



Fish Passage Program





Overview

- Fish Passage Legislation
- Statewide Partnerships
- Science and Data Collection
- Engineering
- Permitting Efficiencies
- Funding
- Challenges and Solutions





Streets and Highways Code 156 (Senate Bill 857, 2005)

- Prohibits actions that extend the service life of a road/stream barrier to salmon or steelhead.
- Projects may not create new barriers.
- Report annual progress to Legislature;
 - **Priority** barriers for species recovery,
 - **Completed** remediation locations,
 - **Active** projects in delivery, and
 - **Assessments** of road/stream crossings, and
 - **Funding** for current and planned projects.





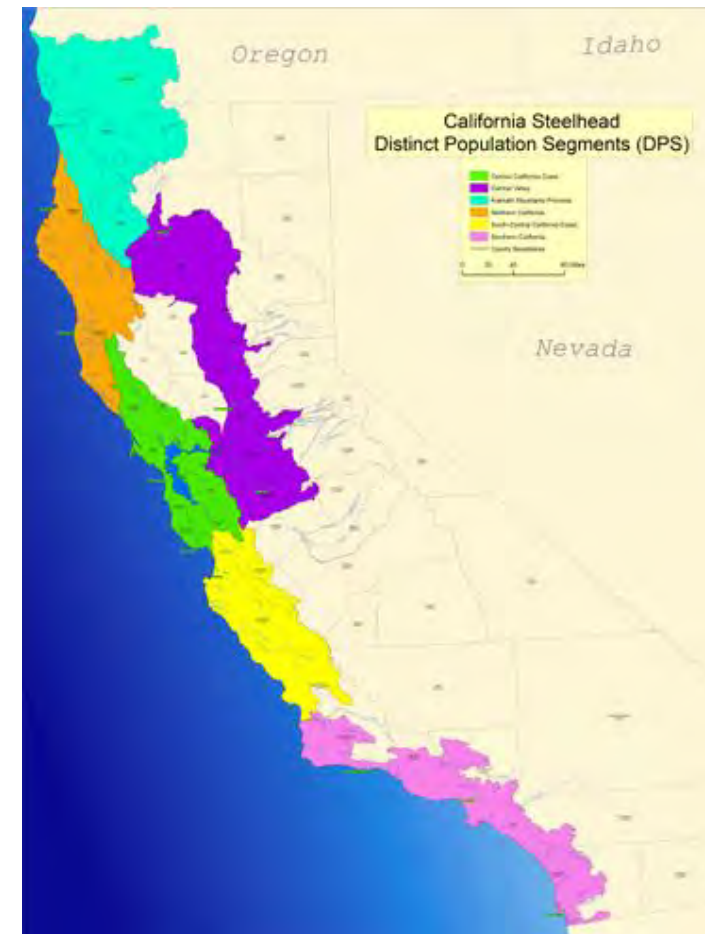
Salmon and Steelhead in California

Coho and Chinook Salmon, Steelhead Trout



Photo: National Park Service

Range of Steelhead in California





State Highway System – Salmon and Steelhead Barriers





Status of Progress

- **65** barriers remediated (2006 to 2022)
 - ~**920.4** miles of improved access to habitat
- **38** Active Fish Passage Remediation Locations
 - ~**187** miles of currently blocked habitat
- **88** Priority Barriers
 - **27** pre-project, planned funding
 - ~**163** miles of currently blocked habitat
 - **61** unfunded
 - ~**331** miles of currently blocked habitat
- **682** Other Known Barriers
 - FishPAC's evaluate to determine habitat suitability and collaboratively prioritize





