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

CALFISH
A CALIFORNIA COOPERATIVE ANADROMOUS FISH AND HABITAT DATA PROGRAM

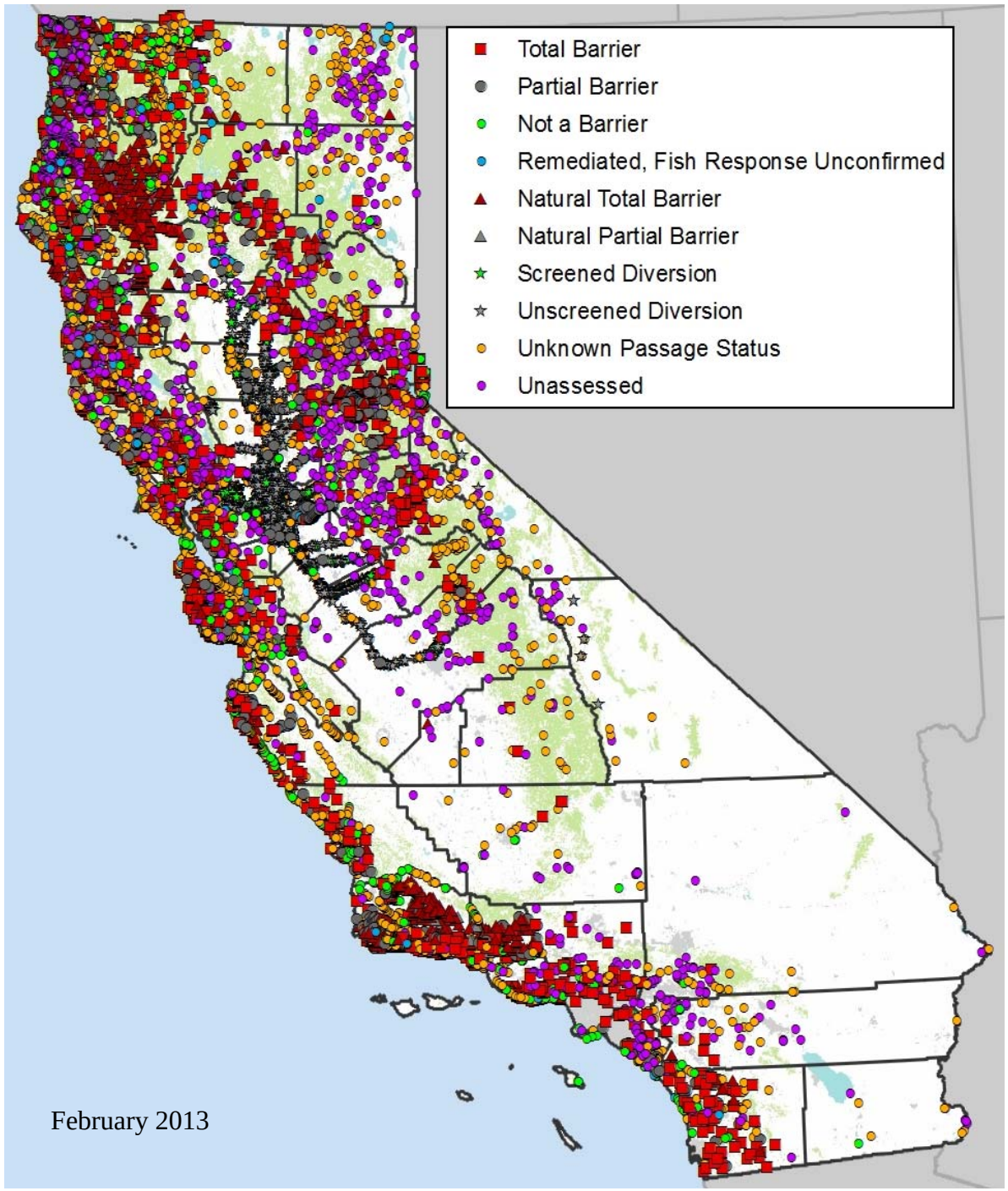
Presenters:

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.



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
☐ New barrier ☐ Update

III. Location			
Stream name:		**Tributary to:**	
Latitude:	**Longitude:**	**Datum:**	
Are the coordinates accurate (i.e., taken at the barrier)? ☐Yes ☐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)? ☐Yes ☐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 Contructed:**	**Structure Name:**			
Structure type:	☐ Diversion Screen present? _____	☐ Dam	☐ Ford	☐ Utility crossing	☐ Flood control channel
	☐ Bridge	☐ Log jam	☐ Culvert	☐ Weir	☐ Tidegate
	☐ Natural What sort of natural feature? _____	☐ Fish trap	☐ Gravel/borrow pits	☐ Grade control	☐ Other_____
Passage status[1]:	☐ Total	☐ Partial	☐ Temporal	☐ Temporal and partial	☐ Temporal and total
	☐ Unassessed	☐ Unknown	☐ Not a barrier		
Description:					
Is there a fish way present? ☐Yes ☐No	**Status of fish way (e.g., functioning , needs work, etc.):**				

V. Survey Information			
Was there a survey conducted for this site? ☐Yes ☐No	**Survey date:**	**Protocol used:**	
		Assessed by:	
Fish observed downstream? ☐Yes ☐No	**Species:**	**Life stage:**	
Fish observed upstream? ☐Yes ☐No	**Species:**	**Life stage:**	
Species blocked:	**Lifestage:**	**Direction:**	**Passage status:**
Was permission granted by the landowner for site access? ☐Yes ☐No ☐ Unknown	**Do you have a hard copy of landowner permission?** (if yes, please provide as attachment) ☐Yes ☐No		

VI. Treatment Status and Recommendation				
Site treated? ☐Yes ☐No ☐Unknown	**Treatment:**	**Monitoring completed[2]?** ☐Yes ☐No	**Undergoing monitoring?** ☐Yes ☐No	**Needs Monitoring?** ☐Yes ☐No
Passage status after treatment[2]:		**Date treated:**	**Date removed:**	
Barrier removed by (name of organization):				
Needs treatment? ☐Yes ☐No	**Treatment recommendation:**			
Operations and maintance plan? ☐Yes ☐No ☐ Unknown	**Title of operations and maintenance plan:**	**Date:**	**Operator:**	

VII. References and Attachments				
Reference Title:		**Date:**	**Author:**	
Attachments:	☐Photo(s)	☐Survey Note/Report	☐Restoration/Treatment Report	☐Operations & Maintenance Plan

Accessibility

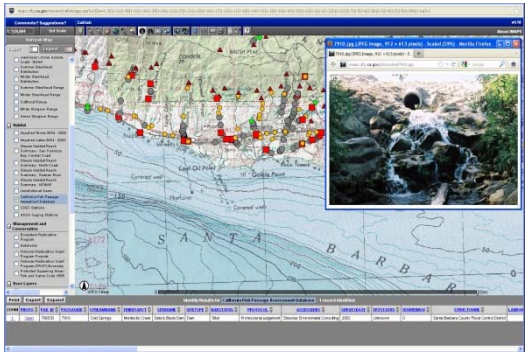
PAD can be accessed and viewed online via www.calfish.org > PAD Program Page.

CalFish Mission

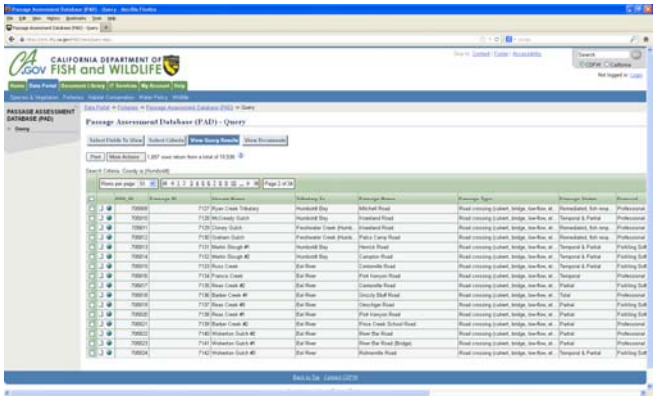
- Create, maintain, and enhance high quality, consistent data that are directly applicable to policy, planning, management, research, and recovery of anadromous fish and related aquatic resources in California.
- Provide data and information services in a timely manner in formats that meet the needs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

Accessing Data on CalFish

Map Viewer



Tabular Data Queries



Data Downloads

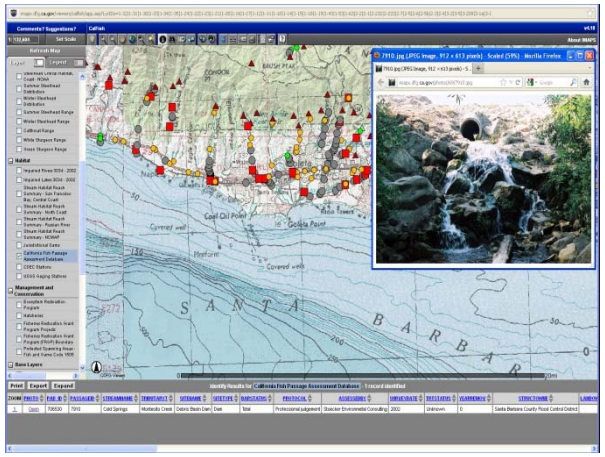
Passage Assessment Database

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

View larger...

