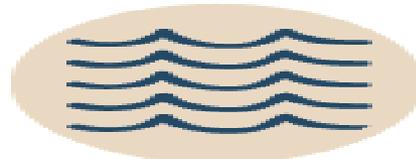
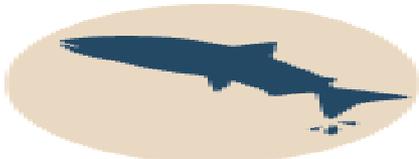




COMPREHENSIVE ASSESSMENT AND MONITORING PROGRAM (CAMP)

SECTION 3406(B)(16) OF THE CVPIA

- **Douglas Threlhoff: U.S. Fish and Wildlife Service**
- **Robert Evans: Bureau of Reclamation**

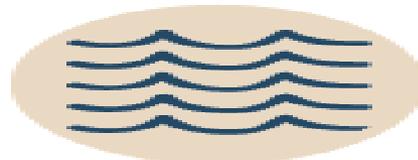
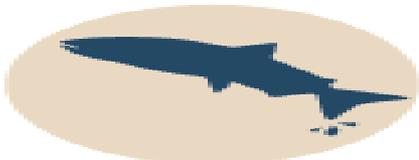


Central Valley Project Improvement Act



THE CAMP'S PURPOSE, AND NATURE OF THE PROBLEMS IT ADDRESSES:

Section 3406(b)(16) of the CVPIA requires that a comprehensive assessment program be established to monitor fish and wildlife resources in the Central Valley and assess the biological results and effectiveness of restoration activities.

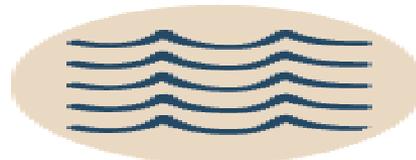
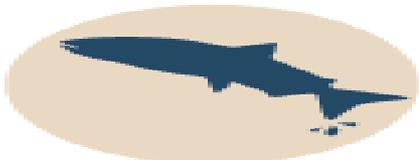


Central Valley Project Improvement Act



THE CAMP HAS 3 OBJECTIVES

1. Assess the progress made in achieving the AFRP's fish production targets.
2. Assess the effectiveness of four types of restoration categories that include water management modifications, structural modifications, habitat restoration, and fish screens.
3. Establish a data management program to manage CVPIA data as a resource available to all interested parties, provide training in data management, ensure compliance with relevant federal laws and regulations, and to ensure the effective and economical management of the resource.



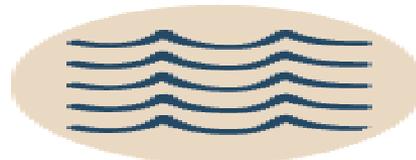
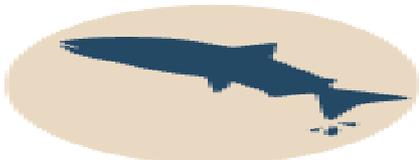
Central Valley Project Improvement Act



FY 2012 ACCOMPLISHMENTS



1. Produced the 2011 version of the CAMP annual report providing a synthesis of anadromous fish monitoring data and an assessment of changes in fish numbers relative to the AFRP's fish production targets.



Central Valley Project Improvement Act

COMPREHENSIVE ASSESSMENT AND MONITORING PROGRAM

Assessment of Anadromous Fish Production in the
Central Valley of California between 1992 and 2011

Report prepared by the
United States Department of the Interior
U.S. Fish and Wildlife Service
and
U.S. Bureau of Reclamation



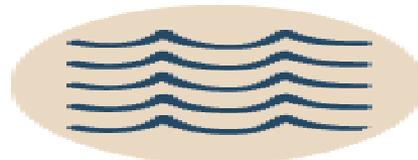
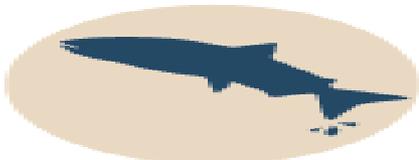


