

INDEPENDENT PROGRAMS
CHARTERS APPENDIX B

For the
2017 ANNUAL WORK PLAN
PUBLIC FINAL

CENTRAL VALLEY PROJECT IMPROVEMENT ACT
Title XXXIV of public law 102-575

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HRP Protection, Restoration, & Captive Propagation Projects

Land Protection, Habitat Restoration, and Captive Propagation & Reintroduction Projects

Classification: Improvement, Habitat Acquisition

Location: , Central Valley Wide

Funding Years: 2016 - 2017

Benefits Start Year: 2016

Priority: 1 - Program Priority Comments:

Partners: No Data.

Related Programs: No Data.

Authority

<u>Provision</u>	<u>Percentage</u>	<u>Comment</u>
HRP (b)(1)	100.0%	

Metrics

<u>Name</u>	<u>Value</u>	<u>Units</u>	<u>Comment</u>
Number of acres of habitat protected	0	acres	Acres protected through fee title acquisition and/or conservation easement actions
Number of acres of habitat restored	0	acres	Acres restored through habitat restoration actions
Number of acres of habitat restored for SWRCB Decision 1641	0	acres	Acres restored through habitat restoration actions for D-1641.
Number of acres of habitat protected for SWRCB Decision 1641	0	acres	Acres protected through fee title acquisition and/or conservation easement actions for D-1641.
Number of Recovery actions implemented	0	number of actions	These actions will contribute towards recovery criteria goals.
Increases in population numbers from restoration activities	0	number of improvements	These actions will contribute towards recovery criteria goals.
Increases in various habitat types per acre	0	acres	Improvements in quantity of habitat types per acre from habitat restoration activities.
Increases in population numbers from captive propagation activities	0	number of improvements	These actions will contribute towards recovery criteria goals.

Deliverables

<u>Date</u>	<u>Title</u>
Sep. 2016	Protection actions completed
Sep. 2016	Restoration actions completed
Sep. 2016	Captive Propagation & Reintroduction actions completed

Narrative

Funded projects for improvement activities will include Land Protection (i.e., fee title acquisition and conservation easements), Habitat Restoration, and Captive Propagation and Reintroduction. Projects will be selected in January of each year. At least 50% of funds will go towards Land Protection projects.

Data Management

Information for this Charter, including all project files, will be permanently housed at BOR's Mid-Pacific Regional Office in Sacramento, and FWS's Pacific Southwest Regional Office in Sacramento. Additionally information may be found at the CVPCP/HRPs website at <http://www.usbr.gov/mp/cvpcp/>

Risks

<u>Risk</u>	<u>Likelihood</u>	<u>Impact</u>
Cannot predict content, quality, or quantity of proposals to be submitted	1	1
Availability of adequate funding	1	1

Cost Estimate

<u>Year</u>	<u>Fund</u>	<u>Total</u>	<u>BOR</u>	<u>FWS</u>
2017	CVPRF	\$1,134,782	\$652,666	\$482,116
2018	CVPRF	\$1,134,782	\$652,666	\$482,116
2019	CVPRF	\$1,134,782	\$652,666	\$482,116

Total Cost: \$3,404,346

Activities and Resources

<u>Type</u>	<u>Total</u>	<u>FTE</u>	<u>Agency</u>	<u>Fund</u>	<u>Description</u>
2017					
<i>Acquisition - HRP-Funded Land Protection Projects</i>					
Agreement	\$326,333	n/a	BOR	CVPRF	BOR-Funded Land Protection Projects. Specific Projects will be selected in January 2017.

Type	Total	FTE	Agency	Fund	Description
Agreement	\$241,058	n/a	FWS	CVPRF	FWS-Funded Land Protection Projects. Specific projects will be selected in January 2017.
<i>Implementation - HRP-Funded Captive Propagation & Reintroduction Projects</i>					
Agreement	\$120,529	n/a	FWS	CVPRF	FWS-Funded Captive Propagation & Reintroduction Projects. Specific projects will be selected in January 2017.
Agreement	\$163,166	n/a	BOR	CVPRF	BOR-Funded Captive Propagation & Reintroduction Projects. Specific projects will be selected in January 2017.
<i>Implementation - HRP-Funded Habitat Restoration Projects</i>					
Agreement	\$163,167	n/a	BOR	CVPRF	BOR-Funded Habitat Restoration Projects. Specific projects will be selected in January 2017.
Agreement	\$120,529	n/a	FWS	CVPRF	FWS-Funded Habitat Restoration Projects. Specific projects will be selected in January 2017.
2018					
<i>Acquisition - HRP-Funded Land Protection Projects</i>					
Agreement	\$241,058	n/a	FWS	CVPRF	FWS-Funded Land Protection Projects. Specific projects will be selected in January 2018.
Agreement	\$326,333	n/a	BOR	CVPRF	BOR-Funded Land Protection Projects. Specific projects will be selected in January 2018.
<i>Implementation - HRP-Funded Habitat Restoration Projects</i>					
Agreement	\$163,167	n/a	BOR	CVPRF	BOR-Funded Habitat Restoration Projects. Specific projects will be selected in January 2018.
Agreement	\$120,529	n/a	FWS	CVPRF	FWS-Funded Habitat Restoration Projects. Specific projects will be selected in January 2018.
<i>Implementation - HRP-Funded Captive Propagation & Reintroduction Projects</i>					
Agreement	\$163,166	n/a	BOR	CVPRF	BOR-Funded Captive Propagation & Reintroduction Projects. Specific projects will be selected in January 2018.
Agreement	\$120,529	n/a	FWS	CVPRF	FWS-Funded Captive Propagation & Reintroduction Projects. Specific projects will be selected in January 2018.

