Fish Passage Remediation on the State Highway System

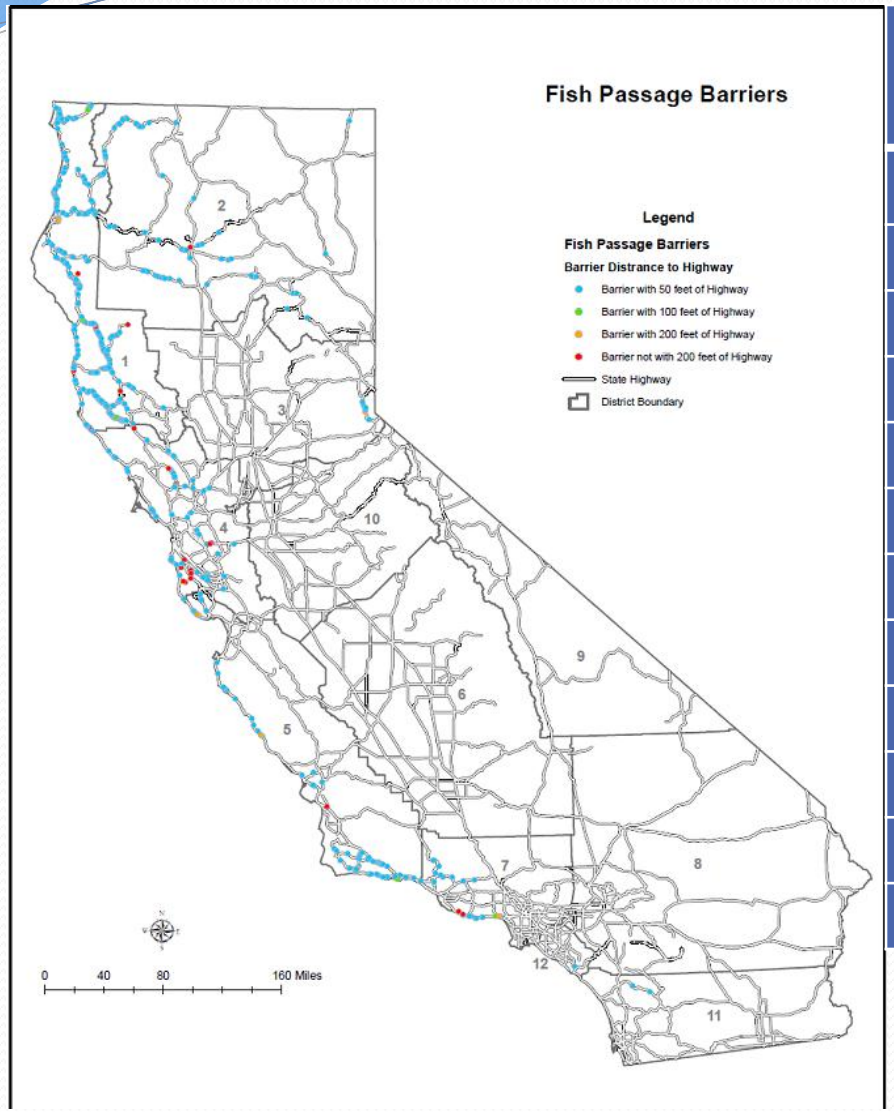
SB857 & Culvert Maintenance

Maintenance work that would prolong the life of a culvert or bridge that is a barrier to fish is prohibited.

Exceptions would be cleaning or debris removal.

- Result; there are a lot of culverts in need of maintenance & many of them will likely be bridges in order to accommodate fish passage, as identified.

Current Fish Passage Barriers - SHS



Caltrans Fish Passage Barriers by District (all future program locations)	
District	Estimated Fish Passage Barriers
1 – Eureka	298
2 - Redding	48
3 - Marysville	0
4 - Oakland	69
5 – San Luis Obispo	78
6 – Fresno	0
7 – Los Angeles	24
10 – Stockton	0
11 – San Diego	2
12 - Orange	1
TOTAL	520

- **Barriers completed, since 2006 = 30**
- **Average # completed each year = 3**

Caltrans Partnering –Environmental

- Permitting streamlining;
  - NMFS Programmatic Opinion; maintenance, small projects and fish passage, (D1, D2, D4).
- District/Region Office Teams; assess locations & prioritize for biological value.
- Work to execute contracts to;
  - Track and improve barrier data on the SHS by identifying gaps in and improve information related to prioritization, funding & optimization.
  - Fund habitat assessments, presence/absence surveys, water quality and 1st pass assessments.
  - Fund 2nd pass assessments through contracts available to HQ Environmental.

