

The Passage Assessment Database (PAD), a Tool for Stream Habitat Connectivity Restoration via the Publicly Available CalFish Website



Presenters:

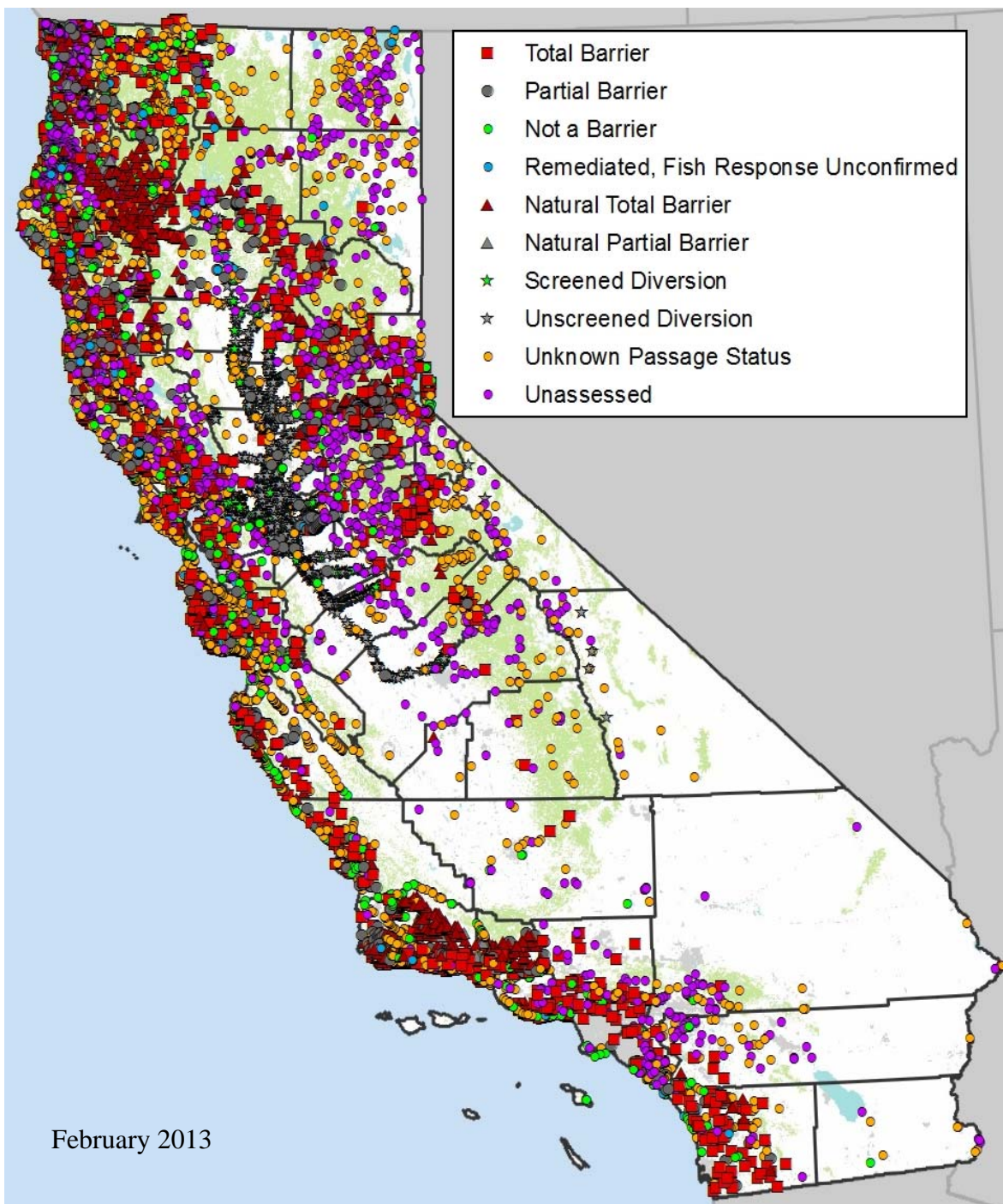
Anne Elston, Pacific States Marine Fisheries Commission, PAD Administrator

Laura Ryley, Pacific States Marine Fisheries Commission, CalFish Administrator



The History of PAD

- Developed in 2002 with guidance from the Fish Passage Forum.
- Developed in response to the need of a central database to house barrier data.
- Initially funded by the Coastal Conservancy and has since been funded by the California Department of Fish and Wildlife, US Fish and Wildlife Service and NOAA Fisheries.



February 2013

Information Captured in the PAD

Types of Barriers:

- Road and Utility Crossings
- Dams, Debris Basins and Tidegates
- Flood Control Channels
- Unscreened Water Diversions
- Weirs and Grade Control Structures
- Log Jams
- Velocity Barriers
- Natural Barriers (waterfalls, grade, insufficient flow)

Additional Information:

- Removed barriers and screened diversions
- Structures where status of the barrier to fish passage is not known
- Species and stage
- Expansion of partial barriers to include temporal, temporal & partial, temporal & total

Contributors to the PAD (since 2012):

CDFW, USFS, Trout Unlimited, CalTrans, NOAA, USFWS

Users of the PAD (since 2012):

CDFW, USFS, CalTrans, Trout Unlimited, NOAA, PSMFC, TNC, DWR, USBR, UCD and Stillwater Sciences

What's New to PAD?

- New PAD standards
- New form for providing updates

What's Coming?

- Passage status prior to removal
- Group responsible for removing the barrier
- Species benefited from barrier removal

Current Status of PAD

Table 1. Number of PAD records by barrier status

Fish Passage Status	Number of Records
Total Barrier	1,959
Partial Barrier	1,469
Temporal Barrier	1,089
Temporal and Partial Barrier	120
Temporal and Total Barrier	32
Unknown Passage Status	4,403
Unassessed	1,832
Unscreened Diversion	4,992
Screened Diversion	356
Natural Total Barrier	1,312
Natural Partial Barrier	232
Not a Barrier	1376
Remediated, Fish Response Unconfirmed	416
Total	19,588

Number of records **added** to the PAD since 2012: **322**

Number of records **updated** in the PAD since 2012: **3,777**

New PAD Standards

Developed to improve the PAD. The new standards affect:

1. Removed barriers
2. New PAD records
3. Locations of barriers
4. Barrier status designations

We would like:

1. Fish presence evidence (i.e., photos, fish counts) after barrier removal.
2. Site visits of barriers to determine that they are still there prior to entering them into the database.
3. Description of location if latitude or longitude isn't accurate.
4. Barrier status from a fish passage professional.

Two new barrier statuses have been added to the PAD:

1. *Unassessed* - Structure identified but no evidence of a site survey.
2. *Remediated, fish presence unconfirmed.*

Form for providing updates to the Passage Assessment Database (PAD), February 2013