<u>Type</u>	<u>Total</u>	<u>FTE</u>	<u>Agency</u>	<u>Fund</u>	<u>Description</u>
2019					
<i>Acquisition - HRP-Funded Land Protection Projects</i>					
Agreement	\$326,333	n/a	BOR	CVPRF	BOR-Funded Land Protection Projects. Specific projects will be selected in January 2019.
Agreement	\$241,058	n/a	FWS	CVPRF	FWS-Funded Land Protection Projects. Specific projects will be selected in January 2019.
<i>Implementation - HRP-Funded Captive Propagation & Reintroduction Projects</i>					
Agreement	\$163,166	n/a	BOR	CVPRF	BOR-Funded Captive Propagation & Reintroduction Projects. Specific projects will be selected in January 2019.
Agreement	\$120,529	n/a	FWS	CVPRF	FWS-Funded Captive Propagation & Reintroduction Projects. Specific Projects will be selected in January 2019.
<i>Implementation - HRP-Funded Habitat Restoration Projects</i>					
Agreement	\$163,167	n/a	BOR	CVPRF	BOR-Funded Habitat Restoration Projects. Specific projects will be selected in January 2019.
Agreement	\$120,529	n/a	FWS	CVPRF	FWS-Funded Habitat Restoration Projects. Specific projects will be selected in January 2019.

HRP Program Management and Compliance

Program Management and Environmental Compliance Requirements

Classification: Administration, Administration
 Location: , Central Valley Wide
 Funding Years: 2016 - 2017
 Benefits Start Year: 2016
 Priority: 1 - Program Priority Comments:
 Partners: No Data.
 Related Programs: No Data.
 Authority

<u>Provision</u>	<u>Percentage</u>	<u>Comment</u>
HRP (b)(1)	100.0%	

Metrics

<u>Name</u>	<u>Value</u>	<u>Units</u>	<u>Comment</u>
Number of Section 106 documents written	3	number of reports	Documents written for section 106 Historic Preservation Act compliance
Number of NEPA documents written	5	number of reports	Documents written for NEPA compliance
Number of ESA documents written	5	number of reports	Documents written for section 7 ESA compliance
Number of reports submitted	10	number of reports	Progress, Draft, and Final project reports submitted for funded projects
Number of projects selected	5	number of actions	Projects selected for funding by the HRP
Number of Grant and Inter/Intraagency Agreements written	5	number of actions	Grant and Inter/Intraagency Agreements written
Funding Opportunity Announcement	1	number of actions	Funding Opportunity Announcement (FOA) posted on www.grants.gov
Priority Actions	16	number of actions	Number of Priority Actions written and posted in the FOA to benefit federally listed species and associated habitat
CVPIA Charters	3	number of actions	Number of draft and final CVPIA Charters written and posted

Deliverables

<u>Date</u>	<u>Title</u>
Sep. 2016	ESA documents

<u>Date</u>	<u>Title</u>
Sep. 2016	Section 106 documents
Sep. 2016	NEPA documents
Sep. 2017	Project Reports
Jan. 2016	New Projects List
Mar. 2016	Grant and Inter/intraagency Agreements
Sep. 2015	Funding Opportunity Announcement Posted
Apr. 2015	Priority Actions selected
Apr. 2015	Draft Charters written

Narrative

BOR and FWS program management incorporates: interdisciplinary approach; competitive process for soliciting proposals; integration with the CVP Conservation Program; protection, restoration, and enhancement of federally listed species and habitats affected by the CVP; contribution to priority recovery actions; and funding based on established priorities. This is a requirement under the Biological Opinion for the CVPIA Program EIS. The standards to complete this requirement are described in the CVPIA Program Activities Report (CPAR). Program Managers are responsible for all aspects of program management including: obtaining annual priorities from FWS Field Office; soliciting for proposals on www.grants.gov; reviewing and ranking proposals; conducting site reviews; selecting projects to fund; writing grant and other agreements; providing oversight on all funded projects; completing ESA, NEPA, and NHPA section 106 compliance documents; and coordinating the grants Technical Team.

Data Management

Information for this Charter, including all project files, will be permanently housed at BOR's Mid-Pacific Regional Office in Sacramento, and FWS's Pacific Southwest Regional Office in Sacramento. Additionally information may be found at the CVPCP/HRPs website at <http://www.usbr.gov/mp/cvpcp/>

Risks

<u>Risk</u>	<u>Likelihood</u>	<u>Impact</u>
Availability of adequate funding	1	1

Cost Estimate

<u>Year</u>	<u>Fund</u>	<u>Total</u>	<u>BOR</u>	<u>FWS</u>
2017	CVPRF	\$341,219	\$97,333	\$243,885
2018	CVPRF	\$341,219	\$97,333	\$243,885
2019	CVPRF	\$341,219	\$97,333	\$243,885

Total Cost: \$1,023,656

Activities and Resources

Type	Total	FTE	Agency	Fund	Description
2017					
<i>Environmental Compliance and Permitting - HRP Environmental Compliance</i>					
Labor	\$7,103	0.03	FWS	CVPRF	FWS-Funded Environmental Compliance for NEPA, ESA, and Section 106. A biologist from the Sacramento Fish and Wildlife Office would write the ESA and section 106 compliance documents. Caroline Prose, HRP Program Manager, would write the NEPA compliance documents.
Labor	\$17,853	0.10	BOR	CVPRF	BOR-Funded environmental compliance for NEPA, ESA, and NHPA Section 106. Division of Environmental Affairs staff would write the NEPA compliance documents, the ESA compliance documents, and the Section 106 documents.
<i>Management - HRP Program Management</i>					
Labor	\$79,480	0.40	BOR	CVPRF	BOR Program Management Co-Lead Dan Strait
Labor	\$236,782	1.00	FWS	CVPRF	Program Management Co-Lead Caroline Prose
2018					
<i>Environmental Compliance and Permitting - HRP Environmental Compliance</i>					
Labor	\$7,103	0.03	FWS	CVPRF	FWS-Funded Environmental Compliance for NEPA, ESA, and Section 106. A biologist from the Sacramento Fish and Wildlife Office would write the ESA and section 106 compliance documents. Caroline Prose, HRP Program Manager, would write the NEPA compliance documents.
Labor	\$17,853	0.10	BOR	CVPRF	BOR-Funded environmental compliance for NEPA, ESA, and NHPA Section 106. Division of Environmental Affairs staff would write the NEPA compliance documents, the ESA compliance documents, and the Section 106 documents.
<i>Management - HRP Program Management</i>					
Labor	\$236,782	1.00	FWS	CVPRF	FWS Program Management Co-Lead Caroline Prose

