September 30, 2005
Work Plan for Fiscal Year 2006

I. Hamilton City Pumping Plant Fish Facility CVPIA § 3406 (b)(20)

II. Responsible Entities

	Agency	Staff Name	Role
Lead	Reclamation	Lauren Carly	Program Manager
Co-Lead	USFWS	Aondrea Leigh-Bartoo	Program Manager

III. Program Objectives for FY 2006

A. Elimination of loss or damage to up to 20 million juvenile salmon and other fish species in the Sacramento River at Hamilton City from water diversion at the Glenn-Colusa Irrigation District (GCID) Hamilton City Pumping Plant.

B. Permit GCID to divert up to 3,000 cfs from the Sacramento River under their allocations, rights and contracts, including providing long-term capability to divert105,000 acre-feet of water for the 20,000-acre Sacramento NWR complex to maintain existing habitat for significant species.

C. Construct a fish passage facility that will have at least a 50-year functional life.

Source Documents:

EIR/EIS for the Hamilton City Pumping Plant Fish Screen Improvement Project, October 3, 1997.

BIOLOGICAL OPINIONS

1. Fish and Wildlife Service Amended Biological Opinion and Conferences Opinion on the Hamilton City Pumping Plant Fish Screen Improvement Project, Glenn County, California. March 11, 1998

2. Department of fish and Game ("DFG") Biological Opinion. April 21, 1998

3. National Marine Fisheries Service Biological Opinion (Endangered Sacramento River Winter-run Chinook salmon and the threatened Central Valley steelhead) March 25, 1998.

RECORD OF DECISION'S and NOTICE OF DETERMINATION'S

1. Glenn-Colusa Irrigation District; Notice of Determination. June 19, 1998

2. Bureau of Reclamation Record of Decision. March 26, 1998

3. Department of Fish and Game Notice of Determination. May 20, 1998

4. Corps of Engineers; Record of Decision for 404 Permit. April 24, 1998

5. Corps of Engineers; Record of Decision for the Gradient Facility

PERMITS

1. Notice Tentative Waste Discharge Requirements for Glenn-Colusa Irrigation District Fish Screen Improvement Project Glenn and Tehama Counties. California Regional Water Quality Central Board, Central Valley Region.
June 22, 1998

2. Section 404, Clean Water Act and Section 10 Rivers and Harbors Act, 1899, Corps of Engineers. June 5, 1998

3. 1601 Stream Bed Alteration Permit; (Not Available)

4. Reclamation; Reclamation Board, May 22, 1998. Board Permit

GUIDANCE MANUAL Fish Protection Evaluation and Monitoring Program, adopted January 30, 2001, as amended by the Testing Oversight Committee (Evaluation Committee).

IV. Status of the Program

In 1991 the National Marine Fisheries Service, pursuant to the Endangered Species Act (ESA), enjoined the Glenn-Colusa Irrigation district (GCID) from pumping from the Sacramento River during the peak downstream winter-run Chinook salmon migration. The injunction was settled with a stipulation that reduced GCID's diversion until a long-term effective fish screen system is built.

The project, agreed to by the eight cooperating agencies on December 18, 1996, consists of extending and upgrading the existing fish screen and improving its bypass system, and installing a Gradient Restoration Facility (GRF) in the river.

The planning phase was completed in 1997 for about $14 million. Construction began in FY 1998. Construction of the facility was completed in spring 2001 at a

cost of $48 million. This completes about 82% of objectives A, B and C, above. The biological and hydraulic testing and monitoring program started in the summer of 2001 and is underway to determine to what degree the facility is meeting the objectives. A minimum of 20 parameters were identified for testing and monitoring.

At the end of FY 2006 the planned funding will be 99.7% complete and the schedule will be 88% complete for the total project. The project is scheduled to be transferred to operations and maintenance status by October 1, 2008, if the testing program finds the facility meeting objectives A, B and C above. This will also allow for final accounting and audit and close out of the entire project.