Send to: Anne Elston, PAD Administrator, Anne.Elston@wildlife.ca.gov

Online on
www.CalFish.org
 PAD Program Page >
 About tab >
 Feedback

I. Contact Information						
Name:			Date:			
Title:			Phone:			
Agency:			Email:			
II. Type of Information						
<input type="checkbox"/> New barrier <input type="checkbox"/> Update						
III. Location						
Stream name:			Tributary to:			
Latitude:		Longitude:		Datum:		
Are the coordinates accurate (i.e., taken at the barrier)? <input type="checkbox"/> Yes <input type="checkbox"/> No		If the coordinates aren't accurate, please explain where the barrier is located (i.e., distance in feet) downstream and side of the bank looking downstream):				
Road route/name:		Milepost:				
Photo(s)? <input type="checkbox"/> Yes <input type="checkbox"/> No		Photo Description (e.g., looking upstream or downstream, before and after removal, photo of fish species upstream after removal):				
Land owner:			Structure owner:			
IV. Structure						
PAD ID (if known) :		Date Constructed:		Structure Name:		
Structure type:						
<input type="checkbox"/> Diversion Screen present? _____		<input type="checkbox"/> Dam		<input type="checkbox"/> Ford		
<input type="checkbox"/> Bridge		<input type="checkbox"/> Log jam		<input type="checkbox"/> Culvert		
<input type="checkbox"/> Natural What sort of natural feature? _____		<input type="checkbox"/> Fish trap		<input type="checkbox"/> Gravel/borrow pits		
<input type="checkbox"/> Utility crossing		<input type="checkbox"/> Weir		<input type="checkbox"/> Flood control channel		
<input type="checkbox"/> Grade control		<input type="checkbox"/> Other _____		<input type="checkbox"/> Tidegate		
Passage status ¹ :						
<input type="checkbox"/> Total		<input type="checkbox"/> Partial		<input type="checkbox"/> Temporal		
<input type="checkbox"/> Unassessed		<input type="checkbox"/> Unknown		<input type="checkbox"/> Temporal and partial		
<input type="checkbox"/> Not a barrier		<input type="checkbox"/> Temporal and total				
Description:						
Is there a fish way present? <input type="checkbox"/> Yes <input type="checkbox"/> No			Status of fish way (e.g., functioning , needs work, etc.):			
V. Survey Information						
Was there a survey conducted for this site? <input type="checkbox"/> Yes <input type="checkbox"/> No			Survey date:		Protocol used:	
					Assessed by:	
Fish observed downstream? <input type="checkbox"/> Yes <input type="checkbox"/> No			Species:		Life stage:	
Fish observed upstream? <input type="checkbox"/> Yes <input type="checkbox"/> No			Species:		Life stage:	
Species blocked:		Lifestage:	Direction:		Passage status:	
Was permission granted by the landowner for site access? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown			Do you have a hard copy of landowner permission? (if yes, please provide as attachment) <input type="checkbox"/> Yes <input type="checkbox"/> No			
VI. Treatment Status and Recommendation						
Site treated? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		Treatment:		Monitoring completed ² ? <input type="checkbox"/> Yes <input type="checkbox"/> No	Undergoing monitoring? <input type="checkbox"/> Yes <input type="checkbox"/> No	Needs Monitoring? <input type="checkbox"/> Yes <input type="checkbox"/> No
Passage status after treatment ² :			Date treated:		Date removed:	
Barrier removed by (name of organization):						
Needs treatment? <input type="checkbox"/> Yes <input type="checkbox"/> No		Treatment recommendation:				
Operations and maintance plan? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		Title of operations and maintenance plan:		Date:	Operator:	
VII. References and Attachments						
Reference Title:			Date:		Author:	
Attachments: <input type="checkbox"/> Photo(s) <input type="checkbox"/> Survey Note/Report <input type="checkbox"/> Restoration/Treatment Report <input type="checkbox"/> Operations & Maintenance Plan						

Accessibility

PAD can be accessed and viewed online via www.calfish.org > PAD Program Page.

The screenshot shows the CalFish website homepage. At the top, there is a navigation bar with links for Home, Data and Maps, Programs, Fisheries Management, Resources, and About CalFish. Below this is a 'Quick Finder...' section with links to Map Viewer, GIS Downloads, Data Explorer, Digital Libraries, Fish Passage Forum, CalFish FAQ, and Tutorials. The main content area features a 'Welcome to CalFish' message, a 'Program Spotlight' on Late Fall Chinook, and a 'Featured Tool' section for Map Viewer Bookmarks. A 'What's New on CalFish' section lists several updates, including reports on fish passage barriers, an updated Passage Assessment Database (PAD), and new map viewer content. The website also includes a search bar, a date display (Thursday, March 07, 2013), and links for Register and Login.

http://www.calfish.org/Default.aspx

CalFish > Home

California Department of ... Caltrans Earth Red Bluff Diversion Dam F... Suggested Sites Web Slice Gallery

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Thursday, March 07, 2013

Register | Login

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FISH AND HABITAT DATA PROGRAM

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Agency News...

- » [CDFW News Releases](#)
- » [NOAA Fisheries News](#)
- » [US Fish and Wildlife](#)
- » [USFWS Pacific Region](#)

Home

Welcome to CalFish

CalFish is the leading source for California anadromous fish and stream habitat data, as well as the standards and tools needed to collect, understand, manage, analyze, and share those data. [Read more...](#)

[View Maps](#) [Query Data](#) [Download Data](#) [Getting Started](#)

Program Spotlight

 The [CalFish Abundance Database](#) contains a significant amount of information regarding the current and historical status of California's anadromous fish. The data we collected in many different ways including: in-stream salmon carcass counts, salmon redd counts, live fish counted passing dams or weirs, and fish observed during summer snorkeling surveys. All of the data are associated with a spatial location and can be displayed on a map.

Late Fall Chinook (Courtesy of USGS)

Featured Tool

 CalFish [Map Viewer Bookmarks](#) are available to allow for easier access to instances of the CalFish viewer preloaded with collections of data that offer information to help answer several common fisheries restoration related questions. Each bookmark is paired with a tutorial that describes the contents of the bookmark and how the data it offers can be used to answer the specific question of interest in an exact area.

What's New on CalFish

- **Reports Describing Fish Passage Barriers Remediated in 2011 Now Available**
CalFish would like to bring more attention to fish passage barriers that are removed each year. Starting with barriers removed in 2011, CalFish now offers a [map based search tool](#) for detailed reports that describe barriers that were remediated.
- **Passage Assessment Database (PAD) Updated Feb. 2013**
The Passage Assessment Database contains locations and descriptions of known and potential barriers to salmonid migration in California streams.
- **CalFish Map Viewer Contents Updated on December 18, 2012**
The CalFish map viewer and data downloads page have been updated with new content. Feedback from CalFish outreach has given CalFish direction in determining the types and sources of new geographic data to be made available. This update represents a collection of new data added as a result of our outreach efforts. [Overview of New Content - December 2012 \(10 KB pdf\)](#)
- **New Data Explorer Tool Makes CalFish Data Search Quick and Easy**
The CalFish Data Explorer is a new tool that allows you to quickly and easily determine if the CalFish site offers the data you are searching for.

News and Events

- [31st Annual Salmonid Restoration Conference - March 13-16, 2013](#)
- [47th Annual American Fisheries Society Cal-Neva Conference - April 4-6, 2013](#)
- [Russian River Watershed Selected as NOAA's First Habitat Focus Area](#)
- [Additional News](#)

100%



CalFish Mission

- Create, maintain, and enhance high quality, consistent data that are directly applicable to policy, planning, management, research, and recovery of anadromous fish and related aquatic resources in California.
- Provide data and information services in a timely manner in formats that meet the needs of users

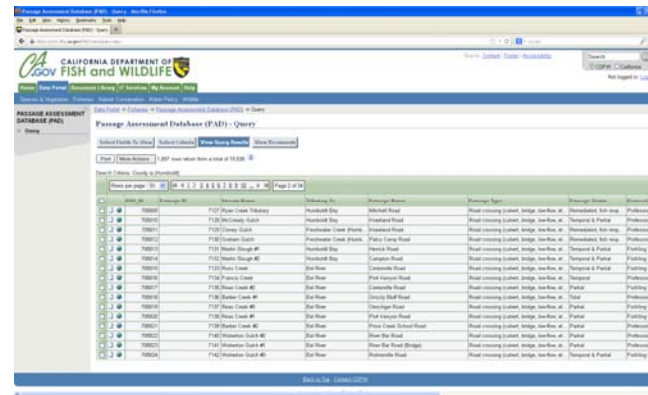


Accessing Data on CalFish

Map Viewer



Tabular Data Queries



Passage Assessment Database

File Size: 2.7Mb | Publication date: 2/8/2013

Data Downloads

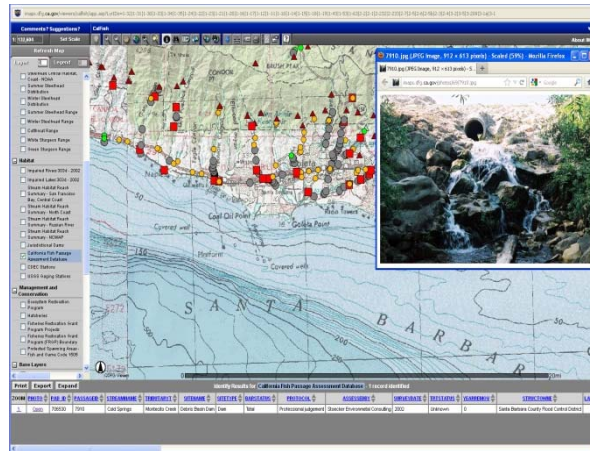


[View larger...](#)

