

Annual Charter Report

General:

Title	Description
b12 Clear Creek Program Management	The (b)(12) program management is comprised of administrative and technical support from BOR, FWS, CDFW, and CDWR.

Authority:

Provision	Percentage	Comments
(b)(12)	100	

No Location IDs Listed

Watershed(s):

Watershed Name
Clear Creek

Schedule:

Funding Begins	Benefits Begin	Funding Complete
10/1/2014	10/1/2014	9/30/2015

Benefit(s):

Metric	Value	Units	Comment
c1: Restore and maintain fish populations	0	N/A	Program management supports and manages the Clear Creek Restoration Program
b1: Contribute towards Priority Actions	0	N/A	Program management supports CVP OCAP RPA actions.

Deliverable(s):

Date	Title
5/17/2014	BOR Lead
5/17/2014	FWS Co-Lead
5/17/2014	CDFW Program Support
5/17/2014	CDWR Program Support
5/17/2014	BOR Administrative Support
5/17/2014	FWS Administrative Support

Program Priority:

Rank	Comment
1	This is a high priority charter

Estimated Cost(s):		
Fiscal Year	Fund	Total
2015	CVPRF	\$187,455
2015	SIK	\$48,503
2015	WRR	\$23,739
2016	CVPRF	\$103,674
2016	SIK	\$47,090
2016	WRR	\$99,016

Final Total
\$509,477

Partners:
Partner Name
CDFW
CDWR

No Related Programs Listed

Narrative:

Narrative Description

This charter covers the staffing costs of BOR and FWS personnel that are directly involved in the day-to-day business activities of the CVPIA (b)(12) Clear Creek Restoration program. The categories of staffing support are:

Program Lead (BOR) and Co-Lead (FWS), Administrative Regional Staff support (BOR and FWS), CDFW technical support, and CDWR technical support.

Risk Management:		
Risk Description	Likelihood	Risk Impact
Program Management diminished	1	3
Funding reduction	2	3

Data Management:

Description

The b12 Program Managers maintain related information in the Bureau of Reclamations Northern California Area Office, and the U.S. Fish and Wildlife Office in Red Bluff, CA

The financial information is maintained in the Reclamations Mid-Pacific regional office in Sacramento, CA, and the U.S. Fish and Wildlife Services regional office, in Sacramento, CA. State of California Cost-share information is maintained in their respective regional offices, and in their local (Redding, CA, and Red Bluff, CA) field offices.

Year	Activity			Activity Description		
2015	Administration					
Resource	Agency	Resource Type	FTE	Total	Fund	Description
BOR Administrative Support	BOR	Staff Position	0.02			WRR
CDW Technical Support to the CCTT	DWR	In-Kind Service Staff	0.06			SIK
DWR Technical Advisor	DWR	In-Kind Service Staff	0.04			SIK
BOR Acquisition Services	BOR	Staff Position	0.04			WRR
CDFW Technical Advisor	DFW	In-Kind Service Staff	0.03			SIK
CDFW Technical Support to the CCTT	DFW	In-Kind Service Staff	0.06			SIK
FWS Co-Lead	FWS	Staff Position	0.42			CVPRF
BOR Lead	BOR	Staff Position	0.42			CVPRF
BOR Contracting Services	BOR	Staff Position	0.04			WRR

Year	Activity			Activity Description		
2016	Administration					
Resource	Agency	Resource Type	FTE	Total	Fund	Description
CDWR Technical Support to CCTT	DWR	In-Kind Service Staff	0.06			SIK
CDFW Technical Advisor	DFW	In-Kind Service Staff	0.03			SIK
CDFW Technical Support to CCTT	DFW	In-Kind Service Staff	0.06			SIK
Administration, Acquisition, and Contracting	BOR	Staff Position	0.10			WRR
BOR Lead	BOR	Staff Position	0.40			WRR
CDWR Technical Advisor	DWR	In-Kind Service Staff	0.04			SIK
FWS Co-Lead	FWS	Staff Position	0.42			CVPRF

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General:

Title	Description
b12 Clear Creek Flows	Develop and implement a comprehensive flow program for salmon and steelhead in Clear Creek

Authority:

Provision	Percentage	Comments
(b)(12)	100	

Location ID(s):

Latitude	Longitude
40.597572	-122.53826

Watershed(s):

Watershed Name
Clear Creek

Schedule:

Funding Begins	Benefits Begin	Funding Complete
10/1/2014	10/1/2014	9/30/2015

Benefit(s):

Metric	Value	Units	Comment
b12: Variable flow target	0	acre-feet	
b12: Water Temperature Target	0	degrees	Target incorporates the number of days exceeding target
b12: Water Temperature Target	0	cfs	Need a CVPIA goal for channel maintenance flows: 4 successful re-operations within 10 years, with a minimum target of 3,250 cfs mean daily flow for one day, and an optimal target of 5,000 cfs for 3 days.

