

# **5th DRAFT**

**May 25, 11:45 AM Draft**

## **Resolving Water Management Concerns for the Lower San Joaquin River and South Delta Region**

### **Introduction**

The CALFED Bay-Delta Program is a cooperative, interagency effort of 15 state and federal agencies with management or regulatory responsibilities for the Bay-Delta system. The mission of the Program is to develop a long-term comprehensive plan that will restore ecological health and improve water management for beneficial uses of the Bay-Delta system. Accordingly, CALFED has recommended a bundle of actions for the lower San Joaquin River and south Delta region to address long-standing concerns with respect to water quality, fisheries, wildlife habitat, and water supply availability. Proposed actions have been circulated for review and comment by interested agencies and stakeholders. The proposed actions are under various levels of development, from preliminary concept to actions ready for implementation. The Vernalis Adaptive Management Plan is among those actions most advanced in the implementation process.

A significant policy and technical question facing the Program has been whether to address south Delta water quality and water availability concerns with a single barrier, combined with extensive dredging and flow augmentation, or to use a multiple barrier approach. On May 13, 1999 the CALFED Policy Group decided to recommend the multiple barrier approach to addressing south Delta region concerns with respect to water quality and water supply availability. This recommendation is not a final determination; it simply provides guidance to CALFED agency staffs as they work together to complete environmental documentation, seek regulatory approval, and conduct supporting technical studies. A final decision to proceed with a specific mix of facilities, operational constraints, and other actions would be based on completed project-level environmental documentation, including the requisite EIR/EIS, Section 404 Alternatives Analysis, ESA Consultation, and CESA consultation, and all applicable permit approvals.

The potential for adverse or unintended consequences must be carefully evaluated when a number of actions are contemplated for a complex, tightly integrated system. As a result,

it is in the best interest of the parties which may be affected by these actions to consider the effect of the actions taken together, and develop an agreement on specific facilities, operations, and mechanisms which will assure that all parties benefit. The elements of such an agreement are set forth below:

### ***Agreement Elements***

- 1) **Bundling Actions:** Determine appropriate approach to bundling environmental and water quality restoration actions for the purpose of developing environmental documentation, establishing Program assurances, facilitating financing and permitting, and implementation.
- 2) **Ecosystem Restoration Program:** Implement Ecosystem Restoration: The regional ERP habitat targets provide broad guidelines; specific actions for early implementation need to be identified.
- 3) **Agricultural Diversions Screening Program:** Consolidate and screen local agricultural diversions based on an appropriate priority and initiate a screen maintenance program.
  - a) Consolidation of local diversions shall only be done in a manner that does not change the existing water right of the diverter or the priority thereof. Consolidation of agricultural diversions shall only be done on a voluntary basis and at no cost to the diverters.
  - b) Screening of local agricultural diversions shall be advanced in accordance with the process set forth in Chapter IV, Section (C) (1) of the State Water Resources Control Board 1995 Water Quality Control Plan to reduce losses of all life stages of fishes to unscreened water diversions in the San Joaquin River and the Delta. Screening of local agricultural diversions shall be at no cost to the diverters.
- 4) **Water Quality Actions:** Develop a strategy to resolve regional water quality problems. **Take specific actions to achieve continuous long-term improvements in San Joaquin River and south Delta water quality with the goal of achieving compliance with all applicable water quality standards.** Among highest priority:
  - a) **Stockton Dissolved Oxygen Solution Alternatives**
    - i. Evaluate and implement appropriate actions to improve San Joaquin River dissolved oxygen conditions and San Joaquin River drainage as described in the CALFED Water Quality Program.
  - b) **Solutions to Salinity and Related Water Quality Problems**
    - i. Evaluate and, if demonstrated to be feasible, relocate and/or treat agricultural drainage discharge to reduce impacts on urban water quality (i.e. Veale Tract and others).