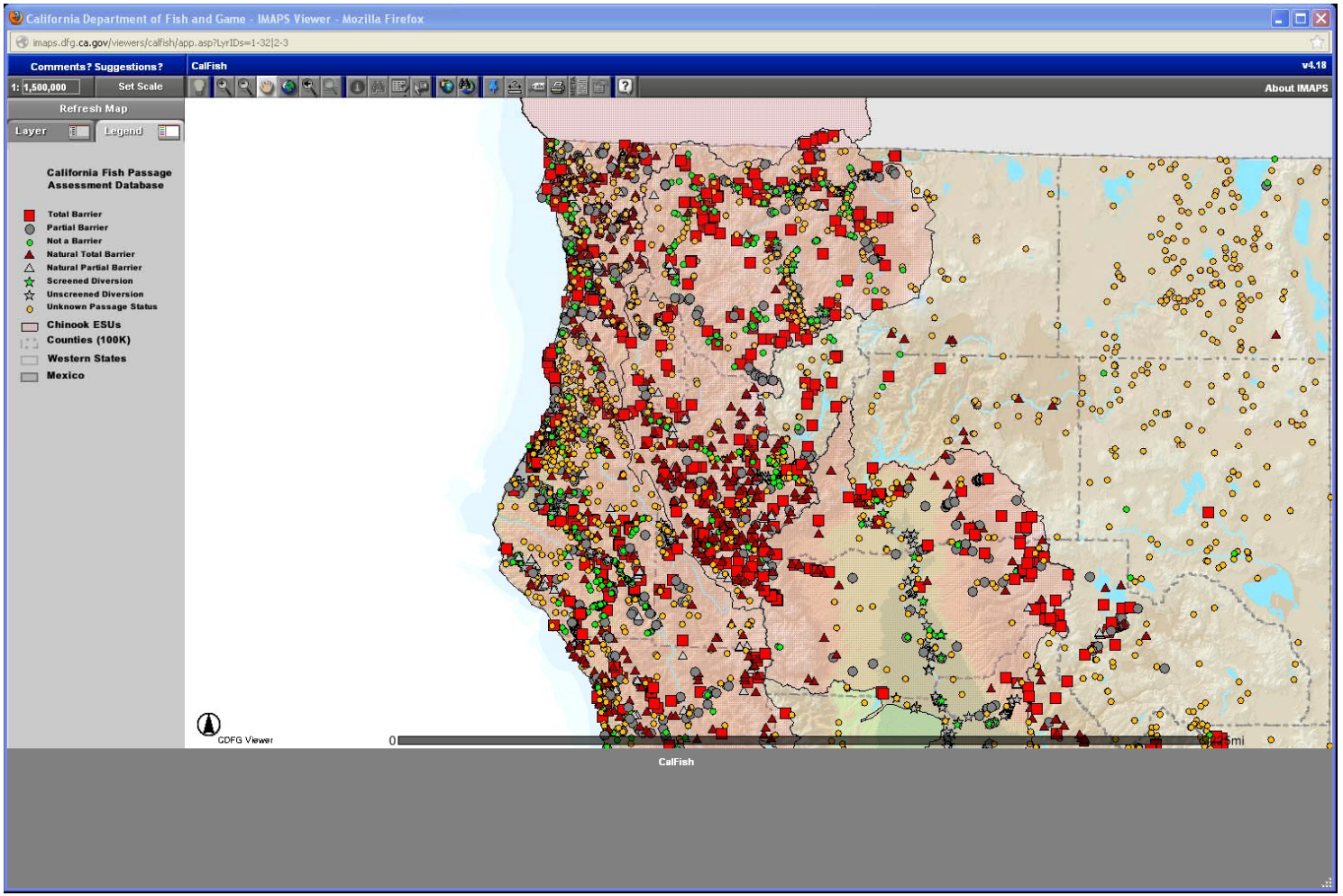
The Passage Assessment Database (PAD) is an ongoing inventory of known and potential barriers to anadromous fish in California. The PAD compiles currently available fish passage information from many different sources, and allows past and future barrier assessments to be standardized and stored in one 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.

CalFish Map Viewer



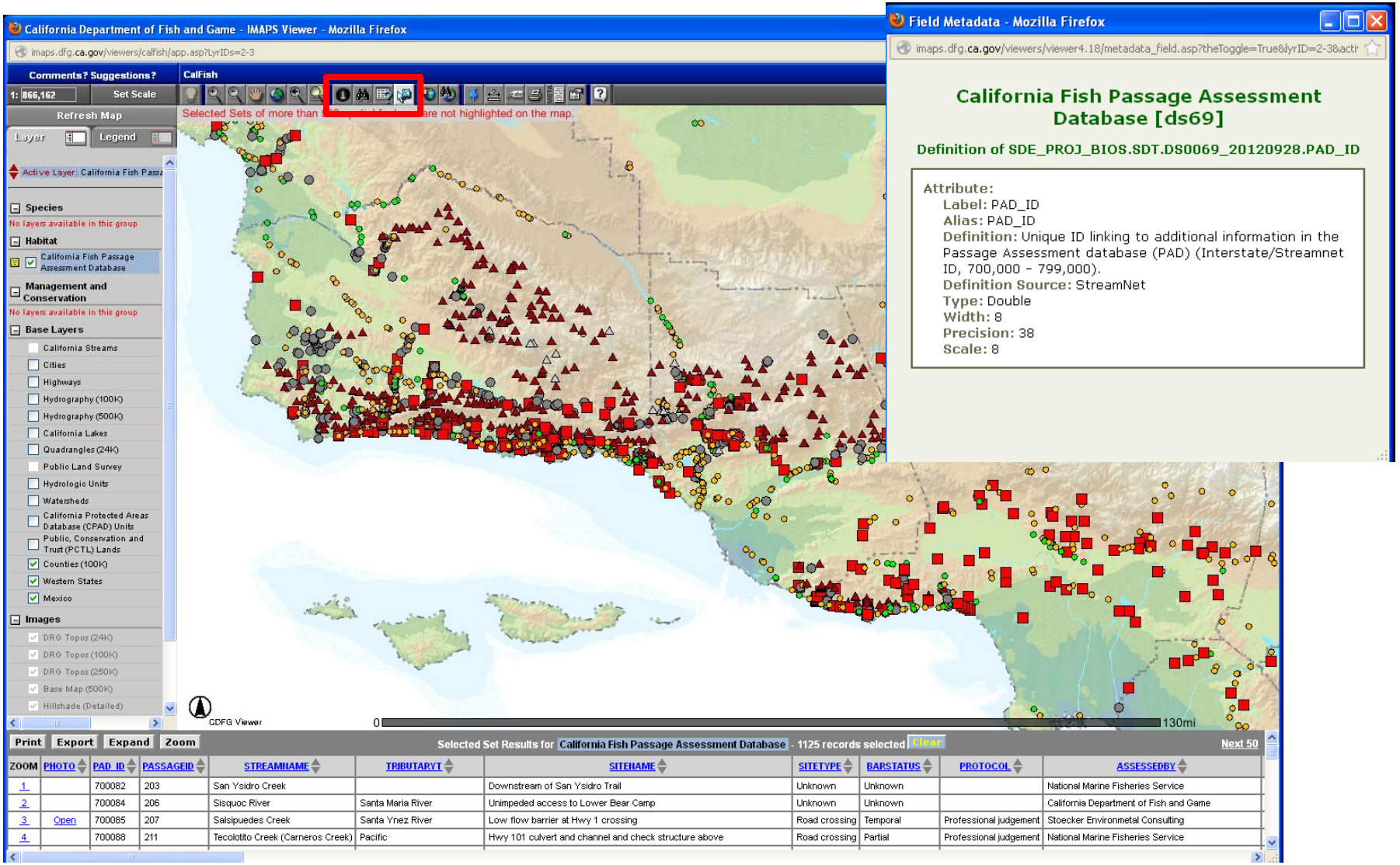
- The viewer allows you to:
  - View spatial data dynamically.
  - View feature attributes.
  - Perform basic analysis
  - View metadata
  - Print custom maps
  - Review fish barrier location data and add new fish barriers

