Reclamation Point of Contact: John Hannon

Lower American River Salmonid Spawning and Rearing Habitat Restoration

Fact Sheet Number

2019-317

Project Description

The Water Forum administration is within the City of Sacramento organization. Since 2000, the Water Forum has organized and maintained the American River Fisheries and Instream Habitat (FISH) group which developed the fish plan that identifies prioritized projects to improve the fisheries in the American River. This project contributes to the maintenance and improvement of fish habitat with a goal of increasing populations of salmonids that are listed under the Endangered Species Act by replenishing spawning gravel and improving rearing habitat in the Lower American River. It will address factors limiting fish populations in freshwater and contribute specifically to the recovery of Chinook salmon and steelhead trout.

Project Need

This project contributes to the maintenance and improvement of fish habitat with a goal of increasing populations of Chinook salmon and steelhead trout by replenishing spawning gravel and improving rearing habitat in the American River. It will address factors limiting fish populations in freshwater and contribute to recovery of listed salmonids which will provide various economic, recreational, and environmental benefits to society, and increased flexibility for water use in California.

Project Objectives

The objectives are to: (1) Obtain approval to implement the projects identified through environmental assessment and permitting; (2) Conduct topographic site surveys before, during and following projects; (3) Complete project designs and model design performance through an iterative process with input from the interagency coordination group; (4) Implement the designed spawning and rearing habitat restoration projects in cooperation with Reclamation; (5) Conduct pre and post project biological and physical monitoring to evaluate the effectiveness of the projects at meeting the needs of the targeted species and to validate the design parameters; and (6) Conduct steelhead spawning surveys and juvenile stranding surveys to evaluate riverwide species status and effects of water operations.

Schedule of Project Milestones (When Will Data Collection, Analyses, and Reporting Elements be Completed?)

Obtain approval to implement identified projects through environmental assessment and permitting. Conduct topographic site surveys before, during and following projects. Complete project designs and model design performance through an iterative process with input from the interagency coordination group.

Implement the designed spawning and rearing habitat restoration projects in cooperation with Reclamation. Provide equipment, labor, gravel, and woody material as needed to complete the project design each year. Conduct pre and post project biological and physical monitoring to evaluate the effectiveness of the projects at meeting the needs of the targeted species and to validate the design parameters. Conduct steelhead spawning surveys and juvenile stranding surveys to evaluate riverwide species status and effects of water operations.

Expected FY 2019 Project Cost

$639,579

Is this Project for a CVP/SWP Biological Opinion or Water Right Decision Compliance? If so, Which Specific Requirement?

NMFS 11.2.2 Action I.6.1

Reclamation Point of Contact: John Hannon

Sacramento River Salmonid Spawning and Rearing Habitat Restoration

Fact Sheet Number

2019_318

Project Description

The Sacramento River contain populations of Chinook salmon and steelhead trout, many of which are listed under the Endangered Species Act. Flow regulation and stream channel manipulations have modified salmonid habitat in these rivers. Specifically, gravel is regularly lost from spawning sites on the river and rearing habitat is degraded because of the construction and operation of Central Valley Project dams, bank protection projects, and other actions that reduce the availability of spawning gravel and rearing habitat in the Sacramento River. This project specifically focuses on the restoration of the upper Sacramento River, between Keswick Dam and Red Bluff.

Project Need

This project contributes to the maintenance and improvement of fish habitat with a goal of increasing populations of Chinook salmon and steelhead trout by replenishing spawning gravel and improving rearing habitat in the Sacramento River. It will address factors limiting fish populations in freshwater and contribute to recovery of listed salmonids which will provide various economic, recreational, and environmental benefits to society, and increased flexibility for water use in California.

Project Objectives

The objectives of the project are to: (1) Create new side channels and modify existing side channels to create and/or improve rearing and spawning habitats for the juvenile life stages of anadromous salmonids in the Sacramento River; (2) Place spawning-sized gravel into various locations, and place woody material and boulders, as appropriate, into the Sacramento River according to project plans; and (3) Conduct pre-and post-placement site surveys to document the effectiveness of projects in improving salmonid spawning and rearing habitat.

Schedule of Project Milestones (When Will Data Collection, Analyses, and Reporting Elements be Completed?)