FY 2012 ACCOMPLISHMENTS



2. Updated a website for distributing CAMP-related data and documents to the public and interested stakeholders.

http://www.fws.gov/sacramento/Fisheries/CAMP-Program/Home/fisheries_camp-program.htm



Central Valley Project Improvement Act



- Home
- Endangered Species
- Environmental Contaminants
- Fisheries
 - Assessment & Monitoring
 - Instream Flow
 - San Joaquin River Restoration
- Habitat Conservation
- News and Features
- Partnerships
- Maps / GIS



Comprehensive Assessment & Monitoring Program (CAMP)

Program Goals

- To assess overall effectiveness of CVPIA *habitat restoration* (108KB PDF) actions in the Central Valley of California.
- To assess relative effectiveness of habitat restoration methods.

CVPIA

CAMP is authorized by *Section 3406(b)(16)* (108KB PDF) of the *Central Valley Project Improvement Act* (CVPIA).

Partnerships

CAMP PROGRAM

- [CAMP Focus Areas](#) (92KB PDF)
- [Central Valley Project Improvement Act](#)
- [CAMP Partnerships](#)
- [Techniques for Monitoring Fish Production](#)
- [Stream Temperature & Discharge Monitoring - Chinook Salmon](#)
- [Developing Production Estimates](#) (44KB PDF)
- [Fish Production Estimates](#)
- [Documents, Annual Reports & Projects](#)
- [2007 CVPIA Monitoring & Research Summary \(XLS\)](#) - November 10, 2008 version - Summarizes data collection activities that were conducted in 2007 with Central Valley Project Improvement Act funds.
- [Glossary of CAMP Terminology](#)

More Information

- [Anadromous Fish Restoration Program](#)
- [U.S. Bureau of Reclamation](#)

Home
Endangered Species
Environmental
Contaminants
Fisheries

Assessment &
Monitoring

Instream Flow

San Joaquin River
Restoration

Habitat Conservation
News and Features
Partnerships
Maps / GIS



CONTACT US
916-414-6600

Directions
Email

Comprehensive Assessment & Monitoring Program (CAMP)

All documents are in PDF format. Approximate file size is shown.

CAMP Planning Documents

- The *CAMP Final Conceptual Plan* (11 MB PDF) was written in 1996. It provides the guiding principles that were later used to develop the CAMP Implementation Plan.
- A *CAMP Implementation Plan* (16.5 MB PDF) was finalized in 1997. The document describes how the CAMP will monitor fish resources and assess biological results and effectiveness of habitat restoration activities.
- The *CAMP 2008 Draft Rotary Screw Trap Protocol* (1 MB PDF) provides a standardized method for quantifying the number of juvenile salmon that emigrate from tributary streams and rivers in the Central Valley.
- A *technical memorandum* (455 KB PDF) written in 2002 highlights the need to conduct systematic monitoring over a large area and time period if there is to be an ability to determine which restoration activities are most cost effective.

CAMP Annual Reports

- *1995-97 CAMP Annual Report* (2.3 MB PDF)
- *1998 CAMP Annual Report* (2.6 MB PDF)
- *1999 CAMP Annual Report* (2.8 MB PDF)
- *2000 CAMP Annual Report* (615 KB PDF)
- *2007 CAMP Annual Report* (1.2 MB PDF)
- *2008 CAMP Annual Report* (1.5 MB PDF)
- *2009 CAMP Annual Reports* (1 MB PDF)
- *2010 CAMP Annual Reports* (1 MB PDF)
- *2011 CAMP Annual Reports* (835 KB PDF)

CAMP-Funded Projects

JUMP TO:

- CAMP Planning Documents
- CAMP Annual Reports
- CAMP-Funded Projects
- Central Valley Rotary Screw Trap Reports

CAMP PROGRAM

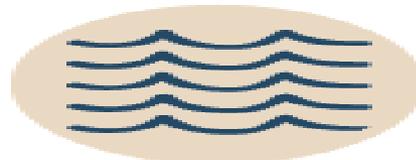
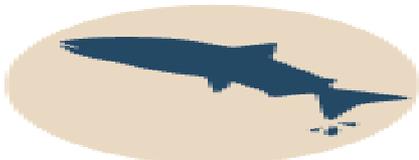
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- *Glossary of CAMP Terminology*



FY 2012 ACCOMPLISHMENTS



3. Provided funding to continue the monitoring of juvenile Chinook salmon on the Stanislaus River for the 16th year consecutive year.