CalFish Map Viewer

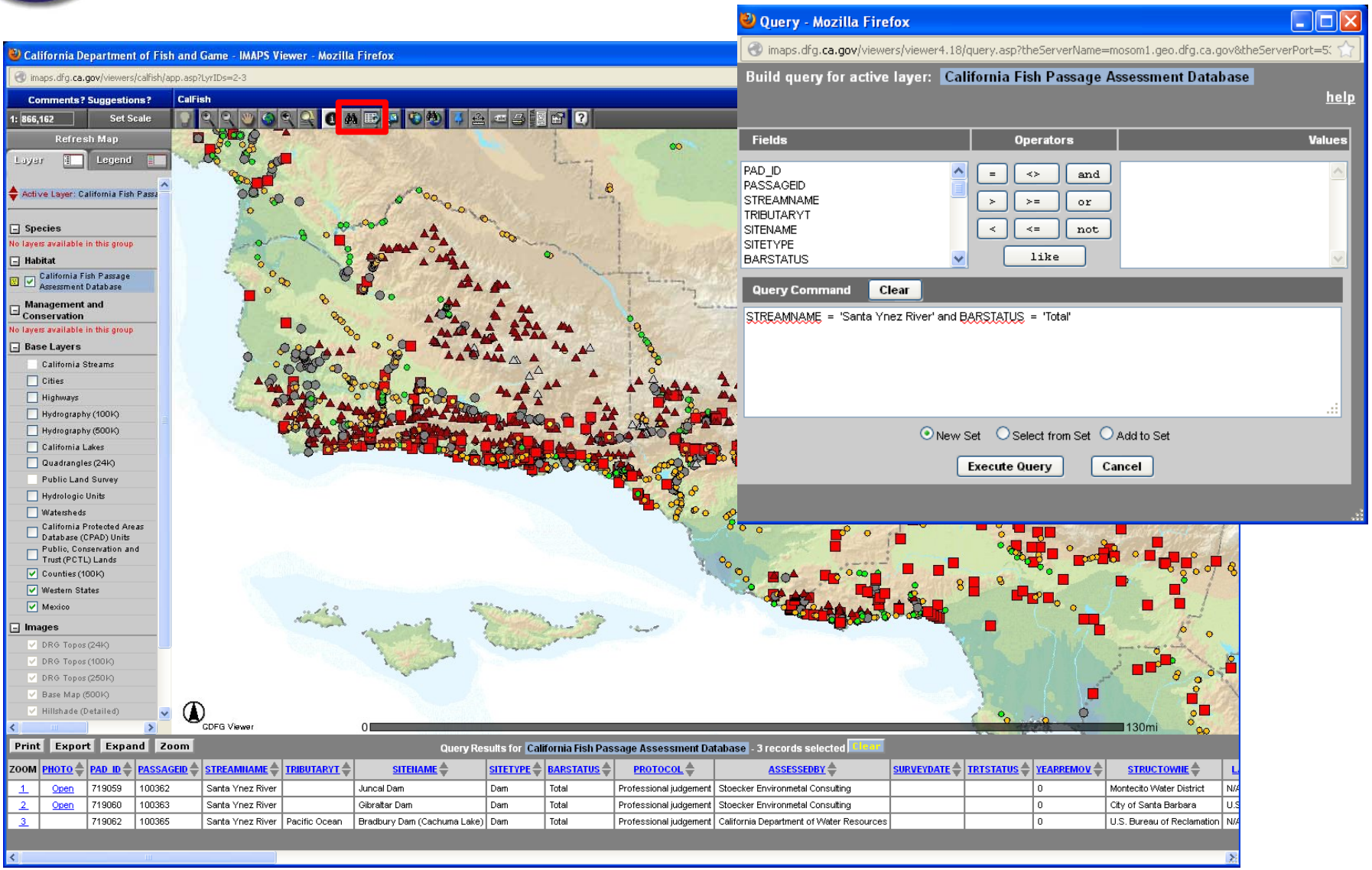


Passage Assessment Database point location data is updated quarterly in the CalFish Map Viewer.

