Work Plan for Fiscal Year 2005

I Program Title.

Spawning Gravel Restoration Program, Central Valley Project Improvement Act (CVPIA) Section 3406(b)(13).

II Responsible Entities.

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

III. Program Objectives for FY 2005.

The program objectives are enumerated below. The source of documents for these objectives is the work plan for FY03, 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 FY05 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 downriver 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 monitor the replenishment of spawning gravel in the reach of the American River downriver 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 downriver from Goodwin Dam and to monitor those placements.

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.

Upper Sacramento River. Beginning in 1997, salmonid spawning gravel has been placed three times at a site on the right bank of the Sacramento River immediately downriver from Keswick Dam, four times at a site on the right bank of the Sacramento River immediately downriver from the confluence with Salt Creek, and once on the left bank of the Sacramento River on the Tobiasson property toward the southern extent of the Redding city limits. Subsequent high river flows dispersed the gravel downriver. Salmon have been visually observed on the restored habitat.

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. Monitoring has been performed, and is ongoing, to determine the usage by salmonids of the gravel placed in the river.

Stanislaus River. Beginning in 1997, salmonid spawning gravel has been placed in the river at three different sites immediately down river from Goodwin Dam. The steep canyon terrain requires extraordinary gravel delivery techniques. Helicopters were used to deposit the gravel directly in the channel on two occasions, and in 2004 a sluice tube was constructed to deliver the gravel to the channel. This work has been supplemented with gravel delivered by truck to areas adjacent to the channel whereupon it was pushed into the river channel to be subsequently dispersed down river by in river flow. Salmon have been visually observed spawning on the restored habitat. Monitoring has been performed, and is ongoing, to determine the usage by salmonids of the gravel placed in the river.

V. FY 2004 Accomplishments.

FY04 accomplishments are described in the following text.

Upper Sacramento River. Eight thousand five hundred tons of salmon spawning gravel was purchased for placement in the upper Sacramento River in September 2004. Half of that amount will be placed on the right bank of the Sacramento River immediately down river from Keswick Dam and the remainder will be place on the right bank of the Sacramento River immediately down river from the confluence with Salt Creek.

American River. A monitoring program was continued consisting of documentation of the locations of salmon redds and evaluating the quality of the treated versus untreated salmon spawning areas.

Stanislaus River. Streambed topography was mapped pre- and post-gravel placement. Underwater snorkel monitoring of salmonids in the vicinity of gravel placement sites was continued. An evaluation of alternative methods of gravel placement in difficult access locations was completed. One thousand two hundred tons of salmonid spawning gravel was placed down river from Goodwin Dam via a sluice delivery technique. (This technique will be evaluated for future utility.)

VI. Tasks, Costs, Schedules and Deliverables

A. Narrative Explanation of Tasks.

1. Program Management. The Bureau of Reclamation (USBR) is responsible for the overall lead in program management, but the program direction is coordinated with the Fish and Wildlife Service (USFWS) 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. 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. The USFWS Agency Lead will work closely with the Program Manager in developing the program, and will be the primary point of contact with Reclamation staff involved in program activities. When so directed, the USFWS Agency Lead will act as the Program Manager in the absence of the manager.
   - 1.3. Technical Support. 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. An Activity Manager will be identified as appropriate to coordinate implementation of work in that manager's local area of responsibility.
   - 1.4. Contracting Support. 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. The 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, and completion of ongoing monitoring.

3. Gravel Monitoring in the American River. The Program Manager/USFWS Agency Lead will coordinate the monitoring of salmonid spawning gravel in the American River with designated staff from the California Department of Fish and Game (CDFG). The Program Manager will coordinate the designation of the contracting oversight lead within Reclamation between the relevant Regional Office and Area Office staffs, and will ensure that the necessary environmental compliance activities are performed. The principal tasks to be performed in FY 2005 involves monitoring the salmonid spawning habitat previously constructed in the American River with CVPIA 3406(b)(13) funds

and preparation of a report describing the availability of in-channel gravel and the location of potential sites for subsequent gravel placement. A report describing the results of the monitoring activity will be prepared at a future date.