The Passage Assessment Database (PAD) is an ongoing inventory of known and potential barriers to anadromous fish in California. The PAD compiles currently available fish passage information from many different sources, and allows past and future barrier assessments to be standardized and stored in one place. The database is set up to capture basic information about each potential barrier. It is designed to be flexible. As the database grows, other modules may be added to increase data detail and complexity. This download includes the spatial data (in shapefile format) and the methodology documentation. The Passage Assessment Database is a product of the CalFish sponsored California Fish Passage Assessment Database Project. Please visit the [Fish Passage Assessment Page](#) for more information.



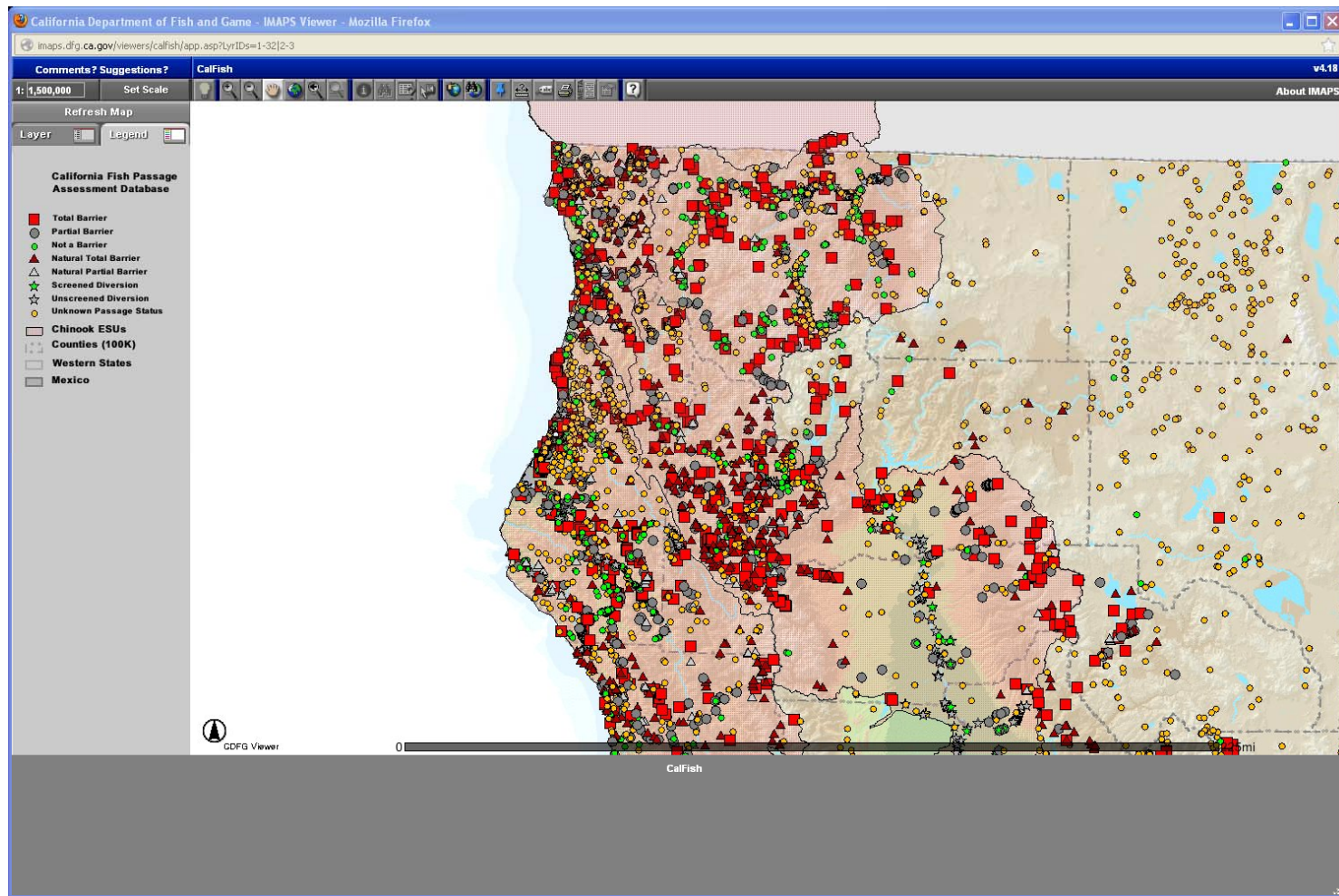
CalFish Map Viewer



- The viewer allows you to:
 - View spatial data dynamically.
 - View feature attributes.
 - Perform basic analysis
 - View metadata
 - Print custom maps
 - Review fish barrier location data and add new fish barriers



CalFish Map Viewer



Passage Assessment Database point location data is updated quarterly in the CalFish Map Viewer.



CalFish Map Viewer – Feature Attributes

California Department of Fish and Game - IMAPS Viewer - Mozilla Firefox

Comments? Suggestions? CalFish

1: 866,162 Set Scale

Refresh Map

Layer Legend

Active Layer: California Fish Pass

Species
No layers available in this group

Habitat
 California Fish Passage Assessment Database

Management and Conservation
No layers available in this group

Base Layers
 California Streams
 Cities
 Highways
 Hydrography (100K)
 Hydrography (500K)
 California Lakes
 Quadrangles (24K)
 Public Land Survey
 Hydrologic Units
 Watersheds
 California Protected Areas Database (CPAD) Units
 Public, Conservation and Trust (PCTL) Lands
 Counties (100K)
 Western States
 Mexico

Images
 DRG Topos (24K)
 DRG Topos (100K)
 DRG Topos (250K)
 Base Map (500K)
 Hillshade (Detailed)

Selected Sets of more than [redacted] are not highlighted on the map.