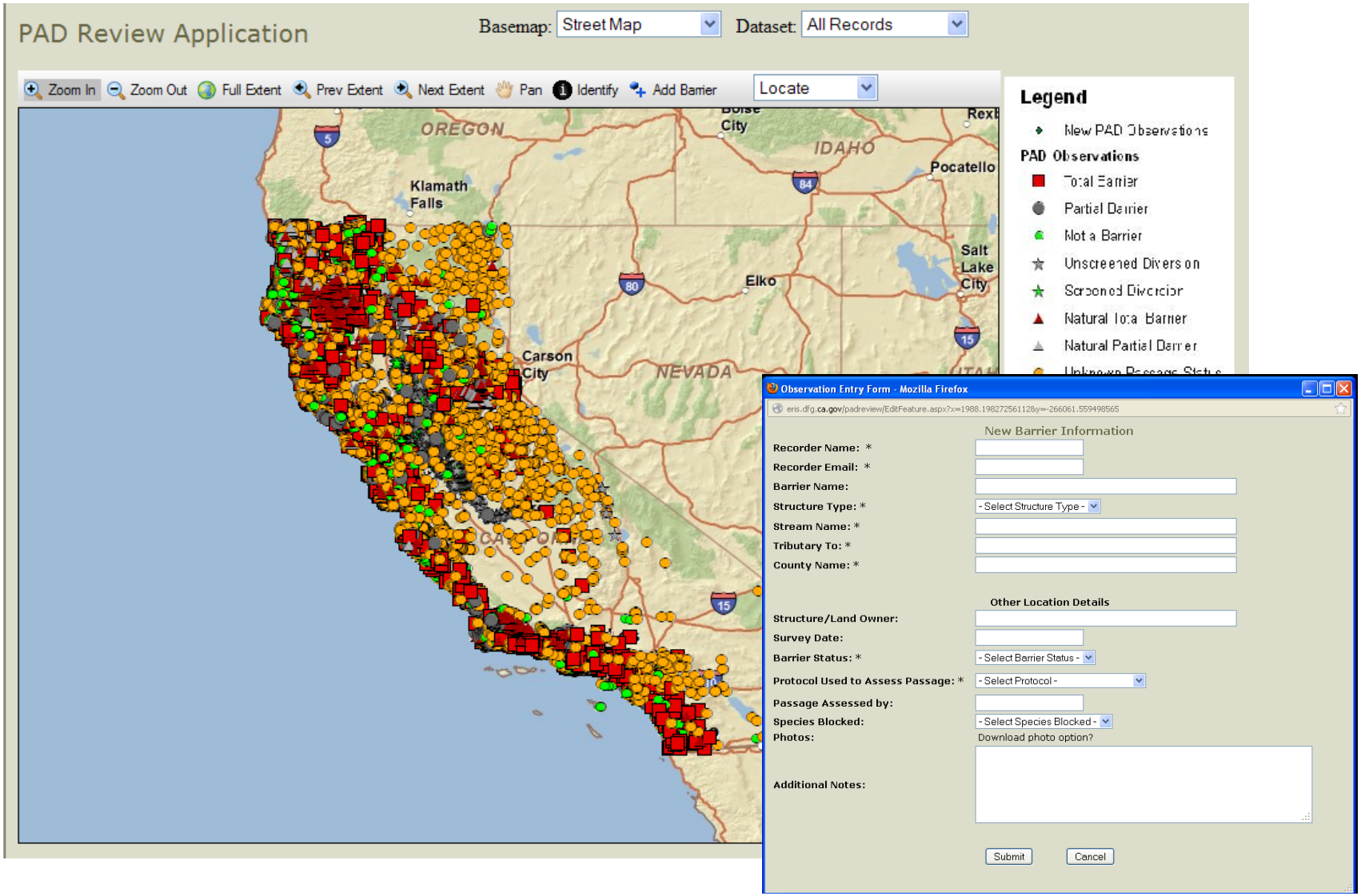
CalFish Map Viewer – Feature Attributes



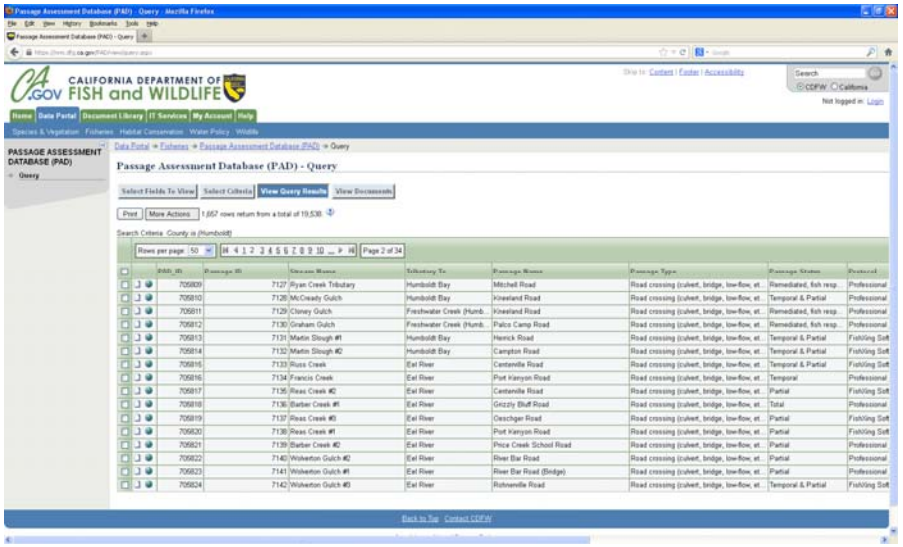
CalFish Map Viewer – Query Data



PAD Review Application

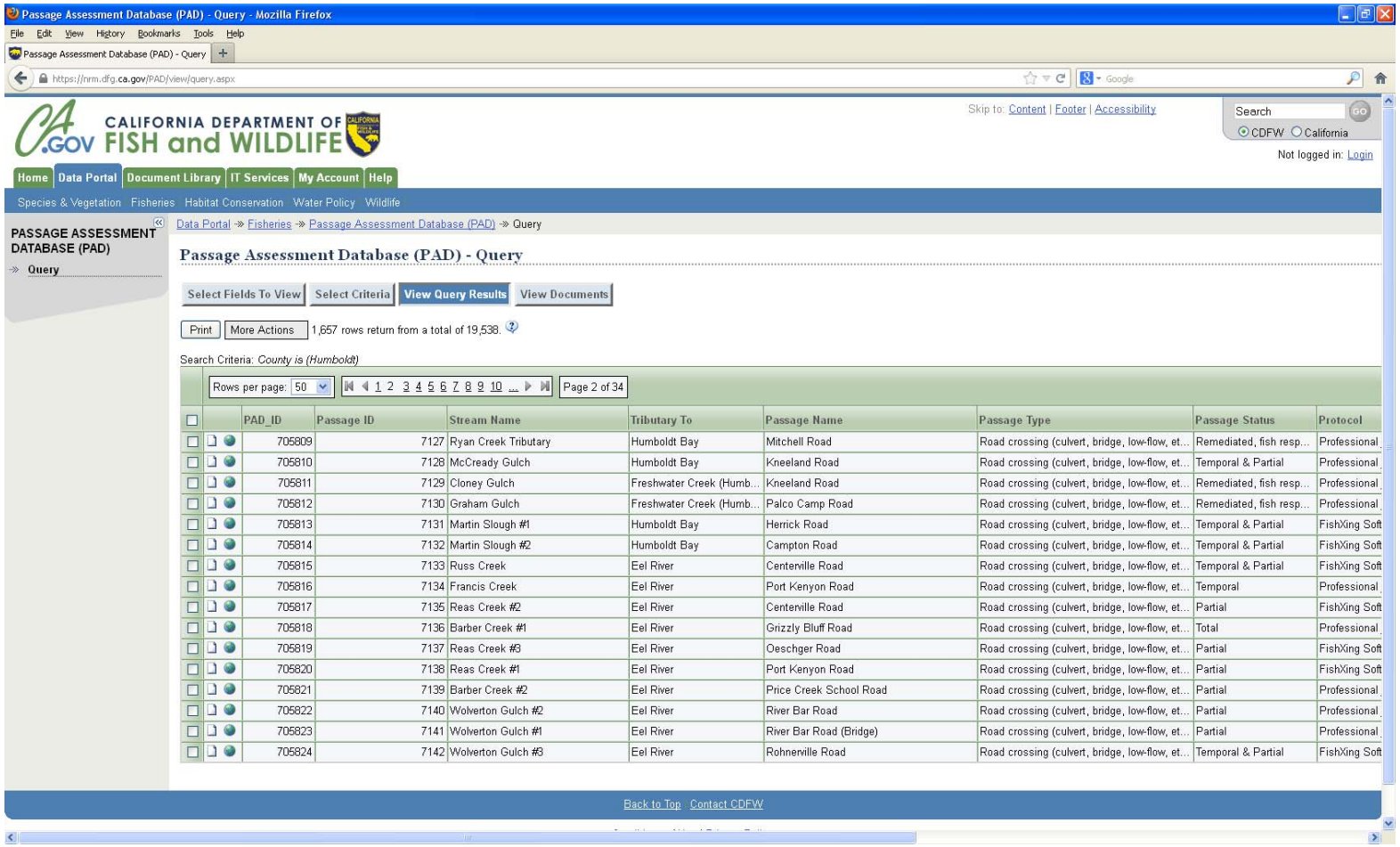


Tabular Data Queries



- 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



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

