

## CVPIA Fiscal Year 2008 Annual Work Plan

### ***Program Title***

Gravel Replacement Program – CVPIA Section 3406(b)(13)

### ***Responsible Entities***

<b>Staff Name</b>	<b>Agency</b>	<b>Role</b>
Ken Lentz	Reclamation	Lead
Nick Hindman	FWS	Co-Lead

### ***Program Goals and Objectives for FY 2008***

The program objectives follow:

- A. Increase the availability of spawning gravel and rearing habitat for Sacramento River Basin Chinook salmon and steelhead trout.
- B. Increase the availability of spawning gravel and rearing habitat for American River Basin Chinook salmon and steelhead trout.
- C. Increase the availability of spawning gravel and rearing habitat for Sacramento River Basin Chinook salmon and steelhead trout.

Source documents that support the objectives: CALFED Bay-Delta Program EIS/EIR Ecosystem Restoration Plan, Vol. 3 Strategic Plan for Ecosystem Restoration; CALFED Bay-Delta Program Programmatic Record of Decision, Vol. 1 – Record of Decision and Attachments 1 Through 4; CALFED Bay-Delta Program Phase II Report, Final Programmatic EIS/EIR Technical Appendix; CVPIA Final PEIS; CVPIA Final PEIS, Attachment F; CVPIA Draft PEIS, Technical Appendix Vol. 3; and, Upper Sacramento River Fisheries and Riparian Habitat Management Plan. The program has not had a direct relationship with CALFED.

Work performed in this program compliments the objectives in CVPIA Section 3406(b)(1). Staff involved in the two programs coordinate the development of the activities in the respective programs and share the data developed from this work.

### ***Status of the Program***

Spawning gravel placement sites in each of the three rivers have been identified based on key habitat location and on ready river access. All gravel placed in the rivers conform to criteria developed by the Department of Fish and Game and the National Marine Fisheries Service. These criteria relate to size and relative proportion of the various sizes, and to particular times of the year when the gravel can be placed. Gravel is placed on the river bank in the

Upper Sacramento River and in the Stanislaus River and subsequent high river flows distribute the gravel within the river channel. The gravel in the American River was deliberately placed on sites per prescribed engineering criteria anticipated to be beneficial to salmonids.

Gravel has been placed at three sites on the Upper Sacramento River - on the right bank approximately ¼-mile downriver from Keswick Dam, approximately two miles downriver from Keswick Dam immediately downriver from Salt Creek, and approximately 13 miles downriver from Keswick Dam in Redding about one mile downriver from Turtle Bay. The gravel is placed on the bank and high flows distribute the gravel within the river channel. To date more than 151,000 tons of gravel has been placed at these three sites.

Six thousand tons of gravel has been placed at three sites on the American River - at Sailor Bar, vicinity of Lower Sunrise Bridge, and at Sacramento Bar. The substrate at the sites was manipulated prior to gravel placement in order to improve permeability after the gravel was in place. The conditions in the regions where gravel was placed has been monitored and compared with conditions in adjacent areas. Reclamation contracted with the Water Forum (City of Sacramento) for assistance in the planning and future placement of spawning gravel.

Several sites have been selected for gravel placement in Stanislaus River in the reach within two miles downriver of Goodwin Dam. Gravel has been placed by helicopter, by conventional truck hauling and by sluice delivery beginning in 1997. More than 10,000 tons of gravel has been placed to date.

Salmonids have been observed spawning on the placed gravel at each of the gravel placement sites. Aerial photography and onsite ground surveys have documented the location of salmon redds and juvenile salmonids have been observed rearing in the vicinity of the gravel.

## ***FY 2007 Accomplishments***

Accomplishments in the Upper Sacramento River included the purchase and placement of 6,000 tons of spawning gravel at the Keswick site, snorkel surveys of salmon use of the gravels and collection of river profile data.

Accomplishments in the American River included the purchase of 7,000 tons of spawning gravel, completion of a gravel budget describing the amount of gravel blocked by Nimbus and Folsom Dams, completion of gravel permeability studies, planning for gravel additions in 2008, and acquisition of aerial photography documenting Chinook spawning throughout the river in November 2006.