Field Metadata - Mozilla Firefox

California Fish Passage Assessment Database [ds69]

Definition of SDE_PROJ_BIOS.SDT.DS0069_20120928.PAD_ID

Attribute:
Label: PAD_ID
Alias: PAD_ID
Definition: Unique ID linking to additional information in the Passage Assessment database (PAD) (Interstate/Streamnet ID, 700,000 - 799,000).
Definition Source: StreamNet
Type: Double
Width: 8
Precision: 38
Scale: 8

Print Export Expand Zoom

Selected Set Results for California Fish Passage Assessment Database - 1125 records selected

ZOOM	PHOTO	PAD_ID	PASSAGEID	STREAMNAME	TRIBUTARY	SITENAME	SITETYPE	BARSTATUS	PROTOCOL	ASSESSEDBY
1		700082	203	San Ysidro Creek		Downstream of San Ysidro Trail	Unknown	Unknown		National Marine Fisheries Service
2		700084	206	Sisquoc River	Santa Maria River	Unimpeded access to Lower Bear Camp	Unknown	Unknown		California Department of Fish and Game
3	Open	700085	207	Salspuedes Creek	Santa Ynez River	Low flow barrier at Hwy 1 crossing	Road crossing	Temporal	Professional judgement	Stoecker Environmental Consulting
4		700088	211	Tecolotto Creek (Carneros Creek)	Pacific	Hwy 101 culvert and channel and check structure above	Road crossing	Partial	Professional judgement	National Marine Fisheries Service



CalFish Map Viewer – Query Data

California Department of Fish and Game - IMAPS Viewer - Mozilla Firefox

1: 866,162 Set Scale

Refresh Map

Layer Legend

Active Layer: California Fish Passage Assessment Database

Species
No layers available in this group

Habitat
California Fish Passage Assessment Database

Management and Conservation
No layers available in this group

Base Layers
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 DRG Topos (24k)
 DRG Topos (100k)
 DRG Topos (250k)
 Base Map (500k)
 Hillshade (Detailed)

GDG Viewer

0 130mi

Query Results for California Fish Passage Assessment Database - 3 records selected

ZOOM	PHOTO	PAD_ID	PASSAGEID	STREAMNAME	TRIBUTARY	SITENAME	SITETYPE	BARSTATUS	PROTOCOL	ASSESSEDBY	SURVEYDATE	TRTSTATUS	YEARREMOV	STRUCTOWNE	L
1	Open	719059	100362	Santa Ynez River		Juncal Dam	Dam	Total	Professional judgement	Stoecker Environmental Consulting			0	Montecito Water District	N/A
2	Open	719060	100363	Santa Ynez River		Gibraltar Dam	Dam	Total	Professional judgement	Stoecker Environmental Consulting			0	City of Santa Barbara	U.S.
3		719062	100365	Santa Ynez River	Pacific Ocean	Bredbury Dam (Cachuma Lake)	Dam	Total	Professional judgement	California Department of Water Resources			0	U.S. Bureau of Reclamation	N/A

Query - Mozilla Firefox

Build query for active layer: California Fish Passage Assessment Database

Fields: PAD_ID, PASSAGEID, STREAMNAME, TRIBUTARY, SITENAME, SITETYPE, BARSTATUS

Operators: =, <>, and, >, >=, or, <, <=, not, Like

Query Command: STREAMNAME = 'Santa Ynez River' and BARSTATUS = 'Total'

Execute Query Cancel



PAD Review Application

PAD Review Application

Basemap: Dataset:

Legend

- New PAD Observations
- PAD Observations**
- Total Barrier
- Partial Barrier
- Not a Barrier
- Unscreened Diversions
- Screened Diversion
- Natural Total Barrier
- Natural Partial Barrier
- Unknown Passage Status

Observation Entry Form - Mozilla Firefox

eris.dfg.ca.gov/padreview/EditFeature.aspx?x=1988,198272561128&y=-266061.559498565

New Barrier Information

Recorder Name: *

Recorder Email: *

Barrier Name:

Structure Type: *

Stream Name: *

Tributary To: *

County Name: *

Other Location Details

Structure/Land Owner:

Survey Date:

Barrier Status: *

Protocol Used to Assess Passage: *

Passage Assessed by:

Species Blocked:

Photos:

Additional Notes:



Tabular Data Queries



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[New Query](#)

Select a Data Category

Category	Available	Years
Adult Return-Estimates of Spawning Population	160 Trends	1933-2010
Adult Return-Redd Counts	344 Trends	1956-2009
Adult Return-Spawner Counts	538 Trends	1962-2009
Dam/Weir Counts (Adult or Juvenile)	92 Trends	1925-2010
Dam Facilities	3141 Dams	n/a
Hatchery Facilities	44 Hatcheries	n/a
Fish Barriers	18,390 Barriers	n/a
Fish Distribution	Coming Soon!	n/a
Harvest-Freshwater/Estuary	91 Trends	1947-2009
Harvest-Marine	46 Trends	1952-1990
Hatchery>Returns	11 Trends	1940-2010
Maps-View Pre-built Maps	1 Map	n/a
Photographs	2 Photographs	n/a

Passage Assessment Database (PAD) - Query Results

Search Criteria: County is (Humboldt)

PAD#	Message #	Name	Subagency	Passage Name	Passage Type	Passage Status	Professional
705029	7127	Ryan Creek Tributary	Humboldt Bay	Mitchell Road	Road crossing (culvert, bridge, low-flow, et.	Remediated, fish resp.	Professional
705032	7128	McCleary Gulch	Humboldt Bay	Howard Road	Road crossing (culvert, bridge, low-flow, et.	Temporal & Partial	Professional
705011	7129	Cloney Gulch	Freshwater Creek (Humb.)	Freshwater Creek (Humb.)	Road crossing (culvert, bridge, low-flow, et.	Remediated, fish resp.	Professional
705012	7130	Graham Gulch	Freshwater Creek (Humb.)	Palco Camp Road	Road crossing (culvert, bridge, low-flow, et.	Remediated, fish resp.	Professional
705013	7131	Martin Slough #1	Humboldt Bay	Henick Road	Road crossing (culvert, bridge, low-flow, et.	Temporal & Partial	Fishing Soft
705014	7132	Martin Slough #2	Humboldt Bay	Campton Road	Road crossing (culvert, bridge, low-flow, et.	Temporal & Partial	Fishing Soft
705015	7133	Russ Creek	Eel River	Centerville Road	Road crossing (culvert, bridge, low-flow, et.	Temporal & Partial	Fishing Soft
705016	7134	Francis Creek	Eel River	Put Canyon Road	Road crossing (culvert, bridge, low-flow, et.	Temporal	Professional
705017	7135	Ross Creek #2	Eel River	Centerville Road	Road crossing (culvert, bridge, low-flow, et.	Partial	Fishing Soft
705018	7136	Barber Creek #1	Eel River	Gizzly Bluff Road	Road crossing (culvert, bridge, low-flow, et.	Total	Professional
705019	7137	Ross Creek #1	Eel River	Oeschger Road	Road crossing (culvert, bridge, low-flow, et.	Partial	Fishing Soft
705020	7138	Ross Creek #1	Eel River	Put Canyon Road	Road crossing (culvert, bridge, low-flow, et.	Partial	Fishing Soft
705021	7139	Barber Creek #2	Eel River	Price Creek School Road	Road crossing (culvert, bridge, low-flow, et.	Partial	Professional
705022	7140	Whitaker Gulch #2	Eel River	River Bar Road	Road crossing (culvert, bridge, low-flow, et.	Partial	Professional
705023	7141	Whitaker Gulch #1	Eel River	River Bar Road (Bridge)	Road crossing (culvert, bridge, low-flow, et.	Partial	Professional
705024	7142	Whitaker Gulch #2	Eel River	Rubenville Road	Road crossing (culvert, bridge, low-flow, et.	Temporal & Partial	Fishing Soft

POWERED BY
STREAMLET

- Tabular data queries allow you to:
 - View data in an online tabular format.
 - Query data using multiple criteria.
 - Export results
 - Print results



PAD Data Portal

Passage Assessment Database (PAD) - Query - Mozilla Firefox

https://nrm.dfg.ca.gov/PAD/view/query.aspx

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE

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Species & Vegetation Fisheries Habitat Conservation Water Policy Wildlife

DATA PORTAL → FISHERIES → PASSAGE ASSESSMENT DATABASE (PAD) → QUERY

Passage Assessment Database (PAD) - Query

Select Fields To View Select Criteria View Query Results View Documents

Print More Actions 1,657 rows return from a total of 19,538.