- ii. Implement regional, including but not limited to on-farm, environmentally safe drainage management measures and technical programs such as evaporation ponds, drainage treatment and re-use facilities, measures to lower shallow groundwater levels, and other measures and continue to implement existing such programs and measures. Provide low interest loans and grants to support implementation.
- iii. Implement regional and demonstration projects and cost effective irrigation improvement projects such as drip irrigation, subsurface irrigation, and recycling systems which will reduce discharge and movement of saline water from farms and continue to implement existing such projects. Provide low interest loans and grants to support implementation.
- iv. Evaluate, and if demonstrated to be feasible, implement release of accumulated salts during high flow periods. If proven feasible, implement construction of regional and on-farm drainage retention facilities for storage between release opportunities. Provide grants and low interest loans for implementation.
- v. Evaluate the feasibility of recirculation of water pumped from the Delta by the CVP and SWP to help meet San Joaquin River flow and water quality objectives.
- vi. The USBR shall make every reasonable effort to secure and/or provide sufficient water so as to meet the Salinity Objective, the VAMP flows, the USBR's share of endangered species requirements, and the USBR's share of the other requirements of the 1995 Water Quality Control Plan.
- vii. If the USBR is unable to provide such water and the recirculation concept proves to be feasible, then **USBR and DWR shall seek to acquire from willing sellers and the State Water Contractors agree to enter into negotiations to sell to the USBR sufficient water to meet the Salinity Objective and VAMP flows. with such water to be provided from San Luis Reservoir and or the California Aqueduct for release to the San Joaquin River upstream of the Merced River to the extent that DWR's existing contractual obligations are not impacted.**
- viii. The CALFED Ops Group will review the operations proposed to achieve the objectives of the SJRA/VAMP during the spring pulse flows. Should any significant reduction of Vernalis water quality be identified as a result of spring pulse flow operations, then the CALFED Ops Group will develop a plan to reduce or eliminate those significant impacts.

or

The CALFED Ops Group incorporates the annual task of evaluating potential impacts of the implementation of the SJRA. Should any significant water quality impacts be identified, the SJR agreement signatories, in coordination with the Ops Group, will develop a plan to ensure that water quality will not be negatively impacted by the SJRA to a material degree beyond the standards established by the SWRCB, measured by monthly averages. **Establish a San Joaquin River Water Quality Protection Reserve Fund to address real-time water quality issues with all available feasible tools.**

5) **VAMP:** Implement the Vernalis Adaptive Management Plan. ~~Include development of a long-term plan describing San Joaquin River Group actions to improve water management practices such as conservation and conjunctive use of surface and~~

~~groundwater resources. The plan should describe how State and Federal funds provided as part of the VAMP agreement will be allocated to meet this objective.~~

*Alternative language?*

a) **The San Joaquin River Group Association will provide** a report describing the actions that may be taken by the members of the SJRGA who will be providing water to improve water management facilities. The report should describe how State and Federal funds provided as part of the SJRA will be used to improve water management practices. However, nothing contained herein shall limit the actions of the members of the SJRA which may, in their judgment, be required to adjust the report elements to add additional measures or to delete other measures deemed unnecessary, harmful, or not cost effective.

6) **Tracy Test Fish Facility:** Expedite completion of a 500 cfs test facility at the Tracy Pumping Plant to develop best available technology screening and salvage for the intakes to the SWP and CVP export facilities, and apply it to screening and fish salvage for the full diversion capacity of the SWP and CVP. See Attached schedule (Figure 1).

7) **New CCFB Intake:** Construct a new intake for Clifton Court Forebay, most likely at a location on Old River on the southeast corner of Byron Tract (Figure 2).

- a) Construct fish screens **and fish salvage facilities** for the intake in an incremental, modular approach to achieve the goal of screening the full export capacity of the SWP.
- b) Based on the outcome of (8), fish screening capacity could be increased to include the CVP also (Figure 1).

8) **SWP/CVP Intertie:** Evaluate and decide on whether to retain a separate CVP export fish screen and salvage facility or to consolidate with the SWP facility.

- a) Consolidation would include an intertie between the two pumping plant intakes.
- b) Evaluate and potentially implement an ~~400~~-cfs intertie between the project aqueducts downstream of the export pumps.