Partnerships

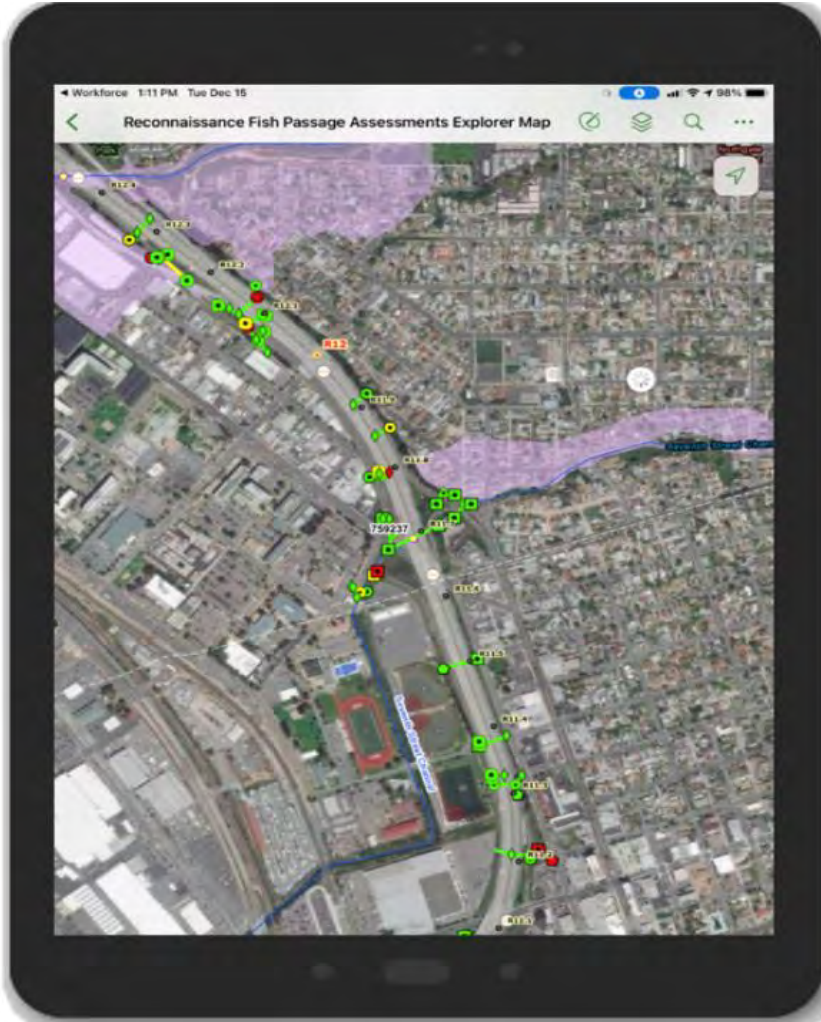
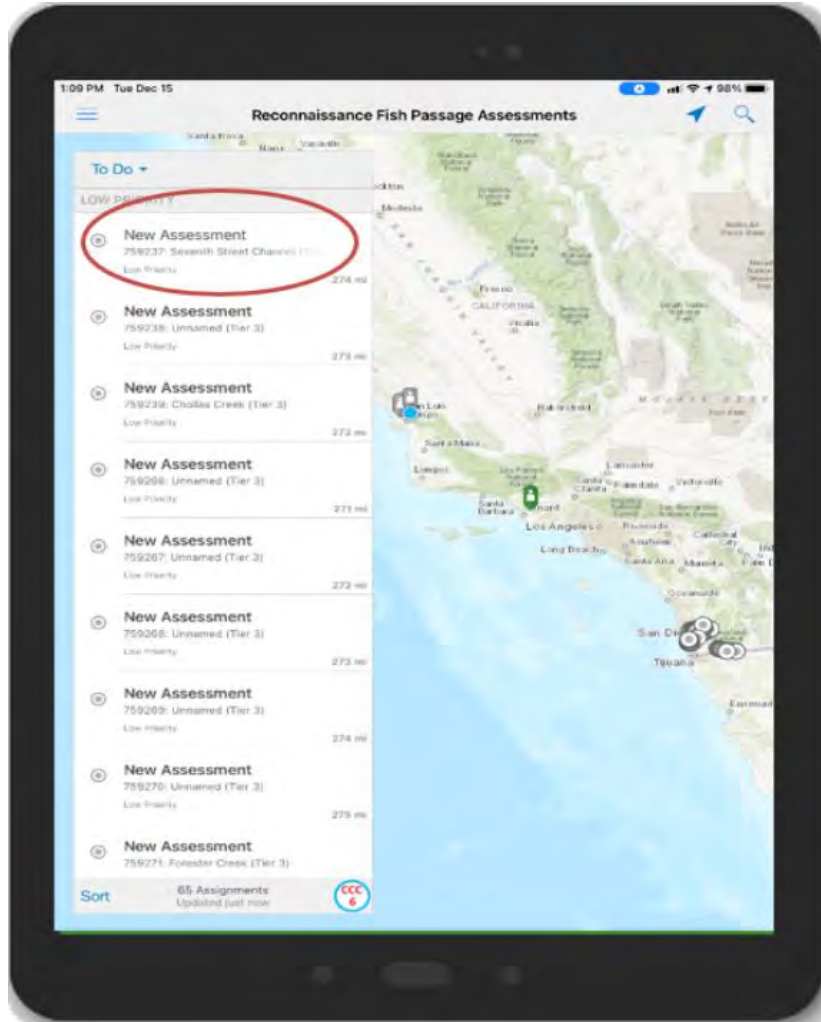
Fish Passage Advisory Committees (FishPAC's)