The principal effort in FY 2006 is to continue the testing and monitoring program, with the plan to complete it in FY 2007. Of the $77,000 proposed for FY 2006, over $40,000 is for the testing program. GCID will contribute $50,000 to the testing program. The Corps of Engineers will contribute $200,000 to modifying the GRF to ensure it meets the hydraulic characteristics to which it was designed. Problems with designing, building and operating a facility to capture a sufficient amount of test fish extended the testing program by several years. Other problems with obtaining suitably small Chinook fry during the important summer test times and measuring the approach velocity at the screen face also extended the testing program. FY 2005 is only the second year that suitable size test fry, of the acceptable species, have been available. The requirement is to collect at least three years of acceptable data for each of the testing parameters. The team added another testing parameter in FY 2006 to determine the number of test fish lost due to predators in the bypass channels.

To date, the mechanics of measuring approach velocity at the upstream face of the screen, per NMFS requirements, are yet to be successful. Multiple tests at the site and in the Reclamation Technical Service Center's Hydraulics Lab appear to have narrowed down the source of the problem. The balance of the proposed FY 2006 budget is for contract and project management.

V. FY 2005 Accomplishments

The fifth year of hydraulic testing and the fourth year of biological testing were completed as planned. Some elements of the facility have met the hydraulic requirements. Others will require one more year of testing after the GRF is determined to be functioning as designed. Determining the velocities along the fish screen face continues to be an ongoing problem.

FY 2005 was the second year that salmon fry were able to be used for the biological testing. At least one more year of salmon fry data are required to constitute a minimum data set.

After the high Sacramento River flows in March receded, the GCID crew prepared the site during April 2005 for the season's evaluation program. Among other activities, this

effort included ordering equipment and supplies, preparing the vertical H piles and catwalk for the large fyke net, grading the site, and placing the fish holding tanks near the flow-control weir.

Fish survival tests at the fish screens were initiated in late April using fall-run Chinook salmon fry from Feather River Hatchery. However, the first tests were aborted due to heavy debris loads that damaged fish sampling gear. Before testing could reinitiated, forecasted high flows during May prompted the removal of all equipment to avoid flood damage. During May, river flows were too high to conduct the experiments. After the unseasonable late rains and high river flows receded in late May, fish testing began during the first half of June (Figure 1). The unusual late-season precipitation caused a late start of the fish screen testing program compared to past years. By June 14th, six tests had been conducted with the bypass closed (three daytime tests and three nighttime tests). A pilot effort to electrofish for predatory fish was conducted on June 13th but was uneventful (due to lack of fish at the site, the technique, or time of day). The fish testing program is scheduled to occur every week on Tuesdays and Thursdays, day and night, for the remainder of the season with electrofishing conducted on alternating Mondays.

Coordination occurred with the U.S. Fish and Wildlife (USFWS) office in Red Bluff and Coleman National Fish Hatchery (CNFH), under an inter-agency agreement with Reclamation, to obtain late-fall Chinook fry for the testing program this year. The USFWS requires that all fry be coded-wire tagged before release at the GCID screens. Logistical details were worked out between the Reclamation, USFWS, GCID, and NRS, Inc. to tag the salmon fry.

