

# Work Plan for Fiscal Year 2002

March 11, 2002

I Program Title. Spawning Gravel Restoration Program, CVPIA Sect. 3406(b)(13).

II Responsible Entities.

	Agency	Staff Name	Role
Lead	USBR	Ken Lentz	Program Manager
Co-Lead	FWS	Andy Hamilton	FWS Coordinator

III Program Objectives for FY 2002.

The program objectives are enumerated below. The source documents for these objectives is the Annual Work Plan (FY01) dated September 2000, which in turn was based on the text in the CVPIA legislation. The program objectives have been cross-referenced against the actions the program will undertake in FY 2002 in Section VI below.

- A Increase the availability of spawning gravel and rearing habitat for Sacramento River Basin chinook salmon and steelhead trout. The principal effort will be to replenish spawning gravel in the reach of the mainstem Upper Sacramento River from Keswick Dam downstream to Red Bluff Diversion Dam.
- B Increase the availability of spawning gravel and rearing habitat for American River Basin chinook salmon and steelhead trout. The principal effort will be to replenish spawning gravel in the reach of the American River downstream from Nimbus Dam.
- C Increase the availability of spawning gravel and rearing habitat for Stanislaus River chinook salmon and steelhead trout. The principal effort will be to replenish spawning gravel in the reach of the Stanislaus River downstream from Goodwin Dam.

IV Status of the Program.

Program emphasis to date has been on the placement of gravel in or adjacent to the river channels in locations that would enhance salmon and steelhead spawning and/or rearing. Due to limited availability of river access, few sites have been utilized for gravel placement. Gravel has been placed adjacent to the river channel at the Upper Sacramento River sites, directly in the river channel in the Stanislaus River, while the river substrate in the American River has been ripped where clay lenses underlaid riffles and gravels were subsequently placed.

A. Upper Sacramento River. Beginning in 1997, salmonid spawning gravel has been placed twice on the right bank immediately downriver from Keswick Dam, twice on the right bank immediately downstream from the confluence with Salt Creek, and once on the left bank on the Tobiasson property toward the southern extent of the Redding city limits. Subsequent high river flows have dispersed the gravel downriver. Gravel has been imbedded with electronic radio transmitters which allows monitoring of the downriver movement. The transmitters have a four-year life expectancy which will allow four years of monitoring.

B. American River. The substrate at three riffles was manipulated and salmonid spawning gravel was subsequently placed at the sites in 1999 according to specifications. Salmon have been visually observed spawning on the restored habitat.

C. Stanislaus River. Beginning in 1997, salmonid spawning gravel has been placed in the river at three different sites immediately downriver from Goodwin Dam. On two occasions, helicopters were used to deposit the gravel directly in the channel. This work was supplemented with gravel delivered by truck to areas adjacent to the channel whereupon it was pushed into the river channel. Salmon have been visually observed spawning on the restored habitat.

V FY 2001 Accomplishments.

The delay in the execution of the Task Order with the State of California precluded accomplishment of any substantial work in FY 2001. Consequently, the only available funding was approximately \$120,000 that had been left over from the previous task order(s).

A. Upper Sacramento River. The downriver dispersal of gravel was monitored in the Upper Sacramento River and maps were generated identifying the location of the transmitter-embedded gravel. Preliminary evaluations were initiated to determine the utility of removing the spawning gravel from the Tehama-Colusa Canal as an alternative to purchasing gravel from retail suppliers.

B. Stanislaus River. Reclamation engineers completed a safety inspection and subsequent safety certification of the bridge that spans the irrigation canal downriver from Goodwin Dam; the gravel supply trucks travel across the bridge. Approximately 488 tons of spawning gravel was placed in the Stanislaus River immediately downriver from Goodwin Dam on July 24, 2001.

VI Tasks, Costs, Schedules and Deliverables.

A Narrative Explanation of Tasks.

1 Program Management. USBR is responsible for the overall lead in program management, but the program direction is coordinated with the FWS agency lead. Program tasks are assigned to the entity(ies) with particular expertise and capability to accomplish the assignments, as identified below.