4. Gravel Replenishment in the Stanislaus River. The Program Manager USFWS Agency Lead will coordinate salmonid spawning gravel placement activities in the Stanislaus River downriver from Goodwin Dam with designated staff from CDFG, USFWS and USBR. The Program Manager will coordinate the completion of the contracting process with Regional Office contracting staff, and will ensure that the necessary environmental compliance activities are performed. The two principal tasks to be performed in FY05 are described in the following text.
   - 4.1 Gravel Monitoring. An adult salmonid escapement survey will be conducted both within and outside of the gravel placement sites at precise locations to be determined. Streambed topographic maps will be made at all gravel placement sites both before and after gravel placement. Snorkel surveys may be extended depending on the findings of the ongoing work.
   - 4.2 Gravel Placement. Sites on the Stanislaus River will be selected for gravel placement based on the results of monitoring previously conducted. A third site that previously received gravel has also been identified as a candidate location. The criteria for gravel cleaning and sorting, specific locations and timing of placement-related activities will be determined as per criteria approved by USFWS and CDFG biologists.

Additional Funding Needs.

5. Program Management. (Ref. discussion in Section VI.A.1.(above.)) Conditions in previous discussion apply to the additional funding activities.
   - 5.1 Program Management (USBR). (Ref. discussion in Section VI.A.1.1.(above.)) Conditions in previous discussion apply to the additional funding activities.
   - 5.2 Program Management (USFWS). (Ref. discussion in Section VI.A.1.2.(above.)) Conditions in previous discussion apply to the additional funding activities.
   - 5.3 Technical Support (USBR). (Ref. discussion in Section VI.A.1.3.(above.)) Conditions in previous discussion apply to the additional funding activities.
   - 5.4 Contracting Support (USBR). (Ref. discussion in Section VI.A.1.4.(above.)) Conditions in previous discussion apply to the additional funding activities.
6. Tehama-Colusa Canal Dual Purpose Canal and Spawning Channel Gravel. Process salmon spawning gravel previously removed from the Tehama-Colusa Canal Dual Purpose Canal and Spawning Channel for utilization in the Sacramento River. 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 to criteria that have been approved by CDFG and USFWS biologists for immediate placement in the river.
7. Gravel Replenishment in the Stanislaus River. The two general tasks to be performed in FY05 are preparation of environmental compliance documentation and gravel placement.

7.1 Environmental Compliance. Preparation of environmental compliance documentation for future gravel placement activities at various sites in the Stanislaus River will be initiated. The intent is to create a programmatic type document that will expedite new gravel placement activities in the future.

7.2 Gravel Placement. Up to two additional sites on the Stanislaus River will be selected for gravel placement based on the results of monitoring previously conducted. The criteria for gravel cleaning and sorting, specific locations and timing of placement-related activities will be determined as per criteria approved by USFWS and CDFG biologists.

B. Schedule and Deliverables.

#	Task	Start		Deliverable
		Dates	Complete	
1	Program Management	10/01/04	09/30/05	Finalize FY05 Annual Work Plan. All contracts/ agreements in place for activities in the Annual Work Plan. All activities in FY05 Annual Work Plan completed.
1.1	Program Management (USBR)	10/01/04	09/30/05	Finalize FY05 Annual Work Plan. All contracts/ agreements in place for activities in the Annual Work Plan. All activities in FY05 Annual Work Plan completed.
1.2	Program Management (USFWS)	10/01/04	09/30/05	Coordinate activities within FWS and with Program Manager.
1.3	Technical Support (USBR)	10/01/04	09/30/05	All assigned technical activities completed as scheduled.
1.4	Contracting Support (USBR)	10/01/04	09/30/05	All assigned contracting/agreement activities completed as scheduled.
2	Sacramento River Gravel Replenishment	10/01/04	09/30/05	All salmonid spawning gravel placed as scheduled.
3	American River Gravel Monitoring	10/01/04	09/30/05	All salmonid spawning habitat monitoring work completed as scheduled. Report of the work will be prepared.
4	Stanislaus River Gravel Replenishment	10/01/04	09/30/05	All salmonid spawning habitat monitoring work completed as scheduled.
4.1	Gravel Monitoring	10/01/04	02/28/05	All salmonid spawning gravel monitoring activities completed as scheduled
4.2	Gravel Placement	10/01/04	03/31/05	All salmonid spawning gravel placed as scheduled