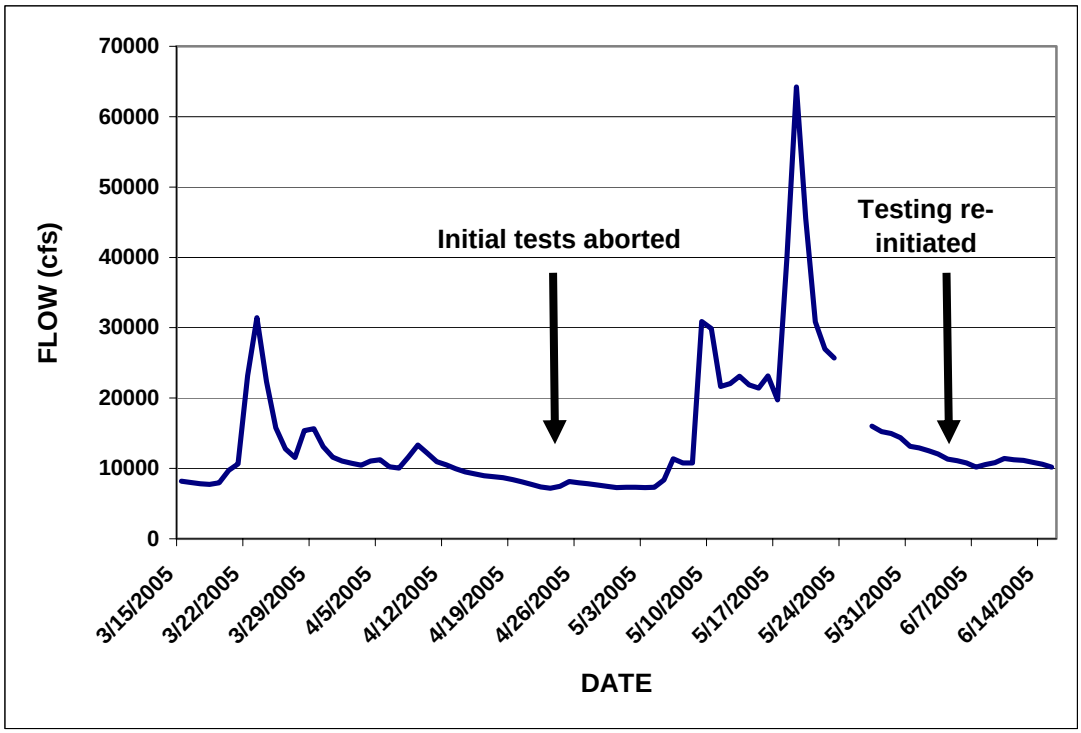

Figure 1. Sacramento River flow (cfs) near Hamilton City (March 15 – June 15, 2005.

The acoustic telemetry equipment for the gradient facility evaluation was ordered and received by early June. This year, adult sturgeon will be captured, tagged with acoustic (sonic) transmitters and monitored using fixed-station receivers positioned downstream, within, and upstream of the gradient facility. Initial field tests of the equipment on the Sacramento River demonstrated an effective range of approximately 300 yards between the underwater transmitters and receivers which is more than sufficient for the study. Because of the high, late-season river flows, the study could not be initiated until June.

The fish telemetry equipment is compatible with green sturgeon evaluations underway by University of California (UC) researchers. If any of the UC-tagged sturgeon migrate through the gradient facility, the receivers will record data on fish movements through the site.

By June 30th, 17 fish survival tests at the fish screens had been conducted; 16 of those tests resulted in greater than 50% recapture rates for both control and experimental groups of fish. Of the 16 successful tests conducted to date, nine tests occurred during daytime and seven during nighttime. Fourteen of the tests occurred with the internal fish bypasses closed and two with the bypasses opened. All tests are currently using late-fall Chinook salmon from Coleman National Fish Hatchery.

The delay in initiating tests with fish screen bypasses opened was attributable to a requirement for GCID personnel to become certified in crane operation (necessary for opening and closing bypasses). Beginning in late June, the tests will be conducted on alternating weeks with bypasses opened and closed for the remainder of the season. The crane operation requirement also delayed electrofishing for predatory fish downstream of the flow-control weir because a crane is needed to place and remove the California Department of Fish and Game boat at that location. The testing team is endeavoring to determine if the 80-85% survival rate found so far is due largely to predators or other factors, considering that the screen structure was designed and inspected to be fish tight.

ADCP water velocity profiles and flow measurements continue to be taken weekly at two locations in the forebay: four transects immediately behind the screens to determine flow distribution and six transects in front of the pump station to determine total flow. All transects are measured on the same day.

The acoustic telemetry receivers for the gradient facility evaluation were placed in the river downstream, within, and upstream of the gradient facility, and in the oxbow channel. The receivers were strategically positioned to monitor any sonic-tagged adult green or white sturgeon migrating through this reach of the Sacramento River. No sturgeon were captured and tagged by the end of June.

During mid-August, hydraulic engineers will convene at the fish screen structure to use alternative means of measuring approach velocity at the screen face. This information

will be compared to data taken behind the screen to determine if the approach velocity is less than the design parameter of 0.33 fps.

Results of these fish passage tests and hydraulic will not be available until the end of 2005.

VI. Tasks, Costs, Schedules and Deliverables:

A Narrative Explanation of Tasks. The potential for incremental funding of the following tasks is based on their order of priority, which is listed below.