Obtain approval to implement identified projects through environmental assessment and permitting. Conduct topographic site surveys before, during and following projects. Complete project designs and model design performance through an iterative process with input from the interagency coordination group. Implement the designed spawning and rearing habitat restoration projects in cooperation with Reclamation. Conduct pre and post project biological and physical monitoring to evaluate the effectiveness of the projects at meeting the needs of the targeted species and to validate the design parameters.

Expected FY 2019 Project Costs

$2,000,000

Is This Project for a CVP/SWP Biological Opinion or Water Right Decision Compliance? If so, Which Specific Requirement?

NMFS 11.2.2 Action I.6.1

Reclamation Point of Contact: John Hannon and Elissa Buttermore

Stanislaus River Juvenile Rearing - Rodden Road

Fact Sheet Number

2019_90

Project Description

Implement both in- and off-channel restoration designed to provide additional rearing habitat for juvenile salmon and steelhead in the Stanislaus River in collaboration with private landowners across the river from the City of Oakdale.

Project Need

The CVPIA Program is working to improve rearing habitat in the Stanislaus River.

Project Objectives

This project is ONGOING

1. The project will provide 3 acres of off-channel seasonally inundated rearing habitat and 5,000 cubic yards of in-channel spawning and rearing habitat. Designs are currently at the final conceptual level. This project builds on existing CVPIA restoration projects upstream (Lover's Leap, Honolulu Bar, Lancaster Road).

2. This charter supports the fall-run 'Stanislaus River, Improve/increase juvenile rearing habitat (floodplain)' Core Team priority.

3. The project design includes re-grading perched floodplain habitat to reconnect juvenile rearing habitat with the river on a 1-2 year interval. The project will also provide additional spawning gravel in the main channel adjacent to the property.

4. The project addresses the doubling goal for Stanislaus River Chinook Salmon as well as the CV wide doubling goal and should also benefit out-migrating steelhead. The charter focuses on the doubling goal for fall-run Chinook Salmon for the Stanislaus River and the Central Valley. The project implements Stanislaus River Action 2 [Improve watershed management to restore and protect instream and riparian habitat, including consideration of restoring and replenishing spawning gravel.] of the Final Restoration Plan. It also implements OCAP RPAs II.2.1 and III.2.2.

5. 3 acres of floodplain provides habitat for nearly 225,000 juvenile fall-run Chinook Salmon (0.054 square meters per fish - DSM).

6. The project is more cost effective since planning and permitting has been informed by previous projects in the vicinity. The bulk of funding is slated for project construction.

7. Post-project monitoring will inform the DSM in regards to properly parameterizing juvenile growth and survival in higher gradient off-channel habitats relative to valley floor floodplains (Cosumnes).

8. The project is primarily focused on implementing restoration. See above (7) for DSM benefits.

9. Impacts from not implementing this project are continued decline of anadromous fish populations.

10. There are no known stakeholder objections to the project. Project is proceeding with willing landowners that sought us out.

Schedule of Project Milestones (When Will Data Collection, Analyses, and Reporting Elements be Completed?)

Date	Milestone
June 2019	Conceptual Project designs
June 2020	Environmental Compliance permits
June 2020	Final Project Designs
September 2019	Project Completion Report

Expected FY 2019 Project Cost

$120,000 plus overhead for post monitoring and evaluation

Is This Project for a CVP/SWP Biological Opinion or Water Right Decision Compliance? If so, Which Specific Requirement?

(b)(1) AFRP.

OCAP RPAs II.2.1 and III.2.2.

The project addressed the Stanislaus River and CV wide doubling goals.

Investigator

J.D. Wikert

Reclamation Point of Contact: John Hannon and Elissa Buttermore

Stanislaus River Migratory Corridor Rehabilitation

Fact Sheet Number

2019_91

Project Description

Expand high quality migratory habitat downstream of Riverbank and protect and enhance the natural production of salmonids in the Stanislaus River.

Project Need

The CVPIA Program is working to improve spawning and rearing habitat in the Stanislaus River.