1.1 Program Management (USBR). The USBR Program Manager is primarily responsible for development of the work plans, program budget, and all associated management- directed documents. The Program Manager is responsible at the program level for the completion of all necessary environmental compliance documentation, permits, etc., although individual activity managers (i.e. contracting officer's technical representatives) are responsible for obtaining the necessary documentation for their respective activities. The Program Manager will actively seek alternative external funding in support of the program, and will coordinate program activities with external non- CVPIA work.

1.2 Program Management (FWS). The FWS agency lead will work closely with the Program Manager in developing the program, and will be the primary point of contact with USBR staff involved in program activities. When so directed, the USBR agency lead will act as the Program Manager in the absence of the manager.

1.3 Technical Support (USBR). USBR Regional Office and Area Office staff will provide the necessary technical support as assigned to accomplish program activities. This involves engineering, biological and environmental compliance personnel.

1.4 Contracting Support (USBR). USBR contracting staff will provide the necessary support to complete all necessary contracts and associated agreements

- required to accomplish program activities.
- 2 Gravel Replenishment in the Upper Sacramento River. USBR Activity Manager will assess the need for gravel placement, including the amount and the sites at which salmonid spawning gravel would be placed. The manager will be responsible for contract management and completion of all environmental compliance documentation associated with placement of the gravel, including necessary coordination with all regulatory entities.
  - 3 Gravel Monitoring in the American River. The Program Manager/FWS agency lead will coordinate the monitoring of salmonid spawning gravel in the American River with designated staff from the Department of Fish and Game (DFG). The Program Manager will coordinate the designation of the contracting oversight lead within USBR between the relevant Regional Office and Area Office staffs, and will ensure that the necessary environmental compliance activities are performed. The principal task to be performed in FY02 involves monitoring the salmonid spawning habitat previously constructed in the American River with CVPIA 3406(b)(13) funds. A report will be prepared describing the results of the monitoring activity.
  - 4 Gravel Replenishment in the Stanislaus River. The Program Manager /FWS agency lead will coordinate salmonid spawning gravel placement activities in the vicinity of Two Mile Bar in the Stanislaus River with designated staff from DFG and FWS, including environmental compliance and permit requirements. This activity will be performed as an integral component of a CALFED Bay Delta Process proposal. The Program Manager will coordinate the completion of the contracting process with Regional Office contracting staff. The two principal tasks to be performed in FY02 are described in the following text.
    - 4.1 Land Acquisition. A gravel bar approximately 50 acres in size in the vicinity of Two-Mile Bar will be purchased jointly with funds from CVPIA Section 3406(b)(13) and from the National Fish and Wildlife Foundation, and held in fee title by the Corps of Engineers. This land purchase will provide a long-term salmonid spawning gravel reserve adjacent to

a reach of the river that receives sexually mature adult salmon but which lacks suitable spawning habitat.

- 4.2 Gravel Placement. Five salmonid riffles will be constructed in the vicinity of Two-Mile Bar. Approximately 4,500 cubic yards of salmonid spawning gravel will be cleaned and sorted, as per criteria approved by FWS and DFG biologists, for use in the riffles.
- 5 Tehama-Colusa Canal Dual Purpose Canal and Spawning Channel Gravel Acquisition. Approximately 100,000 cubic yards of salmon spawning gravel exists unused in the facility. The Program Manager /FWS agency lead will coordinate the removal, storage and processing of the gravel for eventual placement in the Upper Sacramento River. The cost involved in this activity would result in a cost saving to the government compared to purchasing suitable salmonid spawning gravel from a commercial enterprise.
- 5.1 Gravel Removal. USBR Activity Manager will be responsible for the removal of the salmon spawning gravel from the canal facility and for its transport to the gravel staging area in the vicinity of the Tehama-Colusa Canal.

Additional Funding Needs.