Deliverable(s):

Date	Title
4/4/2014	IFIM Synthesis report
4/4/2014	Operational Flow Management Plan Required by NMFS RPA #1.I.6
4/4/2014	Comprehensive Flow Plan Required by CVPIA Section 3406(b)12
4/4/2014	Channel Maintenance and Riparian Mangement Flow Recommendation
4/4/2014	Spring Attraction Flow Annual Proposal
4/4/2014	Adaptive Plan to Encourage Steelhead Anadromy within the Central Valley
4/4/2014	Water Temperature Model Incorporating Trinity River, Sacramento River and Clear Creek Operations

Program Priority:

Rank	Comment
2	Highest priority category for restoration actions

Estimated Cost(s):

Fiscal Year	Fund	Total
2015	CVPRF	\$0
2015	SIK	\$10,000
2016	CVPRF	\$0
2016	SIK	\$10,000

Final Total
\$20,000

Partners:

Partner Name

CDFW

NMFS

No Related Programs Listed

Narrative:

Narrative Description

CVPIA is required to "develop and implement a comprehensive program to provide flows to allow sufficient spawning, incubation, rearing, and outmigration for salmon and steelhead from Whiskeytown Dam' Flows and temperatures must be provided and managed through releases from Whiskeytown Dam on a year-round basis to support the different life stages of salmon and steelhead in Clear Creek'. The amounts of water, considering timing, magnitude, and duration, and water temperature are controlled to meet this goal. Clear Creek Program objectives include: 1) provide minimum instream flows that create habitat that is at least 90 percent of the maximum possible, 2) provide temperature control flows to meet Igo gage water temperature criteria including 60°F from June 1 through September 15, and 56°F from September 15 through October 31, 3) provide annual adult attraction flows that result in 67 percent of adult spring Chinook being distributed upstream of the Igo gage and all being distributed upstream of the segregation weir, and 4) provide additional channel maintenance flows of 3,250 to 6,000 cfs in 3 years out of 10, to create and maintain the habitats upon which anadromous salmonids depend.

NMFS OCAP RPA I.1.6 requires that 'Reclamation will, in conjunction with the Clear Creek Technical Team, assess whether Clear Creek flows shall be further adapted to reduce adverse impacts on spring-run and CV steelhead and report their findings and proposed operational flows to NMFS'. The Clear Creek technical team plans to draft plans for adaptive management of steelhead anadromy in the Central Valley. BOR and FWS activities under this charter will be funded under the Clear Creek Program Management charter.

Risk Management:

Risk Description	Likelihood	Risk Impact
Funding reductions	2	3

Data Management:

Description

Information for the charter including relevant protocols for understanding the information, will be permanently housed at Northern California Area Office of Reclamation and the Red Bluff Fish and Wildlife Office of the Service.

Year	Activity	Activity Description				
2015	Planning and Analysis	Planning stream flows and temperatures required by CVPIA and NMFS OCAP RPA's				
Resource	Agency	Resource Type	FTE	Total	Fund	Description
Fish Biologist	DFW	In-Kind Service Staff	1		SIK	Technical assistance in writing plans

Year	Activity	Activity Description				
2015	Planning and Analysis	Water temperature modeling for fisheries and water management.				
Resource	Agency	Resource Type	FTE	Total	Fund	Description
Modeler	BOR	Staff Position			CVPRF	Water temperature modeling to be performed by 3406(g) modeling program

Year	Activity	Activity Description				
2016	Planning and Analysis	Water temperature modeling for fisheries and water management.				
Resource	Agency	Resource Type	FTE	Total	Fund	Description
Modeler	BOR	Staff Position	0		CVPRF	Water temperature modeling to be performed by 3406(g) modeling program

Year	Activity	Activity Description				
2016	Planning and Analysis	Planning stream flows and temperatures required by CVPIA and NMFS OCAP RPA's				
Resource	Agency	Resource Type	FTE	Total	Fund	Description
Fish biologist	DFW	In-Kind Service Staff			SIK	Technical assistance in implementing plans

Annual Charter Report

General:

Title	Description
b12 Clear Creek McConnell Foundation	The BOR-McConnell Foundation water exchange contract provides substitute water to the McConnell Foundation. The water transfer costs for the substitute water are borne by the b12 Clear Creek Restoration program

Authority:

Provision	Percentage	Comments
(b)(12)	100	

No Location IDs Listed

Watershed(s):

Watershed Name
Clear Creek

Schedule:

Funding Begins	Benefits Begin	Funding Complete
10/1/2014	10/1/2014	9/30/2015

Benefit(s):

Metric	Value	Units	Comment
N/A	0	N/A	

No Deliverables Listed

Program Priority:

Rank	Comment
2	This program is a high priority due to the legal binding requirements of the water exchange contract.