Type	Total	FTE	Agency	Fund	Description
Labor	\$79,480	0.40	BOR	CVPRF	BOR Program Management Co-Lead Dan Strait
2019					
<i>Environmental Compliance and Permitting - HRP Environmental Compliance</i>					
Labor	\$7,103	0.03	FWS	CVPRF	FWS-Funded Environmental Compliance for NEPA, ESA, and Section 106. A biologist from the Sacramento Fish and Wildlife Office would write the ESA and section 106 compliance documents. Caroline Prose, HRP Program Manager, would write the NEPA compliance documents.
Labor	\$17,853	0.10	BOR	CVPRF	BOR-Funded environmental compliance for NEPA, ESA, and NHPA Section 106. Division of Environmental Affairs staff would write the NEPA compliance documents, the ESA compliance documents, and the Section 106 documents.
<i>Management - HRP Program Management</i>					
Labor	\$236,782	1.00	FWS	CVPRF	FWS Program Management Co-Lead Caroline Prose
Labor	\$79,480	0.40	BOR	CVPRF	BOR Program Management Co-Lead Dan Strait

FY17 CVPIA (g) Program Administration, Modeling Project Management, Technical Support, and Modeling

To manage, coordinate, plan and implement the CVPIA (g) program

Classification: Administration, Administration
 Location: 38°13'40.25'N, 121°29'39.06'W, Central Valley Project Improvement Act
 Funding Years: 2016 - 2018
 Benefits Start Year: 2016
 Priority: 1 - 1 is program salary, 2 is highest priority restoration action, 3 is high priority that can wait a year

Partners: CDWR, FWS, CDFW

Related Programs: AFRP

Authority

<u>Provision</u>	<u>Percentage</u>	<u>Comment</u>
Modeling (g)	100.0%	

Metrics

No Data.

Deliverables

<u>Date</u>	<u>Title</u>
Aug. 2017	Annual Report for FY 2017
Aug. 2017	In house in-depth CalSim3 model skill development and model documentation
Aug. 2017	Annual Work Plan FY 2018
Aug. 2017	In house in-depth temperature model skill development and model documentation
Aug. 2017	Modeling Projects Management

Narrative

Program Lead for Reclamation is responsible for administration of the program and coordination of program activities, budget and work with Federal and State agencies. Coordinate with FWS co-lead to review agencies modeling needs, activities, modeling tools development for the 3406 (g) program.

Administration of the program requires coordination among the partner and peer agencies like Reclamation, USFWS, CADWR, CAFWS etc.

Data Management

All files will be kept in MP-700 at Cottage Way Office, Sacramento.

Risks

Risk	Likelihood	Impact
Adverse Stakeholders	1	3
Insufficient Field Data	2	2

Cost Estimate

Year	Fund	Total	BOR	FWS	DWR
2016	CVPRF	\$531,529	\$444,575	\$86,953	\$0
2016	SIK	\$972,911	\$0	\$0	\$972,911
2017	CVPRF	\$368,073	\$341,041	\$27,032	\$0
2017	SIK	\$793,332	\$0	\$0	\$793,332
2018	SIK	\$991,802	\$0	\$0	\$991,802
2018	CVPRF	\$600,000	\$488,627	\$111,372	\$0
2018	WRR	\$30,788	\$30,788	\$0	\$0

Total Cost: \$4,288,434

Activities and Resources

Type	Total	FTE	Agency	Fund	Description
2016					
<p><i>Administration - Administration of the CVPIA (g) program that include model, development and project management and monitoring, coordinating, research, planning and analysis, data acquisition, project procurement possess, inter-agency coordination, reporting and public outreach.</i></p> <p><i>The labor rates are average not actual data because of administrative policies and personnel issues.</i></p>					
Labor	\$187,099	0.79	BOR	CVPRF	Program Manager, Project Manager for the modeling projects and Program-Lead for Reclamation, coordinating program activities within all agencies as well as reviewing and the development of water operations, ecosystem and fishery modeling tools.

Type	Total	FTE	Agency	Fund	Description
Labor	\$20,274	0.09	FWS	CVPRF	Coordinate fish model development and implementation
Labor	\$21,955	0.09	BOR	CVPRF	Develop, update and implement modeling works related to CalLite GUI.
Labor	\$21,955	0.09	BOR	CVPRF	Development, update and implementation of water quality and CalLite models
Labor	\$24,394	0.10	BOR	CVPRF	Supervisory Support: Oversee the modeling activities of Reclamation
Labor	\$121,970	0.50	BOR	CVPRF	In-Depth Temperature Modeler: Modeler responsible for in-depth model code modification and documentation of HEC-5Q and other temperature model that can be linked to Salmon Life Cycle model.
Labor	\$21,955	0.09	BOR	CVPRF	Modeler - CalSim3.0 coordination and using temperature model for CalSim.
Labor	\$46,405	0.20	FWS	CVPRF	Co-Lead for USFWS, coordinating program activities within the service as well as reviewing and the development of water operations and fishery modeling tools.
Labor	\$12,197	0.05	BOR	CVPRF	Modeler responsible for in-depth model code modification and documentation of CalSim3 and fisheries life cycle models.
Direct Contribution	\$11,098	n/a	BOR	CVPRF	Membership and participation in California Water and Environmental Modeling Forum (CWEMF) and other professional organizations, attend workshops etc., prepare publications and provide support for model application to stakeholders.
In-Kind Labor	\$282,375	n/a	DWR	SIK	C2VSIM Model Development & Application /// Fund Source: State Water Project Funds
In-Kind Labor	\$205,361	n/a	DWR	SIK	Claim II Model Update & Application /// Source: State Water Project Funds
In-Kind Labor	\$248,518	n/a	DWR	SIK	CalSim 3.0 Model Development & Application //// Source: State Water Project Funds

