

Work Plan for Fiscal Year 2005

I. Program Title. Anadromous Fish Screen Program CVPIA Section 3406 (b)(21)

II. Responsible Entities

	Agency	Staff Name	Role
Lead	USFWS	William O'Leary	Program Manager
Co-lead	USBR	Dan Meier	Project Manager

III. Program Objectives for FY 2005

The primary objective of the Anadromous Fish Screen Program (AFSP) is to protect juvenile chinook salmon (all runs), steelhead trout, green and white sturgeon, striped bass and American shad from entrainment at priority diversions throughout the Central Valley. Section 3406(b)(21) of the Central Valley Project Improvement Act (CVPIA) requires the Secretary of the Interior to assist the State of California in developing and implementing measures to avoid losses of juvenile anadromous fish resulting from unscreened or inadequately screened diversions on the Sacramento and San Joaquin Rivers, their tributaries, the Delta, and the Suisun Marsh. Additionally, all AFSP projects meet Goal 3 of the CALFED Ecosystem Restoration Program's (ERP) Draft Stage 1 Implementation Plan (8/1/01, Page 22) which states that "...the goal is to maintain and/or enhance populations of selected species for sustainable commercial and recreational harvest, consistent with the other ERP Strategic Goals".

Currently, there are approximately 2,200 agricultural diversions in the Sacramento-San Joaquin Delta, 740 in the Sacramento River system, 150 with the San Joaquin River system, and 370 in the Suisun Marsh basin. The National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) estimates that up to 10,000,000 anadromous salmonid fish fry are lost annually to diversions from the Sacramento River alone. The AFSP contributes to the overall restoration of anadromous fisheries within the Sacramento and San Joaquin River systems, and the Delta by protecting juvenile fish from entrainment at these diversions. By protecting fish from entrainment, the AFSP enhances anadromous fish outmigrant success, thereby indirectly enhancing the commercial and recreational harvest of these species, which meets ERP Draft Stage 1 Implementation Plan Strategic Goals.

The AFSP fulfills not only the CVPIA mandate but also coordinates with other region-wide ecosystem programs. The CALFED ERP currently supports AFSP goals through actions identified in the Strategic Plan for Ecosystem Restoration and the ERP Draft Stage 1 Implementation Plan, and both the ERP and AFSP are committed to completing all ongoing fish screen projects as describe in ERP's Draft Stage 1 Implementation

Plan. Coordination between the AFSP and ERP programs ensures that the mandated federal cost share (not to exceed 50%) associated with fish screens is met. In other words, the AFSP and ERP programs must jointly make decisions on funding fish screens unless and until a nonfederal cost-share other than ERP is identified and secured.

IV. Status of the Program

Since 1994, 21 fish screen projects have been completed with cost share funds from the AFSP. One AFSP project was completed in calendar year 2004. This project was the screening of the City of Sacramento's municipal intake on the Sacramento River.

The AFSP functions through two primary means. First, the AFSP provides funds to diverters who apply to the program to install fish screens on their diversions. Second, the AFSP Technical Team, comprised of experts from federal and State agencies, provides fish screen design review and technical guidance to the diverter and their consultants throughout project phases.

Funding for fish screen projects is prioritized as discussed in the AFSP Program Description (January 1999). The Program Description outlines the program purpose, scope, organization, and project priority guidelines for the AFSP. In addition, current AFSP fish screening project priorities are coordinated with CALFED to ensure consistency of the goals and objectives of Section 3406(b)(21) of CVPIA with the goals and priorities of the CALFED Strategic Plan for Ecosystem Restoration and the ERP Draft Stage 1 Implementation Plan.

The AFSP continues to coordinate with CALFED to ensure that federal funds allocated to specific projects can be reasonably expected to be matched by the State, and future fish screen priorities are also being coordinated through an interagency group called the Fish Screen Evaluation Committee. This committee was convened in 2004 at the request of the USFWS to identify criteria for whether a diversion should be screened, and based on these criteria, refine common interagency goals for future fish screen projects. The committee is formed of members representing NOAA Fisheries, CDFG, USFWS, DWR, Bureau of Reclamation, ERP, and the ERP Science Board.