Estimated Cost(s):

Fiscal Year	Fund	Total
2015	WRR	\$25,000
2016	WRR	\$15,000

Final Total
\$40,000

No Partners Listed

No Related Programs Listed

Narrative:

Narrative Description

Bureau of Reclamation and the McConnell Foundation entered into a water exchange contract on August 11, 2000. The contract provides for Reclamation to provide substitute water (up to 5,100 acre-feet, annually) to the Foundation. This contract was part of a larger settlement by Reclamation, Townsend Flat Water Ditch Company, The McConnell Foundation, Centerville Community Services District, and the California Department of Fish and Game (now CA. Dept. of Fish and Wildlife), which allowed for the removal of Saeltzer Dam from Clear Creek, and the modification of Townsends water right to divert water from Clear Creek.

The removal of Saeltzer Dam and the water exchange contract made Reclamation responsible for providing substitute water to the Foundation.

The CVPIA (b)(12) Clear Creek Restoration Program pays for the costs associated with this substitute contract, on a per acre-foot basis. The default value of the costs projected by the b12 program is \$5,000 per year. Actual costs may vary annually, with no costs incurred in some years.

This is a legal contract, and as such there are no benefits and no deliverables.

Risk Management:

Risk Description	Likelihood	Risk Impact
Unexpected change in water demand	2	3
Lower water demand	1	1
higher water demand	1	3
Average water demand	3	1
Funding reductions	2	3

Data Management:

Description

The Annual Work Plan information developed by this Charter will be housed at Reclamations Northern California Area Office (Shasta Dam, CA) and the U.S. Fish and Wildlife Services Red Bluff Fish and Wildlife Office (Red Bluff, CA).

The actual acre-feet volumes of water exchanged under the conditions of the contract, the cost of the exchange, and associated data/information is housed at the Bureaus Mid-Pacific Regional Office MP-3600 Division of Financial Management.

Year	Activity	Activity Description				
2015	Administration	Program Managers plan for water transfer costs for the current and future planning years.				
Resource	Agency	Resource Type	FTE	Total	Fund	Description
McConnell Foundation Water Transfer Agreement	BOR	Contracts and Agreements Contract			WRR	Estimated water transfer costs for FY 2015.

Year	Activity	Activity Description				
2016	Administration	Program Managers plan for water transfer costs for the current and future planning years.				
Resource	Agency	Resource Type	FTE	Total	Fund	Description
McConnell Foundation water transfer contract	BOR	Contracts and Agreements Contract			WRR	Estimated water transfer cost of \$15,000

Annual Charter Report

General:

Title	Description
b12 Clear Creek Channel Maintenance Flows	Plan and implement channel maintenance flows to create and maintain habitat for salmon and steelhead

Authority:

Provision	Percentage	Comments
(b)(12)	100	

Location ID(s):

Latitude	Longitude
40.597572	-122.53826

Watershed(s):

Watershed Name
Clear Creek

Schedule:

Funding Begins	Benefits Begin	Funding Complete
10/1/2014	10/1/2014	9/30/2015

Benefit(s):

Metric	Value	Units	Comment
N/A	0	N/A	Need a CVPIA goal for channel maintenance flows: 4 successful re-operations within 10 years, with a minimum target of 3,250 cfs mean daily flow for one day, and an optimal target of 5,000 cfs for 3 days.

Deliverable(s):

Date	Title
5/28/2014	Operational Toolkit
5/28/2014	Approval for pilot program from MP-RO, Dam Safety and Denver TSC
5/28/2014	Revised Safety of Dams analysis
5/28/2014	Final 6 Technical Memos
5/28/2014	Geomorphic evaluation report

Program Priority:

Rank	Comment
2	

Estimated Cost(s):

Fiscal Year	Fund	Total
2015	CVPRF	\$110,000
2016	CVPRF	\$208,767

Final Total
\$318,767

Partners:
Partner Name
CDFW
CDWR

No Related Programs Listed

Narrative:

Narrative Description

The construction of Whiskeytown Dam in 1960 blocked the natural movement of sediment, thereby reducing the amount of gravel for salmon and steelhead spawning habitat. Additionally, stream flows below Whiskeytown Dam have been highly modified and the regularly recurring higher flow level events have been curtailed. Stream flow magnitudes sufficient to promote geomorphic processes no longer occur as frequently prior to dam construction. The actions of this charter will promote more normative geomorphic processes to occur, resulting in channel maintenance flows, channel meander, mobilization of armored banks, gravel movement and re-deposition, and mobilization of fine sediments out of the system.