Caltrans Partnering -Design & Engineering

- Engineer positions added to CDFW & NMFS contracts, for full-time Caltrans assistance.
  - Single contact for all Caltrans fish passage, scour and in-water, project-related design assistance & expedited reviews.
  - Coordinate standard design solutions that meet NMFS, CDFW & Caltrans requirements.
  - Early coordination on scope of the proposed solution, to minimize risk.
  - Verification at permitting, that design solution meets criteria for successful remediation.
  - Help to coordinate training & guidance updates.

Caltrans - Fish Passage Design Manual

FISH PASSAGE DESIGN FOR ROAD CROSSINGS

An Engineering Document
Providing Fish Passage Design Guidance for
Caltrans Projects

May 2007

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Standard Design Solutions - Bridges

- **The likely solution to many of the under-sized barriers are small bridges**
- **Caltrans Structures are working on standard plans for <u>small bridges</u> (less than 50 ft..) and <u>large bridges</u> (greater than 50 ft.), for coordination and approval by NMFS and CDFW engineers.**

Standard Design Solutions – Culverts & Retrofits

- **Large culvert; arch and standard (buried) pipe**

- **Weirs, ladders, baffles – to be modified for site**

Cost Estimates - Fish Passage Barriers

Remediation Category	Costs
Large Bridge **Defined as Greater than 50-ft**	Range of available costs = **$3M to $8.4M** Average cost = **$5.7M**
Small Bridge **Defined as Less than 50-ft**	Range of available costs = **$1.8M to $2.5M** Average cost = **$2.15M**
Large Culvert **Replacement of undersized culvert, with 80-inch culvert or larger. Some foundation work may be necessary.**	Range of available costs = **$300K - $1M** Average cost = **$650K**
Retrofit **Retrofit existing culvert or structure to accommodate fish passage (i.e. weirs, ladder, baffles, etc.)**	Range of available costs = **$450K - $1.4M** Average cost = **$925K**

Caltrans, District 1 - Priority Fish Passage Barriers (Mendocino, Humboldt, Del Norte)

Priority Barriers, per Fish PAC, CDFW, Caltrans HQ and the Fish Passage Annual Report to Legislature

(all projects have same high priority)

Doyle Creek

MEN 1, PM 54.62 (707070)

Species: Coho, steelhead

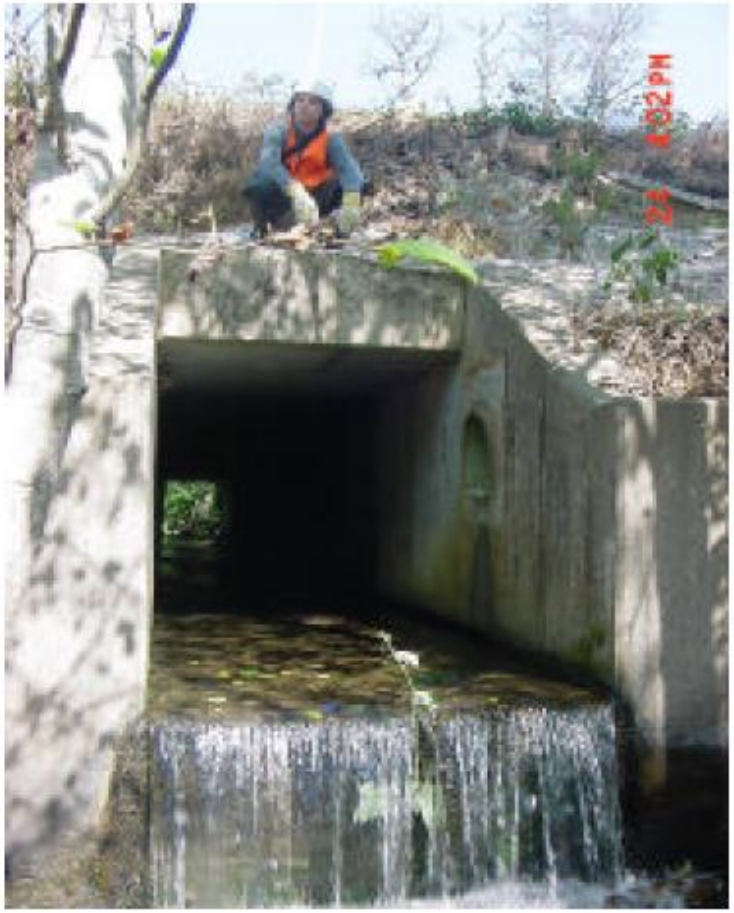
Habitat: 12,500 ft. (2.0 miles)

Digger Creek
MEN 1, PM 58.78 (707072)

Species: Coho & steelhead

Habitat: 11,000 ft. (2.1 miles)

Culvert outlet



Culvert Inlet

Dominie Creek

DN 101, PM 39.78 (707134)