9) **SWP 10,300 cfs Permits:** Obtain permits to use full SWP capacity of 10,300 cfs, consistent with all applicable operational constraints (including recommendations for interim operations), for water supply and environmental benefits. Facilitate permitting increased SWP export flexibility up to 8500 cfs with existing facilities and continuation of the Temporary Barriers Program, with appropriate interim constraints. See Attached schedule (Figure 1).

- a) There shall be no increase of DWR export pumping or changes in operations of Clifton Court Forebay that would reduce water levels in any South Delta channel during low tides until modeling is done to predict how such proposals will affect the efficiency and operation of the tidal barrier programs, and South Delta water levels and circulation in general. Such modeling requires that SDWA representatives be involved in the input/assumptions in the modeling, and be able to critique the preliminary results.
- b) No increase in DWR export pumping or intake to Clifton Court Forebay during low tides may occur until adequate measures are installed and operating to ensure such

changes will not adversely affect South Delta water levels and circulation both upstream and downstream of the barriers.

- 10) **Permanent Barriers:** Expedite construction of permanent operable barriers at the Head of Old River, Old River at Tracy, and Middle River upstream from Victoria Canal. Phase out all temporary barrier installations as these three permanent barriers, dredging, and extension of local agricultural diversions are completed. See Attached schedule (Figure 1). The GLC temporary barrier would not be phased out until dredging in Grant Line Canal, extension of agricultural intakes, and permanent barriers for MR and ORT are completed and operational. During the period that the South Delta Improvements are being tested without the GLC barrier, CALFED will implement a response plan to mitigate impacts on south Delta diverters. The plan would include sufficient funds to fully mitigate **for impacts on water supply availability for diverters in the south Delta region.** ~~the impacts of decreased water levels in south Delta that installation of the GLC barrier would cure.~~
  
- 11) **Channel Dredging:** Dredge segments of south Delta channels to limit scour velocities induced by project export pumping, to facilitate adequate water supply for local agricultural intakes, and to address local navigation obstructions.
  - a) DWR and USBR shall generally designate those channel segments it intends to dredge throughout the south Delta region and the approximate magnitude of such dredging prior to this agreement taking effect.
  - b) It is recognized that the extent of dredging may be modified as detailed bathymetry data and hydrodynamic modeling is refined. Additional dredging may also be implemented subsequent to the initial dredging if required to achieve the desired effect. Future maintenance dredging may also be required to maintain the desired channel hydraulic characteristics. DWR and USBR will diligently pursue such dredging as required.
  
- 12) **Agricultural Diversions Extension:** Extend and screen agricultural intakes, particularly in Grant Line Canal and the regions west of the proposed barrier locations.
  - a) Extend local diversions to assure local water supply availability. Consolidate diversions where feasible and beneficial on a voluntary basis. Modifications to diversion facilities shall only be done in a manner that does not change the existing water right of the diverter or the priority thereof and shall be at no cost to the diverters.
  - b) SDWA, with DWR and USBR, will work to secure permits and access from the landowners/diverters. If a diverter has a flood gate and no pump intake, DWR and USBR shall fund appropriate modifications and related operations costs to mitigate for significant residual stage impacts which may occur.
  - c) Diversion structures which are modified to address water supply availability concerns shall be screened. The screening facilities shall be installed and maintained at no cost to the diverters.

13) **Barrier Operations:** Barrier operations shall be in accordance with the following schedules, except as modified by the Operations Coordination Team as described in 13 (c) below.

- a) **Head of Old River Barrier:** In Spring, close as early as April 1 and open no later than June 15. In Fall, close as early as September 1 and open no later than November 30. Allow flow through barrier to achieve appropriate balance between fisheries and water supply availability concerns.
- b) **Middle River Barrier and Old River at Tracy:** In Spring, close no sooner than April 15 and open no later than October 31.
- c) **Form a Barrier Operations Coordination Team,** consisting of designated staff representing USFWS, NMFS, DFG, DWR, USBR, and South Delta Water Agency to review operations and make recommendations on specific barrier operations in response to changing fish densities, flows, and water quality changes.
- d) **BOCT would coordinate with the CALFED Ops Group,** and employ the same established approach for elevating conflicts which might occur in the course of operations deliberations.