Type	Total	FTE	Agency	Fund	Description
In-Kind Labor	\$154,101	n/a	DWR	SIK	CalLite Model Development & Application /// Source: State Water Project Funds
In-Kind Labor	\$82,556	n/a	DWR	SIK	Development & Application of ANN Model /// Source: State Water Project Funds
Labor	\$20,274	0.09	FWS	CVPRF	Develop and review of water temperature model
Labor	\$21,955	0.09	BOR	CVPRF	Modeling of CalSim3.0 and CalSim II
2017					
<p><i>Administration - Administration of the CVPIA (g) program that include model, development and project management and monitoring, coordinating, research, planning and analysis, data acquisition, project procurement possess, inter-agency coordination, reporting and public outreach.</i></p> <p><i>The labor rates are average not actual data because of administrative policies and personnel issues.</i></p>					
Labor	\$11,842	0.05	BOR	CVPRF	Development, update and implementation of water quality and CalLite models.
Labor	\$2,253	0.01	FWS	CVPRF	Coordinate fish model development and implementation.
Labor	\$2,253	0.01	FWS	CVPRF	Develop and review of water temperature model.
Labor	\$11,842	0.05	BOR	CVPRF	Modeler responsible for in-depth model code modification and documentation of CalSim3 and other water operation model.
Labor	\$71,050	0.30	BOR	CVPRF	Modeler responsible for in-depth model code modification and documentation of HEC-5Q and other temperature models.
Labor	\$11,842	0.05	BOR	CVPRF	CalSim and Temperature Modeler.
Labor	\$2,368	0.01	BOR	CVPRF	Ground water and CalSim Modeler.
Labor	\$11,842	0.05	BOR	CVPRF	Develop, update and implement modeling works related to CalLite GUI.
Labor	\$16,578	0.07	BOR	CVPRF	Oversee the modeling activities of Reclamation. (JK)
Labor	\$22,527	0.10	FWS	CVPRF	Co-Lead for USFWS, coordinating program activities within the service as

Type	Total	FTE	Agency	Fund	Description
					well as reviewing and the development of water operations and fishery modeling tools. (DH)
Labor	\$201,309	0.85	BOR	CVPRF	Program lead for Reclamation, coordinating program activities within all agencies as well as reviewing and the development of water operations, ecosystem and fishery modeling tools. (JA)
In-Kind Labor	\$162,973	n/a	DWR	SIK	CalLite Model Development & Application
In-Kind Labor	\$277,747	n/a	DWR	SIK	CalSim 3.0 Model Development & Application
In-Kind Labor	\$179,609	n/a	DWR	SIK	CalSim II Model Update & Application
In-Kind Labor	\$173,003	n/a	DWR	SIK	C2VSIM Model Development & Application
Labor	\$2,368	0.01	BOR	CVPRF	Modeling of Ground Water, Subsidence and Climate Change Effect. (KN)
2018					
<p><i>Administration - Administration of the CVPIA (g) program that include model, development and project management and monitoring, coordinating, research, planning and analysis, data acquisition, project procurement possess, inter-agency coordination, reporting and public outreach.</i></p> <p><i>The labor rates are average not actual data because of administrative policies and personnel issues.</i></p>					
In-Kind Labor	\$287,857	n/a	DWR	SIK	C2VSIM Model Development & Application
Direct Contribution	\$10,507	n/a	BOR	CVPRF	Membership and participation in California Water and Environmental Modeling Forum (CWEMF) and other professional organizations, attend workshops etc., prepare publications and provide support for model application to stakeholders.
In-Kind Labor	\$253,344	n/a	DWR	SIK	CalSim 3.0 Model Development & Application
Labor	\$157,093	0.68	DWR	SIK	CalLite Model Development & Application
In-Kind Labor	\$84,158	n/a	DWR	SIK	Development & Application of ANN Model

Type	Total	FTE	Agency	Fund	Description
Labor	\$197,591	0.81	BOR	CVPRF	Program lead for Reclamation, coordinating program activities within all agencies as well as reviewing and the development of water operations, ecosystem and fishery modeling tools.
Labor	\$46,405	0.20	FWS	CVPRF	Co-Lead for USFWS, coordinating program activities within the service as well as reviewing and the development of water operations and fishery modeling tools.
Labor	\$30,788	0.10	BOR	WRR	Oversee the modeling activities of Reclamation.
Labor	\$24,394	0.10	BOR	CVPRF	Modeling of Ground Water, Subsidence and Climate Change Effect
Labor	\$48,788	0.20	BOR	CVPRF	Develop, update and implement modeling works related to CalLite GUI
Labor	\$24,394	0.10	BOR	CVPRF	Development, update and implementation of water quality and CalLite models
Labor	\$48,788	0.20	BOR	CVPRF	Updating and implementation of CalSim and CalLite.
Labor	\$30,163	0.13	FWS	CVPRF	Coordinate fish model development and implementation.
Labor	\$34,804	0.15	FWS	CVPRF	Develop and review of water temperature model
Labor	\$48,788	0.20	BOR	CVPRF	Modeler responsible for in-depth model code modification and documentation of CalSim3 and other water operation model.
Labor	\$85,379	0.35	BOR	CVPRF	Modeler responsible for in-depth model code modification and documentation of HEC-5Q and other temperature models.
In-Kind Labor	\$209,349	n/a	DWR	SIK	CalSim II Model Update & Application

FY17 CalSim, Fisheries, Temperature Modelling Support

CalSim and CalLite are open source and freely available water operations and screening models for the Central Valley region. It is currently being developed by both Reclamation and the California Department of Water Resources.

HEC-5Q is a temperature model for the Central Valley region, it is currently being developed by Reclamation.

This project is to improve and maintain the models by adding new capabilities, incorporating the new regulations and water operations etc. and linking these models with the fisheries models.

This project is authorized by P.L. 3406(g).

Classification: Improvement, Water Operations

Location: , Central Valley Project Improvement Act

Funding Years: 2016 - 2018

Benefits Start Year: 2016

Priority: 3 - 1 is program salary, 2 is highest priority restoration action,
3 is high priority that can wait a year

Partners: FWS, CDFW, CDWR

Related Programs: AFRP

Authority

Provision	Percentage	Comment
Modeling (g)	100.0%	

Metrics

Name	Value	Units	Comment
g: # of Eco Models developed	0	number of models complete	

Deliverables

Date	Title
Aug. 2017	Modeling Technical Support

Narrative

The CalSim, CalLite and HEC-5Q model can be used to support water planners' and managers' decisions, screen and analyze the long-term effects of various water operations on water quality, maximize the beneficial and diversified water uses, and restore the ecosystem in the Central Valley region.

In addition to the Reclamation, water users in the Central Valley region and public entities such as the: (1) San Luis and Delta-Mendota Water Authority; (2) Westlands Water District; (3) Metropolitan Water Districts; (4) Contra Costa Water District; (5) Santa Clara Valley Water Agency; (6) California Department of Water Resources; (7) California Department of Fish and Game; and (8) U.S. Fish and Wildlife Service, etc. also use these models for their planning and operations .