Central Valley Project Improvement Act

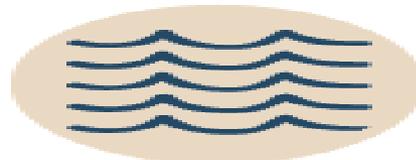
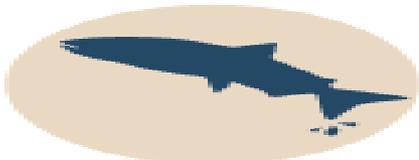




FY 2012 ACCOMPLISHMENTS



4. Continued development of a CAMP rotary screw trap “platform” that will produce standardized juvenile Chinook salmon production estimates from multiple locations across California’s Central Valley. The CAMP is working with multiple partners in an effort to encourage them to adopt the platform, which would greatly simplify data sharing, and create a more unified approach to monitoring juvenile salmon in the Central Valley.



Central Valley Project Improvement Act

CAMP RST Data Entry & Analysis Platform

MANAGE LISTS

(Define sites, subsites, and other values that will be used during data entry.)

SITES AND SUBSITES

Other lists

DATA ENTRY

TRAP VISITS AND CATCH

RELEASES

RAW ENVIRONMENTAL DATA

PRE-ANALYSIS

DATA PREP



QA

DATA ANALYSIS



TABLES & CHARTS



PREDEFINED REPORTS

Open user guide

Open data dictionary

Open user workspace database

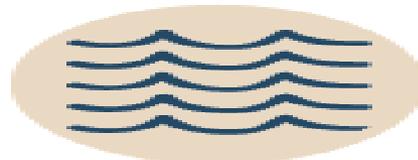
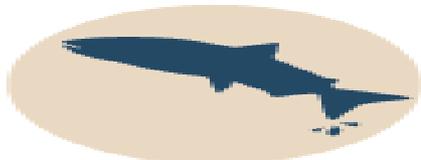
DONE

