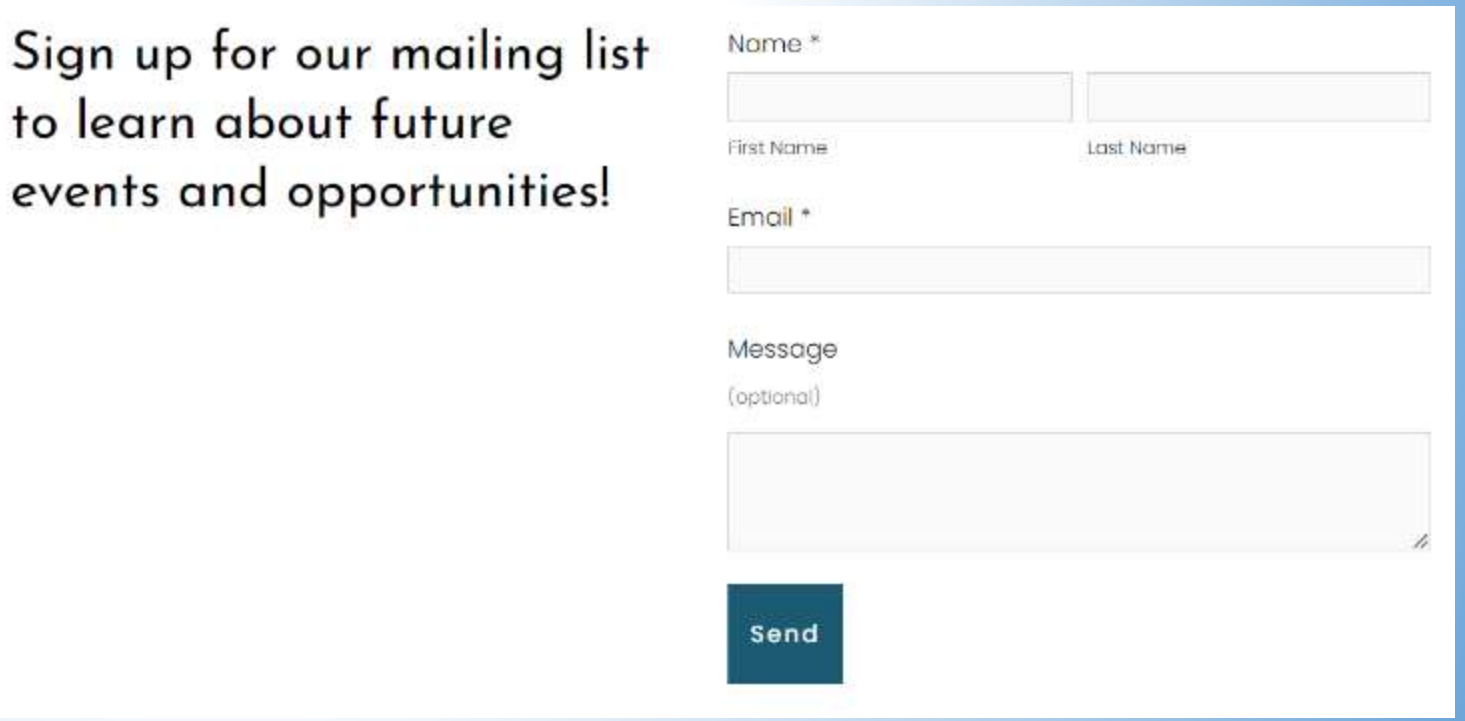
- A lot of changes in my career
- <u>Less stabilization, more process restoration</u>
- Great example projects
- Regulatory agencies are rising to the new challenges
- More funding than ever
- Bigger, more talented, and more diverse community of practice



http://stagezeroriverrestoration.com/index.html

Workshop will live on -

- https://www.restoringriverscapes.org/
- Entire workshop on Vimeo – soon
- Workshop report - summer



Robertson's story - https://vimeo.com/808897225