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

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View larger...

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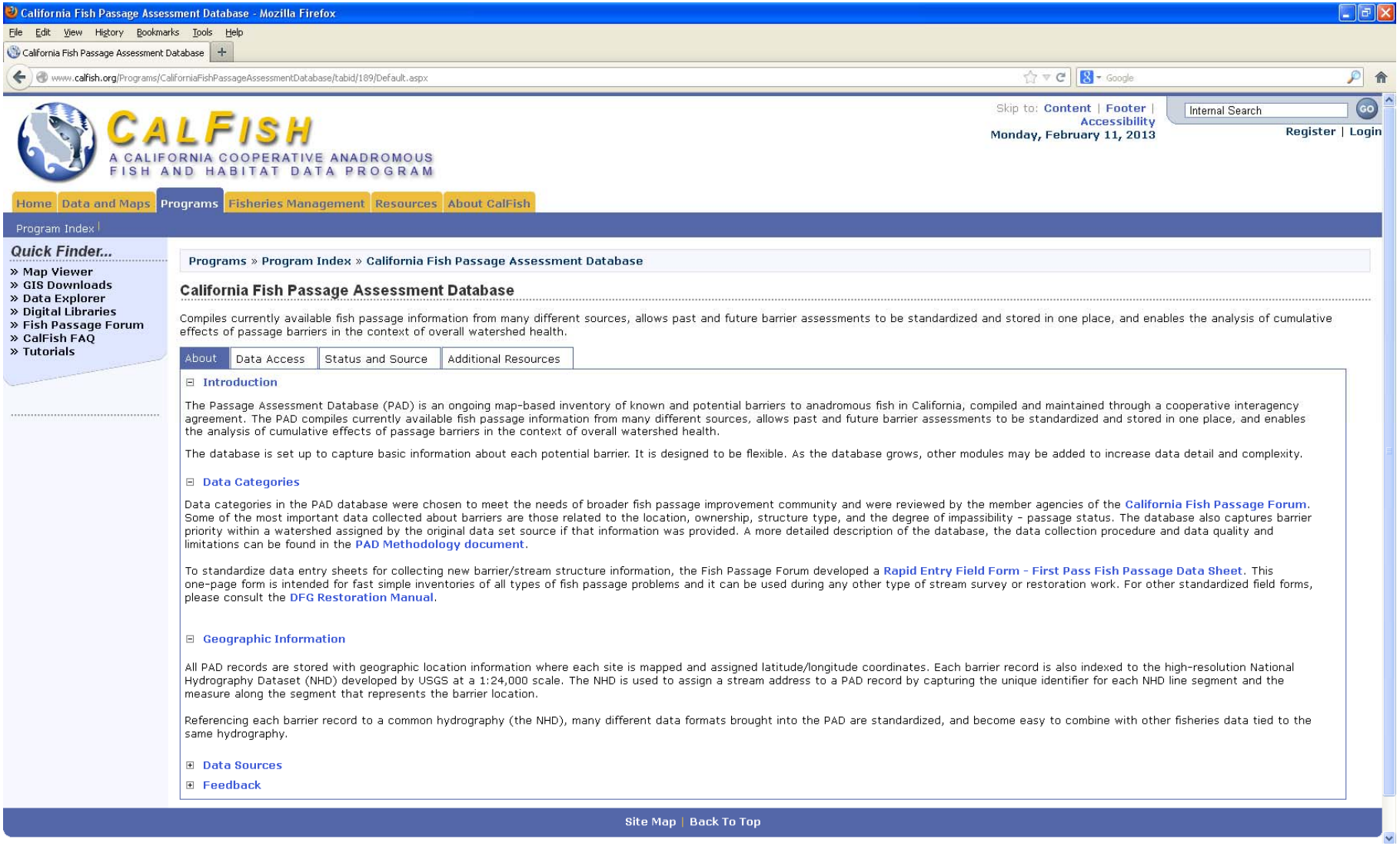
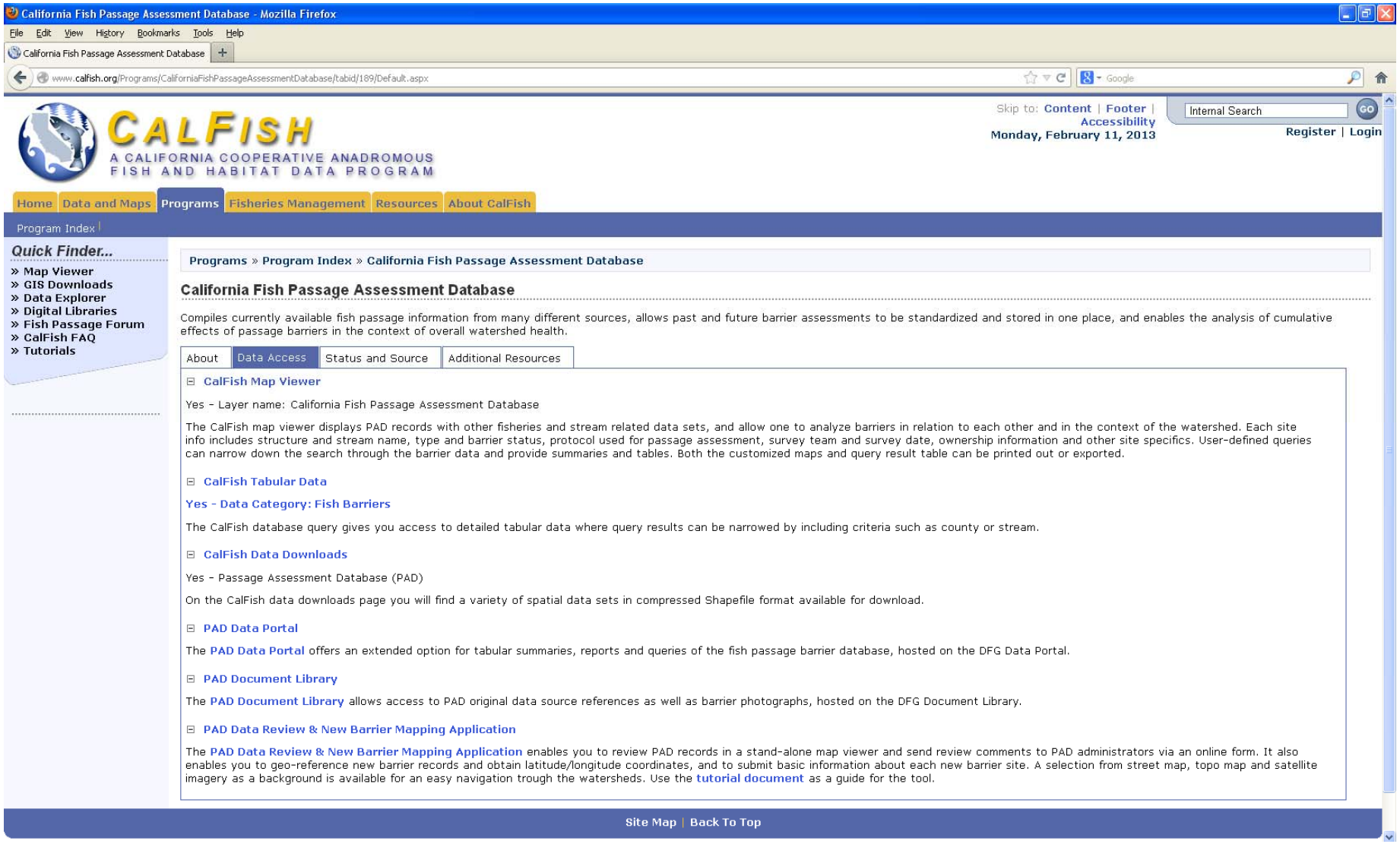
- Data download allows you to:
  - View CalFish data on your own computer
  - Create maps
  - Perform analysis
  - PAD data is updated quarterly