- Over **210** members from **18** state, federal and local partners
 - North Coast (2003)
 - Klamath-Cascades (2007)
 - Bay Area (2016)
 - Southern Steelhead (2017)
 - Central Coast (2017)
 - Central Valley (2018)
 - Engineering Working Group (2015)





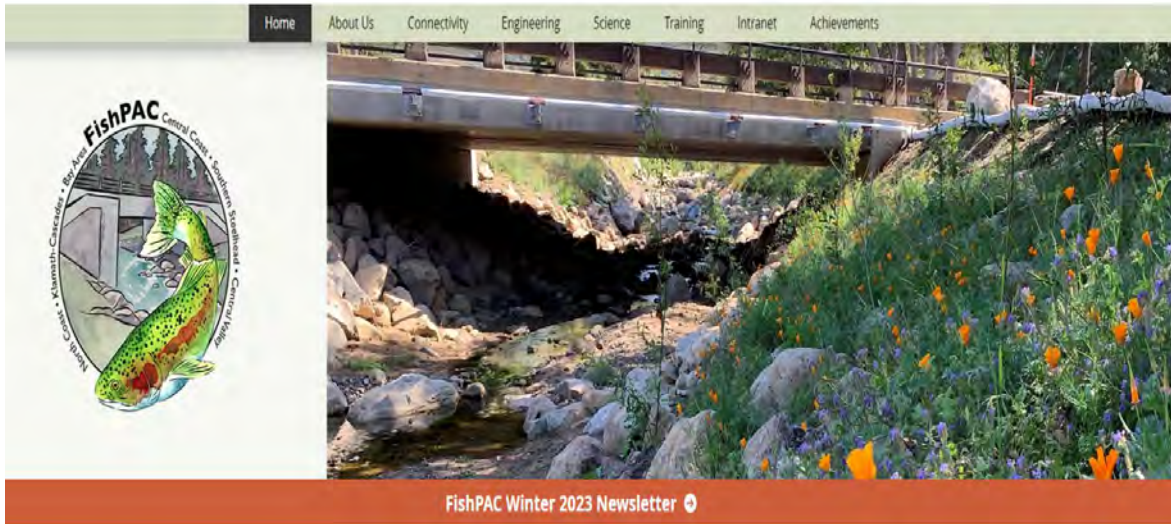
Data Collection Partnerships and Assessment Technologies