This project accomplishes modeling activities required for the development, application, and adaptive management of these model according to changes in the laws, climate, reservoir operations priorities, ecosystem hydrology, and water users’ demands and priorities.

This FY17 work is for model maintenance, adding of new capabilities of new dam operations etc. and refinement of model with recent data and operation rules and linking these models with fisheries models.

Data Management

Information for the charter including relevant protocols for understanding the information, will be permanently housed at Mid-Pacific Regional Office MP-700 of Reclamation at 2800 Cottage Way, Sacramento CA 95618.

Risks

<u>Risk</u>	<u>Likelihood</u>	<u>Impact</u>
Lack of Funding	1	3
Stake holders do not accept results from the model	1	2

Cost Estimate

<u>Year</u>	<u>Fund</u>	<u>Total</u>	<u>BOR</u>	<u>FWS</u>	<u>Local</u>
2016	CVPRF	\$25,000	\$1,000	\$0	\$24,000
2017	CVPRF	\$50,000	\$50,000	\$0	\$0
2018	CVPRF	\$25,000	\$25,000	\$0	\$0

Total Cost: \$100,000

Activities and Resources

<u>Type</u>	<u>Total</u>	<u>FTE</u>	<u>Agency</u>	<u>Fund</u>	<u>Description</u>
2016					
<p><i>Implementation - CalSim contract and supporting works that will be performed by BOR Project Requisition. Local consultants will perform the work.</i></p> <p><i>The labor rate showing is actually the total contract amount that is being expected to be funded by CVP RF.</i></p>					
Agreement	\$24,000	n/a	Local	CVPRF	To update the CalSim model with new water operation rules, maintain the model and improve the logics.
Labor	\$1,000	1.00	BOR	CVPRF	To award and manage the contract. CalSim contract and supporting works that will be performed by BOR Project Requisition. Local consultants will perform the work under a contract agreement.
2017					
<p><i>Implementation - CalSim contract and supporting works that will be performed by BOR Project Requisition. Local consultants will perform the work.</i></p> <p><i>The labor rate showing is actually the total contract amount that is being expected to be funded by CVP RF.</i></p>					
Agreement	\$49,000	n/a	BOR	CVPRF	To update the models with new water operation rules, maintain the model and improve the logics.
Labor	\$1,000	1.00	BOR	CVPRF	To award and manage the contract
2018					
<p><i>Implementation - CalSim contract and supporting works that will be performed by BOR Project Requisition. Local consultants will perform the work.</i></p> <p><i>The labor rate showing is actually the total contract amount that is being expected to be funded by CVP RF.</i></p>					
Agreement	\$24,000	n/a	BOR	CVPRF	To update the CalSim model with new water operation rules, maintain the model and improve the logics.
Labor	\$1,000	1.00	BOR	CVPRF	To award and manage the contract

FY17 CalSim Solver License

CalSim and CalLite are open source and freely available water operations and screening models for the Central Valley region. It is currently being developed by both Reclamation and the California Department of Water Resources.

HEC-5Q is a temperature model for the Central Valley region, it is currently being developed by Reclamation.

This project is to improve and maintain the models by adding new capabilities, incorporating the new regulations and water operations etc.

This project is authorized by P.L. 3406(g).

Classification: Improvement, Water Operations

Location: , Central Valley Project Improvement Act

Funding Years: 2016 - 2018

Benefits Start Year: 2016

Priority: 3 - 1 is program salary, 2 is highest priority restoration action, 3 is high priority that can wait a year

Partners: CDFW, CDWR, FWS

Related Programs: AFRP

Authority

Provision	Percentage	Comment
Modeling (g)	100.0%	

Metrics

Name	Value	Units	Comment
g: # of Eco Models developed	0	number of models complete	

Deliverables

Date	Title
Aug. 2017	Modeling Technical Support

Narrative

The CalSim, and CalLite model can be used to support water planners' and managers' decisions, screen and analyze the long-term effects of various water operations on water quality, maximize the beneficial and diversified water uses, and restore the ecosystem in the Central Valley region.

In addition to the Reclamation, water users in the Central Valley region and public entities such as the: (1) San Luis and Delta-Mendota Water Authority; (2) Westlands Water District; (3) Metropolitan Water Districts; (4) Contra Costa Water District; (5) Santa Clara Valley Water Agency; (6) California Department of Water Resources; (7) California Department of Fish and Game; and (8) U.S. Fish and Wildlife Service, etc. also use these models for their planning and operations .

This project is to pay the CalSim solver license.

Data Management

Information for the charter including relevant protocols for understanding the information, will be permanently housed at Mid-Pacific Regional Office MP-700 of Reclamation at 2800 Cottage Way, Sacramento CA 95618.

Risks

<u>Risk</u>	<u>Likelihood</u>	<u>Impact</u>
Lack of Funding	1	3
Stake holders do not accept results from the model	1	2

Cost Estimate

<u>Year</u>	<u>Fund</u>	<u>Total</u>	<u>BOR</u>	<u>FWS</u>	<u>Local</u>
2016	CVPRF	\$25,000	\$1,000	\$0	\$24,000
2017	CVPRF	\$20,085	\$20,085	\$0	\$0
2018	CVPRF	\$25,000	\$25,000	\$0	\$0

Total Cost: \$70,085

Activities and Resources

<u>Type</u>	<u>Total</u>	<u>FTE</u>	<u>Agency</u>	<u>Fund</u>	<u>Description</u>
2016					
<i>Implementation - CalSim contract and supporting works that will be performed by BOR Project Requisition. Local consultants will perform the work.</i>					
<i>The labor rate showing is actually the total contract amount that is being expected to be funded by CVP RF.</i>					
Agreement	\$24,000	n/a	Local	CVPRF	To update the CalSim model with new water operation rules, maintain the model and improve the logics.