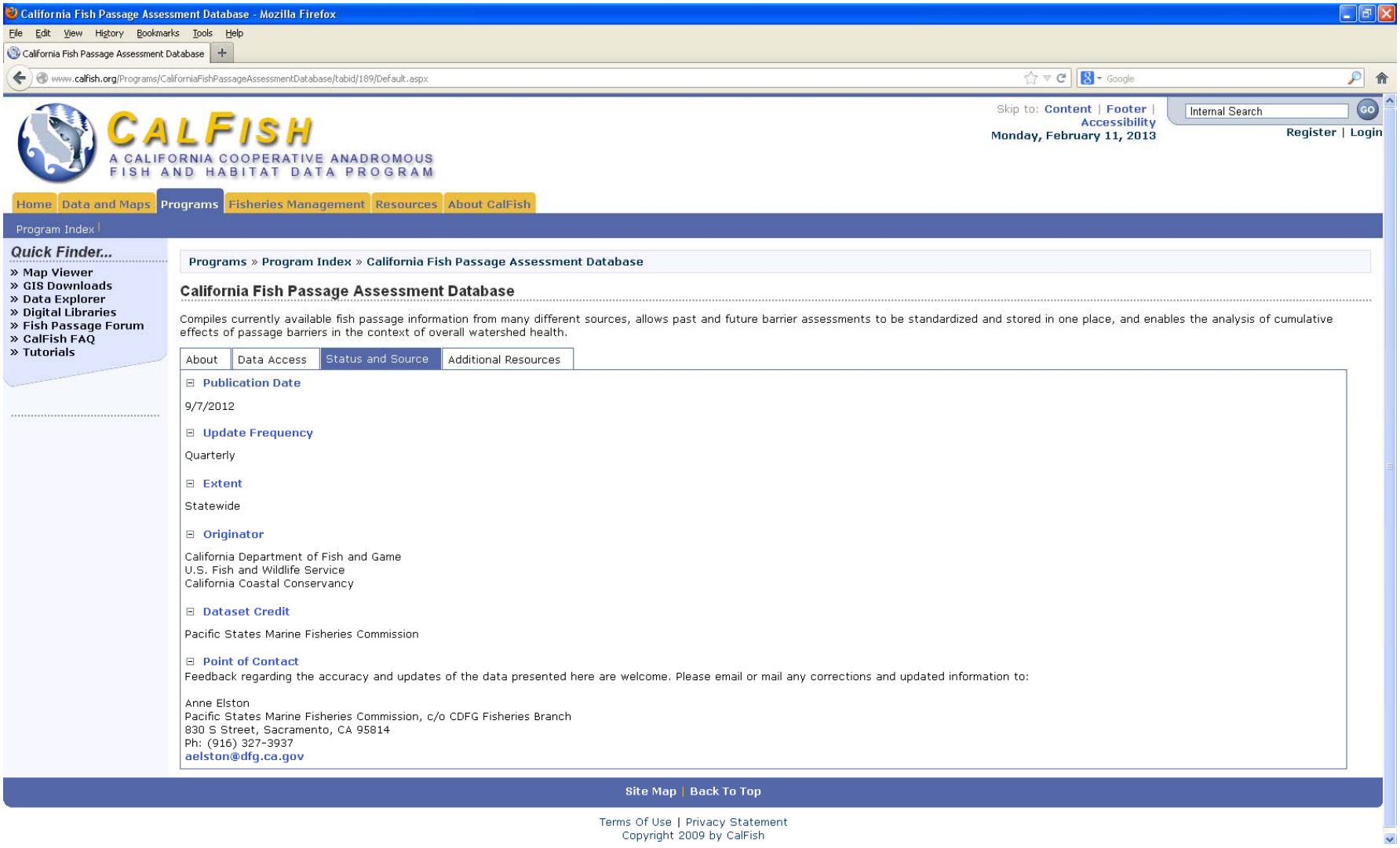
PAD Program Page – About Tab



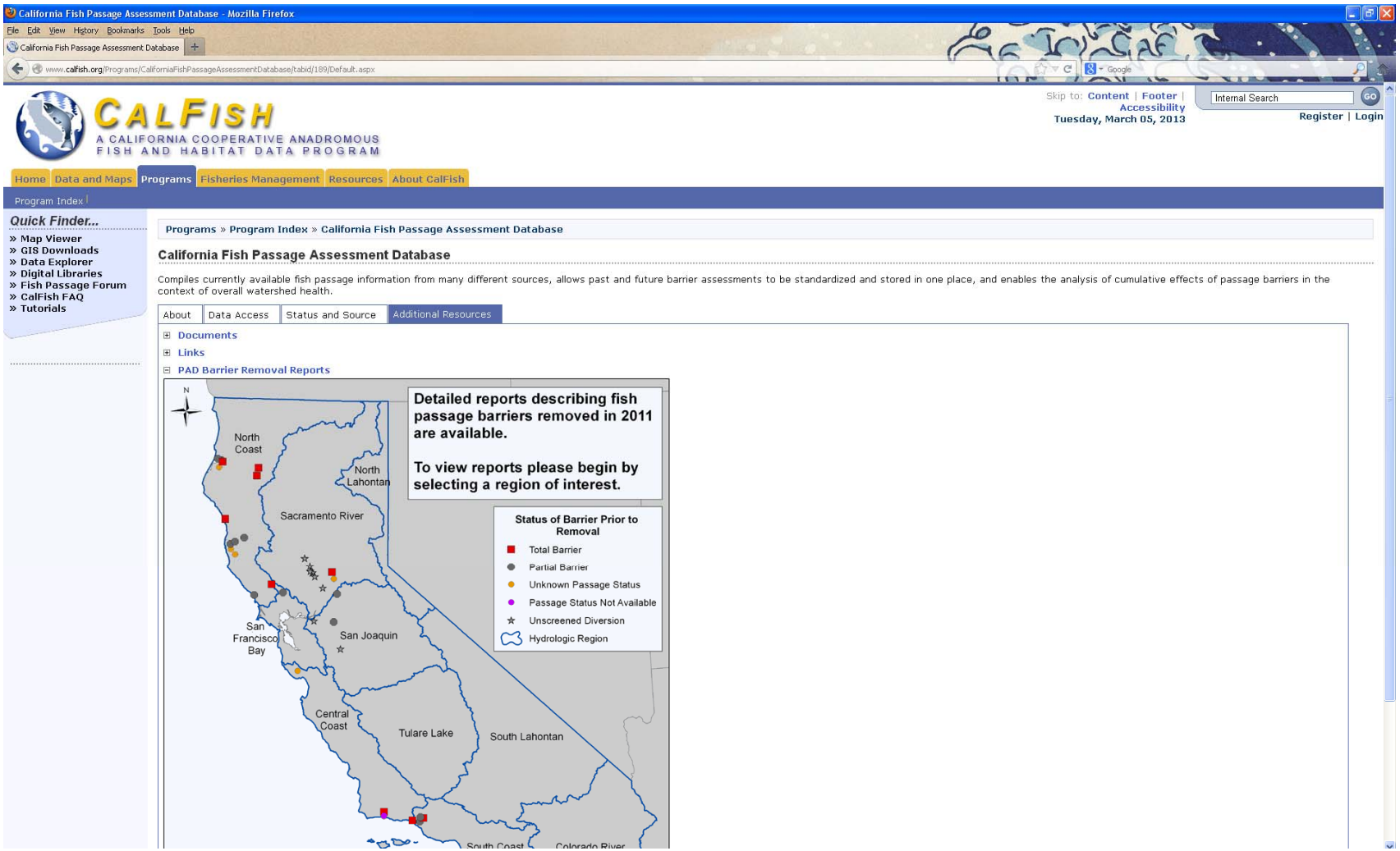
PAD Program Page – Data Access Tab



PAD Program Page – Status and Source Tab



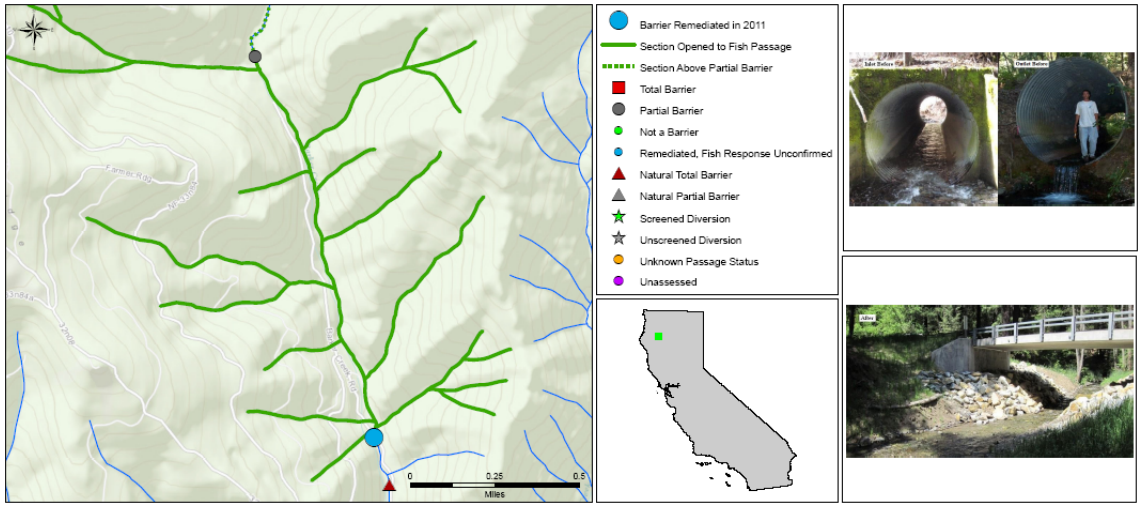
PAD Program Page – Additional Resources Tab



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

PAD ID: 707810

Stream Name: Barker Creek

Tributary To: Hayfork Creek

Structure Owner: U.S. Forest Service

Barrier Removed By: Not available

Year Removed: 2011

Barrier Status Prior to Removal: Total barrier

Barrier Description Prior to Removal: Circular barrier

Site Description After Removal: Not available

Species Benefited After Removal: Not available

Site Status After Removal: Remediated, fish response unconfirmed

Count of Total Barriers Downstream: 1 natural barrier

Count of Partial Barriers Downstream: 2

Count of Barriers with Unknown Passage Status Downstream: 23

Count of Unscreened Diversions Downstream: 22

Distance to Next Barrier Upstream with Barrier Status and PAD ID: 1.2 miles, Partial barrier, 713308

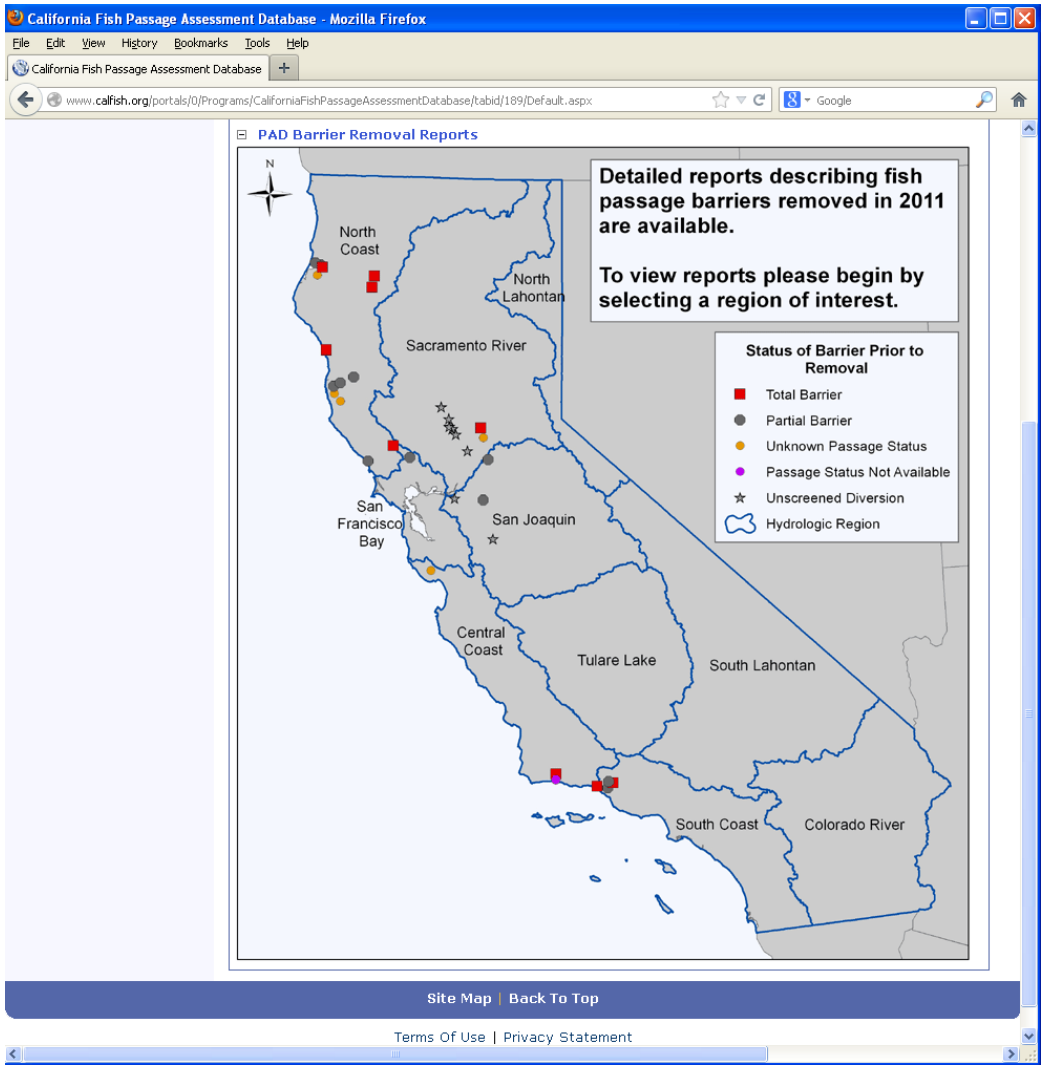
Distance to Next Total Barrier Upstream with PAD ID: Not applicable