Schedule and Deliverables - Additional Funding Needs

#	Task	Dates		Deliverable
		Start	Complete	
5	Program Management	10/01/04	09/30/05	All contracts/agreement in place for additional funded activities.
5.1	Program Management (USBR)	10/01/04	09/30/05	All contracts/agreement in place for additional funded activities.
5.2	Program Management (FWS)	10/01/04	09/30/05	Coordinate additional funded activities within USFWS and with Program Manager.
5.3	Technical Support	10/01/04	09/30/05	All assigned technical activities for additional funded work completed.
5.4	Contracting Support	10/01/04	09/30/05	All contracting/agreement activities for additional funded work completed.
6	Tehama-Colusa Canal Dual Purpose Canal and Spawning Channel Spawning Gravel Processing	10/01/04	09/30/05	Process all removed salmon spawning gravel from the Tehama-Colusa Canal facilities to a condition suitable for placement.
7	Stanislaus River Gravel Placement	10/01/04	09/30/05	All salmonid spawning gravel placed and all monitoring work for additional funded work completed.
7.1	Environmental Compliance	10/01/04	09/30/05	All salmonid spawning gravel monitoring activities for additional funded work completed
7.2	Gravel Placement	10/01/04	09/30/05	All salmonid spawning gravel for additional funded work completed.

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C. Summary of Program Costs and Funding Sources.

#	Task	Total Cost	RF
1	Program Management	$80,000	$80,000
1.1	Program Management (USBR)	$20,000	$20,000
1.2	Program Management (FWS)	$0	$0
1.3	Technical Support (USBR)	$55,000	$55,000
1.4	Contracting Support (USBR)	$5,000	$5,000
2	Sacramento River Gravel Replenishment	$210,000	$210,000
3	American River Gravel Monitoring	$50,000	$50,000
4	Stanislaus River Gravel Replenishment	$160,000	$160,000
4.1	Gravel Monitoring	$110,000	$110,000
4.2	Gravel Placement	$50,000	$50,000
Total Program Budget		**$500,000**	**$500,000**

Explanatory Notes: Ongoing monitoring will be conducted in the American River in FY05 using FY04 funds.

Program Costs and Funding Sources - Additional Funding Needs.

#	Task	Total Cost
5	Program Management	$80,000
5.1	Program Management (USBR	$10,000
5.2	Program Management (FWS)	$10,000
5.3	Technical Support	$10,000
5.4	Contracting Support	$10,000
6	Tehama-Colusa Canal Dual Purpose Canal and Spawning Channel Spawning Gravel Processing	$750,000
7	Stanislaus River Gravel Placement	$130,000
7.1	Environmental Compliance	$30,000
7.2	Gravel Placement	$130,000
Total Program Budget		**$960,000**

Explanatory Notes: No funding sources have been identified.

D. CVPIA Program Budget.

#	Task	FTE	Direct-Salary and Benefits Costs	Contracts Costs	Miscellaneous Costs	Administrative Costs	Total Costs
1	Program Management	0.54	$44,000	$0	$0	$36,000	$
1.1	Program Management (USBR)	0.11	$11,000	$0	$0	$9,000	$
1.2	Program Management (FWS)	0.00	$0	$0	$0	$0	$
1.3	Technical Support (USBR)	0.35	$30,000	$0	$0	$25,000	$
1.4	Contracting Support (USBR)	0.08	$3,000	$0	$0	$2,000	$
2	Sacramento River Gravel Replenishment	0.00	$0	$210,000	$0	$0	$
3	American River Gravel Monitoring	0.00	$0	$50,000	$0	$0	$
4	Stanislaus River Gravel Replenishment	0.00	$0	$160,000	$0	$0	$
4.1	Gravel Monitoring	0.50	$0	$110,000	$0	$0	$
4.2	Gravel Placement	0.00	$0	$50,000	$0	$0	$
	Total by Category	**0.54**	**$44,000**	**$420,000**	**$0**	**$36,000**	**$**

CVPIA Program Budget - Additional Funding Needs.

#	Task	FTE	Direct Salary and Benefits Costs	Contracts Costs	Miscellaneous Costs	Administrative Costs	Total Costs
5	Program Management	0.91	$	$	$	$	$
5.1	Program Management (USBR)	0.06	$	$	$	$	$
5.2	Program Management (FWS)	0.00	$	$	$	$	$
5.3	Technical Support	0.70	$	$	$	$	$
5.4	Contracting Support	0.15	$	$	$	$	$
6	Tehama-Colusa Canal Dual Purpose Canal and Spawning Channel Spawning Gravel Acquisition	0.00	$	$	$	$	$
7	Stanislaus River Gravel Replenishment	0.00	$	$	$	$	$
7.1	Environmental Compliance	0.00	$	$	$	$	$
7.2	Gravel Placement	0.00	$	$	$	$	$
	Total by Category	**0.00**	**$**	**$**	**$**	**$**	**$**

VII Future Years Commitments/Actions.

Need to transport the gravel removed and processed from the Tehama-Colusa Canal facilities to salmonid spawning/rearing habitat. The total volume of gravel in the canal has been estimated at 150,000 tons. 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.