Credits

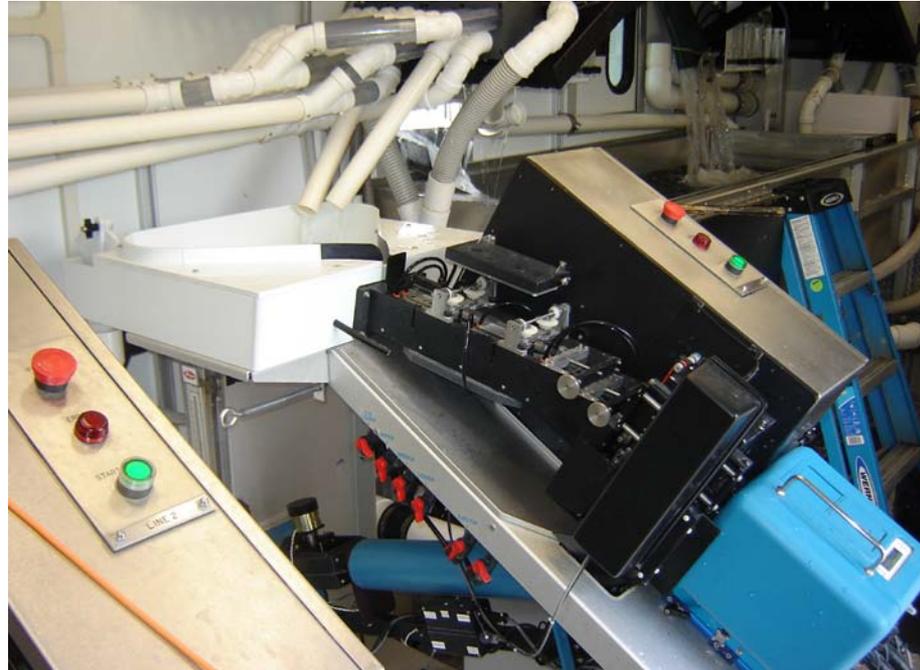


FY 2012 ACCOMPLISHMENTS

5. In partnership with the Pacific States Marine Fisheries Commission, East Bay Municipal Utility District, California Department of Fish and Game, and California Department of Water Resources, supported the Constant Fractional Marking Program which is designed to mark 25% of the fall-run Chinook salmon produced at California's Central Valley fish hatcheries.



Central Valley Project Improvement Act

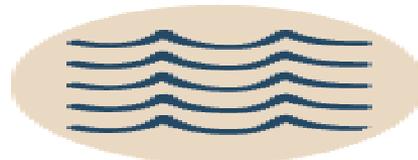
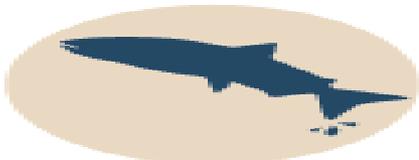




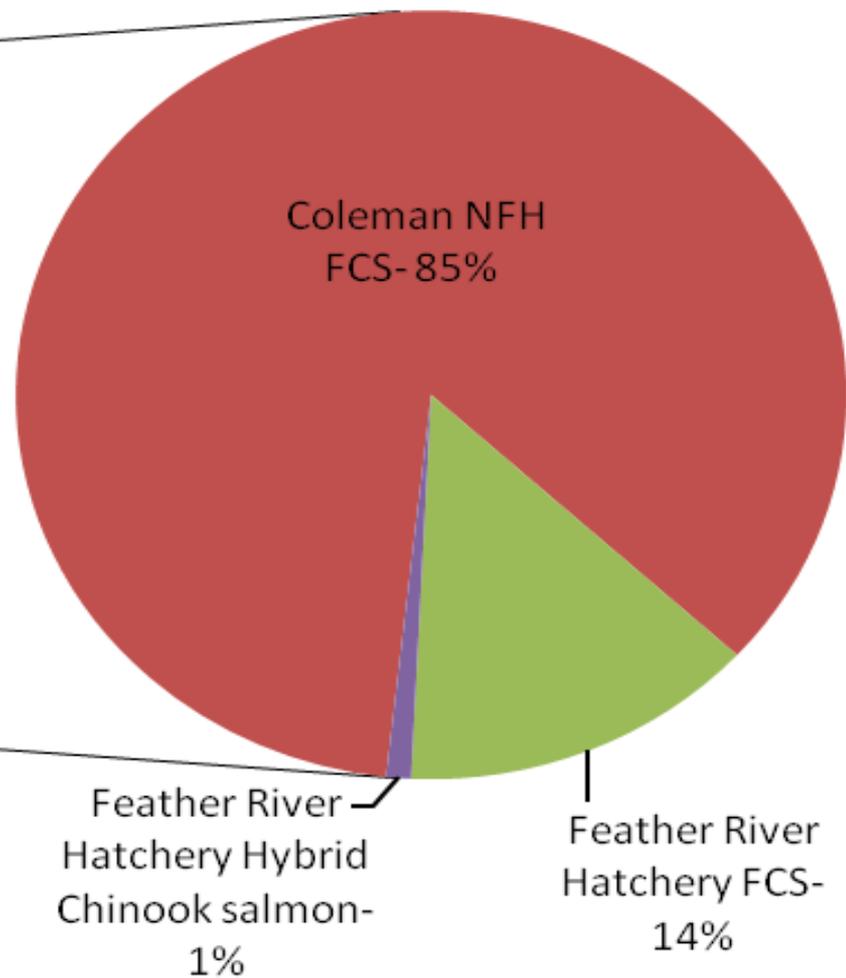
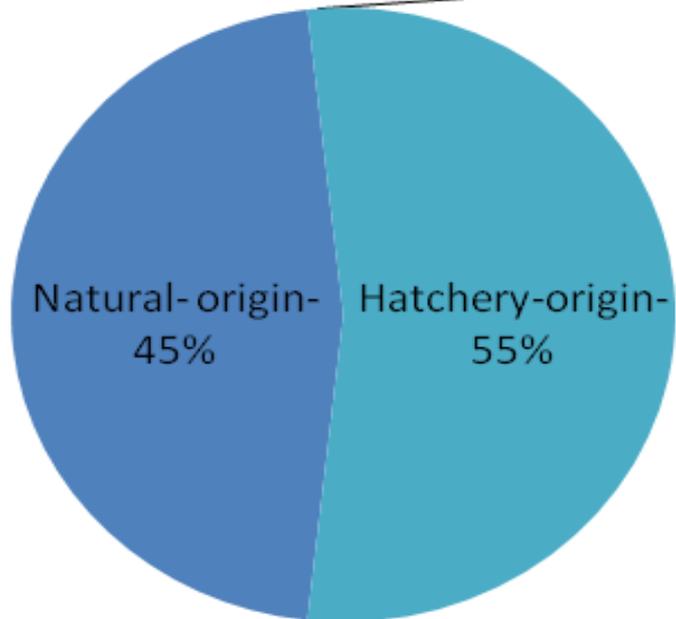
FY 2012 ACCOMPLISHMENTS