Distance to End of Natural Anadromy: Unknown

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

CalFish Tool Ideas

Reports for Fish Passage Barriers Remediated



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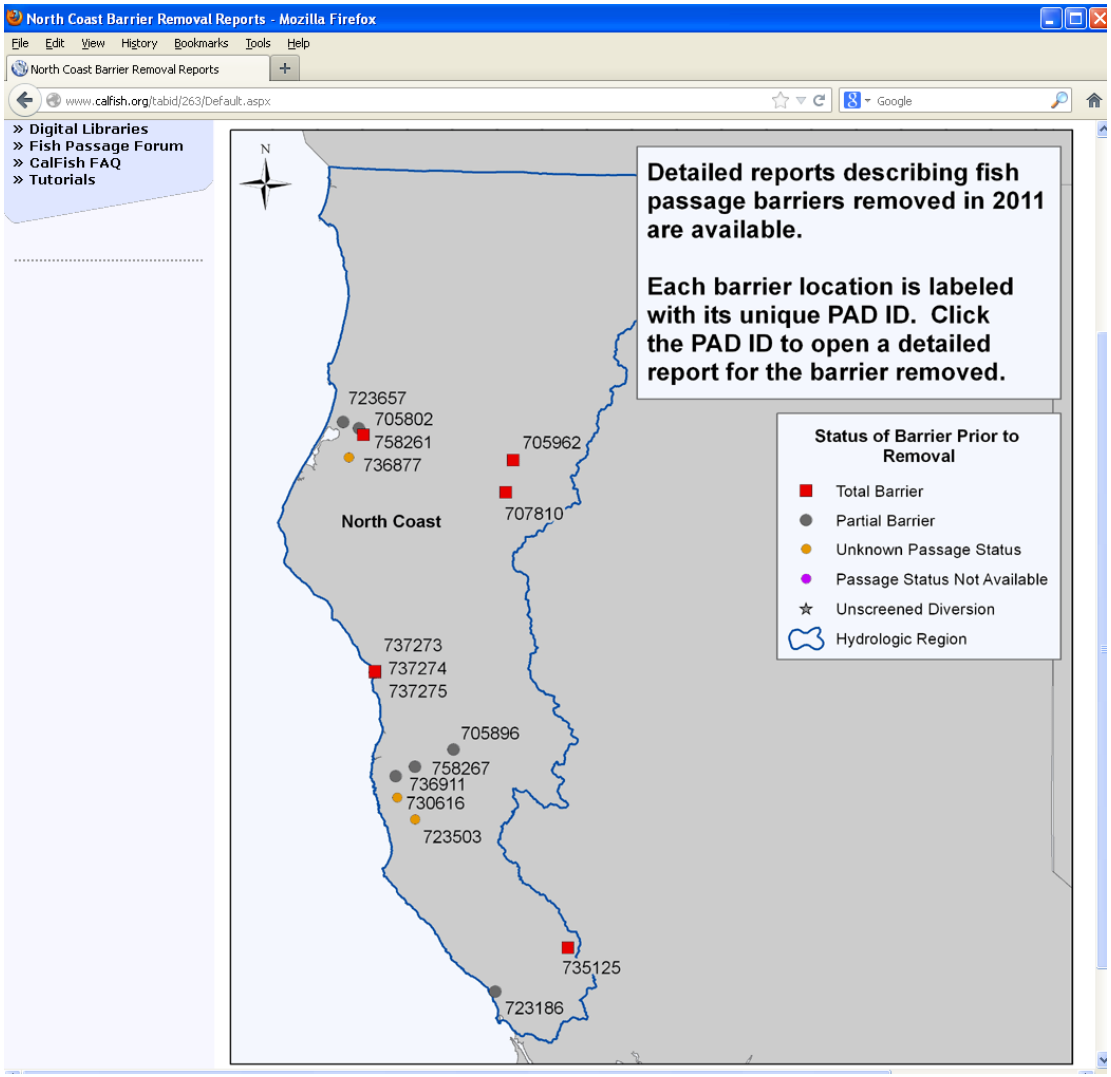

CalFish Tool Ideas

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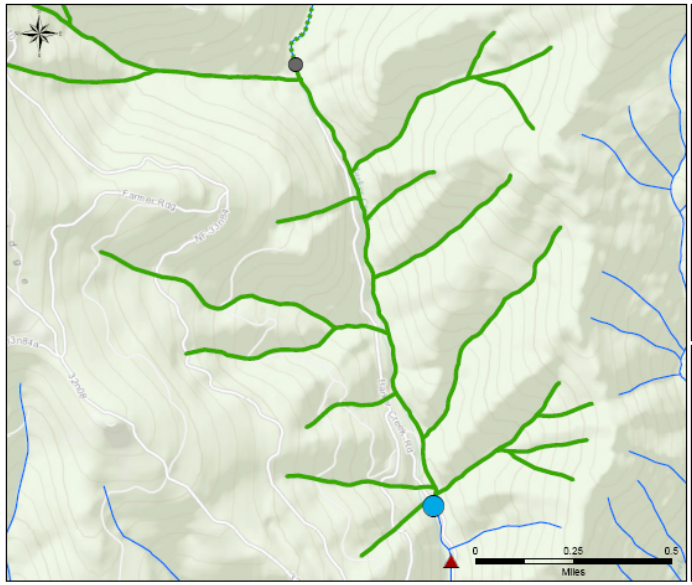

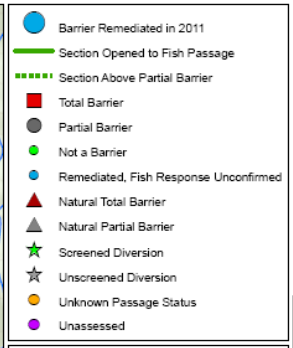

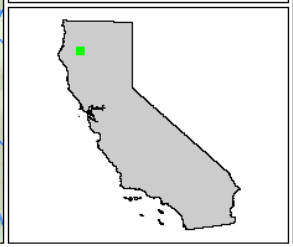

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CalFish Getting Started Page

CalFish - Getting Started - Mozilla Firefox

File Edit View History Bookmarks Tools Help

CalFish - Getting Started

www.calfish.org/AboutCalFish/GettingStarted/tabid/193/Default.aspx

CALFISH
A CALIFORNIA COOPERATIVE ANADROMOUS FISH AND HABITAT DATA PROGRAM

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- » GIS Downloads
- » Data Explorer
- » Digital Libraries
- » Fish Passage Forum
- » CalFish FAQ
- » Tutorials

About CalFish » Getting Started

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.

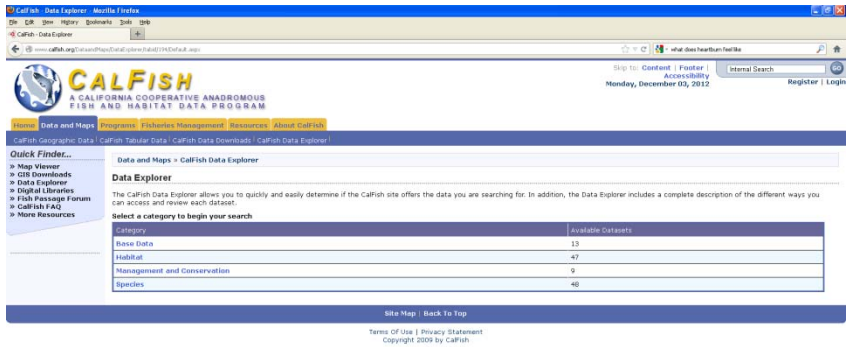
FAQ

Still have questions? Please refer to our **FAQ** page.

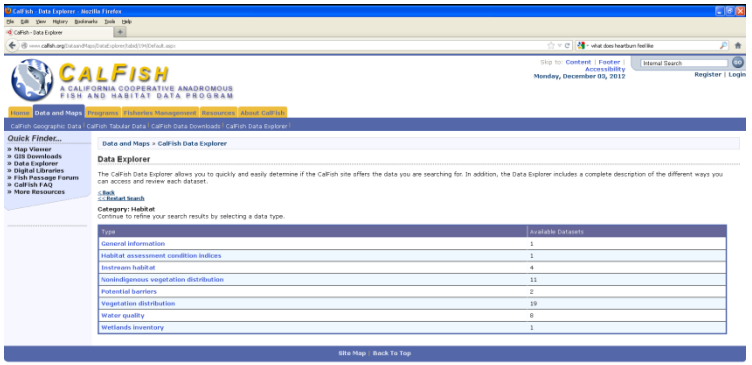
Site Map

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

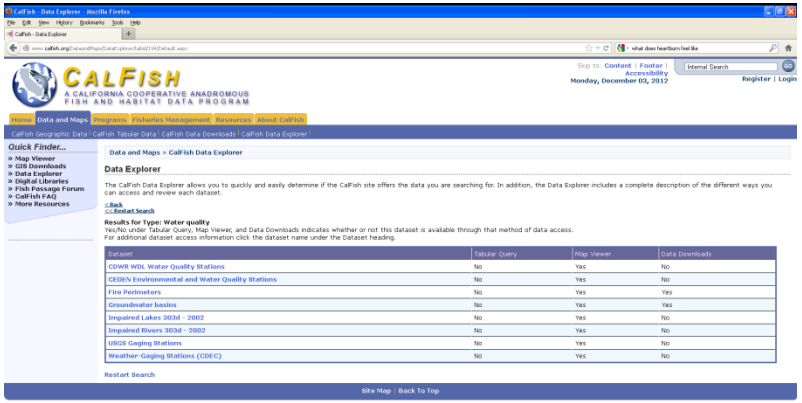
Data Explorer Tool
Makes Finding Data Quicker and Easier