1. Program Management (BR) (this group of tasks are inseparable, expect for 1.3). This is an ongoing commitment throughout the life of the project. Meets objectives A & B listed above.

   1.1 Developing annual project budget, monitoring expenditures and cost sharing percentages and updating the total project cost tracking sheets. The total project cost is tracked over five agencies and 16 years, include accounting for the payments of cash form one cost sharing partner to another. Meets objectives A & B listed above. Deliverables for this task include Spread sheets showing budget changes, expenditures and total project cost and cost sharing percentages for all cost sharing partners for all project fiscal years.

   1.2 Contracting Officer's Representative on two contracts and one Agreement. Contracting Officer's Technical Representative on the project's portion of the annual Fish and Wildlife Service inter-agency agreement and a second interagency agreement for supplying fry-sized fish. Deliverables include reviewed and certification of pay voucher and supporting material, purchase requests and supporting information to request modifications to the contract, notes on monitoring contract compliance, and documentation of contract compliance and scope issues.

      1.2.1 Cooperative Agreement 1425-99-FC-20-0224, dated September 30, 1999, term September 30, 2008. Current contract value of $14,518,000. The purpose of this agreement is to reimburse GCID for allowable costs incurred above the non-federal 25 percent limit.

      1.2.2 Grant 04-FG-20-2025, dated September 7, 2004, term September 30, 2005. Current contract value of $3,625,000. The purpose of this agreement is to reimburse GCID for early joint planning costs they incurred that are not covered by Agreement 1425-99-FC-20-0224

1.2.3 Project Management Agreement, dated August 13, 1997, term at final accounting of the project or by mutual agreement of the parties, whichever comes first. This is not a funding agreement. The purpose of this agreement is to spell out roles and responsibilities for various tasks on the project.

1.2.4 Fish and Wildlife Service, Service Agreement. Annual. General value of this project's portion is $3,920 or around 4 biologist's days. Meets objectives A, B and C listed above. The purpose of this agreement is to pay FWS for participation in the project.

1.2.5 Interagency Agreement No. 04-IA-294001 with FWS to provide 3 years of test fry that are coded-wire tagged for $25,000 per year, for 2004, 2005 and 2006 for a total of $75,000. One more year of funding and work will be added for FY-07, during FY-06.

1.3 Producing issue papers and various status reporting documents. Products include multiple drafts of annual CVPIA Work Plans, Activity Plans, annual and various briefing papers for the Regional Director, Commissioner and others. Fields any inquiries from public affairs, the press and others for information on the project. Provides draft responses to congressional and inquiries. Meets objectives A & B listed above. Products include draft and final issue papers, status reports, and letters.

1.4 Monitoring and managing the project schedule. Meets objectives A & B listed above.

1.5 Miscellaneous Program Management duties such as keeping the e-mail contact group lists up to date, keeping the phone and address list up to date, providing data to requesting entities, and monitoring the scope of the project. Products include meeting and conference call notes, letters and data collection tracking sheets.

2. Fish Screen System Testing (Hydraulic and biological testing are separable. However, TOC meetings and ESA and NEPA work is inseparable from ether or both types of testing.) This is an ongoing commitment; FY-06 is the sixth year of a seven-year testing program. Meets objectives A & B listed above. Products include comments on draft reports and data, hand out materials, conference calls notes, meeting agenda, hand outs and draft and final notes.

2.1 Hydraulic Testing and Reporting. The Hydraulic testing follows the protocol in the Guidance Manual. In FY-06, the effort will be

concentrated on the velocities at the fish screen face. Additional hydraulic testing will be conducted, depending on the outcome of the decisions on the performance of the GF. Products include periodic status reports and draft and final technical reports for the 2005 effort. Meets objectives A, B & C listed above.

2.2 Biological Testing and Reporting. The biological testing follows the protocol in the Guidance Manual. The effort in FY-06 will be very similar that that described above for FY-05. Products include periodic status reports and draft and final technical reports for the 2005 effort. Meets objectives A & B listed above.

2.3.1 Testing Oversight Committee (TOC) Meetings (BR). A minimum of one meeting will be held in FY-06, with other meetings scheduled ad hoc. Phone conferences are also held ad hoc. Products include an agenda, technical handouts and detailed draft and final notes for meetings and conference calls. Meets objectives A & B listed above.