6. Provided funding to collect adult salmon data on Cottonwood Creek and the Sacramento River mainstem in 2011, and thereby quantify the relative proportion of wild- vs. hatchery origin salmon in those watersheds.



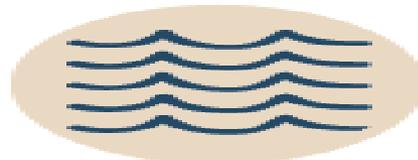
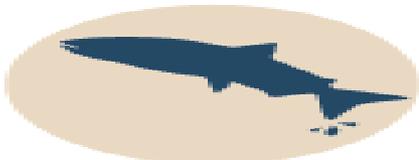
Central Valley Project Improvement Act





OVERVIEW OF FY 2013 PLANS

- Work toward finalizing the first fully functional version of the CAMP RST platform which will provide a broad-based understanding of the number of juvenile salmon that are emigrating from Central Valley rivers and streams.
- Initiate a effort to restart rotary screw trapping activities on the American River in collaboration with the Pacific States Marine Fisheries Commission and California Department of Fish and Game.
- Continue monitoring of juvenile salmon on the Stanislaus River with rotary screw traps.



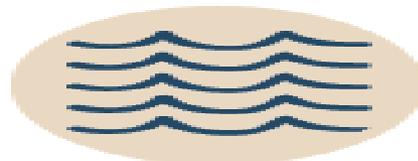
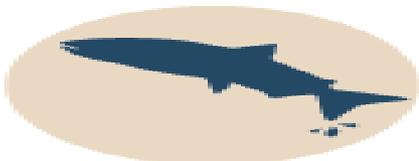
Central Valley Project Improvement Act



ADAPTIVE MANAGEMENT

With the completion of the first fully function version of the CAMP RST platform, there will be an ability to:

- a) begin to understand how juvenile salmon have responded to habitat restoration activities, and how future habitat restoration activities may need to be modified to produce larger number of adult and juvenile salmon, and
- b) a greater understanding of how the survival of juvenile salmon is affected by ocean conditions, and thereby affects the number of adult salmon that migrate from the ocean to Central Valley rivers and streams to spawn.



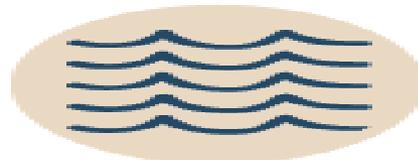
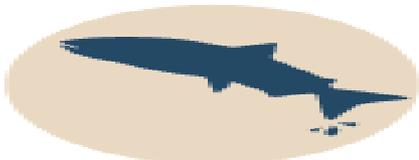
Central Valley Project Improvement Act



FY 2012 ACCOMPLISHMENTS



7. Introduced draft versions of
 - a) the CVPIA Data Acquisition and Management Plan, and
 - b) an Excel based tool to document Mission Critical Resource Data (MCRD) (used in conjunction with the DAMP).
8. Continued development of the CVPIA GIS Network Access Tool (GNAT). The GNAT will provide easy online access to CVPIA Documents and Reports.