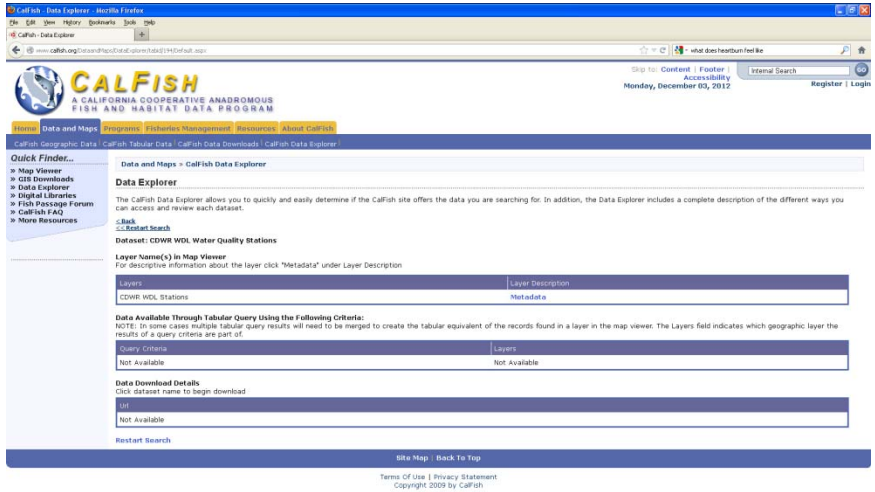
Start search by selecting a data category



Refine search by selecting a data type

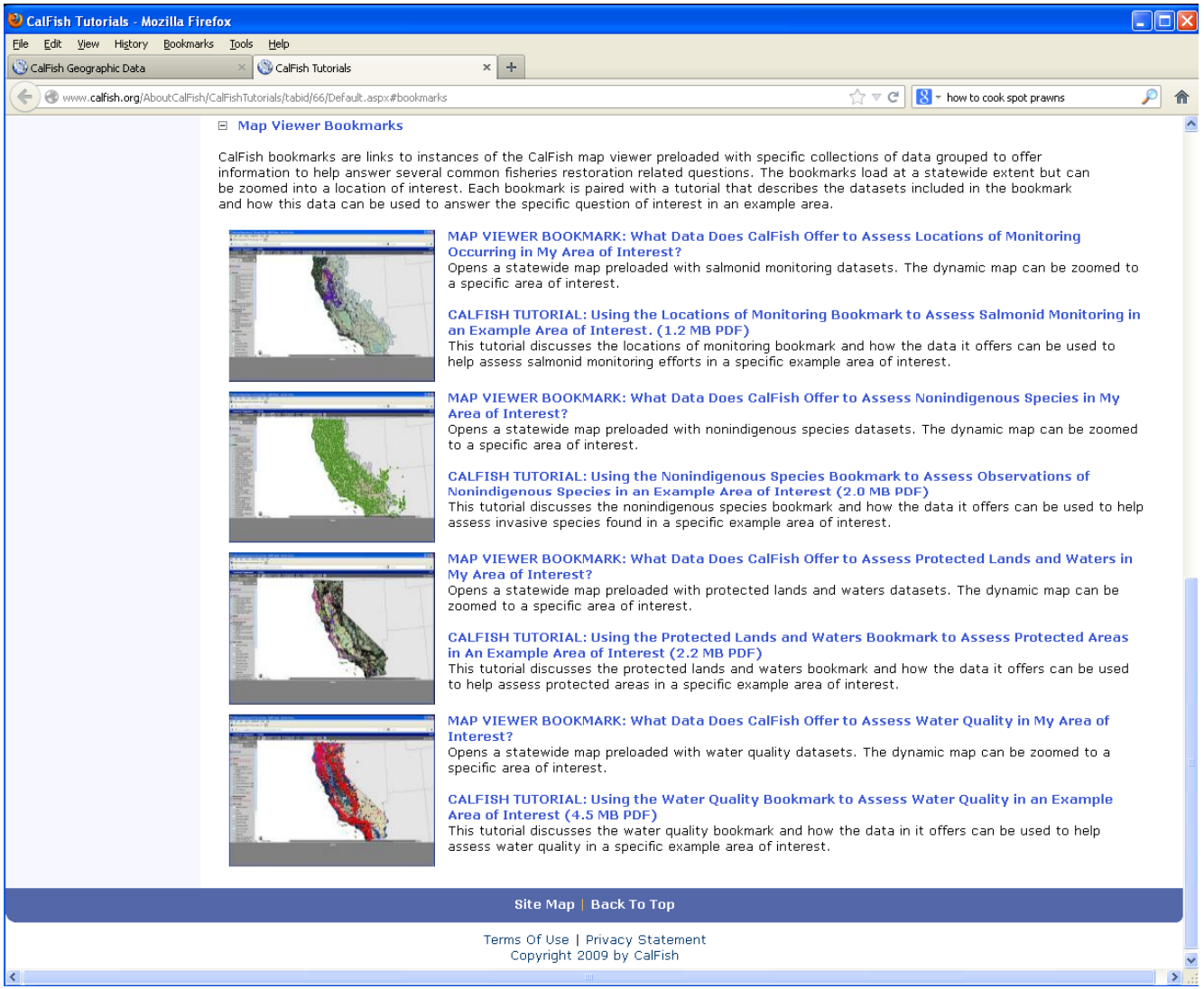


Select a dataset from the search results



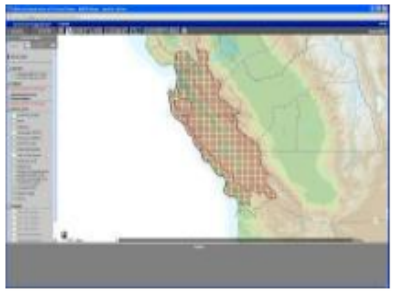
Details specific to accessing the dataset selected are returned

Map Viewer Bookmarks



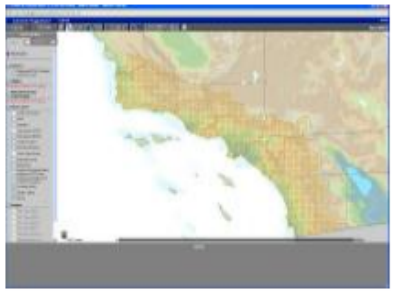
New CalFish Tutorials

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.

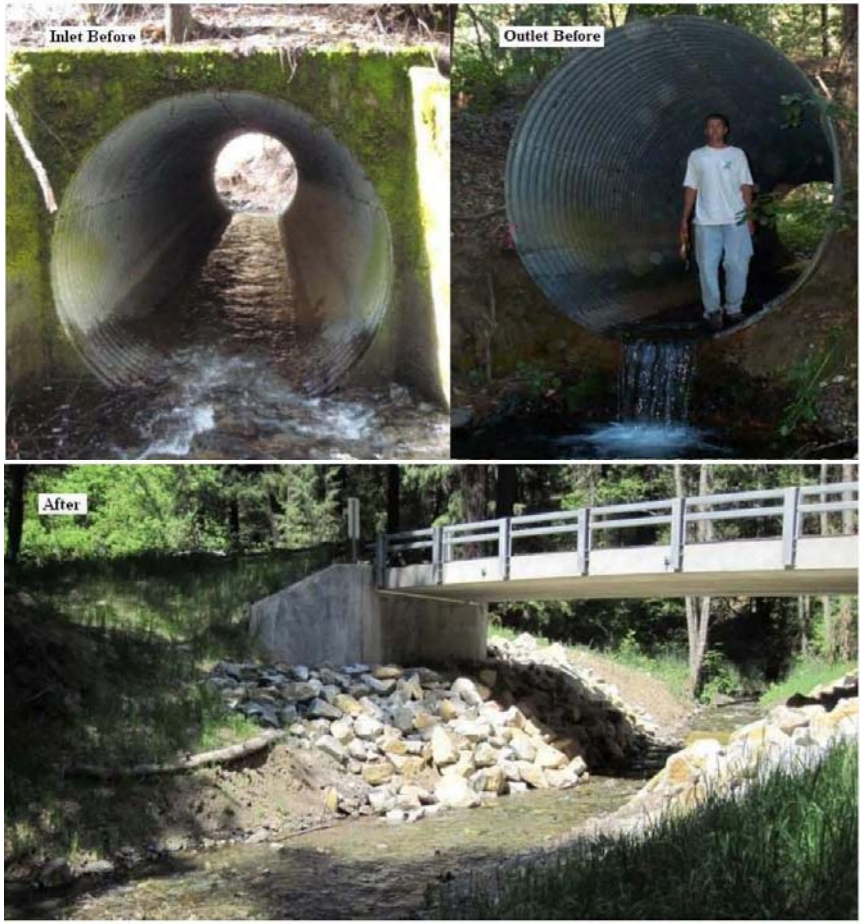
Questions or Feedback?

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

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

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

Thank you!



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