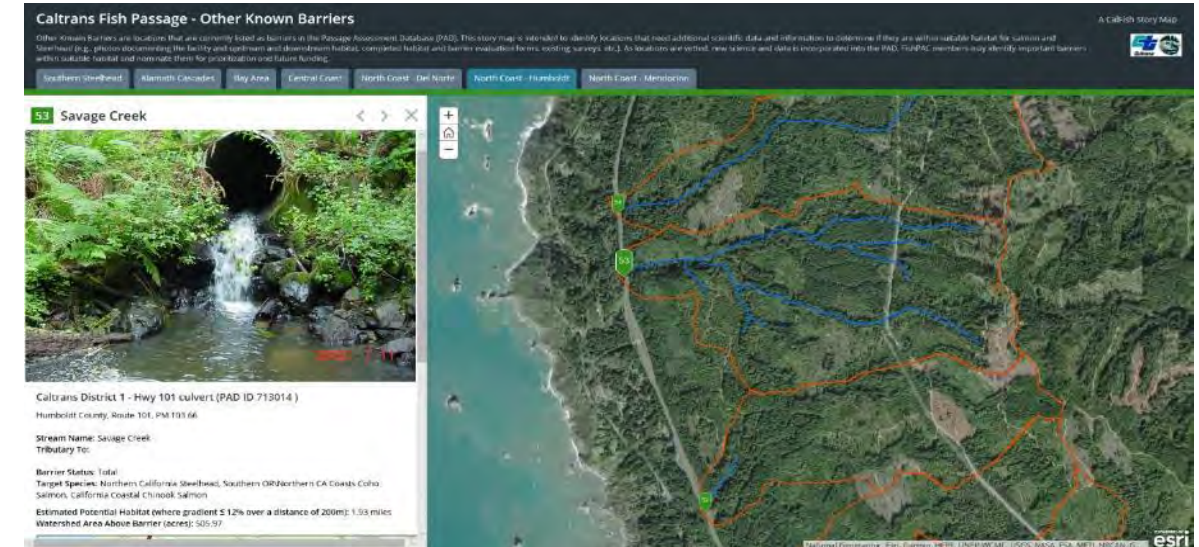
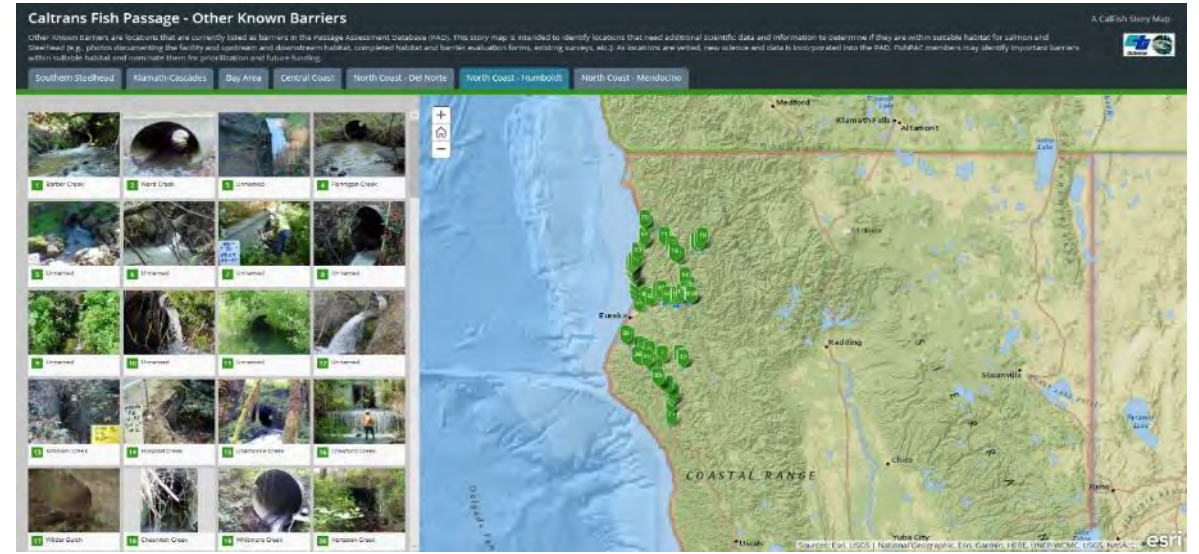
Barrier Prioritization