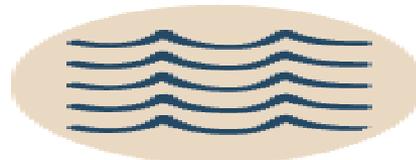
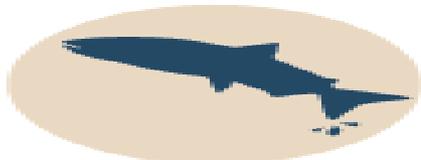


Central Valley Project Improvement Act



OVERVIEW OF FY 2013 PLANS

- Deploy the beta version of the CVPIA GIS Network Access Tool (GNAT) in the first half of FY2013.
- Issue the CVPIA Data Acquisition and Management Plan (DAMP) for comments.
- Update the CVPIA DAMP Excel tool and submit to CVPIA Data Stewards for testing and comments.



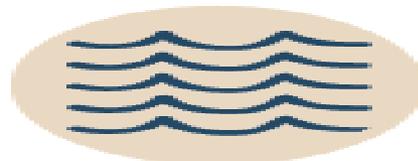
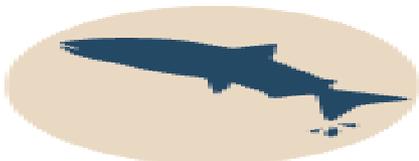
Central Valley Project Improvement Act



CVPIA GIS Network Access Tool (GNAT)



- Based on the CVPIA Document Database created in 2010.
- The GNAT provides easy online access to CVPIA documents and reports.
- A web based system that allows the user to see spatial relationships between CVPIA projects & documents.
- Accessible to program managers, scientists, and the public.
- Will allow new documents to be submitted for inclusion via the Web.
- Currently in Beta version with over 300 documents related to CVPIA programs and the Central Valley ecosystem.



Central Valley Project Improvement Act



CVPIA GIS Network Access Tool (GNAT)



CVPIA Document Library Home About login

Terrain



Select Filter:

Activity

Results:

- B1 - Anadromous Fish Restoration
- B1(b) - Instream Flo
- B10 - Red Bluff Diversion Dam
- B11 - Coleman Fish Hatchery
- B12 - Clear Creek Restoration

	Title	Author
<input type="button" value="Get Document"/>	Demonstration Project to Test a New Interdisciplinary Approach to Rehabilitating Salmon Spawning Habitat in the Central Valley - Final Report	UC Davis
<input type="button" value="Get Document"/>	Geomorphic Assessment of Butte Creek (zipped)	Fish and Wildlife

Local intranet | Protected Mode: Off 125%

GNAT Graphical User Interface (GUI)





CVPIA GIS Network Access Tool (GNAT)



The screenshot displays the CVPIA Document Library interface. The main map shows the Sacramento River basin with several blue circles highlighting specific locations. The document viewer on the left shows a technical report from the State of California Department of Fish and Game. The report title is "Results of the 2006 Cow Creek Video Station Fall-Run Chinook Salmon Escapement". Below the title is a photograph of a video station with salmon. The author is Douglas Killam, and the report is part of the Sacramento River Salmon and Steelhead Assessment Project (SRSSAP), Technical Report No. 07-1, dated 2007. The map interface includes a "Select Filter" dropdown set to "Activity" and a list of results: B1 - Anadromous Fish Restoration, B1(b) - Instream Flo, B10 - Red Bluff Diversion Dam, B11 - Coleman Fish Hatchery, and B12 - Clear Creek Restoration. The browser address bar shows the URL "localhost:52878/CVPIATestPage.aspx#/Home".

