

Status - Fish Passage on the CA State Highway System

(2014 Fish Passage Annual Report to Legislature)



Roadways, Watersheds & Engineering

- There are more than 4 million miles of roadway in the US.
- The perpendicular orientation of stream channels and road crossings equate to many intersections.
- Both systems are at risk of disruption from one another.



SB857 & Culvert Maintenance



- Since 2006 when SB857 was passed, Caltrans is not allowed to prolong the life of any culvert that is a barrier to anadromous fish without also addressing the fish passage barrier.
- Maintenance includes;
 - repairing wing walls
 - Paving the invert
 - Rock Slope Protection
- The result is that there are a lot of culverts that are in need of maintenance.

SB 857 - Assessments

Sec 3. Article 3.5 (Streets & Highways Code)

- Requires Caltrans to complete an assessment of potential barriers to anadromous fish, prior to commencing any project that uses State or Federal transportation dollars.
 - Assessments must be submitted to CDFW, to be added to the CALFISH database.
 - Caltrans must also report new assessments, annually, in the Fish Passage Annual Report to Legislature.
- Currently 569 known locations, per the QA/QC completed in August 2014, of the PAD.
- Assessments are in progress along the central CA coast.

SB 857 – Additional Requirements

Sec 3. Article 3.5 (Streets & Highways Code)

- Construct projects without presenting additional or new barriers to fish passage,
 - Ongoing
- Pursue development of programmatic environmental review process for remediating existing barriers,
 - NMFS/Caltrans – Programmatic Biological Opinion for maintenance, small projects & fish passage (Oct 2013)
 - CDFW – Impasse on ITP negotiations.
- Prepare an annual report to the Legislature detailing progress in locating, assessing and remediating barriers.
 - 2014 Report finalized in Oct 2014 (Jan 1 – Dec 31, 2013) – Copy provided.