FISH PASSAGE
ADVISORY COMMITTEE



WELCOME TO FISHPAC

www.cafishpac.org





Barrier Ranking Criteria

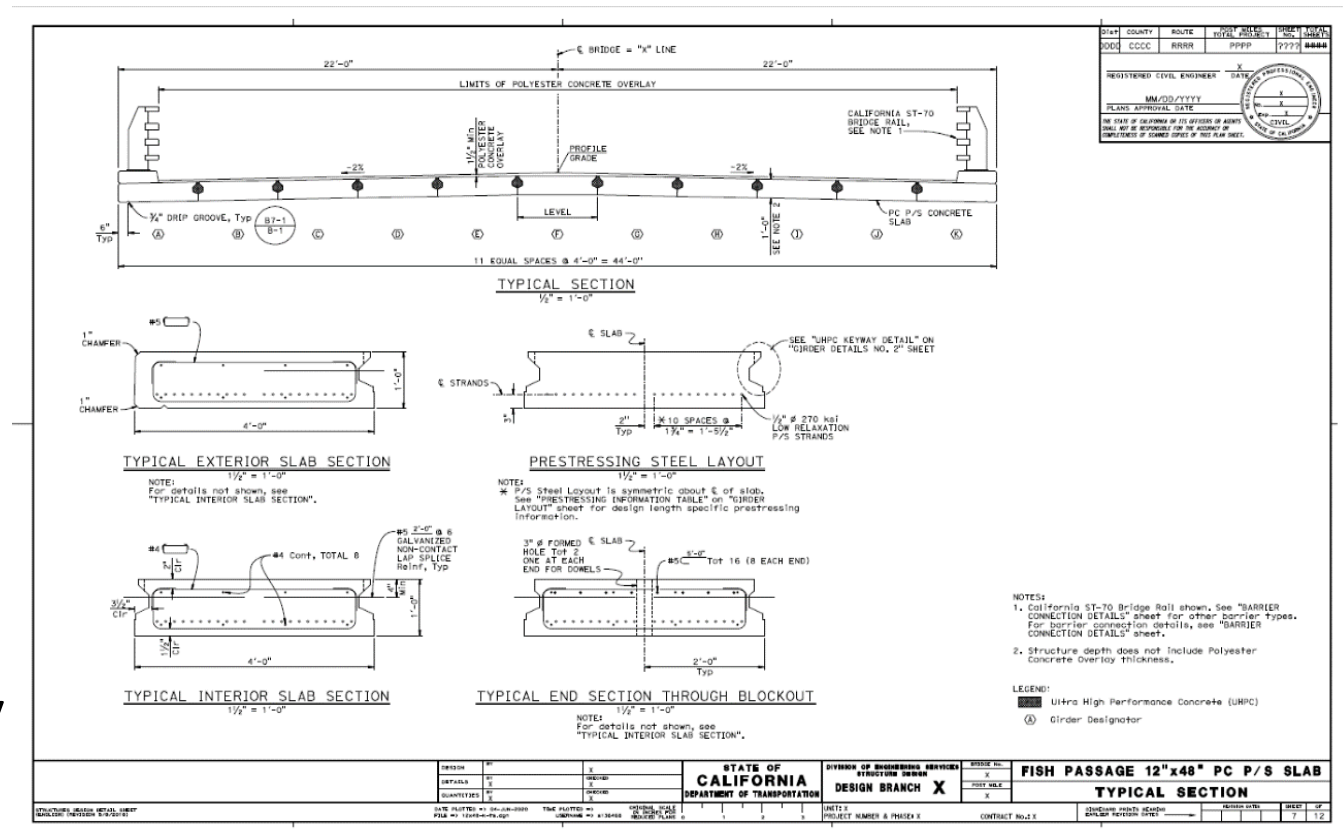
- Species Diversity – Salmon and Steelhead populations present
- Quality and Quantity of Habitat
 - Clean gravel for spawning and rearing
 - Water quality and availability
 - Watershed conditions
- Other Professional Knowledge
 - Current and planned land use