The Fish Screen Evaluation Committee is currently developing plans to assess and quantify the benefits of fish screen projects to overall fisheries restoration. Although quantifying the benefits of fish screens in the short term is infeasible, various studies could provide sufficient information to allow decisions to be made in the short term. The types of studies currently being discussed include capture of fish entrained at unscreened diversions using fyke nets. These studies could show correlations between entrainment of fish and orientation of the diversion to the bank or bend of a river, or between entrainment of fish and percentage of flow diverted. The CALFED ERP solicited proposals for monitoring projects during the Fall of 2004. The AFSP will

consider matching State funds for select proposals that focus on screen monitoring studies as discussed above.

The AFSP is also coordinated with other programs such as the Anadromous Fish Restoration Program (AFRP) and the Comprehensive Assessment and Monitoring Program (CAMP). The Restoration Plan for the AFRP identifies restoration actions, including fish protective measures at water diversions, throughout the Central Valley/Bay Delta to help double populations of naturally produced anadromous fish. The CAMP provides funding for assessing the effectiveness of various restoration activities. Both of these programs have been and will continue to be coordinated with the AFSP.

The AFSP has assisted irrigation districts, water companies, and municipalities with the screening of many diversions ranging from 17 cubic feet/second (cfs) up to 1,000 cfs since the mid 1990's. Currently, the AFSP is involved with at least seven applicants pursuing various phases of their projects.

Lack of secure funding is often an impediment to diverters considering a fish screen for their diversion(s). Fish screen projects are constructed in phases, starting with a feasibility study, preliminary design (in conjunction with preliminary preparation of environmental documents), final design (in conjunction with completion of environmental documents), and ultimately construction. Thus, the diverter must commit to a project that will take several years to complete. In the past, this commitment was often made without both federal and non-federal funds completely secured. As discussed above, the level of coordination between AFSP and ERP eliminates much of that certainty. If a decision is made to fund a screen, the decision is made jointly to ensure both federal and non-federal fund sources. Upon completion of the project, the diverter becomes the owner of the facility and is solely responsible for the operation and maintenance of the fish screen.

The AFSP has received about \$3 million in CVPIA funds in FY04 and anticipates receiving \$8.2 million in CVPIA funds in FY05 for ongoing projects. The AFSP project applicants also received a commitment of over \$17 million in CALFED funds for AFSP projects in FY02 and FY03 through their FY02 PSP and Directed Action processes. These non-federal funds were awarded to Natomas Mutual Water Company (NMWC), Sutter Mutual Water Company (SMWC), Reclamation District 108 (RD108), Meridian Farms Water Company (MFWC), the M&T Ranch, and Llano Seco Wildlife Refuge. However, no additional CALFED funds were awarded in FY03 and FY04.

All current and ongoing AFSP projects mentioned in this Work Plan are funded by CALFED and are all identified in their Strategic Plan for Ecosystem Restoration Plan and their ERP Draft Stage 1 Implementation Plan as high priority projects. The

CALFED funds are non-federal and could constitute 50 percent or more of the cost of these AFSP projects.

In FY05, additional CALFED ERP funds for ongoing AFSP projects will be awarded to project applicants through a process coordinated with AFSP. Current AFSP project applicants can submit their CALFED proposals for funding through the AFSP Technical Team for review, and after AFSP Tech Team and Steering Committee approval, the application will be forwarded to the ERP program for CALFED review and approval. Applicants can apply and receive funding for construction only when they are finished with their engineering designs and environmental permitting.

A full commitment of project funds in FY05 for projects mentioned in this work plan would greatly exceed the available \$8.2 million in CVPIA funding discussed here. That is, the current need for AFSP funding in 2005 based on current project schedules (and assuming additional non-federal funds become available) exceeds the proposed President's Budget.