Type	Total	FTE	Agency	Fund	Description
Labor	\$1,000	1.00	BOR	CVPRF	To award and manage the contract. CalSim contract and supporting works that will be performed by BOR Project Requisition. Local consultants will perform the work under a contract agreement.
2017					
<p><i>Implementation - CalSim contract and supporting works that will be performed by BOR Project Requisition. Local consultants will perform the work.</i></p> <p><i>The labor rate showing is actually the total contract amount that is being expected to be funded by CVP RF.</i></p>					
Agreement	\$19,085	n/a	BOR	CVPRF	To pay for the license
Labor	\$1,000	1.00	BOR	CVPRF	To award and manage the contract
2018					
<p><i>Implementation - CalSim contract and supporting works that will be performed by BOR Project Requisition. Local consultants will perform the work.</i></p> <p><i>The labor rate showing is actually the total contract amount that is being expected to be funded by CVP RF.</i></p>					
Agreement	\$24,000	n/a	BOR	CVPRF	To update the CalSim model with new water operation rules, maintain the model and improve the logics.
Labor	\$1,000	1.00	BOR	CVPRF	To award and manage the contract

FY17 CalLite GUI Project Extension & Modification

CalSim and CalLite are open source and freely available water operations and screening models for the Central Valley region. It is currently being developed by both Reclamation and the California Department of Water Resources.

HEC-5Q is a temperature model for the Central Valley region, it is currently being developed by Reclamation.

This project is to improve and maintain the models by adding new capabilities, incorporating the new regulations and water operations etc. and linking these models with the fisheries models.

This project is authorized by P.L. 3406(g).

Classification: Improvement, Water Operations

Location: , Central Valley Project Improvement Act

Funding Years: 2009 - 2025

Benefits Start Year: 2011

Priority: 3 - 1 is program salary, 2 is highest priority restoration action,
3 is high priority that can wait a year

Partners: FWS, CDFW, CDWR

Related Programs: AFRP

Authority

Provision	Percentage	Comment
Modeling (g)	100.0%	

Metrics

Name	Value	Units	Comment
g: # of Eco Models developed	0	number of models complete	

Deliverables

Date	Title
Aug. 2017	Modeling Technical Support

Narrative

The CalLite GUI can be used to support water planners' and managers' decisions, screen and analyze the long-term effects of various water operations on water quality, maximize the beneficial and diversified water uses, and restore the ecosystem in the Central Valley region.

In addition to the Reclamation, water users in the Central Valley region and public entities such as the: (1) San Luis and Delta-Mendota Water Authority; (2) Westlands Water District; (3) Metropolitan Water Districts; (4) Contra Costa Water District; (5) Santa Clara Valley Water Agency; (6) California Department of Water Resources; (7) California Department of Fish and Game; and (8) U.S. Fish and Wildlife Service, etc. also use CalLite model for their planning and operations .

This project accomplishes GUI development activities required for the development, application, and adaptive management of CalLite model according to changes in the laws, climate, reservoir operations priorities, ecosystem hydrology, and water users’ demands and priorities.

This FY17 work is for model maintenance, adding of new capabilities of new dam operations etc. and refinement of model with recent data and operation rules and linking these models with fisheries models.

Data Management

Information for the charter including relevant protocols for understanding the information, will be permanently housed at Mid-Pacific Regional Office MP-700 of Reclamation at 2800 Cottage Way, Sacramento CA 95618.

Risks

<u>Risk</u>	<u>Likelihood</u>	<u>Impact</u>
Lack of Funding	1	3
Stake holders do not accept results from the model	1	2

Cost Estimate

<u>Year</u>	<u>Fund</u>	<u>Total</u>	<u>BOR</u>	<u>FWS</u>	<u>Local</u>
2016	CVPRF	\$25,000	\$1,000	\$0	\$24,000
2017	CVPRF	\$50,562	\$50,562	\$0	\$0
2018	CVPRF	\$25,000	\$25,000	\$0	\$0

Total Cost: \$100,562

Activities and Resources

<u>Type</u>	<u>Total</u>	<u>FTE</u>	<u>Agency</u>	<u>Fund</u>	<u>Description</u>
2016					
<p><i>Implementation - CalSim contract and supporting works that will be performed by BOR Project Requisition. Local consultants will perform the work.</i></p> <p><i>The labor rate showing is actually the total contract amount that is being expected to be funded by CVP RF.</i></p>					
Agreement	\$24,000	n/a	Local	CVPRF	To update the CalSim model with new water operation rules, maintain the model and improve the logics.
Labor	\$1,000	1.00	BOR	CVPRF	To award and manage the contract. CalSim contract and supporting works that will be performed by BOR Project Requisition. Local consultants will perform the work under a contract agreement.
2017					
<p><i>Implementation - CalSim contract and supporting works that will be performed by BOR Project Requisition. Local consultants will perform the work.</i></p> <p><i>The labor rate showing is actually the total contract amount that is being expected to be funded by CVP RF.</i></p>					
Agreement	\$49,000	n/a	BOR	CVPRF	To QA QC of the CalLite GUI and extend the project performance period by 1 year.
Labor	\$1,562	1.00	BOR	CVPRF	To award and manage the contract
2018					
<p><i>Implementation - CalSim contract and supporting works that will be performed by BOR Project Requisition. Local consultants will perform the work.</i></p> <p><i>The labor rate showing is actually the total contract amount that is being expected to be funded by CVP RF.</i></p>					
Agreement	\$24,000	n/a	BOR	CVPRF	To update the CalSim model with new water operation rules, maintain the model and improve the logics.
Labor	\$1,000	1.00	BOR	CVPRF	To award and manage the contract

FY17 CalSim, CalLite Temperature Modeling Support

CalSim and CalLite are open source and freely available water operations and screening models for the Central Valley region. It is currently being developed by both Reclamation and the California Department of Water Resources.

HEC-5Q is a temperature model for the Central Valley region, it is currently being developed by Reclamation.

This project is to improve and maintain the models by adding new capabilities, incorporating the new regulations and water operations etc.

This project is authorized by P.L. 3406(g).