Search Criteria: County is (Humboldt)

Rows per page: 50 Page 2 of 34

PAD_ID	Passage ID	Stream Name	Tributary To	Passage Name	Passage Type	Passage Status	Protocol
705809	7127	Ryan Creek Tributary	Humboldt Bay	Mitchell Road	Road crossing (culvert, bridge, low-flow, et...	Remediated, fish resp...	Professional
705810	7128	McCready Gulch	Humboldt Bay	Kneeland Road	Road crossing (culvert, bridge, low-flow, et...	Temporal & Partial	Professional
705811	7129	Cloney Gulch	Freshwater Creek (Humb...	Kneeland Road	Road crossing (culvert, bridge, low-flow, et...	Remediated, fish resp...	Professional
705812	7130	Graham Gulch	Freshwater Creek (Humb...	Palco Camp Road	Road crossing (culvert, bridge, low-flow, et...	Remediated, fish resp...	Professional
705813	7131	Martin Slough #1	Humboldt Bay	Herrick Road	Road crossing (culvert, bridge, low-flow, et...	Temporal & Partial	FishXing Soft
705814	7132	Martin Slough #2	Humboldt Bay	Campton Road	Road crossing (culvert, bridge, low-flow, et...	Temporal & Partial	FishXing Soft
705815	7133	Russ Creek	Eel River	Centerville Road	Road crossing (culvert, bridge, low-flow, et...	Temporal & Partial	FishXing Soft
705816	7134	Francis Creek	Eel River	Port Kenyon Road	Road crossing (culvert, bridge, low-flow, et...	Temporal	Professional
705817	7135	Reas Creek #2	Eel River	Centerville Road	Road crossing (culvert, bridge, low-flow, et...	Partial	FishXing Soft
705818	7136	Barber Creek #1	Eel River	Grizzly Bluff Road	Road crossing (culvert, bridge, low-flow, et...	Total	Professional
705819	7137	Reas Creek #3	Eel River	Oeschger Road	Road crossing (culvert, bridge, low-flow, et...	Partial	FishXing Soft
705820	7138	Reas Creek #1	Eel River	Port Kenyon Road	Road crossing (culvert, bridge, low-flow, et...	Partial	FishXing Soft
705821	7139	Barber Creek #2	Eel River	Price Creek School Road	Road crossing (culvert, bridge, low-flow, et...	Partial	Professional
705822	7140	Wolverton Gulch #2	Eel River	River Bar Road	Road crossing (culvert, bridge, low-flow, et...	Partial	Professional
705823	7141	Wolverton Gulch #1	Eel River	River Bar Road (Bridge)	Road crossing (culvert, bridge, low-flow, et...	Partial	Professional
705824	7142	Wolverton Gulch #3	Eel River	Rohnerville Road	Road crossing (culvert, bridge, low-flow, et...	Temporal & Partial	FishXing Soft

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Passage Assessment Database tabular data is updated daily (or as often as new data becomes available) through the PAD Data Portal.



Data Downloads

▣ [Passage Assessment Database](#)



File Size: 2.7Mb



Publication date: 2/8/2013



[View larger...](#)

The Passage Assessment Database (PAD) is an ongoing inventory of known and potential barriers to anadromous fish in California. The PAD compiles currently available fish passage information from many different sources, and allows past and future barrier assessments to be standardized and stored in one place. The database is set up to capture basic information about each potential barrier. It is designed to be flexible. As the database grows, other modules may be added to increase data detail and complexity. This download includes the spatial data (in shapefile format) and the methodology documentation. The Passage Assessment Database is a product of the CalFish sponsored California Fish Passage Assessment Database Project. Please visit the [Fish Passage Assessment Page](#) for more information.

- Data download allows you to:
 - View CalFish data on your own computer
 - Create maps
 - Perform analysis
 - PAD data is updated quarterly



PAD Program Page – About Tab

California Fish Passage Assessment Database - Mozilla Firefox

File Edit View History Bookmarks Tools Help

California Fish Passage Assessment Database

www.calfish.org/Programs/CaliforniaFishPassageAssessmentDatabase/tabid/109/Default.aspx

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Monday, February 11, 2013

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California Fish Passage Assessment Database

Compiles currently available fish passage information from many different sources, allows past and future barrier assessments to be standardized and stored in one place, and enables the analysis of cumulative effects of passage barriers in the context of overall watershed health.

[About](#) [Data Access](#) [Status and Source](#) [Additional Resources](#)

Introduction

The Passage Assessment Database (PAD) is an ongoing map-based inventory of known and potential barriers to anadromous fish in California, compiled and maintained through a cooperative interagency agreement. The PAD compiles currently available fish passage information from many different sources, allows past and future barrier assessments to be standardized and stored in one place, and enables the analysis of cumulative effects of passage barriers in the context of overall watershed health.

The database is set up to capture basic information about each potential barrier. It is designed to be flexible. As the database grows, other modules may be added to increase data detail and complexity.

Data Categories

Data categories in the PAD database were chosen to meet the needs of broader fish passage improvement community and were reviewed by the member agencies of the [California Fish Passage Forum](#). Some of the most important data collected about barriers are those related to the location, ownership, structure type, and the degree of impassibility - passage status. The database also captures barrier priority within a watershed assigned by the original data set source if that information was provided. A more detailed description of the database, the data collection procedure and data quality and limitations can be found in the [PAD Methodology document](#).

To standardize data entry sheets for collecting new barrier/stream structure information, the Fish Passage Forum developed a [Rapid Entry Field Form - First Pass Fish Passage Data Sheet](#). This one-page form is intended for fast simple inventories of all types of fish passage problems and it can be used during any other type of stream survey or restoration work. For other standardized field forms, please consult the [DFG Restoration Manual](#).

Geographic Information

All PAD records are stored with geographic location information where each site is mapped and assigned latitude/longitude coordinates. Each barrier record is also indexed to the high-resolution National Hydrography Dataset (NHD) developed by USGS at a 1:24,000 scale. The NHD is used to assign a stream address to a PAD record by capturing the unique identifier for each NHD line segment and the measure along the segment that represents the barrier location.

Referencing each barrier record to a common hydrography (the NHD), many different data formats brought into the PAD are standardized, and become easy to combine with other fisheries data tied to the same hydrography.

Data Sources

Feedback

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California Fish Passage Assessment Database

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California Fish Passage Assessment Database

Compiles currently available fish passage information from many different sources, allows past and future barrier assessments to be standardized and stored in one place, and enables the analysis of cumulative effects of passage barriers in the context of overall watershed health.

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CalFish Map Viewer

Yes - Layer name: California Fish Passage Assessment Database

The CalFish map viewer displays PAD records with other fisheries and stream related data sets, and allow one to analyze barriers in relation to each other and in the context of the watershed. Each site info includes structure and stream name, type and barrier status, protocol used for passage assessment, survey team and survey date, ownership information and other site specifics. User-defined queries can narrow down the search through the barrier data and provide summaries and tables. Both the customized maps and query result table can be printed out or exported.

CalFish Tabular Data

Yes - Data Category: Fish Barriers

The CalFish database query gives you access to detailed tabular data where query results can be narrowed by including criteria such as county or stream.

CalFish Data Downloads

Yes - Passage Assessment Database (PAD)

On the CalFish data downloads page you will find a variety of spatial data sets in compressed Shapefile format available for download.

PAD Data Portal

The **PAD Data Portal** offers an extended option for tabular summaries, reports and queries of the fish passage barrier database, hosted on the DFG Data Portal.

PAD Document Library

The **PAD Document Library** allows access to PAD original data source references as well as barrier photographs, hosted on the DFG Document Library.

PAD Data Review & New Barrier Mapping Application

The **PAD Data Review & New Barrier Mapping Application** enables you to review PAD records in a stand-alone map viewer and send review comments to PAD administrators via an online form. It also enables you to geo-reference new barrier records and obtain latitude/longitude coordinates, and to submit basic information about each new barrier site. A selection from street map, topo map and satellite imagery as a background is available for an easy navigation through the watersheds. Use the [tutorial document](#) as a guide for the tool.