V. FY 2004 Accomplishments

Construction of a fish screen was completed in 2004 for the City of Sacramento's Sacramento River municipal intake facility. This screen protects outmigrating spring, fall, and winter-run Chinook salmon, Central Valley steelhead, Delta smelt, and Sacramento splittail, as well as resident game and non-game fish from entrainment. Since this intake is within an area occupied by Delta smelt, the fish screen is designed to meet the more stringent Delta smelt protection criteria.

At the Sacramento River intake, the original intake structure was inadequately screened, and a modern fish screen could not be retrofitted to the antiquated structure. Thus, the original intake facility was preserved as a historic structure and a new diversion facility was constructed immediately downstream with a fish screen structure that meets modern CDFG, NOAA Fisheries, and USFWS screen criteria. Cost-share funding for this project is only provided for features of the project required for screening and protecting fish.

In 2004, the University of California Davis completed treadmill fish screen research studies funded by the AFSP which began in FY01. These studies included performance tests of fish under the influence of various fish screen diversion conditions. Behavioral observations for species of different sizes, at different temperatures and time of day, and at different approach and sweeping velocity combinations are ongoing. Fish injury and latent mortality were also investigated with results presented to the AFSP Technical Team and other experts for peer review.

Prior year AFSP funding (FY99 through FY04) also has contributed to the completion of engineering feasibility studies and/or reconnaissance studies, the initiation of

environmental documentation, and/or the initiation of final designs in FY04 for the NMWC, SMWC, RD108, Pleasant Grove/Verona Mutual Water Company(PGVMWC), and Meridian Farms Water Company.

VI. Tasks, Costs, Schedules, and Deliverables

A. Narrative Explanation of Tasks.

1. Program Management.

The AFSP will continue work for ongoing fish screen projects currently supported by the CVPIA and ERP and conduct studies and assessments to improve knowledge of fish screen criteria. To date, \$8,200,000 has been identified for the AFSP from the Restoration Fund in FY05. Of this total, \$1,216,632 is needed for USFWS and Reclamation program management, \$181,684 for hired engineering expertise, \$500,000 for monitoring and assessments, \$5,073,495 is to be used for cost share funding for the Sutter Mutual Water Company (SMWC), \$911,189 is intended to be used for cost-share funding for the Natomas Mutual Water Company (NMWC) project, and \$317,000 is intended for cost share funding for RD999 as discussed below. In the event that the SMWC, NMWC, RD999 or other AFSP projects begin construction in FY05, additional funding needs discussed below are only a fraction (based on the \$8,200,000 available) of funds actually needed, particularly if full federal and nonfederal cost share funds for construction are to be secured prior to initiation of construction.

1.1.Sutter Mutual Water Company

SMWC will complete its environmental permitting and final design in early FY05, and will be ready to initiate construction by summer 2005. The SMWC diverts over 900 cfs from their Tisdale Pumping Plant and is currently the largest unscreened diversion on the Sacramento River. Cost share funding of \$3,404,005 was committed through FY04 from the AFSP for environmental documentation, feasibility studies, preliminary design, final design, and initiation of construction. A non-federal share funding of \$1,870,000 has been secured from CALFED through FY03. With the addition of \$5,073,495 of federal funds committed to SMWC in FY05, the SMWC will have its full 50 percent federal cost share secured and could initiate construction in FY05. The completion of this fish screen project will ensure year-round protection of listed fisheries from entrainment losses at the intake.

Estimated Cost = \$5,073,495

1.2.Natomas Mutual Water Company

NMWC initiated environmental permitting and preliminary design in FY02, initiated final engineering designs in FY03, and is expected to complete 100% design in FY05. This project consists of consolidating five existing unscreened diversions into two screened diversions for a total of approximately 630 cfs on the Sacramento River. Cost-share funding of \$6,847,205 was committed through FY04

from the AFSP for environmental documentation, feasibility studies, preliminary design, final design, right of way acquisition and initiation of construction. A nonfederal cost share funding of \$14,950,000 has been secured from CALFED through FY03. Construction is expected to begin in FY05. The completion of this fish screen project will ensure year-round protection of listed fisheries from entrainment losses at the intake.