Accomplishments in the Stanislaus River included the environmental permitting for gravel addition at eight new sites in the river at Knights Ferry, the addition of 4,000 tons of spawning gravel and boulders to create three riffles in Knights Ferry, snorkel surveys documenting juvenile fish use of gravel addition sites compared to control sites, and mapping of Chinook redds on the added gravel.

## ***FY 2008 Tasks, Costs, Schedules and Deliverables***

	Name of Activity	FTE's	Description of Activity	Completion Date	Total Cost	Funding Source RF	Funding Source WRR
<b>1.1</b>	<b>Program Management</b>						
			(Program Manager), Bureau of Reclamation. Works with the FWS co-lead and Reclamation activity managers for each of the three river systems in which gravel placement is authorized.	9/30/2008	20,000	20,000	\$0
1.1.1							
	Subtotal Costs				20,000	20,000	0
<b>1.2</b>	<b>Program Support</b>						
			Fish and Wildlife Service. Coordinates with Reclamation staff and is the primary point of contact with the Fish and Wildlife Service.	9/30/2008	20,000	20,000	0
1.2.1							
	Subtotal Costs				20,000	20,000	0
<b>1.3</b>	<b>Technical Support</b>						
			Person #1 (Reclamation), Activity Manager for the American and Stanislaus rivers gravel placement activities.	9/30/2008	10,000	10,000	0
1.3.1							
			Person #2 (Reclamation), Activity Manager for the Sacramento River gravel placement activities.	9/30/2008	10,000	10,000	0
1.3.2							
			Person #3 (MP-200,Reclamation), Prepare aerial photos of American River	9/30/2008	10,000	10,000	0
1.3.3							
			Person #4 (MP-200,Reclamation), Construction inspection for American River gravel placement	9/30/2008	10,000	10,000	0
1.3.4							
			Person #5 (MP-200, Reclamation), Prepare engineering work for American River gravel placement	9/30/2008	23,000	23,000	0
1.3.5							
			Person #6 (MP-3800, Reclamation), prepare contract paperwork for all gravel placement	9/1/2008	3,000	3,000	0
1.3.6							
	Subtotal Costs				66,000	66,000	0
<b>1.4</b>	<b>Restoration Actions</b>						

	Name of Activity	FTE's	Description of Activity	Completion Date	Total Cost	Funding Source RF	Funding Source WRR
1.4.1			See Item #1.11.				
	Subtotal Costs				-	-	0
1.7	Outreach and Public Involvement						
1.7.1			Sacramento River Gravel Placement signage, newspaper notice	6/1/2008	100	100	0
1.7.2			American River Gravel Placement Public meeting	5/1/2008	3,000	3,000	0
	Subtotal Costs				3,100	3,100	0
1.8	Planning						
1.8.1			American River Gravel Placement Planning	9/30/2008	4,800	4,800	0
1.8.2			Stanislaus River Gravel Placement Planning	9/15/2008	1,200	1,200	0
	Subtotal Costs				6,000	6,000	0
1.9	Environmental Compliance						
1.9.1			Secure Sacramento River Gravel Placement permits		5,000	5,000	0
1.9.2			Secure American River Gravel Placement permits		9,600	9,600	0
1.9.3			Secure Stanislaus River Gravel Placement permits		1,200	1,200	0
	Subtotal Costs				15,800	15,800	0
1.1	Design						
1.10.1			See Item #1.3.5.				
	Subtotal Costs				-	-	0
1.11	Construction						
1.11.1			Place 9,400 tons of gravel in Upper Sacramento River (~\$26/T).	9/30/2008	245,000	245,000	0
1.11.2			Place 5,000 tons of gravel in American River (~\$37/T).	9/30/2008	275,000	275,000	0