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Publication Date
9/7/2012

Update Frequency
Quarterly

Extent
Statewide

Originator
California Department of Fish and Game
U.S. Fish and Wildlife Service
California Coastal Conservancy

Dataset Credit
Pacific States Marine Fisheries Commission

Point of Contact
Feedback regarding the accuracy and updates of the data presented here are welcome. Please email or mail any corrections and updated information to:

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Pacific States Marine Fisheries Commission, c/o CDFG Fisheries Branch
830 S Street, Sacramento, CA 95814
Ph: (916) 327-3937
aelston@dfg.ca.gov

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California Fish Passage Assessment Database

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- Documents
- Links
- PAD Barrier Removal Reports**

Detailed reports describing fish passage barriers removed in 2011 are available.

To view reports please begin by selecting a region of interest.

Status of Barrier Prior to Removal

- Total Barrier
- Partial Barrier
- Unknown Passage Status
- Passage Status Not Available
- Unscreened Diversion
- Hydrologic Region

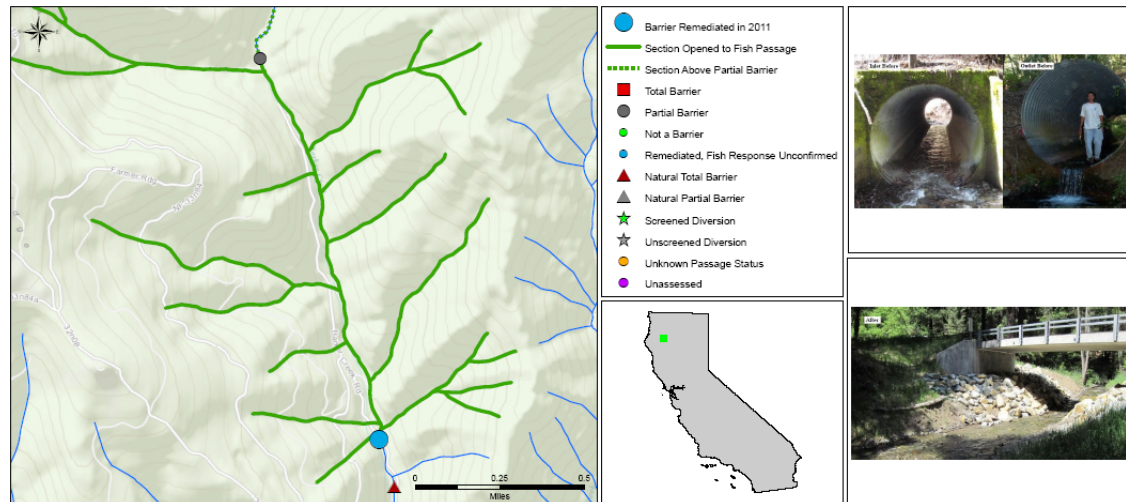
North Coast, North Lahontan, Sacramento River, San Francisco Bay, San Joaquin, Central Coast, Tulare Lake, South Lahontan, South Coast, Colorado River



CalFish Tools

Reports for Fish Passage Barriers Remediated

Reports for barriers remediated and a map based search tool to access these reports are a recent addition to the CalFish site.



Site Name: Culvert

Stream Name: Barker Creek

Structure Owner: U.S. Forest Service

Year Removed: 2011

Barrier Description Prior to Removal: Circular barrier

Site Description After Removal: Not available

Site Status After Removal: Remediated, fish response unconfirmed

Count of Total Barriers Downstream: 1 natural barrier

Count of Barriers with Unknown Passage Status Downstream: 23

Distance to Next Barrier Upstream with Barrier Status and PAD ID: 1.2 miles, Partial barrier, [713308](#)

Distance to Next Total Barrier Upstream with PAD ID: Not applicable

*Site statistics based on February 2013 version of the Passage Assessment Database

PAD ID: [707810](#)

Tributary To: Hayfork Creek

Barrier Removed By: Not available

Barrier Status Prior to Removal: Total barrier

Species Benefited After Removal: Not available

Count of Partial Barriers Downstream: 2

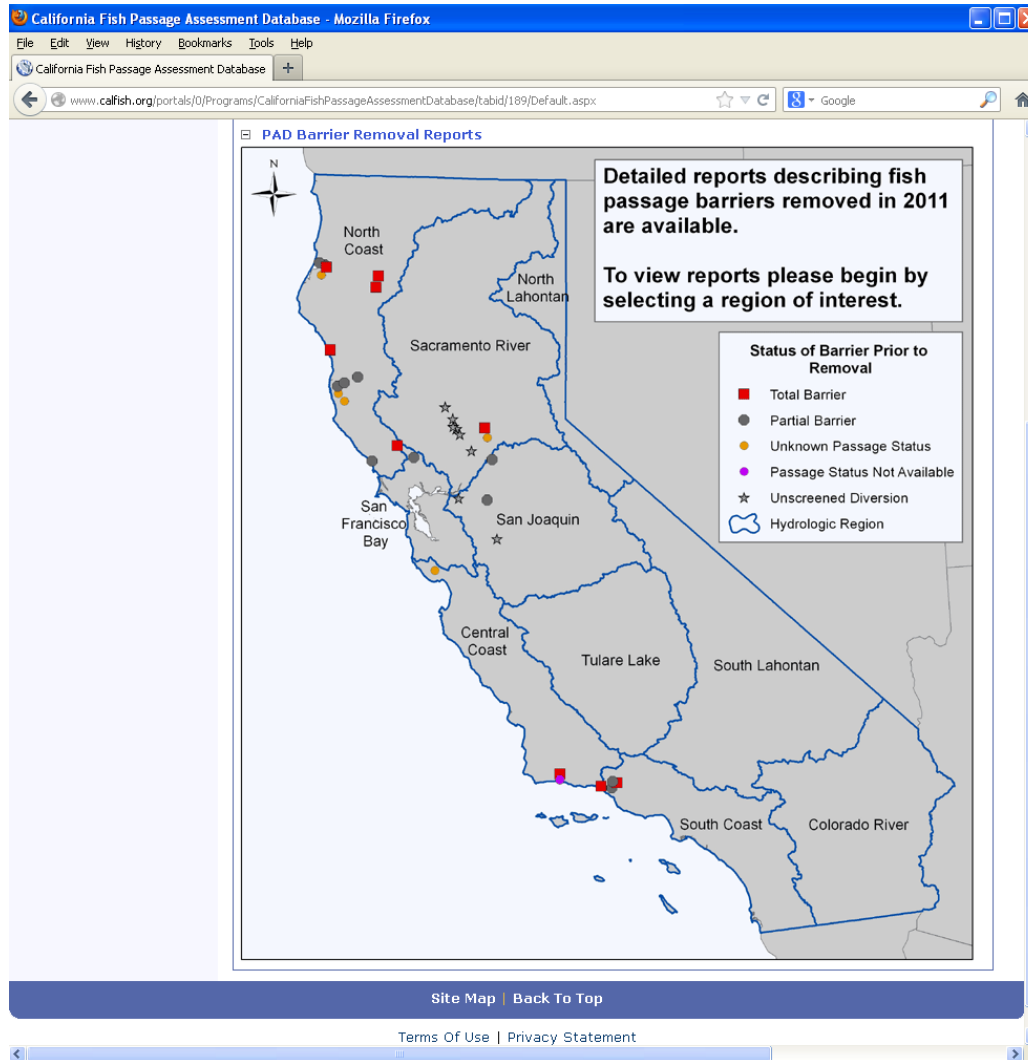
Count of Unscreened Diversions Downstream: 22