Classification: Improvement, Water Operations
Location: 38°13'40.25'N, 121°29'39.06'W, Central Valley Project Improvement Act
Funding Years: 2016 - 2018
Benefits Start Year: 2016
Priority: 3 - 1 is program salary, 2 is highest priority restoration action, 3 is high priority that can wait a year
Partners: CDFW, CDWR, FWS
Related Programs: AFRP
Authority

<u>Provision</u>	<u>Percentage</u>	<u>Comment</u>
Modeling (g)	100.0%	

Metrics

<u>Name</u>	<u>Value</u>	<u>Units</u>	<u>Comment</u>
g: # of Eco Models developed	0	number of models complete	

Deliverables

<u>Date</u>	<u>Title</u>
Aug. 2017	Modeling Technical Support

Narrative

The CalSim, CalLite and HEC-5Q model can be used to support water planners' and managers' decisions, screen and analyze the long-term effects of various water operations on water quality, maximize the beneficial and diversified water uses, and restore the ecosystem in the Central Valley region.

In addition to the Reclamation, water users in the Central Valley region and public entities such as the: (1) San Luis and Delta-Mendota Water Authority; (2) Westlands Water District; (3) Metropolitan Water Districts; (4) Contra Costa Water District; (5) Santa Clara Valley Water Agency; (6) California Department of Water Resources; (7) California Department of Fish and Game; and (8) U.S. Fish and Wildlife Service, etc. also use these models for their planning and operations .

This project accomplishes modeling activities required for the development, application, and adaptive management of these model according to changes in the laws, climate, reservoir operations priorities, ecosystem hydrology, and water users’ demands and priorities.

This FY17 work is for model maintenance, adding of new capabilities of new dam operations etc. and refinement of model with recent data and operation rules.

Data Management

Information for the charter including relevant protocols for understanding the information, will be permanently housed at Mid-Pacific Regional Office MP-700 of Reclamation at 2800 Cottage Way, Sacramento CA 95618.

Risks

<u>Risk</u>	<u>Likelihood</u>	<u>Impact</u>
Lack of Funding	1	3
Stake holders do not accept results from the model	1	2

Cost Estimate

<u>Year</u>	<u>Fund</u>	<u>Total</u>	<u>BOR</u>	<u>FWS</u>	<u>Local</u>
2016	CVPRF	\$25,000	\$1,000	\$0	\$24,000
2017	CVPRF	\$50,000	\$50,000	\$0	\$0
2018	CVPRF	\$25,000	\$25,000	\$0	\$0

Total Cost: \$100,000

Activities and Resources

<u>Type</u>	<u>Total</u>	<u>FTE</u>	<u>Agency</u>	<u>Fund</u>	<u>Description</u>
2016					
<p><i>Implementation - CalSim contract and supporting works that will be performed by BOR Project Requisition. Local consultants will perform the work.</i></p> <p><i>The labor rate showing is actually the total contract amount that is being expected to be funded by CVP RF.</i></p>					
Agreement	\$24,000	n/a	Local	CVPRF	To update the CalSim model with new water operation rules, maintain the model and improve the logics.
Labor	\$1,000	1.00	BOR	CVPRF	To award and manage the contract. CalSim contract and supporting works that will be performed by BOR Project Requisition. Local consultants will perform the work under a contract agreement.
2017					
<p><i>Implementation - CalSim contract and supporting works that will be performed by BOR Project Requisition. Local consultants will perform the work.</i></p> <p><i>The labor rate showing is actually the total contract amount that is being expected to be funded by CVP RF.</i></p>					
Agreement	\$49,000	n/a	BOR	CVPRF	To update the models with new water operation rules, maintain the model and improve the logics.
Labor	\$1,000	1.00	BOR	CVPRF	To award and manage the contract
2018					
<p><i>Implementation - CalSim contract and supporting works that will be performed by BOR Project Requisition. Local consultants will perform the work.</i></p> <p><i>The labor rate showing is actually the total contract amount that is being expected to be funded by CVP RF.</i></p>					
Agreement	\$24,000	n/a	BOR	CVPRF	To update the CalSim model with new water operation rules, maintain the model and improve the logics.
Labor	\$1,000	1.00	BOR	CVPRF	To award and manage the contract

SJRRP - Mendota Pool Bypass and Reach 2B Project

Construction of Mendota Pool Bypass for flow routing and fish passage

Classification: Improvement, Habitat Restoration
Location: , San Joaquin Upper Mainstem
Funding Years: 2014 - 2018
Benefits Start Year: 2015
Priority: 1 - All CVPIA funds will be applied to this project. Additional funding will come from other sources.
Partners: No Data.
Related Programs: No Data.
Authority

<u>Provision</u>	<u>Percentage</u>	<u>Comment</u>
SJRRP (PL111-11)	100.0%	

Metrics

No Data.

Deliverables

No Data.

Narrative

Begin activities related to the construction of the Mendota Pool Bypass to ensure flow conveyance of 4,500 cubic feet per second from river Reach 2B downstream to river Reach 3 and allow fish passage downstream. Project location is on San Joaquin River from RM 216 to RM 203. Total project cost is \$174 million.

Data Management

Data will be retained by the San Joaquin River Restoration Program office in Mid-Pacific Region.

Risks

No Data.

Cost Estimate

<u>Year</u>	<u>Fund</u>	<u>Total</u>	<u>BOR</u>	<u>FWS</u>
2017	CVPRF	\$2,000,000	\$2,000,000	\$0

Total Cost: \$2,000,000

Activities and Resources

<u>Type</u>	<u>Total</u>	<u>FTE</u>	<u>Agency</u>	<u>Fund</u>	<u>Description</u>
2017					
<i>Construction - Land acquisition. Purchase of 2 properties in the bypass to allow for construction actions to begin.</i>					
Agreement	\$2,000,000	n/a	BOR	CVPRF	Restoration Fund contribution towards a construction contract.

CVP Restoration Fund TRRP Channel Restoration Projects

Implementation of three restoration projects (Sheridan Creek, Lower Dutch Creek and Deep Gulch) using CVPIA funding.

Classification: Improvement, Habitat Restoration
 Location: , Central Valley Project Improvement Act
 Funding Years: 2016 - 2017
 Benefits Start Year: 2017
 Priority: 1 - Please see TRRP Office outreach materials.
 Partners: No Data.
 Related Programs: No Data.
 Authority

Provision	Percentage	Comment
TRRP (b)(1)	100.0%	

Metrics

Name	Value	Units	Comment
Side Channel Complex	0	miles	
Functional Riparian Floodplain	0	acres	
Large Wood Jam Habitat Structures	60	N/A	
Native Riparian Planting	3	acres	

Deliverables

No Data.