14) **Monitoring:** Monitor barrier effects on fish, stages, circulation, and water quality to support real-time barrier operations as well as gather information to support future planning and management decisions.

15) **Mitigation:** Implement mitigation actions for direct and indirect project features and actions through mitigation practices established in the CALFED Program.

16) **Adaptive Management:** Apply adaptive management to all the structural and operational features listed above, in order to achieve the appropriate balance of operational goals.

17) **Grant Line Canal Barrier Option:** Retain the potential future option of constructing a Grant Line Canal Barrier after BOCT operates and evaluates the three barriers included in the recommended alternative. Implementation of such an option would only be undertaken if the actions described above, including detailed field studies and analyses, fail to provide an appropriate balance of fisheries, water quality, and water supply availability benefits. Implementation of a GLC barrier would require separate project environmental documentation, tiered off the CALFED Programmatic EIR/EIS.

18) **Settlement Agreement:** USBR and SDWA will reopen the negotiations of the Amendment to the Draft Contract (settling the 1982 lawsuit).

19) **Milestones:** Time is of the essence of this agreement. The various actions described here must be coordinated and completed in an expeditious manner in order to achieve CALFED and stakeholder objectives. Accordingly, the following sequencing of actions and estimated milestones are set forth with the objective of eliciting corrective action if not substantially met.

**Establish Barrier Operation Coordination Team**

6/1999

<b>CALFED Record of Decision</b>	<b>6/2000</b>
<b>EIR/EIS: South Delta Facilities, Final</b>	<b>8/2000</b>
<b>Permits Issued: Dredging, Facilities, Mitigation</b>	<b>2/2001</b>
<b>Construction Completed: Permanent Head of Old River Barrier</b>	<b>2/2005</b>
<b>Construction Completed: Permanent Middle River Barrier</b>	<b>2/2005</b>
<b>Construction Completed: Permanent Old River at Tracy Barrier</b>	<b>8/2005</b>
<b>Dredging Grant Line Canal Completed</b>	<b>2/2003</b>
<b>Extension, Relocation, and Screening of Grant Line Canal Intakes Compl.</b>	<b>2/2005</b>
<b>End Temporary GLC Barrier Installation</b>	<b>8/2005</b>
<b>End GLC Impacts evaluation and Adaptive Management Period: Decide Whether to Initiate EIR/EIS</b>	<b>8/2006</b>
<b>If Yes:</b>	
<b>Complete GLC Barrier EIR/EIS</b>	<b>8/2007</b>
<b>Permits Issued: GLC Permanent Barrier Installation</b>	<b>2/2008</b>
<b>Construction Completed: Permanent Grant Line Canal Barrier</b>	<b>1/2012</b>

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**Table 1. Proposed Bundling of Actions for Project Management Purposes**

***EIR/EIS: Regional Ecosystem Restoration Implementation***

- Aquatic and terrestrial habitat restoration actions
- Agricultural and Wetland Diversion Screening

***EIR/EIS: Stockton Dissolved Oxygen Solution Alternatives***

***EIR/EIS: Solutions to Salinity and Related Water Quality Problems***

- On-farm drainage management measures
- Irrigation improvement measures
- Release of accumulated salts during high flows
- Recirculation of SWP, CVP Exports
- Veale Tract Discharge Relocation