This charter is to re-operate Whiskeytown Dam to produce higher stream flows in Clear Creek, designed to create and maintain spawning and rearing habitat for salmon and steelhead. This action is required under NMFS OCAP BO RPA I.1.2. Costs are shared with a DFW ERP agreement with FWS for a pilot re-operation. This charter is separate from the Clear Creek flow charter which includes additional flow elements because 1) this charter is largely already funded by the State, 2) this charter has a separate and longer timeline from the Flow charter, 3) this charter has in the past been seen as a separate and stand alone project.

Risk Management:

Risk Description	Likelihood	Risk Impact
Funding reductions	2	3
Unanticipated stream impacts	1	2

Data Management:

Description
Information for the charter including relevant protocols for understanding the information, will be permanently housed at Northern California Area Office of Reclamation and the Red Bluff Fish and Wildlife Office of the Service.

Year	Activity	Activity Description				
2015	Monitoring	Geomorphic and biological monitoring before, during and after flow events will be used to evaluate if flow events are achieving desired outcomes.				
Resource	Agency	Resource Type	FTE	Total	Fund	Description
Geomorphic monitoring	FWS	Contracts and Agreements Cooperative Agreement			CVPRF	Post flow event monitoring of physical changes in stream and floodplain. This is partial funding, full funding required is \$150,577.

Year	Activity	Activity Description				
2015	Planning and Analysis	Forecasting tools will be developed for BOR re-operation of Whiskeytown Dam.				
Resource	Agency	Resource Type	FTE	Total	Fund	Description
Agreement	FWS	Contracts and Agreements Cooperative Agreement			CVPRF	Development of forecasting tools for BOR re-operation of Whiskeytown.

Year	Activity	Activity Description				
2016	Monitoring	Geomorphic and biological monitoring before, during and after flow events will be used to evaluate if flow events are achieving desired outcomes.				
Resource	Agency	Resource Type	FTE	Total	Fund	Description
Avian monitoring	FWS	Contracts and Agreements Contract			CVPRF	Avian monitoring to evaluate the impacts of flow program on special status species.
Geomorphic monitoring	FWS	Contracts and Agreements Contract			CVPRF	Post flow-event monitoring of physical changes in stream and floodplain
Riparian vegetation monitoring	FWS	Contracts and Agreements Contract			CVPRF	Riparian vegetation monitoring to evaluate benefit of flows on reducing encroachment

Annual Charter Report

General:

Title	Description
b12 Lower Clear Cr Aquatic Habitat and Mercury Abatement Project	Mercury removal from historic mining tailings provides a long-term gravel supply to enhance spawning habitat in Clear Creek

Authority:

Provision	Percentage	Comments
(b)(12)	100	

Location ID(s):

Latitude	Longitude
40.490774	-122.48994

Watershed(s):

Watershed Name
Clear Creek

Schedule:

Funding Begins	Benefits Begin	Funding Complete
10/1/2014	10/1/2014	9/30/2015

Benefit(s):

Metric	Value	Units	Comment
b12: Stream Channel restored (miles)	0	miles	

No Deliverables Listed

Program Priority:

Rank	Comment
2	

Estimated Cost(s):

Fiscal Year	Fund	Total
2015	SC	\$2,250,000
2016	SC	\$2,250,000
2017	CVPRF	\$252,645

Final Total
\$4,752,645

Partners:	
Partner Name	
CDFW	
BLM	
Western Shasta Resource Conservation District	
Western Shasta Resource Conservation District	

Related Programs:	
Program Name	
CALFED	

Narrative:	
Narrative Description	
<p>This project, formally known as the Lower Clear Creek Aquatic Habitat and Mercury Abatement Project, involves the reclamation and sequestration of mercury laden historic mining tailings along the streambanks of Clear Creek, CA. The mining tailings contain fine sediments which contained elemental mercury. The project will remove the sediment, and the sediments will be contained in a clay-lined spoils pit, away from the 100-year flood plain. The remaining gravel will be stockpiled for future use in Clear Creek spawning gravel augmentation projects.</p> <p>Project implementation will begin in FY 2015, and continue through FY 2016. The project will be monitored in 2017, in accordance with regulatory agency monitoring requirements</p>	

Risk Management:		
Risk Description	Likelihood	Risk Impact
Funding reductions	2	3

Data Management:	
Description	
<p>The information developed by this Charter will be housed at Reclamations Northern California Area Office (Shasta Dam, CA), the U.S. Fish and Wildlife Services Red Bluff Fish and Wildlife Office (Red Bluff, CA), the Bureau of Land Management Field Office in Redding, CA, and at the California Department of Fish and Wildlife Regional Headquarters in Redding, CA.</p>	

Year	Activity			Activity Description		
2015	Implementation					
Resource	Agency	Resource Type	FTE	Total	Fund	Description
Ecosystem Restoration Program Funding	DFW	Cash Cost Share Agreement			SC	1st year of implementation