Narrative

The proposed project includes specific activities within the Sheridan site environmental study limit (ESL). The activities proposed include: reducing riparian encroachment; large woody debris (LWD) placement; physical alteration of alluvial features (e.g., floodplains and side channels); construction of large wood hydraulic and habitat structures; and removal/replacement of riparian and upland vegetation at strategic locations. Lowering of the flood plain will improve riparian habitat. A revegetation plan of native riparian and wetland vegetation (woody and herbaceous species) will be used to incorporate broadcast seeding and pole cuttings and may include container planting. Management of upland mixed conifer habitats, to mimic historic conditions is also planned.

The Trinity River channel rehabilitation project at Lower Dutch Creek is located 26.6 miles downstream of Lewiston Dam near Junction City, CA. The 54.6 acre project site is located on National Forest Service lands. The project will create complex salmon and steelhead habitat, enhance natural river processes for the benefit of aquatic and terrestrial wildlife, and provide conditions suitable for reestablishing native riparian vegetation. Construction project features

include a 2.2 acre wetland pond complex directly connected to the mainstem Trinity River, 1,000 foot long side channel complex, terrace lowering to create 0.4 acres functional riparian floodplains, approximately 60 constructed large wood jam habitat structures and 3 acres of native riparian planting.

The Deep Gulch rehabilitation site lies within the upper Junction City valley. A primary rehabilitation objective in this reach is to re-establish a functioning topographically-complex floodplain while also increasing in-channel habitat diversity. The Deep Gulch rehabilitation site can be divided into three main sections, each of which is composed of a pool-riffle unit. The more downstream riffle provides an opportunity to expand the channel around a constructed mid-channel bar, thereby increasing channel and hydraulic complexity and removing a portion of the confining terrace. Excavation of the adjacent overbank area converts more terrace into a low floodplain that aquatic species can access at relatively frequent flow levels. A second pool-riffle unit spans a long run with planar bed topography and little habitat value. The design seeks to increase complexity and habitat value in this section with a base-flow side channel on river left and a large wood jam on river right that will produce both scour and deposition. Rearing habitat will be further enhanced by the placement of large woody debris along both banks. The final pool-riffle unit in the site begins with a relatively deep hole that tails out gradually into a very long planar run. A series of wood jams will be installed in this part of the site to increase bed topography and create eddies, and rearing habitat will be further enhanced by the placement of large woody debris along the right bank. Modeling indicates that the design will increase optimal habitat for fry and presmolt by up to an order of magnitude from existing conditions over a wide range of flows. Gains in total habitat are projected to increase by a factor of up to about 3 and are expected to increase over time with the re-establishment of riparian vegetation on the newly constructed floodplains and channel margins. The area available for natural riparian recruitment is expected to increase by about 440%.

Data Management

Information will retained in the TRRP Office.

Risks

No Data.

Cost Estimate

<u>Year</u>	<u>Fund</u>	<u>Total</u>	<u>BOR</u>	<u>FWS</u>
2017	CVPRF	\$1,500,000	\$1,500,000	\$0

Total Cost: \$1,500,000

Activities and Resources

<u>Type</u>	<u>Total</u>	<u>FTE</u>	<u>Agency</u>	<u>Fund</u>	<u>Description</u>
2017					
<i>Implementation - Construction of channel restoration actions.</i>					
Placeholder	\$1,500,000	n/a	BOR	CVPRF	Environmental site study and construction.

WRR Fund TRRP Monitoring Actions

Tracking of salmon returns to the Trinity River.

Classification: Performance Monitoring, Performance Monitoring

Location: , Central Valley Project Improvement Act

Funding Years: 2016 - 2017

Benefits Start Year: 2017

Priority: 1 - Please see TRRP Office outreach materials.

Partners: No Data.

Related Programs: No Data.

Authority

Provision	Percentage	Comment
TRRP (b)(1)	100.0%	

Metrics

No Data.

Deliverables

No Data.

Narrative

The Trinity River Restoration Program will be implementing various monitoring efforts to be able to track Salmon returns. Some of these monitoring efforts include: Flow-Habitat relationship from North Fork Trinity to Weitchpec, monitor Smolt out-migrant numbers and timing, monitor Redd distribution and abundance and Chinook Run-Size Estimation.

Data Management

Information will retained in the TRRP Office.

Risks

No Data.

Cost Estimate

Year	Fund	Total	BOR	FWS
2017	WRR	\$4,000,000	\$4,000,000	\$0

Total Cost: \$4,000,000

Activities and Resources

<u>Type</u>	<u>Total</u>	<u>FTE</u>	<u>Agency</u>	<u>Fund</u>	<u>Description</u>
2017					
<i>Monitoring - Implementing various monitoring efforts.</i>					
Placeholder	\$4,000,000	n/a	BOR	WRR	Various monitoring activities.

WRR Funding of ROD Flows

Implementing the Record of Decision for the TRRP including flows, gravel, monitoring, and watershed work.

Classification: Improvement, Water Operations
Location: , Central Valley Project Improvement Act
Funding Years: 2016 - 2017
Benefits Start Year: 2017
Priority: 1 - Please see TRRP Office outreach materials.
Partners: No Data.
Related Programs: No Data.
Authority

<u>Provision</u>	<u>Percentage</u>	<u>Comment</u>
TRRP (b)(23)	100.0%	

Metrics

No Data.

Deliverables

No Data.

Narrative

The Trinity River Restoration Program Funds a variety of different activities through this effort. Some of the activities include but are not limited to: Flow scheduling, gravel augmentation, coarse sediment processing, gravel and sediment monitoring and watershed work. For more information please visit the program's website at trrp.net.

Data Management

Information will retained in the TRRP Office.

Risks

No Data.

Cost Estimate

<u>Year</u>	<u>Fund</u>	<u>Total</u>	<u>BOR</u>	<u>FWS</u>
2017	WRR	\$7,000,000	\$7,000,000	\$0

Total Cost: \$7,000,000

Activities and Resources

<u>Type</u>	<u>Total</u>	<u>FTE</u>	<u>Agency</u>	<u>Fund</u>	<u>Description</u>
2017					
<i>Implementation - ROD Efforts</i>					
Placeholder	\$7,000,000	n/a	BOR	WRR	Various activities related to the ROD.