Species: Coho, steelhead, coastal cutthroat

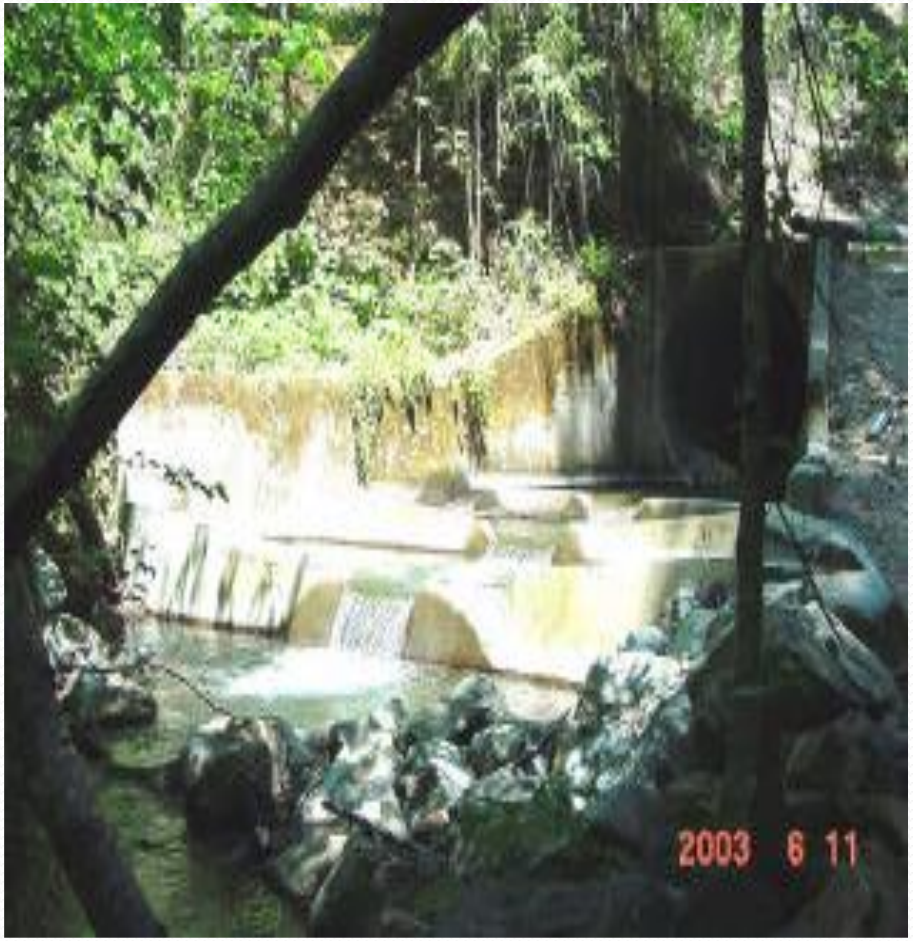
Habitat: 8,400 ft. (1.6 miles)

Griffin Creek

DN 199, PM 31.31 (707137)

Species: Coho, Chinook, steelhead, coastal cutthroat

Habitat: 9,700 ft. (1.8 miles)



Little Mill Creek
Del Norte 197, PM 6.15 (707142)

Species: Coho, Chinook, steelhead, coastal cutthroat

Habitat: 4,900 ft. (.93 miles)

Culvert outlet

Culvert inlet

Sultan Creek
DN 197, PM 5.0 (707143)

Species: Coho, Chinook, steelhead, coastal cutthroat

Habitat: 4,500 ft. (.85 miles)

Culvert outlets

Culvert inlets

Fish Creek

HUM 254, PM 4.18 (707157)

Species: Coho, Chinook, steelhead

Habitat: 8,600 ft. (1.63 miles)

Little Lost Man Creek
HUM 101, PM 124.49 (713025)

Species: Coho, Chinook, steelhead, coastal cutthroat

Habitat: 4,200 ft. (.8 miles)

Essex Gulch
HUM 299, PM 2.97 (713051)

Species: Coho, steelhead, coastal cutthroat

Habitat: 12,000 ft. (2.2 miles)

County culvert (left) blocks fish downstream of SHS.

Fish Rock Gulch
MEN 1, PM 4.64 (713068)

Species: Coho, steelhead

Habitat: 2,900 ft. (.55 miles)

Campbell Creek
HUM 96, PM 8.83 (707141)

Species: Coho, Chinook, Steelhead,

Habitat: 4,000 ft. (.76 Miles)

Broken Kettle Creek
DN 199, PM 34.04 (712954)

Species: Coho, steelhead, coastal cutthroat

Habitat: 3,000 ft. (.57 Miles)

Caltrans Recommendations to Forum

- Forum Governance/Permit Policy Group address permit review and application streamlining.
- Forum Engineering Working Group address design standardization for State Highway projects, streamlining scoping, & design review/approval milestones.
- Help identify and resolve project issues via quarterly review of active fish passage projects.
- Participate as Caltrans Technical Team to identify opportunities to align infrastructure and recovery.

Thank you