Estimated Cost=\$911,189

1.3. Reclamation District 999

RD99 diverts approximately 100 cfs from a diversion on the Sacramento River near Clarksburg. The project design uses cylindrical screen technology resulting in a very cost effective project. RD999 has requested funding of \$317,000 from the AFSP to be used in completing project environmental permitting and final design in early FY05. This project could be ready for construction by Summer 05. RD999 has secured their 50 percent non-federal cost share through the Wildlife Conservation Board and RD999. With the federal funds of \$317,000 committed, RD999 could be completed in FY05.

1.4 Program Management

Costs for the AFSP involves salaries and benefits for Program Manager, technical support, administrative support, engineers, biologists, and overhead costs (Table D). Program tasks for the AFSP include design review, contract administration, developing and tracking budgets, reviewing invoices, coordinating Technical Team actions, preparing cooperative agreements and grants, and coordinating environmental compliance. An additional task provided by the AFSP will be to continue with efforts to evaluate the contribution of fish screen projects on overall fisheries restoration and prioritize future screening efforts.

Estimated Cost=\$ 1,216,632

1.5 Monitoring and Assessment

The AFSP and the Fish Screen Evaluation Committee have identified the need to monitor and assess fish losses of unscreened diversions within the Sacramento and San Joaquin River systems and Delta. This effort would be initiated in FY05 and is anticipated to continue into the future. The initial monitoring and assessment effort will be initiated in FY05 for a 1 year study. This study will have estimated effort of 3 full time persons (contracted) at 2 to 3 sampling stations at diversions selected within the Sacramento River, San Joaquin River, and/or Delta systems. Also included in this cost estimate are efforts to conduct a literature search on available data on fish losses at unscreened diversions and an investigation into the applicability of using population models in conjunction with data gathered in the field. Fifty percent or more of costs of this task could be paid by CALFED through their Monitoring and Assessment PSP or other funding process.

Estimated Cost =\$500,000

1.6 Engineering Expertise

Engineering services are provided to the AFSP through a separate annual contract with the NOAA Fisheries. Engineering services include technical design assistance and review of project deliverables, dive inspections of existing and newly constructed facilities, and post-construction hydraulic and other field evaluations.

Estimated Cost = \$181,684 Total CVPIA Estimated Cost = \$ 8,200,000

Additional Program Needs

In addition to the SMWC, RD999, and the NMWC projects, there are a number of other active AFSP projects that have received some non-federal funds for various project phases. The status of these projects is discussed below.

RD108 submitted the 60% project design in June 2004. The design entails consolidating their three existing facilities on the Sacramento River into one screened diversion of approximately 300 cfs. Currently, the three individual diversions total about 377 cfs. The consolidated alternative would require the construction of new and more efficient canal systems interconnecting the three separate diversions, thereby requiring fewer intake facilities and less water to meet the same irrigation needs. The District has received \$1,982,705 through FY04 from the AFSP for completion of project design and environmental documents, post construction evaluations and assessment plans, and long term operation and maintenance plans to construct the project. Non-federal cost share funding of \$630,000 was secured through the CALFED Directed Action process in FY03. If the remaining needed funds are made available, project construction could be initiated in FY05.

Meridian Farms Water Company (MFWC) diverts water from the Sacramento River to irrigate 10,000 acres in Sutter County from three diversions (100 cfs, 50 cfs and 40 cfs). The Company has been working with the AFSP Technical Team to consolidate these diversions into two screened diversions. Cost share funding of \$350,000 from the AFSP was committed in FY99 through FY02 for the completion of environmental documents and permits and the completion of final design. Cost-share funding of \$750,000 was also committed through the CALFED PSP for FY02 and constitutes a portion of the non-federal cost share. MFWC completed the 30% design in June 2004. If the remaining needed federal and nonfederal project funds are made available, project construction could be initiated in FY05.