Year	Activity			Activity Description		
2016	Implementation					
Resource	Agency	Resource Type	FTE	Total	Fund	Description
Ecosystem Restoration Program Funding	DFW	Cash Cost Share Agreement			SC	2nd year of implementation

Year	Activity			Activity Description		
2017	Implementation					
Resource	Agency	Resource Type	FTE	Total	Fund	Description
Post-project fish habitat monitoring	FWS	Staff Position	0.35		CVPRF	Monitoring to evaluate changes in stream habitat resulting from project actions.
Geomorphic monitoring (post-project evaluations)	Local	Contracts and Agreements Contract	0.65		CVPRF	Post-project geomorphic monitoring and evaluation
Post-project monitoring and evaluation	BOR	Contracts and Agreements Contract			CVPRF	Project monitoring per regulatory agency requirements

Annual Charter Report

General:

Title	Description
b12 Clear Creek Adaptive Management	Use monitoring and evaluation to improve restoration actions.

Authority:

Provision	Percentage	Comments
(b)(12)	100	

Location ID(s):

Latitude	Longitude
40.506617	-122.39623

Watershed(s):

Watershed Name
Clear Creek

Schedule:

Funding Begins	Benefits Begin	Funding Complete
10/1/2014	10/1/2014	9/30/2015

Benefit(s):

Metric	Value	Units	Comment
b12: Spawning gravel placed annually (tons)	25000	tons	
b12: Area of spawning hab created annually	10000	square feet	This metric was originally a target of 3xx,xxx square feet, not an annual target. Need to re-work metric.
b12: Stream Channel restored (miles)	2	miles	
b12: Variable flow target	0	cfs	Variable
b12: Water Temperature Target	0	degrees	Metric water temperature target units should be degrees + less than target + numbers of days above 1.
b1: Contribute towards Priority Actions	1	completion	Metric water temperature target units should be degrees + less than target + numbers of days above 1.

Deliverable(s):	
Date	Title
5/28/2014	Recomendation to B2 Interagency Team
5/28/2014	Report to OCAP Science Panel
5/28/2014	Presentation to Clear Creek Technical Team
5/28/2014	Annual report of juvenile spring Chinook production estimates
5/28/2014	Annual report of spawning habitat estimates for fall and spring Chinook
5/28/2014	Annual report of geomorphic monitoring or spawning gravel evaluation
5/28/2014	Recomendation to Sacramento River Temperature Task Group
5/28/2014	Discussion with CVPIA Fisheries Program Managers and staff
5/28/2014	Analysis, design permitting, monitoring and outreach of stream channel restoration projects

Program Priority:	
Rank	Comment
2	

Estimated Cost(s):		
Fiscal Year	Fund	Total
2015	CVPRF	\$236,970
2016	CVPRF	\$244,075

Final Total
\$481,046

Partners:
Partner Name
CDWR
NMFS
BLM
NPS
CDFW

Related Programs:
Program Name
EWP
CALFED

Narrative:

Narrative Description

Adaptive management will be used to evaluate and improve restoration actions. Monitoring activities funded through other sources will be used in addition to the following actions in 2015 and 2016.

Estimates of juvenile spring Chinook production using rotary screw trapping are used to evaluate and guide flow management. CVP flow management is used to reduce summer water temperatures in Clear Creek. Warm water temperatures can lead to mortality of early life stages of Chinook, which is reflected in the juvenile production estimates. Production estimates can also reflect and guide the success of habitat restoration projects and can identify the negative impacts of fires, landslides and poor resources management.

Spawning area mapping (for fall Chinook salmon) and potential spawning area mapping (for spring Chinook salmon and steelhead), are used to evaluate spawning habitat creation and maintenance. Spawning area mapping is used to evaluate the effectiveness of gravel injections, stream channel restoration and flow management. These studies provide the metrics for the CVPIA PAR goal for square feet of spawning habitat restoration. Gravel effectiveness evaluations are required in the NMFS OCAP RPA section I.1.3.

Bulk sediment sampling is used to evaluate spawning gravel quality. Sediment size information can indicate if too much deleterious fine sediment is in salmon spawning area, or if the correct size gravel is being provided by gravel injections, stream channel restoration, and flow management. Excessive fine sediments can be managed through erosion control, channel maintenance flows, pulse flows, and reduction in fuels for wildfire. Gravel effectiveness evaluations are required in the NMFS OCAP RPA section I.1.3.

No Risks Listed

Data Management:

Description

Information for the charter including relevant protocols for understanding the information, will be permanently housed at Northern California Area Office of Reclamation and the Red Bluff Fish and Wildlife Office of the Service.