Tehama- Colusa Canal Dual Purpose Canal and Spawning Channel Gravel Acquisition. Remove and process salmon spawning gravel from the Tehama- Colusa Canal Dual Purpose Canal and Spawning Channel for utilization in the Sacramento River.

Gravel Removal. USBR Activity Manager will be responsible for the removal of the salmon spawning gravel from the canal facility and for its transport to the gravel staging area in the vicinity of the Tehama- Colusa Canal.

Gravel Removal. USBR Activity Manager will be responsible for the cleaning and sorting of the salmon spawning gravel at the gravel staging area. The gravel will be processed as per criteria that have been approved by DFG and FWS biologists. The processed gravel will be suitable for immediate placement in the river.

**B** Schedule and Deliverables.

#	Task	Dates		Deliverable
		Start	Complete	
1	Program Management	10/01/01	09/30/02	Revise FY02 Annual Work Plan. Draft FY03 Annual Work Plan. All contracts/ agreements in place for activities in the Annual Work Plan. All activities in FY02 Annual Work Plan completed.
1.1	Program Management (USBR)	10/01/01	09/30/02	Revise FY02 Annual Work Plan. Draft FY03 Annual Work Plan. All contracts/ agreements in place for activities in the Annual Work Plan. All activities in FY02 Annual Work Plan completed.
1.2	Program Management (FWS)	10/01/01	09/30/02	Coordinate activities within FWS and with Program Manager.
1.3	Technical Support (USBR)	10/01/01	09/30/02	All assigned technical activities completed as scheduled.
1.4	Contracting Support (USBR)	10/01/01	09/30/02	All assigned contracting/agreement activities completed as scheduled.
2	Sacramento River Gravel Replenishment	10/01/01	09/30/02	All salmonid spawning gravel placed as scheduled.
3	American River Gravel Monitoring	10/01/01	09/30/02	All salmonid spawning habitat monitoring work completed as scheduled. Report of the work will be prepared.
4	Stanislaus River Gravel Replenishment	10/01/01	09/30/02	All salmonid spawning habitat monitoring work completed as scheduled.
4.1	Land Acquisition	10/01/01	02/28/02	All salmonid spawning habitat purchased as scheduled

4.2	Gravel Placement	10/01 /01	03/31/0 3	All salmonid spawning gravel placed as scheduled
5	Tehama- Colusa Canal Dual Purpose Canal and Spawning Channel Gravel Acquisition	10/01 /01	03/30/0 2	Complete documentation describing the process to remove and process salmonid spawning gravel from the Tehama- Colusa Canal Dual Purpose Canal and Spawning Channel. Initiate removal of gravel from the canal.
5.1	Gravel Removal	10/01 /01	03/30/0 2	Salmonid spawning gravel removed as scheduled.

Explanatory Notes: Stanislaus River Gravel Placement work and Tehama- Colusa Canal Gravel Removal work will continue beyond the end of FY02, but funding will be provided from FY02 funds. The balance of the work will be completed from October 2002 through March 2003..



Schedule and Deliverables - Additional Funding Needs.

#	Task	Dates		Deliverable
		Start	Complete	
5	Tehama- Colusa Canal Dual Purpose Canal and Spawning Channel Spawning Gravel Acquisition	10/01/01	03/30/03	Complete removal and processing of all salmon spawning gravel from the Tehama- Colusa Canal facilities.
5.1	Gravel Removal	10/01/01	03/30/03	Complete removal of all salmon spawning gravel.
5.2	Gravel Processing	10/01/01	03/30/03	Process all removed gravel to a condition suitable for placement.