RD2035 has a 400 cfs diversion on the Sacramento River just upstream of the City of Sacramento. The diversion provides irrigation water for over 17,000 acres of agricultural land in Yolo County. The District also manages 2,000 acres of waterfowl habitat on an annual basis. Final design for the fish screen structure for this diversion was completed in 2003. The AFSP has provided \$1,085,931 of funding for this project through FY04. To

date, CALFED has provided \$1,484,000 of funding for this project. If the remaining needed federal and nonfederal project funds are made available, this project could be ready for construction in FY05.

PID has a 190 cfs unscreened diversion on the San Joaquin River near Patterson. PID has received \$786,000 in funds from CALFED to date for feasibility studies, environmental documentation and final design, and has received \$200,000 from the AFSP in FY04 for construction. PID completed the 30% design in July 2004. If needed federal and nonfederal funding becomes available, project construction could be initiated in FY05.

PGVMWC diverts approximately 200 cfs of water from two diversions on the Sacramento River and three diversions from the Natomas Cross Canal, irrigating about 7,300 acres of agricultural land in Sutter County. During low water years, Sacramento River water is pumped into the Cross Canal to meet irrigation needs for PGVMWC. PGVMWC has been working with the AFSP Technical Team to consolidate their diversions to a single screened diversion on the Sacramento River. Cost share funding of \$1,089,100 from the AFSP and \$30,000 from CALFED has been committed through FY04 for the completion of environmental documentation and final designs. PGVMWC has completed their feasibility study but has not started their engineering design. If the remaining needed project funds are made available, project construction could be initiated in FY06.

Opportunistic/Emergency Projects

While new project applicants may request participation in the AFSP, funding for projects that have not already received funding from AFSP is unlikely because there are insufficient funds to complete currently approved projects in a timely manner. Ultimately, the criteria developed by the Fish Screen Evaluation Committee will be applied to all diversions of interest to determine if a screen is needed, and if so, the priority relative to other diversions.

Until the criteria are developed, we recognize there may be a compelling need to screen a diversion that has not yet received AFSP or ERP funding. On rare occasion, the AFSP and ERP may fund such a screen. Recent new projects brought to the attention of the AFSP include the Coleman National Fish Hatchery unscreened diversions on Battle Creek, unscreened diversions covered under the Family Water Alliance Sacramento River Small Diversion Fish Screen Program on the Sacramento River and Delta, and unscreened diversions on the San Joaquin River such as the San Luis National Wildlife Refuge Complex, the West Stanislaus Irrigation District, the Feather Water District on the Feather River, and RD833 in the Butte Sink area. Thus far, the AFSP and ERP have not committed to funding these screening projects.

Although several of these abovementioned projects are smaller than those projects currently funded by the AFSP, they may have a significant cumulative effect on fish entrainment losses and may be important to screen to current criteria if possible. Unforeseen post construction problems also may occur on some AFSP projects, and under limited

circumstances, the AFSP may agree to assist the water user with cost share funding to correct the problem.

Value Engineering is a mandatory program for all Department of Interior bureaus and offices as identified in Department Manual 369-1 and Office of Management and Budget Circular A-131. Value Engineering is a management tool used to ensure that the government receives the most value for each dollar by establishing realistic budgets, identifying and removing nonessential capital and operating costs. All fish screen projects whose construction costs are \$1,000,000 or more and receive federal funds are subject to Value Engineering Program requirements. Therefore, all current AFSP funded fish screen projects are subject to and are currently undergoing Value Engineering in FY04. In addition to the cost of the Value Engineering study itself, the AFSP may receive design funding requests from program participants to accommodate required project changes as part of the Value Engineering process. The amount of funds requested from project applicants as part of the Value Engineering cannot be predicted at this time, but will likely occur in early FY05.