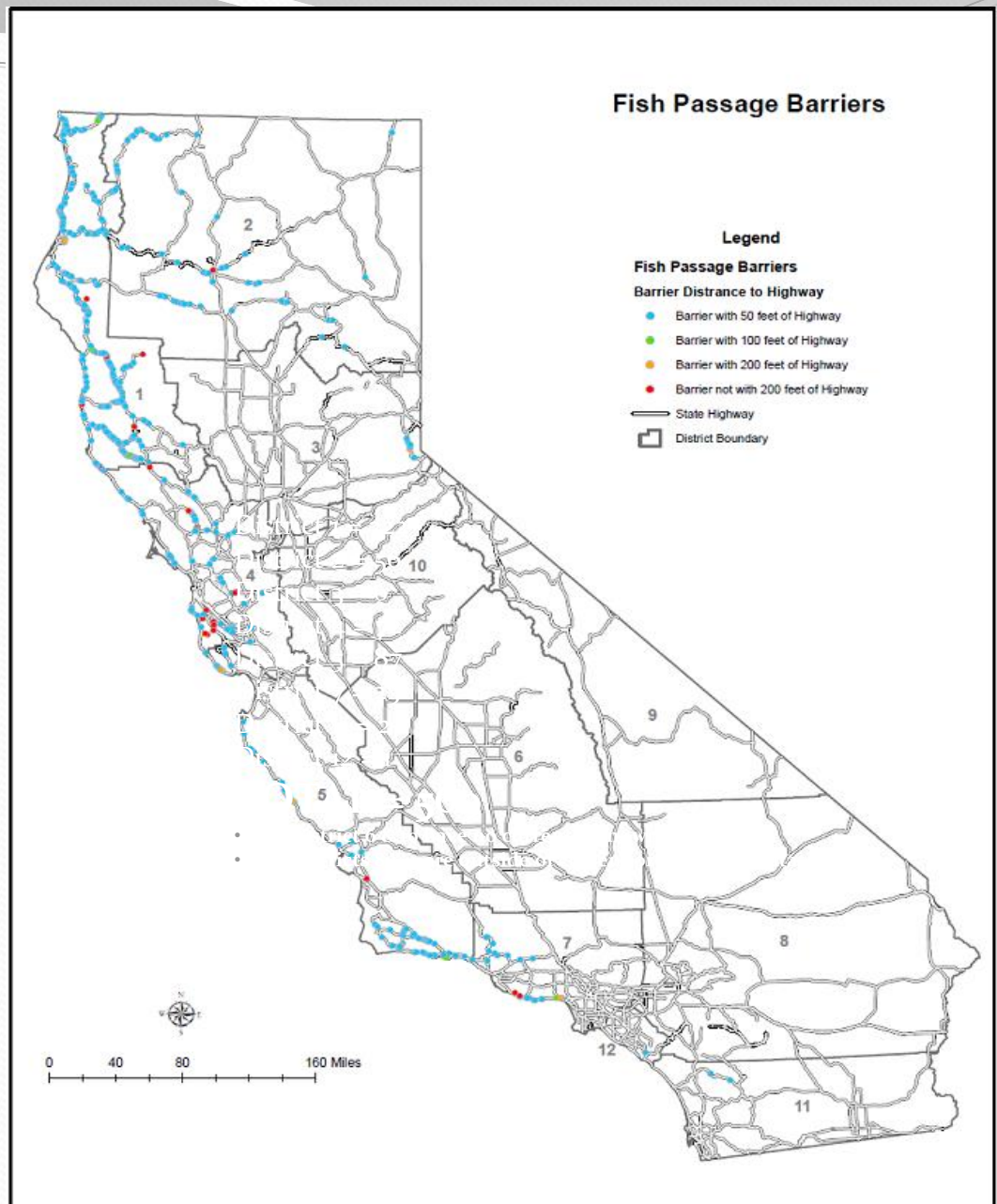
Passage Assessment Database

- Gap in funding for assessments (2010-2013), but Caltrans was able to acquire funding for additional assessments, which resumed in 2014.
- In 2014, the QA/QC identified a number of records that need to be further vetted, revised and potentially require new assessments.
- Additional funding has been provided by HQ Division of Environmental for assessments - priority locations, routes and watersheds will be addressed first.
 - Endangered species; central coho & southern steelhead.
 - Water bodies that have been emphasized by regulatory authority (i.e. RWQCB – Klamath & Eel watersheds)

Distribution of Identified Barriers on the SHS – By Caltrans District

District	Estimated Fish Barriers	2013 Priority Locations
1 – Eureka	322	11
2 – Redding	56	9
3 – Marysville	6	0
4 – Oakland	72	10
5 – San Luis Obispo	87	2
6 – Fresno	0	0
7 – Los Angeles	23	2
10 – Stockton	0	0
11 – San Diego	2	2
12 – Orange	1	0
TOTAL	569	36

PAD records that currently indicate Fish Passage Barriers on the State Highway System



Caltrans - Fish Passage Design Manual

FISH PASSAGE DESIGN FOR ROAD CROSSINGS

**An Engineering Document
Providing Fish Passage Design Guidance for
Caltrans Projects**

May 2007



Caltrans
Fish Passage Design for Road Crossings

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Fish Passage - Engineering

- Due to the scope of this issue and requirement to develop suitable projects for barrier locations, Caltrans is looking to increase internal expertise and knowledge of fish passage design.
 - Partners from Structures, Design, Hydraulic Engineering, Project Management, Programming and Planning.
- Agency partners at CDFW & NMFS have expressed concern over workload needs and the availability of existing staff to help Caltrans deliver fish passage projects.
 - Caltrans is renewing liaison contracts with CDFW & NMFS – July 1, 2015 & is currently negotiating a fish passage engineering position with each agency.
 - The CDFW position will likely be delayed due to the need to write a BCP.

Primary Responsibilities for CDFW & NMFS Fish Passage Engineering Positions

- Enhanced engineering reviews & partnering for Caltrans scour critical bridges, bridge replacements, scour protection, fish passage, and storm damage projects, as relevant.
- Improve communication and coordination between Caltrans and CDFW to help streamline the review process and to provide feedback and Caltrans training opportunities.
- Participate in the Fish Passage Forum and the engineering working group to continue to improve partnering, the engineering review process, and to assist Caltrans in remediating barriers to fish passage pursuant to Streets and Highway Code sections 156 – 156.4 and Fish and Game Code section 5901 (Sen. Bill No. 857, approved by Governor, October 6, 2005; Stats. 2005, Ch. 589, § 3).

Fish Passage - Education

- Education; internal and external is ongoing.
 - District fish passage coordinators (biologists) – Meet every other month to discuss project issues, permitting, funding, and assessment needs.
 - Engineering Staff – Gave 2 recent training sessions to approximately 80 Design Engineering Staff
 - 11 staff to SRF this year – Engineers & Biologists
 - Sharing more information, related to what we currently know, about the barriers on the SHS & Priority locations, with internal & external partners.
 - A lot of current interest in fish passage & the department is evolving on how to implement locations into projects and stand-alone remediation work.