Engineering Working Group

- Collaborative Guidance
 - Surveys, modeling, project delivery support, expert engineering panel
- Pre-design Solutions
 - Full-span, long-term bridge and culvert fish passage solutions.
- Research – Engineering Efficacy (2022 Humboldt Cal Poly)





Accelerated Bridge Construction Solutions



Fort Goff Creek – Siskiyou 96





Hydraulic/Partial Solutions





Full-Span Bridge Design Solutions





State Highway Systems Management Plan

- **Inventory**
 - Science and data identifying need for recovery of species
- **Unit Cost Estimate**
 - Historic cost data
 - Current cost estimates
- **Needs Narrative**
 - Statewide barrier remediation need and gap in achieving need





Funding

- **38** Active barrier remediation projects with allocated funding
 - **187** estimated miles of blocked salmon and steelhead habitat
- Approximately **\$310** million currently invested
- 2023 Bipartisan Infrastructure Bill
 - Awarded **\$26** million - Culvert Aquatic Organism Passage Grant





Projects in Planning Phase

- **27** Priority fish barriers in the project planning phase
 - **163** estimated miles of blocked salmon and steelhead habitat
- Actively seeking state, federal and local funding opportunities





Huichica Creek – Napa 121, PM 0.75

Species – Steelhead Trout, Coho and Chinook Salmon

Habitat – estimated 7.8 miles of unblocked access to upstream high-quality habitat





Dominie Creek – Del Norte 101, PM 39.78

Species – Steelhead Trout, Coho Salmon

Habitat – estimated 2.5 miles of unblocked access to upstream high-quality habitat





Dominie Creek – Construction Dewatering and Species Relocation

Steelhead Trout and Chinook Salmon

Pacific Giant Salamander and Tailed frog





Arroyo Paredon Creek – Santa Barbara 192, PM 15.55

Species – Steelhead Trout

Habitat – estimated 1.2 miles of unblocked access to upstream high-quality habitat





Little Lost Man Creek – Humboldt 101, pm 124.5

Species – Steelhead Trout, Coho Salmon

Habitat – estimated 1.21 miles of unblocked access to upstream high-quality habitat





Little Lost Man Creek Multi-Species Camera Study

Study – wildlife cameras were deployed post-project to demonstrate use by wildlife species

Species – Black bear, Roosevelt elk, mountain lions, fox, deer, and raccoon were observed





Photo Examples – Multi- Species Camera Project

Salsipuedes Creek, Santa Barbara – Mountain lion using under-crossing



Upp Creek, Mendocino – Deer using under-crossing





Challenges and Solutions

- Pre-design Engineering Solutions
 - Project design time and cost efficiencies
 - Defined actions translate into programmatic permitting efficiencies
- Permitting Efficiencies
 - Programmatic Endangered Species Consultations with National Marine Fisheries Service and U.S. Fish and Wildlife to expedite permits
 - Collaborating with CA Department of Fish and Wildlife to implement more Cutting the Green Tape, and other restoration project efficiencies
 - <https://wildlife.ca.gov/Conservation/Cutting-Green-Tape>



Challenges and Solutions (cont.)

- Funding and Costs
 - Evaluating state, federal and local (grant) funding opportunities to increase cost sharing for barrier remediation projects
 - Design and permitting efficiencies to reduce project schedules and labor costs
- Hydraulic Engineering Guidance
 - Partial/hydraulic solutions are more complex and have shown reduced remediation efficacy
 - Updating guidance to focus on more effective design solutions to improve remediation outcomes



Thank you!

Questions/Discussion

Melinda Molnar,
Chief, Office of Fish and Wildlife Connectivity
Division of Environmental Analysis