B. Schedule and Deliverables

#	Task	Dates		Deliverable
		Start	Complete	
*1.1	Sutter Mutual Water Co.	Ongoing	6/30/07	Final design, initiation of construction
1.2	Natomas Mutual Water Co.	Ongoing	6/30/07	Final design, initiation of construction
1.3	RD999	Ongoing	12/05	Final design, initiation of construction

Explanatory Notes: *1.1 - In our years the deliverable will be diversions with fish screens that meet regulatory agencies criteria/concerns. Accurate schedules cannot be provided until final designs are successfully completed, but a reasonable estimate for completion of construction would be two years beyond the final design completion date.

C. Summary of Program Costs and Funding Sources.

#	Task	Total Cost	Fund Source
			RF
A.1	Sutter Mutual Water Company	\$5,073,495	\$5,073,495
A.2	Natomas Mutual Water Company	\$911,189	\$911,189
A.3	RD999	\$317,000	\$317,000
A.4	Program Management	\$1,216,632	\$1,216,632
A.5	Monitoring and Assessment	\$500,000	\$500,000
A.6	Engineering Expertise	\$181,684	\$181,684
Total Program Budget		\$8,200,000	\$8,200,000

Explanatory Notes: The amounts of non-federal Calfed funds that will be received in FY05 is not known at this time

D . CVPIA Program Budget

#	Task	FTE	Direct Salary and Benefits Costs	Contracts Costs	Miscellaneous Costs	Admin Costs	Total Costs
A.2	Program Management	-----					
	Fish & Wildlife Service	2.52	\$325,203	\$0	\$0	\$74,797	\$400,000
	Bureau of Reclamation	4.29	\$350,658	\$189,830	\$8,000	\$268,144	\$816,632
^a A.3	Monitoring and Assessment			\$500,000			\$500,000
A.4	Engineering Expertise			\$171,400*		\$10,284	\$181,684*
	Projects						
A.1	Sutter Mutual Water Company			\$5,073,495			\$5,073,495
A.2	Natomas Mutual Water Company			\$911,189			\$911,189
A.3	RD999			\$317,000			\$317,000
	Total by Category	6.81	\$675,861	\$7,162,914	\$8,000	\$353,225	\$8,200,000

Explanatory Notes: * National Marine Fisheries Service Engineer

VII. Future Years Commitments/Actions

AFSP commitments for 3 to 5 year out-year projections for the projects presented in this Annual Work Plan are discussed below and are based on an assumption that approximately \$5 million would be available per year for contracts for the AFSP:

Natomas Mutual Water Company has a screen project involving the consolidation of five diversions (on the Sacramento River and Natomas Cross Canal), totaling about 630 cfs, into two screened diversions. After environmental documentation and final design phases are completed in FY04 or early FY05, and all necessary funds to complete the project are made available, construction could begin as early as FY05. This project is anticipated to have a total design and construction cost in excess of \$32 million, with roughly 50 percent of the cost anticipated to be provided through the AFSP. With \$ 6.847 million obligated to the project through FY04 from the AFSP, and with construction expected to begin in FY05, NMWC would need about \$7.5 million in FY05 and \$1.5 million in FY06 to complete the project in FY07. However, assuming only \$5 million would be available per year for contracts for AFSP, this would extend NMWC future year commitments through FY07 as shown in Table E. Under this scenario, NMWC would probably initiate construction in FY08 and be completed in FY10.

The RD108 project consists of consolidating 3 diversion on the Sacramento River (377 cfs total) into two screened diversions with a more efficient conveyance system that will require only 300 cfs of diversions to meet their irrigation needs. After the environmental documentation and final design phases are completed in FY04, and all necessary funds to complete the project are made available, construction could begin in early FY05. This project will have a total design and construction cost in excess of \$20 million, with roughly 50 percent of the cost anticipated to be provided through the AFSP. With \$ 1.982 million obligated to the project through FY04 from the AFSP, and with construction expected to begin in FY05, RD108 would need about \$5.0 million in FY05 and \$3.0 million in FY06 to complete the project in FY07. However, assuming only \$5 million would be available per year for contracts for AFSP, this would extend RD108 future year commitments through FY10 as shown in Table E. Under this scenario, SMWC would probably initiate construction in FY10 and be completed in FY12.