2.3.2 Testing Oversight Committee (TOC) Meetings (FWS). A minimum of one meeting will be held in FY-06, with other meetings scheduled ad hoc. Phone conferences are also held ad hoc. Products include an agenda, technical handouts and detailed meeting notes afterward. Meets objectives A & B listed above.

2.4 Ensuring ESA and NEPA compliance. This will consist of detailed written requests for consultation to NOAA Fisheries, Fish and Wildlife Service and California Department of Fish and Game as needed, and related phone conferences. Meets objectives A & B listed above. Products include draft and final letters and meeting and conference call notes.

3. Complete Construction Documentation and Transmit to GCID. (separable) Complete sets of all operation and maintenance manuals provided by the construction contractor will be checked, labeled and transmitted to GCID, along with CD's and the Construction Report. FTE's. Meets objectives A & B listed above. Products include a final construction documentation report, as-built drawings and contractor operation and maintenance (O&M) manuals.

Schedule and Deliverables

#	Task	Dates		Deliverable
		Start	Complet	

			e	
1	Program Management (BR)	10/01/05	09/30/06	See below.
1.1	Managing Annual budget	10/01/05	09/30/06	Spread sheets showing budget changes, expenditures and total project cost and cost sharing %'s for all cost sharing partners for all project fiscal years.
1.2	COR	10/01/05	09/30/06	See below.
1.2.1	Cooperative agreement	10/01/05	09/30/06	Reviewed and certification of pay voucher and supporting material. Purchase requests and supporting information to request modifications to the contract. Notes on monitoring contract compliance. Documentation of conversations/meetings with contractors.
1.2.2	Grant	10/01/05	09/30/06	Reviewed and certification of pay voucher and supporting material. Purchase requests and supporting information to request modifications to the contract. Notes on monitoring contract compliance. Documentation of conversations/meetings with contractors.
1.2.3	Project Management Agreement	10/01/05	09/30/06	Documentation of any deviations from the agreement. Notes on monitoring contract compliance. Documentation of conversations/meetings with contractors.
1.2.4	Two FWS Interagency Agreements	10/01/05	09/30/06	Annual scope of work, budget and certification of pay vouchers and work accomplishment. Notes on monitoring contract compliance. Documentation of conversations/meetings with contractors.
1.3	Issue Papers & Status Reports	10/01/05	09/30/06	Draft and final Issue papers, status reports, and letters.
1.4	Monitoring Schedule	10/01/05	09/30/06	Revised schedule if necessary

1.5	Other Program Responsibilities	10/01/05	09/30/06	Meeting and conference call notes, letters and data collection tracking sheets.
2.0	Fish Screen System Testing	10/01/05	09/30/06	See below.
2.1	Hydraulic Testing	10/01/05	09/30/06	Comments on draft reports and data. Distribution of materials. Conference call notes.
2.2	Biological Testing	10/01/05	09/30/06	Comments on draft reports and data. Handout materials. Conference call notes.
2.3.1	Testing Oversight Committee (BR)	10/01/05	09/30/06	Meeting agenda, hand outs and draft and final notes. Handout materials. Conference call notes.
2.3.1	Testing Oversight Committee (FWS)	10/01/05	09/30/06	Participation in the meetings and comments on the draft notes.
2.4	ESA and NEPA Compliance	10/01/05	09/30/06	Request for consultation letters to NOAA Fisheries. Notes from consultation conference calls.
3.0	Complete Construction Documentation	10/01/05	09/30/06	Final Construction Documentation Report, As-built drawings and O&M Manuals