Year	Activity	Activity Description				
2015	Monitoring	Salmon and steelhead monitoring				
Resource	Agency	Resource Type	FTE	Total	Fund	Description
Fish Biologist	FWS	Staff Position	0.47		CVPRF	Estimate juvenile spring Chinook production using rotary screw trap
Fish Biologist	FWS	Staff Position	0.36		CVPRF	Spawning area mapping for fall Chinook salmon and potential spawning area mapping for spring Chinook salmon and steelhead. Evaluates program spawning gravel goals.
Fish Biologist	FWS	Staff Position	0.13		CVPRF	Bulk sediment sampling to evaluate spawning gravel quality.

Year	Activity	Activity Description				
2016	Monitoring	Salmon and steelhead monitoring				
Resource	Agency	Resource Type	FTE	Total	Fund	Description
Fish Biologist	FWS	Staff Position	0.47		CVPRF	Estimate juvenile spring Chinook production using rotary screw trap
Fish biologist	FWS	Staff Position	0.36		CVPRF	Spawning area mapping for fall Chinook salmon and potential spawning area mapping for spring Chinook salmon and steelhead. Evaluates program spawning gravel goals.
Fish biologist	FWS	Staff Position	0.13		CVPRF	Bulk sediment sampling to evaluate spawning gravel quality.

Annual Charter Report

General:	
Title	Description
b12 Clear Cr Spawning Gravel Injection	Augment spawning gravel into Clear Creek to provide spawning habitat for anadromous salmonids and to promote geomorphic processes.

Authority:		
Provision	Percentage	Comments
(b)(12)	100	

Location ID(s):	
Latitude	Longitude
40.4987	-122.42577

Watershed(s):
Watershed Name
Clear Creek

Schedule:		
Funding Begins	Benefits Begin	Funding Complete
10/1/2014	9/30/2015	

Benefit(s):			
Metric	Value	Units	Comment
b12: Spawning gravel placed annually (tons)	25000	tons	
b12: Area of spawning hab created annually	0	square feet	

Deliverable(s):	
Date	Title
5/28/2014	Project Completion Report

Program Priority:	
Rank	Comment
2	Program Priority Comments:

Estimated Cost(s):		
Fiscal Year	Fund	Total
2015		\$260,000
2016	CVPRF	\$675,000

Final Total
\$935,000

Partners:	
Partner Name	
NPS	
CDFW	
CDWR	
BLM	

No Related Programs Listed

Narrative:

Narrative Description

The CVPIA (b)(12) program augments gravel in Clear Creek to meet requirements of the Central Valley Project Improvement Act (CVPIA), Section 3406 (b)(12) and the CALFED Bay-Delta Ecosystem Restoration Program, both of which have identified the lack of instream spawning gravel as a significant factor limiting anadromous fish production in Clear Creek. Since 1996, 57 gravel injection projects have added approximately 172,335 tons of spawning gravel into Clear Creek.

The U.S. Fish and Wildlife Service has documented that gravel from these injections have created new spawning habitat for all runs of Chinook salmon (*Oncorhynchus tshawytscha*) and steelhead (*O. mykiss*). In particular, monitoring has shown that gravel added to Clear Creek has created spawning habitat that is currently used by spring-run Chinook salmon, and steelhead; both are federally listed species under the Endangered Species Act.

Therefore, the purpose of the projects is to improve spawning habitat conditions for anadromous salmonid species, including the Central Valley fall-run and late fall-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead. The project will also help to restore sediment transport processes, such as coarse bedload transport continuity and sediment deposition on floodplain surfaces.

Reclamation proposes to place clean, washed gravel, approximately ¼ to 5 inches in diameter in various project sites. The sources of the gravel will be from locations outside the active stream channels, and the gravel will have a CalTrans cleanliness value of 85 or higher, and be completely free of oils or any other petroleum based materials, clay debris, and other types of organic matter. The injection sites may change annually, to meet restoration objectives.

Planning, acquisition/contracting costs, environmental compliance actions are all performed by BOR and FWS staff, and are supported under the 'Program Management' charter.

Risk Management:

Risk Description	Likelihood	Risk Impact
Funding reductions	2	3
Dry climatic conditions	2	3
High fuel costs	3	2

Data Management:

Description

The information developed by this Charter will be housed at Reclamations Northern California Area Office (Shasta Dam, CA) and the U.S. Fish and Wildlife Services Red Bluff Fish and Wildlife Office (Red Bluff, CA).