Project Objectives

This project is ongoing from FY 2017:

1. Restore shallow water migratory habitat for juvenile salmonids on the Stanislaus River downstream of Riverbank. Potential sites have been identified, and landowners will be contacted to determine interest prior to developing conceptual designs. Future phases will implement restoration projects.

2. Project supports the SIT/Core Team priority: 'Stanislaus River, Improve/increase juvenile rearing habitat (floodplain).'

3. Projects will provide crucial rearing habitat for outmigrating juvenile salmonids before they enter the San Joaquin River and Delta by developing restoration designs in collaboration with willing landowners, followed by construction of suitable projects.

4. The project address the Stanislaus River and CV wide doubling goals.

5. A single acre (a reasonably predictable project size) will provide habitat for up to 75,000 juvenile Chinook Salmon (0.054 square meter/fry), as well as benefitting migrating steelhead. The implemented project will also provide possible refuge from predators for all juveniles migrating downstream.

6. One of the biggest challenges to implementing on-the-ground restoration is having willing (and enthusiastic) landowners. This process will identify those landowners that

also have suitable property (minimum cut depth to achieve seasonally inundated habitat). Working on multiple conceptual designs simultaneously will provide a reduction in overhead as permitting will be similar for multiple projects allowing for a more efficient regulatory process. Also, bang-for-the- buck will be determined by assessing multiple metrics for project designs (fish habitat/cut volume, tree impacts, etc.). Substantial on-the-ground implementation will occur in future phases.

7. The project supports the means objective of increasing the number of smolts produced, through enhancing growth opportunities and providing refuge from predators for migrating juveniles.

8. The project will benefit from some post-project monitoring designed to evaluate the differences between off-channel habitats restored in low gradient (sand bedded) versus higher gradient (gravel bedded) reaches, informing future decisions on locations for restoration.

9. Not continuing to implement this project will result in continuing the long term decline of salmonid production in the basin.

10. There are no known stakeholder objections to this project. The project specifically calls for willing landowners, reducing the likelihood of project failure.

Schedule of Project Milestones (When Will Data Collection, Analyses, and Reporting Elements be Completed?)

Date	Milestone
September 2018	Preliminary conceptual designs
June 2020	Final Design
June 2020	Permits
December 2023	Final Report

Expected FY 2019 Project Cost

$385,000 ($408,100 with overhead) in FY19 funds to implement Management, Monitoring, and Construction to FWS.

Is This Project for a CVP/SWP Biological Opinion or Water Right Decision Compliance? If so, Which Specific Requirement?

(b)(1) AFRP. The project addressed the Stanislaus River and CV wide doubling goals. NMFS RPA Action III.

Investigator

J.D. Wikert

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Reclamation Point of Contact: Mike Hendrick and Ben Nelson

Yolo Bypass Salmonid Habitat Restoration and Fish Passage Project

Fact Sheet Number

2019_308

Project Description

Reclamation and the California Department of Water Resources (DWR) are implementing actions to increase juvenile floodplain rearing habitat (Action I.6.1) and improve adult fish passage (Action I.7) under the Reasonable and Prudent Alternative (RPA) of the 2009 National Marine Fisheries Service (NMFS) Biological Opinion (2009 NMFS BO) on the Long-Term Operation of the Central Valley Project and State Water Project. To that end, Reclamation and DWR have developed the Yolo Bypass Salmonid Habitat Restoration and Fish Passage Project (Project) Environmental Impact Statement/Environmental Impact Report (EIS/EIR).

Project Need

Historically throughout the Central Valley of California floodplain habitat provided vital rearing and feeding areas for salmonids and sturgeon. The Yolo Bypass represents an opportunity to reconnect floodplains with the Sacramento River for juvenile rearing habitat and improve passage in the bypass and between the bypass and the river.

Project Objectives

Increase access to and acreage of floodplain habitat and improve fish passage for adult salmonids and sturgeon.

Schedule of Project Milestones

Date	Milestone
Spring 2019	Record of Decision
Summer 2019	Award
Summer 2020 or 2021	Construction

Expected FY 2019 Project Cost and Financial Information

$11,300,000 USBR

Is This Project for a CVP/SWP Biological Opinion or Water Right Decision Compliance? If so, Which Specific Requirement?

NMFS BiOp RPA Actions I.6.1 and I.7.