C. Summary of Program Costs and Funding Sources.

#	Task	Total Cost	Funding Source W&RR	GCID	Corps of Engineers
1.0	**Program Management (BR)**	**156,070**	**56,070**		**100,000**
1.1	Managing Annual budget	4,000	4,000		
1.2	**COR**	**41,570**	**41,570**		
1.2.1	Cooperative agreement	3,000	3,000		
1.2.2	Grant	8,000	8,000		
1.2.3	Project Management Agreement	1,000	1,000		
1.2.4	Two FWS Interagency Agreements	29,570	29,570		
1.3	Issue papers & Status Reports	8,000	8,000		
1.4	Monitoring Schedule	1,000	1,000		
1.5	Other Program Responsibilities	1,500	1,500		
2.0	**Fish Screen System Testing**	**165,880**	**15,880**	**50,000**	**100,000**
2.1	Hydraulic Testing	126,500	1,500	25,000	100,000
2.2	Biological Testing	26,500	1,500	25,000	
2.3.1	Testing Oversight Committee (Reclamation)	5,960	5,960		
2.3.1	Testing Oversight Committee (FWS)	3,920	3,920		
2.4	ESA and NEPA Compliance	3,000	3,000		
3	Complete Construction Documentation	5,050	5,050		
Total Program Budget		$327,000	$77,000	50,000	200,000

Explanatory Notes:

1. Per the Cooperative Agreement and Project management Agreement, GCID supplies the majority of the testing staff and equipment as in-kind services towards

meeting their 25% non-federal contribution to the total project costs.

2. Figures shown in bold are subtotals.

CVPIA Program Budget

#	Task	FTE	Direct Salary and Benefits Costs	Contracts Costs	Misc. Costs	Admin Costs	Total Costs
1.0	**Program Management (BR)**		**13,827**	**25,570**	**500**	**16,173**	**56,070**
1.1	Managing Annual budget	.02	1,828			2,172	4,000
1.2	**COR**		**7,379**	**25,570**		**8,621**	**41,570**
1.2.1	Cooperative agreement	.01	1,392			1,680	3,000
1.2.2	Grant	.04	3,698			4,302	8,000
1.2.3	Project Management Agreement	.005	461			539	1,000
1.2.4	Two FWS Interagency Agreements	.02	1,828	25,570		2172	29,570
1.3	Issue papers & Status Reports	.04	3,698			4,302	8,000
1.4	Monitoring Schedule	.005	461			539	1,000
1.5	Other Program Responsibilities	.005	461		500	539	1,500
2.0	**Fish Screen System Testing**		**4,624**	**3,920**	**1,960**	**5,376**	**15,880**
2.1	Hydraulic Testing	.01	461		500	539	1,500
2.2	Biological Testing	.01	461		500	539	1,500
2.3.1	Testing Oversight	.04	2,314		960	2,686	5,960

	Committee (BR)						
2.3.1	Testing Oversight Committee (FWS)			3,920			3,920
2.4	ESA and NEPA Compliance	.03	1,388			1,612	3,000
3.0	Complete Construction Documentation	.04	2,314		50	2,686	5,050
Total Program Budget		20,765	29,490	2,510	24,235	77,000	

Explanatory Notes:

1. Budget estimates based on expenditure trends for the same tasks.
2. Figures shown in bold are subtotals.

Table E. CVPIA 5-Year Budget Plan FY 2007 – 2011

($ Thousands)

Program Description and Section		FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	Total ($)
	W&RR	77	58	58	0	0	193
	RF	0	0	0	0	0	0
	State	0	0	0	0	0	0
	Other (GCID)	50	50	80	0	0	180
	Other (Corps of Engineers)	0	0	0	0	0	0
Total:		127	108	138	0	0	373

1. Major activities

FY-06

Project Management $30,500
Hydraulic and Biological Testing $41,450 (includes $25,570 contract modification for coded wire tagged test Chinook fry from FWS for 2007)
Construction Documentation $5,050

FY-07

Project Management $36,000
Hydraulic and Biological Testing $22,000

FY-08

Project Management $43,000
O&M Manual $15,000
Contract and project close out of financial records and final audit.
Transfer ownership of facility

(capability = the maximum amount of work that you could execute in a given year. Each year's list of proposed activities should be unconstrained. It does however need to be realistic of your ability to obligate the funds. You may not plan on carrying over funds as a strategy).

WRR – Water and Related Resources Appropriations
RF – Restoration Fund (Section 3407)
State – State of California cost share funding
FY 2007 – 2011 WRR Appropriations are displayed as amounts that might be reasonable appropriated each year. These figures could significantly change in the Congressional Appropriations process. The annual RF budgets were estimates taking into account the three-year rolling average. All of these estimates will be adjusted annually as RF collections are realized.