Year	Activity	Activity Description				
2015	Implementation	2015 Gravel Projects - \$260,000 estimated budget for 10,000 Tons @26.00/ton				
Resource	Agency	Resource Type	FTE	Total	Fund	Description
Add 10,000 tons of gravel at 5 locations	BOR	Contracts and Agreements Contract				Gravel projects to add 10,000 tons in 2015

Year	Activity	Activity Description				
2016	Implementation	2016 Gravel Projects - \$675,000 estimated budget for 25,000 tons @27.00/ton				
Resource	Agency	Resource Type	FTE	Total	Fund	Description
Add 25,000 tons of gravel at 8 locations	BOR	Contracts and Agreements Contract			CVPRF	Gravel projects to add CVPIA target of 25,000 tons

Annual Charter Report

General:	
Title	Description
b12 Clear Creek Stream Channel Restoration	Improve stream channel, floodplain and associated habitats to provide increased spawning and rearing habitat for salmonids

Authority:		
Provision	Percentage	Comments
(b)12	100	

No Location IDs Listed

Watershed(s):
Watershed Name
Clear Creek

Schedule:		
Funding Begins	Benefits Begin	Funding Complete
10/1/2014	10/1/2014	9/30/2015

Benefit(s):			
Metric	Value	Units	Comment
b12: Area of spawning hab created annually	347288	square feet	Need update spawning area mapping survey to evaluate metric.
b12: Stream Channel restored (miles)	2	miles	Projects currently under consideration would increase metric value

Deliverable(s):	
Date	Title
5/28/2014	Phase 3C designs and bid documents
5/28/2014	Inventory riparian encroachment and restoration opportunities
5/28/2014	Phase 3C Environmental documents and permits
5/28/2014	Environmental documents and permits for Gorge Spawning Curve

Program Priority:	
Rank	Comment
2	Program Priority Comments:

Estimated Cost(s):		
Fiscal Year	Fund	Total
2015	CVPRF	\$74,369
2015	WRR	\$150,000
2016	CVPRF	\$346,585
2016	WRR	\$50,000
2017	SIK	\$3,000,000
2018	CVPRF	\$125,000

Final Total
\$3,745,954

Partners:
Partner Name
CDFW
CDWR
BLM
Western Shasta Resource Conservation District
NPS

No Related Programs Listed

Narrative:

Narrative Description

The Stream Channel Restoration project is a construction project designed to eliminate gravel extraction pits, restore a functional floodplain, and increase salmonid spawning and juvenile rearing habitat in a two-mile section of creek significantly degraded by gold and aggregate mining. Four phases of the project are complete including: Phase 1 in 1998, Phase 2A in 1999, Phase 2B in 2001, Phase 3A in 2002, Redding Bar in 2003 and Phase 3B in 2008. Phases 3A and 3B created new stream channels and the other phases filled gravel extraction pits, created and vegetated floodplain habitat and reduced most of the potential for fish stranding in the project area. ERP provides funding for Phase 3B, with roadwork underway during FY 2013, and riparian stabilization work currently scheduled for implementation in FY 2014. Phase 3C would create floodplain and stream channels in the lowest part of the reach. On-going analyses of geomorphic function, fish and wildlife limiting factors and priorities, mercury contamination, landownership, and cost-effectiveness, plus an inventory of other restoration opportunities in the watershed, is expected to result in restoration recommendations for Phase 3C in FY 2015. Estimated cost for Phase 3C is \$3.5M. Additional stream channel restoration projects to be considered for implementation include Paige Bar floodplain lowering (\$200,000), Gorge Spawning Curve channel realignment (\$100,000), and Shea Property berm removal.

Risk Management:		
Risk Description	Likelihood	Risk Impact
Lack of funding for construction phase (\$3M)	1	3
Unable to acquire private property	1	2

Data Management:

Description

Information for the charter including relevant protocols for understanding the information, will be permanently housed at Northern California Area Office of Reclamation and the Red Bluff Fish and Wildlife Office of the Service.

Year	Activity	Activity Description				
2015	Acquisition	Acquire small private property in Phase 3C which prevents construction.				
Resource	Agency	Resource Type	FTE	Total	Fund	Description
Purchase real estate property	BOR	Contracts and Agreements Grant			CVPRF	

Year	Activity	Activity Description				
2015	Design	In FY 2015 obtain designs and bid documents for construction of Phase 3C.				
Resource	Agency	Resource Type	FTE	Total	Fund	Description
Design contract	BOR	Contracts and Agreements Contract			WRR	Contract for design of Phase 3C project

Year	Activity	Activity Description				
2015	Implementation	Design, permit and build Gorge Spawning Curve channel realignment project.				
Resource	Agency	Resource Type	FTE	Total	Fund	Description
Design and permit contract	BOR	Contracts and Agreements Contract			WRR	Designs and permits for Gorge Spawning Curve channel realignment project

Year	Activity	Activity Description				
2015	Inventory/Reconnaissance	Inventory riparian encroachment and restoration opportunities to identify and prioritize potential restoration projects.				
Resource	Agency	Resource Type	FTE	Total	Fund	Description
Fish Biologist	FWS	Staff Position	0.20		CVPRF	Survey creek for riparian encroachment and restoration opportunities.