Distance to End of Natural Anadromy: Unknown



CalFish Tool Ideas

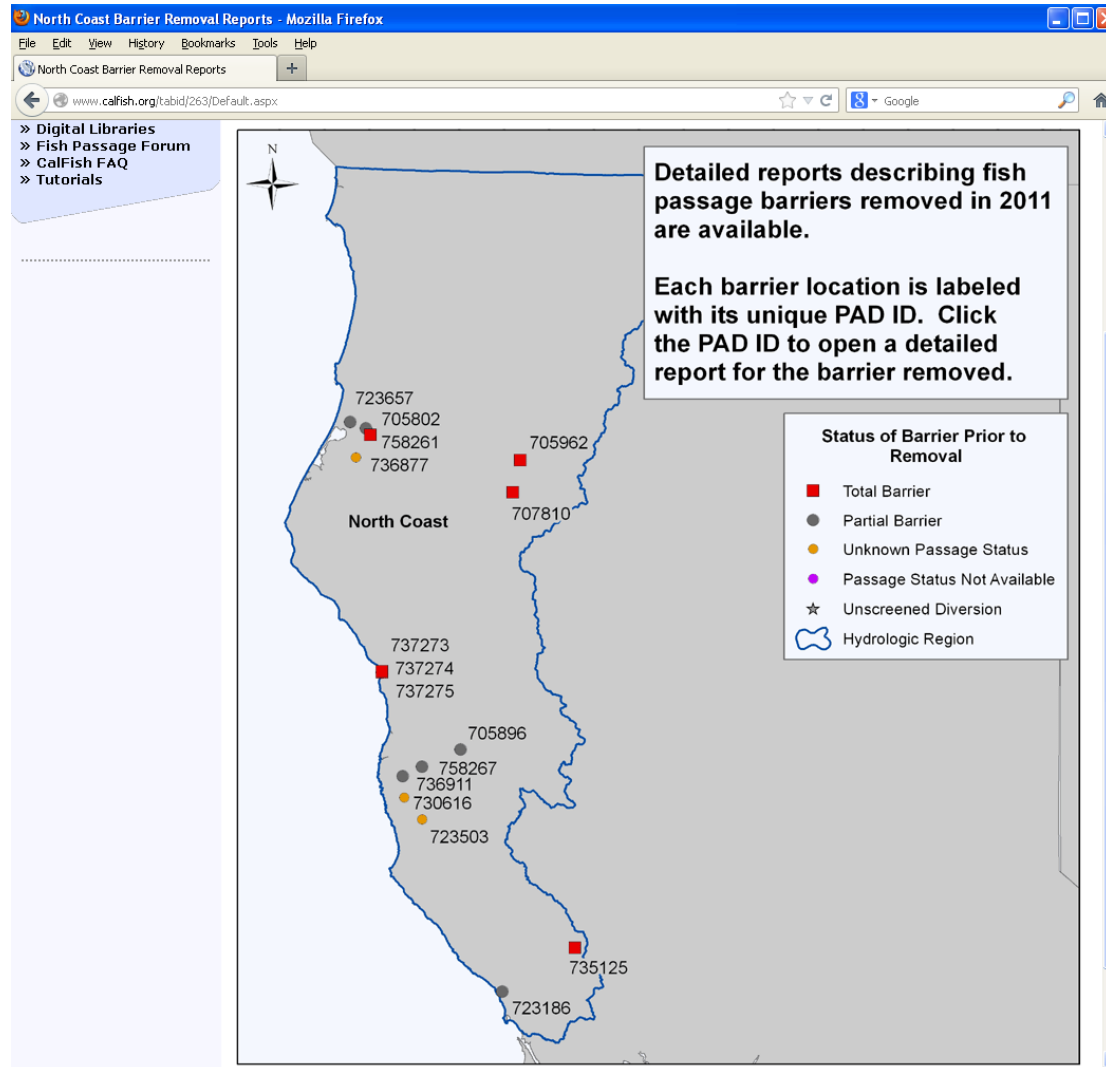
Reports for Fish Passage Barriers Remediated





CalFish Tool Ideas

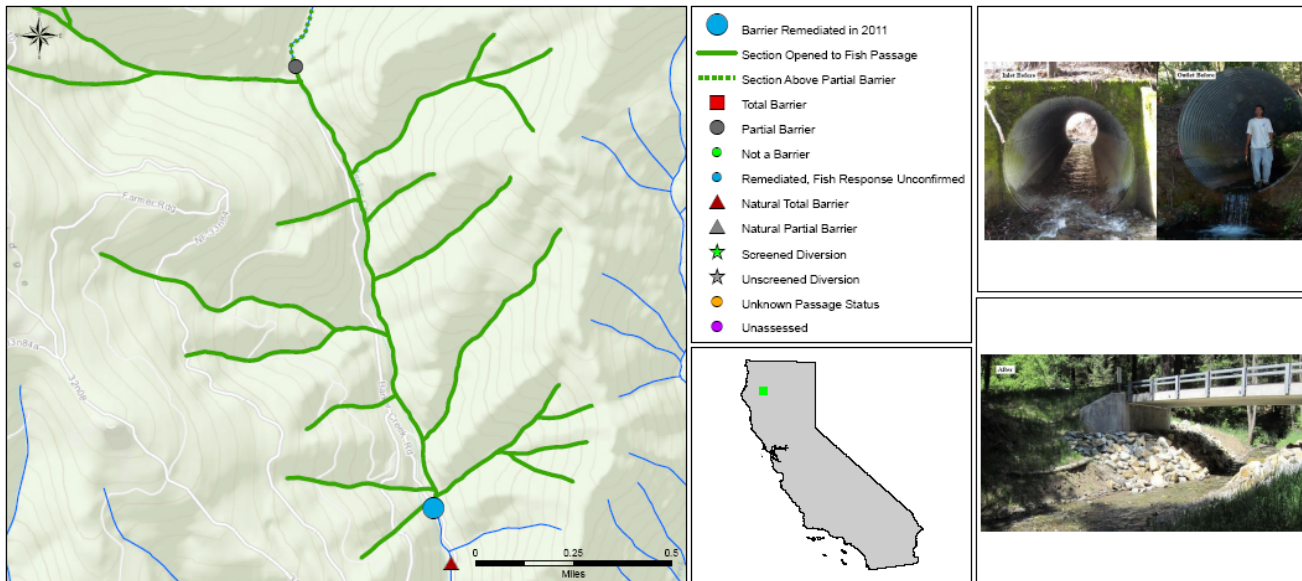
Reports for Fish Passage Barriers Remediated





CalFish Tool Ideas

Reports for Fish Passage Barriers Remediated



Site Name: Culvert

Stream Name: Barker Creek

Structure Owner: U.S. Forest Service

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CalFish Getting Started Page



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CalFish Getting Started

Welcome to the CalFish Getting Started page. This page acts as a central location for tools and information to help you navigate and search for data within the CalFish site.

Data Explorer Tool



The **Data Explorer** tool helps you find data and determine how data can be accessed. CalFish data are available in three formats:

- » **Tabular**: Query data tables directly
- » **Geographic**: An interactive map viewer
- » **Download**: Save shapefiles to your computer and use in your own GIS software

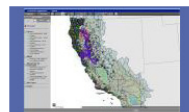
A unique CalFish dataset may be available in one, two, or three of these formats. The **Data Explorer** will clearly state the available formats for each dataset, in addition to any special instructions needed to access the data in each format.

Data Tracking Report



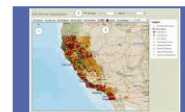
For a summary of CalFish data additions or updates please refer to the **Data Tracking Report**. This report documents when updates to existing data or additions of new data have taken place on the CalFish site since October 2011 in descending order. This report will be updated whenever a data update or addition is made.

Map Viewer Bookmarks



CalFish **Map Viewer Bookmarks** are available to allow for easier access to instances of the CalFish map viewer preloaded with collections of data that offer information to help answer several common fisheries restoration related questions. Each bookmark is paired with a tutorial that describes the contents of the bookmark and how the data it offers can be used to answer the specific question of interest in an example area.

Tutorials



CalFish **Tutorials** are available to give you step by step instructions specific to several core tools that are part of the site.