Fish Passage - Funding

- We are continuing to look at the cost of projects.
 - Engineering – streamlining standard plans/designs
 - Environmental Permitting – NMFS, CDFW & USFWS
- There is a lot of current support, internal and external, for the allocation of a new program that would annually fund stand-alone fish passage projects.
- SHOPP 240 Program - Advance Mitigation funding is currently available for fish passage projects

Fish Passage – Mitigation

Credit Valuation Method needed

- Caltrans advance mitigation program is currently funding for \$5 Million, annually for mitigation of projects that are in the 10 –year plan.
- Fish Passage projects are eligible, however a credit valuation methodology needs to be developed and negotiated with resource partners, which would identify the biological value of varied locations.
 - ODOT is similarly working on a credit valuation process (formula) with NMFS & Oregon Fish & Wildlife Dept.
 - Based on species listing, diversity, upstream habitat, etc.
 - Until a credit valuation method is established for fish passage, too much risk exists to fund in this program.

Fish Passage Success Projects



- Chadd Creek
- Hum 101 – Before Fish Passage Restoration
- Barrier - jump, pool depth at outlet and in culvert

Chadd Creek - After

Fish have been observed above the barrier, since remediation



O'Neil Creek – Before Inlet/Outlet



Barrier –depth , velocity,
obstructions, accumulation of debris



O'Neil Creek – After



Little French Creek – Before

Barrier related to slope & velocity



Little French Creek - After



Dunn Creek (MEN 1) - Before Inlet/Outlet



Barrier - depth of culvert &
pool, velocity, slope,



Dunn Creek - After



Hall Creek - Before

Barrier issue related to slope, velocity, rock impasse



Hall Creek - After



Fish Passage Partnering: Caltrans, CDFW, USFWS, USFS, NMFS, 5 Counties, Cal Trout

**D2 - Fort Goff Creek,
constructed 2014**

**After 1 season, 64 Chinook
spawning sites were surveyed
upstream of the new bridge!**



What's Happening Underneath the Highway



Photos by Tanya Diamond
Pathways for Wildlife



Photos by John Perrine
Cal Poly/Caltrans

Where Wildlife and Roadways Intersect

Issues:

- Animal-Vehicle Collisions
- Barrier Effect
- Habitat Fragmentation



Wildlife Crossing Design Manuals

Caltrans and FHWA



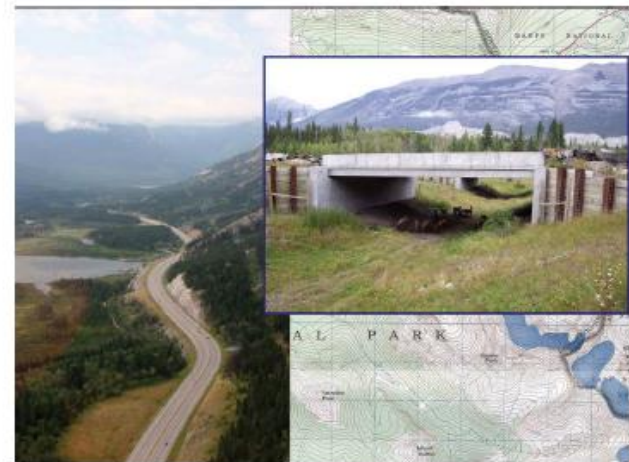
Wildlife Crossings Guidance Manual

California Department of Transportation

WILDLIFE CROSSING STRUCTURE HANDBOOK Design and Evaluation in North America

Publication No. FHWA-CFL/TD-11-003

March 2011



U.S. Department of Transportation
Federal Highway Administration



Central Federal Lands Highway Division
12300 West Dakota Avenue
Lakewood, CO 80226

Terrestrial Wildlife

- Similar to fish passage, connectivity and habitat fragmentation is a topic of great interest, pertaining to roadways.
- Identify areas where fish and wildlife connectivity projects can both be accommodated, to the extent feasible.
- Working with internal and external partners to determine opportunities to build fish & wildlife connectivity projects at high priority locations.
- Large project T&E species mitigation is still currently the most reliable source of potential funding for all connectivity projects.

Thank you

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