C. Summary of Program Costs and Funding Sources.

#	Task	Total Cost	Funding Sources					
			RF	W&RR	Prop 204			
1	Program Management	\$ 70,000	\$ 70,000	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
1.1	Program Management (USBR)	\$ 20,000	\$ 20,000	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
1.2	Program Management (FWS)	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
1.3	Technical Support (USBR)	\$ 45,000	\$ 45,000	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
1.4	Contracting Support (USBR)	\$ 5,000	\$ 5,000	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
2	Sacramento River Gravel Replenishment	\$ 350,000	\$ 0	\$ 0	\$ 350,000	\$ 0	\$ 0	\$ 0

3	American River Gravel Monitoring	\$ 100,000	\$ 50,000	\$ 0	\$ 50,000	\$ 0	\$ 0	\$ 0
4	Stanislaus River Gravel Replenishment	\$ 350,000	\$ 150,000	\$ 0	\$ 200,000	\$ 0	\$ 0	\$ 0
4.1	Land Acquisition	\$ 200,000	\$ 0	\$ 0	\$ 200,000	\$ 0	\$ 0	\$ 0
4.2	Gravel Placement	\$ 150,000	\$ 200,000	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
5	Tehama- Colusa Canal Dual Purpose Canal and Spawning Channel Gravel Acquisition	\$ 230,000	\$ 230,000	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
5.1	Gravel Removal	\$ 230,000	\$ 230,000	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Total Program Budget		\$ 1,750,000	\$ 1,180,000	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

Program Costs and Funding Sources - Additional Funding Needs.

#	Task	Total Cost	Funding Sources					
			RF	W&RR	Prop 204			
5	Tehama-Colusa Canal Dual Purpose Canal and Spawning Channel Spawning Gravel Acquisition	\$ 1,318,000	\$ 1,318,000	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
5.1	Gravel Removal	\$ 568,000	\$ 568,000	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
5.2	Gravel Processing	\$ 750,000	\$ 750,000	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
<b>Total Program Budget</b>		<b>\$ 2,636,000</b>	<b>\$ 2,636,000</b>	<b>??</b>	<b>??</b>	<b>??</b>	<b>??</b>	<b>??</b>

D. CVPI A Program Budget.

#	Task	FTE	Direct Salary and Benefits Costs	Contracts Costs	Miscellaneous Costs	Administrative Costs	Total Costs
1	Program Management	0.0	\$ 38,000	\$ 0	\$ 0	\$ 32,000	\$ 70,000
1.1	Program Management (USBR)	0.0	\$ 11,000	\$ 0	\$ 0	\$ 9,000	\$ 20,000
1.2	Program Management (FWS)	0.0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
1.3	Technical Support (USBR)	0.0	\$ 24,000	\$ 0	\$ 0	\$ 21,000	\$ 45,000
1.4	Contracting Support (USBR)	0.0	\$ 3,000	\$ 0	\$ 0	\$ 2,000	\$ 5,000
2	Sacramento River Gravel Replenishment	0.0	\$ 0	\$ 350,000	\$ 0	\$ 0	\$ 350,000
3	American River Gravel Monitoring	0.0	\$ 0	\$ 100,000	\$ 0	\$ 0	\$ 100,000
4	Stanislaus River Gravel Replenishment	0.0	\$ 0	\$ 350,000	\$ 0	\$ 0	\$ 350,000
4.1	Land Acquisition	0.0	\$ 0	\$ 200,000	\$ 0	\$ 0	\$ 200,000
4.2	Gravel Placement	0.0	\$ 0	\$ 150,000	\$ 0	\$ 0	\$ 150,000

5	Tehama- Colusa Canal Gravel Acquisition	0.0	\$ 0	\$ 230,000	\$ 0	\$ 0	\$ 230,000
5.1	Gravel Removal	0.0	\$ 0	\$ 230,000	\$ 0	\$ 0	\$ 230,000
	Total by Category	0.0	\$ 76,000	\$ 1,610,000	\$ 0	\$ 64,000	\$ 1,750,000

CVPI A Program Budget - Additional Funding Needs.