CalFish Resources page



The **Resources** page provides access to a variety of additional resources that are intended to provide technical and biological information as well as points of contact for those interested in or involved with California's fisheries resources.

FAQ



Still have questions? Please refer to our [FAQ](#) page.

Site Map



The **Site Map** makes site navigation easier by giving an overview of and links to all the pages within the CalFish site.



Data Explorer Tool Makes Finding Data Quicker and Easier

Quick Finder...

- Map Viewer
- GIS Downloads
- Data Explorer
- Digital Libraries
- Fish Passage Forum
- CALFISH FAQ
- More Resources

Data Explorer

The CALFISH Data Explorer allows you to quickly and easily determine if the CALFISH site offers the data you are searching for. In addition, the Data Explorer includes a complete description of the different ways you can access and review each dataset.

Select a category to begin your search

Category	Available Datasets
Basic Data	13
Habitat	47
Management and Conservation	9
Species	40

Start search by selecting a data category

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Data Explorer

The CALFISH Data Explorer allows you to quickly and easily determine if the CALFISH site offers the data you are searching for. In addition, the Data Explorer includes a complete description of the different ways you can access and review each dataset.

Continue to refine your search results by selecting a data type.

Type	Available Datasets
General Information	1
Habitat assessment condition indices	1
Instream habitat	4
Nonindigenous vegetation distribution	11
Potential barriers	2
Vegetation distribution	18
Water quality	6
Wetlands inventory	1

Refine search by selecting a data type

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Data Explorer

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Dataset: CDWR WDL Water Quality Stations

Layer Name(s) in Map Viewer

For descriptive information about the layer click "Metadata" under Layer Description

Layers	Layer Description
CDWR WDL Stations	Metadata

Data Available Through Tabular Query Using the Following Criteria:

NOTE: In some cases multiple tabular query results will need to be merged to create the tabular equivalent of the records found in a layer in the map viewer. The Layers field indicates which geographic layer the results of a query criteria are part of.

Query Criteria	Layers
Not Available	Not Available

Data Download Details

Click dataset name to begin download

Not Available

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Data Explorer

The CALFISH Data Explorer allows you to quickly and easily determine if the CALFISH site offers the data you are searching for. In addition, the Data Explorer includes a complete description of the different ways you can access and review each dataset.

Results for Type: Water quality

Yes/No under Tabular Query, Map Viewer, and Data Downloads indicates whether or not the dataset is available through that method of data access. For additional dataset access information click the dataset name under the Dataset heading.

Dataset	Tabular Query	Map Viewer	Data Downloads
CDWR WDL Water Quality Stations	No	Yes	No
CDWR Environmental and Water Quality Stations	No	Yes	No
Fish Perimeters	No	Yes	Yes
Groundwater basins	No	Yes	Yes
Impounded Lakes 2004 - 2002	No	Yes	No
Impounded Rivers 2004 - 2002	No	Yes	No
Wetland Grading Baselines	No	Yes	No
Wetland Grading Stations (DEEG)	No	Yes	No

Select a dataset from the search results

Details specific to accessing the dataset selected are returned



Map Viewer Bookmarks

CalFish bookmarks are links to instances of the CalFish map viewer preloaded with specific collections of data grouped to offer information to help answer several common fisheries restoration related questions. The bookmarks load at a statewide extent but can be zoomed into a location of interest. Each bookmark is paired with a tutorial that describes the datasets included in the bookmark and how this data can be used to answer the specific question of interest in an example area.

MAP VIEWER BOOKMARK: What Data Does CalFish Offer to Assess Locations of Monitoring Occurring in My Area of Interest?
Opens a statewide map preloaded with salmonid monitoring datasets. The dynamic map can be zoomed to a specific area of interest.

CALFISH TUTORIAL: Using the Locations of Monitoring Bookmark to Assess Salmonid Monitoring in an Example Area of Interest. (1.2 MB PDF)
This tutorial discusses the locations of monitoring bookmark and how the data it offers can be used to help assess salmonid monitoring efforts in a specific example area of interest.

MAP VIEWER BOOKMARK: What Data Does CalFish Offer to Assess Nonindigenous Species in My Area of Interest?
Opens a statewide map preloaded with nonindigenous species datasets. The dynamic map can be zoomed to a specific area of interest.

CALFISH TUTORIAL: Using the Nonindigenous Species Bookmark to Assess Observations of Nonindigenous Species in an Example Area of Interest (2.0 MB PDF)
This tutorial discusses the nonindigenous species bookmark and how the data it offers can be used to help assess invasive species found in a specific example area of interest.

MAP VIEWER BOOKMARK: What Data Does CalFish Offer to Assess Protected Lands and Waters in My Area of Interest?
Opens a statewide map preloaded with protected lands and waters datasets. The dynamic map can be zoomed to a specific area of interest.

CALFISH TUTORIAL: Using the Protected Lands and Waters Bookmark to Assess Protected Areas in An Example Area of Interest (2.2 MB PDF)
This tutorial discusses the protected lands and waters bookmark and how the data it offers can be used to help assess protected areas in a specific example area of interest.

MAP VIEWER BOOKMARK: What Data Does CalFish Offer to Assess Water Quality in My Area of Interest?
Opens a statewide map preloaded with water quality datasets. The dynamic map can be zoomed to a specific area of interest.

CALFISH TUTORIAL: Using the Water Quality Bookmark to Assess Water Quality in an Example Area of Interest (4.5 MB PDF)
This tutorial discusses the water quality bookmark and how the data in it offers can be used to help assess water quality in a specific example area of interest.

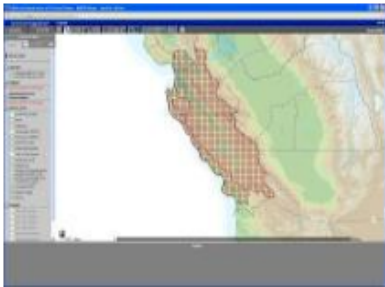
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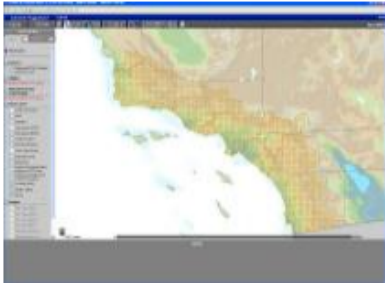
New CalFish Tutorials

CalFish as a Resource for Implementing NOAA Recovery Plans



CALFISH TUTORIAL: CalFish as a Resource for Implementing the Draft South-Central California Steelhead Recovery Plan (1.1 MB PDF)

The Recovery Plan identifies threat sources that must be addressed and recovery actions to be taken to meet the plan's goal of preventing the extinction of south-central California steelhead. CalFish provides access to many different types of data that will help to understand and assess threat sources and plan recovery actions. A detailed description of these data and how to best use them is given in the tutorial document.



CALFISH TUTORIAL: CalFish as a Resource for Implementing the Southern California Steelhead Recovery Plan (0.5 MB PDF)

The Recovery Plan identifies threat sources that must be addressed and recovery actions to be taken to meet the plan's goal of preventing the extinction of southern California steelhead. CalFish provides access to many different types of data that will help to understand and assess threat sources and plan recovery actions. A detailed description of these data and how to best use them is given in the tutorial document.



Other CalFish Updates – Coming Soon

- Layer that maps the CDFW anadromous fish passage barrier priority lists for 2011 and 2012.
- Map based search tool that offers links to CDFW north coast stream inventory report documents available for download.



Questions or Feedback?

Any questions or feedback about the
Passage Assessment Database or CalFish?

PAD Contact: anne.elston@wildlife.ca.gov

CalFish Contact: laura.riley@wildlife.ca.gov



Thank you!



Before and after photos of a remediated barrier to fish passage on Barker Creek in Trinity County.