Example of document retrieval

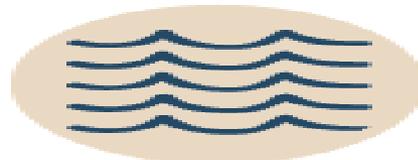
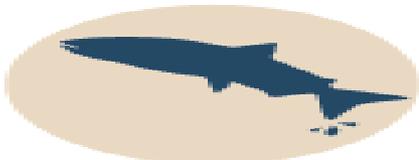




CVPIA Data Acquisition & Management Plan (DAMP) Excel Tool



- The CVPIA DAMP Excel tool will be updated and submitted to CVPIA Data Stewards for testing and comments.
- The Excel spreadsheet will allow all data sets to be documented in a consistent manner throughout the CVPIA Program.
- Consistent documentation will allow the information to be entered into databases such as Access or web-based systems.
- Information entered will include that needed for the creation of metadata.



Central Valley Project Improvement Act



CVPIA DAMP Excel Tool for documenting data



CVPIA_Project_DAMP_worksheet-14-November-2012.xlsx

	A	B	C	D	E
3	Program Overview, CVPIA Data Acquisition and Management Plan (DAMP)				
4	CVPIA Section	3406 (b)(3) & (d)(2) L4	← #1. Select the appropriate CVPIA Section		
5	CVPIA Program Name	Water Acquisition Program Incremental Level 4	Contact information last updated on		
6	Resource Area	Refuges	November 14, 2012		
7	Fiscal Year	2013	← #2. Select the appropriate Fiscal Year		
8		Program Lead	Program Co-Lead		
9	Name	Tim Rust	Dale Garrison		
10	Agency	BOR	FWS		
11	Street 1	2800 Cottage Way	2800 Cottage Way		
12	Street 2	MP-410	W-2606		
13	City, State, Zip	Sacramento, CA 95825	Sacramento, CA 95825		
14	Phone	(916) 978-5516	(916) 414-6728		
15	e-mail	trust@usbr.gov	Dale_garrison@fws.gov		
16	Acronym	WAP-L4			
17	Data Overview (types of data & methods)	collected data the best we can		← #3. The information here is a general discussion of the various types of data that are collected under this specific program.	
19	Geographic boundaries of the entire Program area (decimal degrees, longitude is negative). (NOTE: this is not necessarily the PROJECT area. The Project area will be within the Program area.)				
20	Northernmost Latitude of area		42.00		
21	Southernmost Latitude of area		40.00		
22	Westernmost Longitude of area		-124.00		
23	Easternmost Longitude of area		-120.00		
24			← #4. Define the Program area		
14	Read ME DRAFT Program Overview Program Data Sets DMP-0_FY20xx DMP Instructions Supplemental Information RelatedDataSets				

Background & Summary

Overview of Program

List of Data Sets

Template for individual sets

Instructions for Template

Additional Info

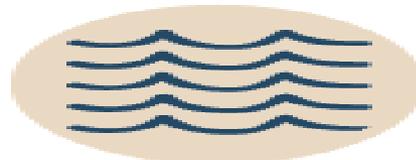
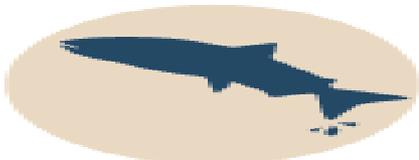
Related Data Sets



CVPIA Data Acquisition & Management Plan (DAMP) Excel Tool



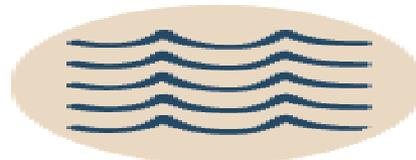
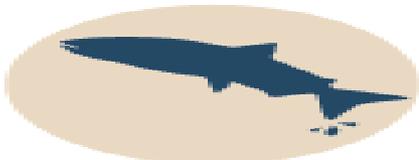
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Central Valley Project Improvement Act



QUESTIONS ???



Central Valley Project Improvement Act