Name of Activity		FTE's	Description of Activity	Completion Date	Total Cost	Funding Source RF	Funding Source WRR
1.11.3			Place 5,000 tons of gravel in Stanislaus River (~\$30/T).		150,000	150,000	0
Subtotal Costs		-			670,000	670,000	0
1.12			Monitoring				
1.12.1			Map redds in gravel placement region in Upper Sacramento River	9/30/2008	15,000	15,000	0
			Document use by salmonids of gravel placed in Upper Sacramento River	9/30/2008	25,000	25,000	0
1.12.3			Identify & develop new gravel deposition sites in Upper Sacramento River	9/30/2008	50,000	50,000	
1.12.4			Map redds in gravel placement region in American River	1/30/2008	2,800	2,800	0
1.12.5			Map topographic profile of gravel placed in American River	9/30/2008	3,100	3,100	0
1.12.6			Conduct gravel permeability study of gravel placed in American River	9/30/2008	50,000	50,000	0
1.12.7			Map redds in gravel placement region in Stanislaus River	1/30/08	2,800	2,800	0
1.12.8			Map topographic profile of gravel placed in Stanislaus River	9/30/2008	3,100	3,100	0
1.12.9			Conduct snorkel survey in vicinity of gravel placed in Stanislaus River	9/30/2008	20,000	20,000	0
Subtotal Costs		-			171,800	171,800	0
1.13			Modeling				
1.13.1			Sediment modelling of gravel placement region in Sacramento River	9/30/08	60,000	60,000	0
Subtotal Costs		-			60,000	60,000	0
Total Costs					1,032,700	1,032,700	0

## CVPIA Program Budget

Task	Agency	FTE	Direct Salary and Benefits Costs	Contract Costs	Misc. Costs	Admin Costs	Total Costs
1.1 Program Management	FWS	0	0	0	0	0	0
	BOR	0.1	11,900	0	0	8,100	20,000
1.2 Program Support	FWS	0.1	16,400	0	0	3,600	20,000
	BOR	0	0	0	0	0	0
1.3 Technical Support	FWS	0	0	0	0	0	0
	BOR	0.5	39,800	0	0	26,200	66,000
1.7 Outreach and Public Involvement	FWS	0	0	0	0	0	0
	BOR	0.05	1,800	0	0	1,300	3,100
1.8 Planning	FWS	0	0	0	0	0	0
	BOR	0.05	3,600	0	0	2,400	6,000
1.9 Environmental Compliance	FWS	0	0	0	0	0	0
	BOR	0.1	9,500	0	0	6,300	15,800
1.1 Design	FWS	0	0	0	0	0	0
	BOR	0	0	0	0	0	0
1.11 Construction	FWS	0	0	0	0	0	0
	BOR	0	0	670,000	0	0	670,000
1.12 Monitoring	FWS	0	0	0	0	0	0
	BOR	0	0	171,800	0	0	171,800
1.13 Modeling	FWS	0	0	0	0	0	0
	BOR	0	0	60,000	0	0	60,000
<b>FWS Total Costs</b>		0.1	16,400	0	0	3,600	20,000
<b>BOR Total Costs</b>		0.8	66,000	904,200	0	41,900	1,012,700
<b>Total</b>		0.9	83,000	904,200	0	45,500	1,032,700

## Five Year Budget Plan

### DRAFT CVPIA 5-Year Budget Plan FY 2009 – 2013

(\$ Thousands)

Funding Source	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Total
W&RR	0	0	0	0	0	0
RF	1,032	1,312	1,574	2,083	2,841	2,963
State	0	0	0	0	0	0
Other (identify)	0	0	0	0	0	0
<b>Total</b>	1,032	1,312	1,574	2,083	2,841	2,963

Note: The FY 2007 – 2013 Budget Plan provides estimates of capability only. The W&RR Appropriations are

displayed as amounts that might be reasonably appropriated each year. These figures do not reflect the future Congressional Appropriations process. All of these estimates will be adjusted annually as RF collections are realized.

The major activity each year will be the placement of gravel. This is a priority action since gravel recruitment in each of the three rivers has been curtailed due to the presence of dams. Monitoring and documenting the use by salmonids is essential to determine the efficacy of the gravel placed. The selection of additional sites could provide additional benefits but that is a lower priority.