Year	Activity	Activity Description				
2016	Environmental Compliance and Permitting	In FY 2016 obtain environmental documents and permits for Phase 3C.				
Resource	Agency	Resource Type	FTE	Total	Fund	Description
Permitting contract	BOR	Contracts and Agreements Contract			CVPRF	Environmental document and permits for Phase 3C restoration project

Year	Activity	Activity Description				
2016	Implementation	Design, permit and build Gorge Spawning Curve channel realignment project.				
Resource	Agency	Resource Type	FTE	Total	Fund	Description
Implement project	BOR	Contracts and Agreements Contract			WRR	Implement project

Year	Activity	Activity Description				
2016	Implementation	Fund permitting and construction of Paige Bar Floodplain Lowering Project.				
Resource	Agency	Resource Type	FTE	Total	Fund	Description
Design and	BOR	Contracts and			CVPRF	Conceptual design provided under

Annual Charter Report

General:

Title	Description
b12 Replace Oak Bottom Temperature Control Curtain	Improve water temperatures in Clear Creek, Trinity and Sacramento R. with new curtain in Whiskeytown

Authority:

Provision	Percentage	Comments
(b)(12)	100	

Location ID(s):

Latitude	Longitude
40.646443	-122.58972

Watershed(s):

Watershed Name
Trinity River
Sacramento River Upper Mainstem
Clear Creek

Schedule:

Funding Begins	Benefits Begin	Funding Complete
10/1/2014	10/1/2014	9/30/2015

Benefit(s):

Metric	Value	Units	Comment
N/A	56	degrees	For winter Chinook spawning and incubation in the Sacramento River
b12: Water Temperature Target	56	degrees	For spring Chinook spawning and incubation in Clear Creek
b12: Water Temperature Target	60	degrees	For spring Chinook holding in Clear Creek
N/A	56	degrees	For salmon spawning and incubation in the Trinity River

Deliverable(s):

Date	Title
5/28/2014	Designs and bid documents for new Oak Bottom Temperature Control Curtain
5/28/2014	Environmental compliance and permitting for new Oak Bottom Temperature Control Curtain
5/28/2014	New Oak Bottom Temperature Control Curtain
5/28/2014	Evaluation of New Oak Bottom Temperature Control Curtain

Program Priority:

Rank	Comment
2	Important for 3 high priority watersheds with 4 listed stocks

Estimated Cost(s):		
Fiscal Year	Fund	Total
2015		\$0
2016	WRR	\$114,000
2017	WRR	\$1,500,000
2018	WRR	\$0

Final Total
\$1,614,000

Partners:	
Partner Name	
CDFW	
NMFS	

No Related Programs Listed

Narrative:

Narrative Description

Whiskeytown Lake receives cold water from the Trinity River basin, through the Francis Carr Tunnel. The Oak Bottom Curtain (OBC) was designed to minimize the mixing of the colder water with the warmer surface water of Whiskeytown Lake, and also direct the flow of the colder water such that releases through the Whiskeytown Dam outlets benefits salmon and steelhead in Lower Clear Creek.

The OBC is in serious disrepair and no longer effective in serving its intended purpose.

Risk Management:		
Risk Description	Likelihood	Risk Impact
Replacement will not work	1	2

Data Management:

Description

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Year	Activity	Activity Description				
2015	Planning and Analysis	Evaluate costs and benefits of replacement of temperature control curtain.				
Resource	Agency	Resource Type	FTE	Total	Fund	Description
Engineer	BOR	Staff Position				Un-funded need: evaluate costs and benefits of temperature control curtain replacement.

Year	Activity	Activity Description				
2016	Acquisition	Obtain contracts for permitting, design, and construction of replacement temperature control curtain, if not provided in house.				
Resource	Agency	Resource Type	FTE	Total	Fund	Description
Contracting	BOR	Staff Position	0.10		WRR	Contracting

Year	Activity	Activity Description				
2016	Design	Provide designs and bid documents for new temperature control curtain				
Resource	Agency	Resource Type	FTE	Total	Fund	Description
Design contract for temperature control curtain	BOR	Contracts and Agreements Contract			WRR	Could this be done in-house?

Year	Activity	Activity Description				
2016	Environmental Compliance and Permitting	Obtain environmental compliance and permitting documents				
Resource	Agency	Resource Type	FTE	Total	Fund	Description
Contract for permitting	BOR	Contracts and Agreements Contract			WRR	Could this be done in-house?

Year	Activity	Activity Description				
2017	Implementation	Replace temperature control curtain				
Resource	Agency	Resource Type	FTE	Total	Fund	Description
Contract to replace curtain	BOR	Contracts and Agreements Contract			WRR	

Year	Activity	Activity Description				
2018	Monitoring	Evaluate new temperature control curtain to optimize its performance and insure that it is working as intended.				
Resource	Agency	Resource Type	FTE	Total	Fund	Description
Contract to evaluate project performance	BOR	Contracts and Agreements Contract			WRR	Could this be done in-house?