#	Task	FTE	Direct Salary and Benefits Costs	Contracts Costs	Miscellaneous Costs	Administrative Costs	Total Costs
5	Tehama- Colusa Canal Dual Purpose Canal and Spawning Channel Spawning Gravel Acquisition	0.0	\$ 0	\$ 1,318,000	\$ 0	\$ 0	\$ 1,318,000
5.1	Gravel Removal	0.0	\$ 0	\$ 568,000	\$ 0	\$ 0	\$ 568,000
5.2	Gravel Processing	0.0	\$ 0	\$ 750,000	\$ 0	\$ 0	\$ 750,000
	Total by Category	0.0	\$ 0	\$ 2,636,000	\$ 0	\$ 0	\$ 2,636,000

E. Quarterly Obligation/Expenditures.

#	Task	Quarter 1	Quarter 2	Quarter 3	Quarter 4
1	Program Management	\$ 2,000	\$ 5,000	\$ 34,000	\$ 29,000
1.1	Program Management (USBR)	\$ 2,000	\$ 2,000	\$ 8,000	\$ 8,000
1.2	Program Management (FWS)	\$ 0	\$ 0	\$ 0	\$ 0
1.3	Technical Support (USBR)	\$ 0	\$ 2,000	\$ 23,000	\$ 20,000
1.4	Contracting Support (USBR)	\$ 0	\$ 1,000	\$ 3,000	\$ 1,000
2	Sacramento River Gravel Replenishment	\$ 0	\$ 0	\$ 0	\$ 350,000
3	American River Gravel Monitoring	\$ 0	\$ 0	\$ 20,000	\$ 80,000
4	Stanislaus River Gravel Replenishment	\$ 0	\$ 0	\$ 200,000	\$ 150,000
4.1	Land Acquisition	\$ 0	\$ 0	\$ 200,000	\$ 0
4.2	Gravel Placement	\$ 0	\$ 0	\$ 0	\$ 150,000
5	Tehama-Colusa Canal Gravel Acquisition	\$ 0	\$ 0	\$ 0	\$ 230,000
5.1	Gravel Removal	\$ 0	\$ 0	\$ 0	\$ 230,000

<b>Total CVPIA Budget by Quarter</b>	<b>\$ 4,000</b>	<b>\$ 10,000</b>	<b>\$ 288,000</b>	<b>\$ 788,230</b>
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Explanatory Notes: The Stanislaus River Gravel Placement contract will be let in FY02 but the work will continue beyond the end of FY02. The balance of the work will be completed from October 2002 through March 2003. The Tehama-Colusa Canal Gravel Acquisition contract will be let in FY02 but the work will be conducted in FY03, from December 2002 through February 2003.

Quarterly Obligation/Expenditures - Additional Funding Needs.

#	Task	Quarter 1	Quarter 2	Quarter 3	Quarter 4
5	Tehama-Colusa Canal Dual Purpose Canal and Spawning Channel Spawning Gravel Acquisition	\$ 0	\$ 0	\$ 0	\$ 0
5.1	Gravel Removal	\$ 0	\$ 0	\$ 0	\$ 568,000
5.2	Gravel Processing	\$ 0	\$ 0	\$ 0	\$ 750,000
<b>Total CVPIA Budget by Quarter</b>		<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 1,318,000</b>

Explanatory Notes: Gravel must be removed during the narrow window of time when the Tehama-Colusa Canal will not be delivering water. Period of time for this removal would be limited to winter. The Tehama-Colusa Canal Gravel Acquisition contract will be let in FY02 but the work will be conducted in FY03, from December 2002 through February 2003.

## VII Future Years Commitments/Actions.

Need to complete the removal of gravel from the Tehama-Colusa Canal and process that gravel so it will be suitable for salmonid spawning/rearing habitat. The total volume of gravel in the canal has been estimated at 150,000 tons. Preliminary estimates indicate that this effort would result in a minimum savings of \$5/ton of processed gravel. The estimates of the available supply and the moving/processing costs need to be refined.

The curtailment of gravel recruitment by mainstem river dams and the lack of suitable alternative supply of gravel s requires continual import of gravel and/or maintenance of suitable spawning and rearing habitat. This requirement is one which will remain as long as the supply of salmonid spawning gravel is curtailed.