Meridian Farms Water Co. is a consolidation project, with a diversion total of 190 cfs on the Sacramento River. After the environmental documentation and final design phase are completed in FY04, and all necessary funds to complete the project are made available, construction could begin in early FY05. This project will have a total design and construction cost of about \$9 million, with roughly 50 percent of the cost anticipated to be provided through the AFSP. With \$ 350,000 obligated to the project through FY04 from the AFSP, and with construction expected to begin in FY05, MFWC would need about \$4.5 million in FY05 to complete the project in FY07. However, assuming only \$5 million would be available per year for contracts for AFSP, this would extend Meridian Farms Water Company future year commitments through FY10 as shown in Table E. Under this scenario,

Meridian Farms Water Company would probably initiate construction in FY11 and be completed in FY13.

RD2035 has a screen project totaling about 400 cfs on the Sacramento River upstream from the City of Sacramento. After the environmental documentation and final design phases are completed, and all necessary funds to complete the project are made available, construction could begin in early FY05. This project is expected to have a total design and construction cost at about \$17 million, with roughly 50 percent of the cost anticipated to be provided through the AFSP. With \$ 1.085 million obligated to the project through FY04 from the AFSP, and with construction potentially able to begin in FY05, RD2035 could need about \$7.0 million in FY05 and \$.50 million in FY06 to complete the project in FY07. However, assuming only \$5 million would be available per year for contracts for AFSP, this would extend RD2035 future year commitments beyond FY10.

Patterson Irrigation District has a screen project for 190 cfs on the San Joaquin River near Patterson. After the environmental documentation and final design phases are completed, and all necessary funds to complete the project are made available, construction could begin in FY05. This project will have a total design and construction cost in excess of \$7.5 million, with roughly 50 percent of the cost anticipated to be provided through the AFSP. With \$ 200,000 obligated to the project through FY04 from the AFSP, and with construction potentially able to begin in FY05, PID could need about \$3.5 million in FY05 to complete the project in FY07. However, assuming only \$5 million would be available per year for contracts for AFSP, this would extend Patterson Irrigation District future year commitments beyond FY10.

The Pleasant Grove-Verona Mutual Water Company project potentially involves consolidating several diversions that take water from different water sources, the Sacramento River and the Natomas Cross Canal, for a total diversion of about 200 cfs. An estimate of the total cost for this fish screen project is about \$9 million, with up to 50% of the cost to be provided through the AFSP. With \$ 1.089 million obligated to the project through FY04 from the AFSP, and if construction could be expected to begin in FY06, PGVMWC would need about \$4.0 million in FY05 to complete the project in FY07. However, assuming only \$5 million would be available per year for contracts for AFSP, this would extend PGVMWC future year commitments beyond FY10.

In spite of the existing CVPIA commitments through the AFSP and the CALFED non-federal funds for the abovementioned projects, considerable additional federal funds will need to be committed in FY05 to initiate construction of projects in addition to the NMWC project. Most, if not all, federal and non-federal funds for individual projects should be secured prior to initiation of construction. If sufficient funds are not secured for construction of a project, that project may be placed on hold, after final design, until such time as all funding, both federal and non-federal is secured. Currently, all AFSP funded projects identified in this work plan do not have their full construction funding secured.

As shown in Table E, if sufficient funds are not committed, both federal and nonfederal, to initiate construction for ongoing projects, many of these projected funding commitments will be delayed and extended to further out years until such time as funds are made available.

E. Future Year Federal Commitments/Actions (assuming \$5 million per year for screen contracts after FY05)

Project	FY05	FY06	FY07	FY08	FY09	FY10
Natomas Mutual Water Company	\$1.6 mil	\$5mil	\$2.4mil	Done	done	done
RD108	-	-	\$1.3mil	\$1.2mil	\$5mil	\$.5mil
Meridian Farms Water Company	-	-	-	-	-	\$4.5 mil
Totals	\$1.6 mil	\$5 mil	\$5 mil	\$5 mil	\$5 mil	\$5 mil