***EIR/EIS: Vernalis Adaptive Management Plan***

***EA/IS: Tracy Test Fish Facility (500 cfs)***

***EIR/EIS: South Delta Facilities***

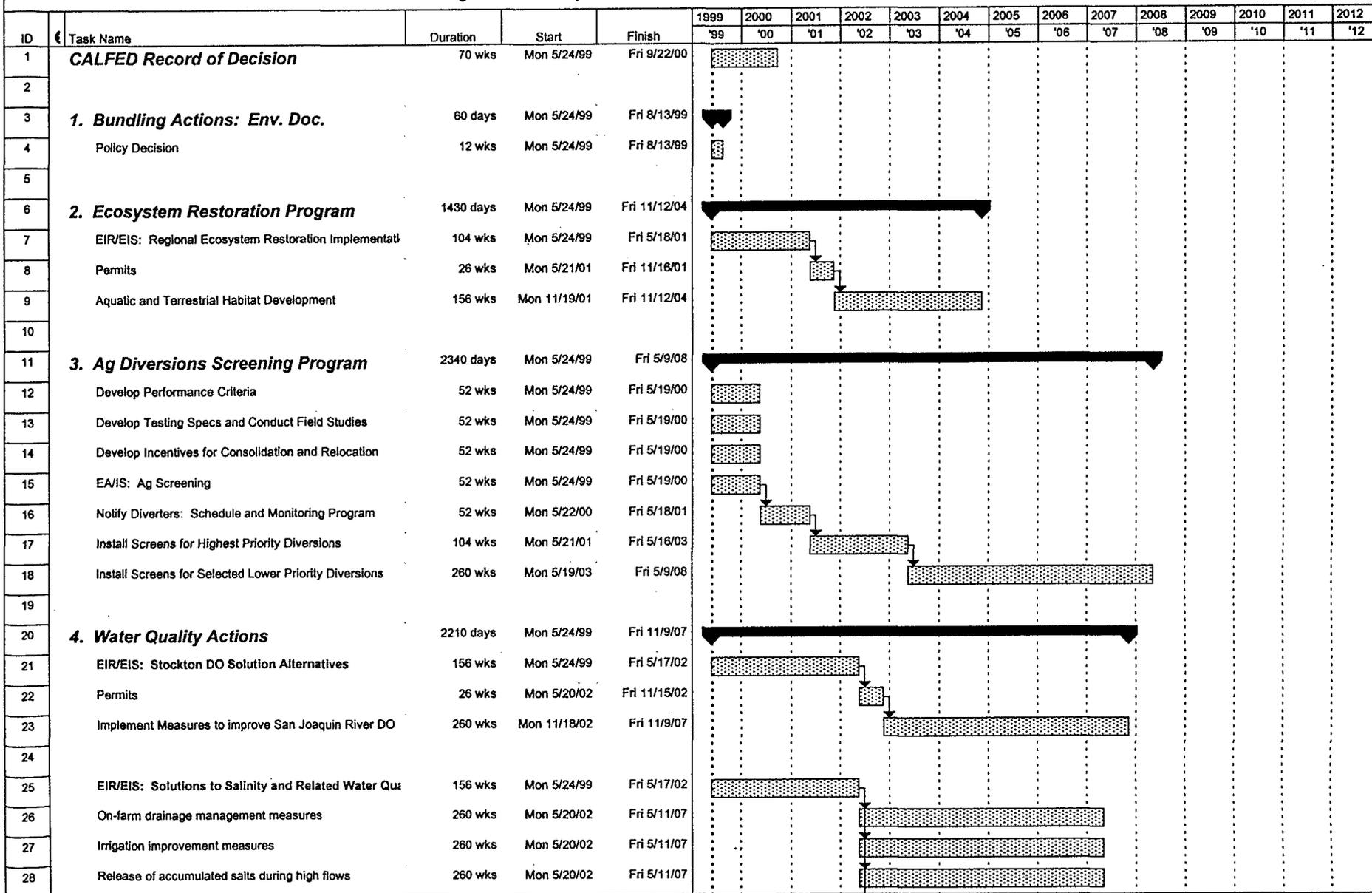
- SWP CCFB New Screened Intake
- Permanent Barriers at HOR, ORT, and MR
- Dredging
- Extend and Screen Ag Intakes
- Permit 10,300 cfs
- Barrier Operations
- Monitoring
- Mitigation
- Settlement Agreement

***EIR/EIS: Grant Line Canal Barrier***

**Table 2. Applicable Permits**

ESA Incidental Take  
CESA Incidental Take  
Department of the Army (Section 404, Clean Water Act, Section 10, Rivers and Harbors Act  
Streambed Alteration Permit  
RWQCB Water Quality Certification (Section 401)  
Navigation  
National Historic Preservation Act Certification  
Prime and Unique Farmlands  
SWRCB Water Rights

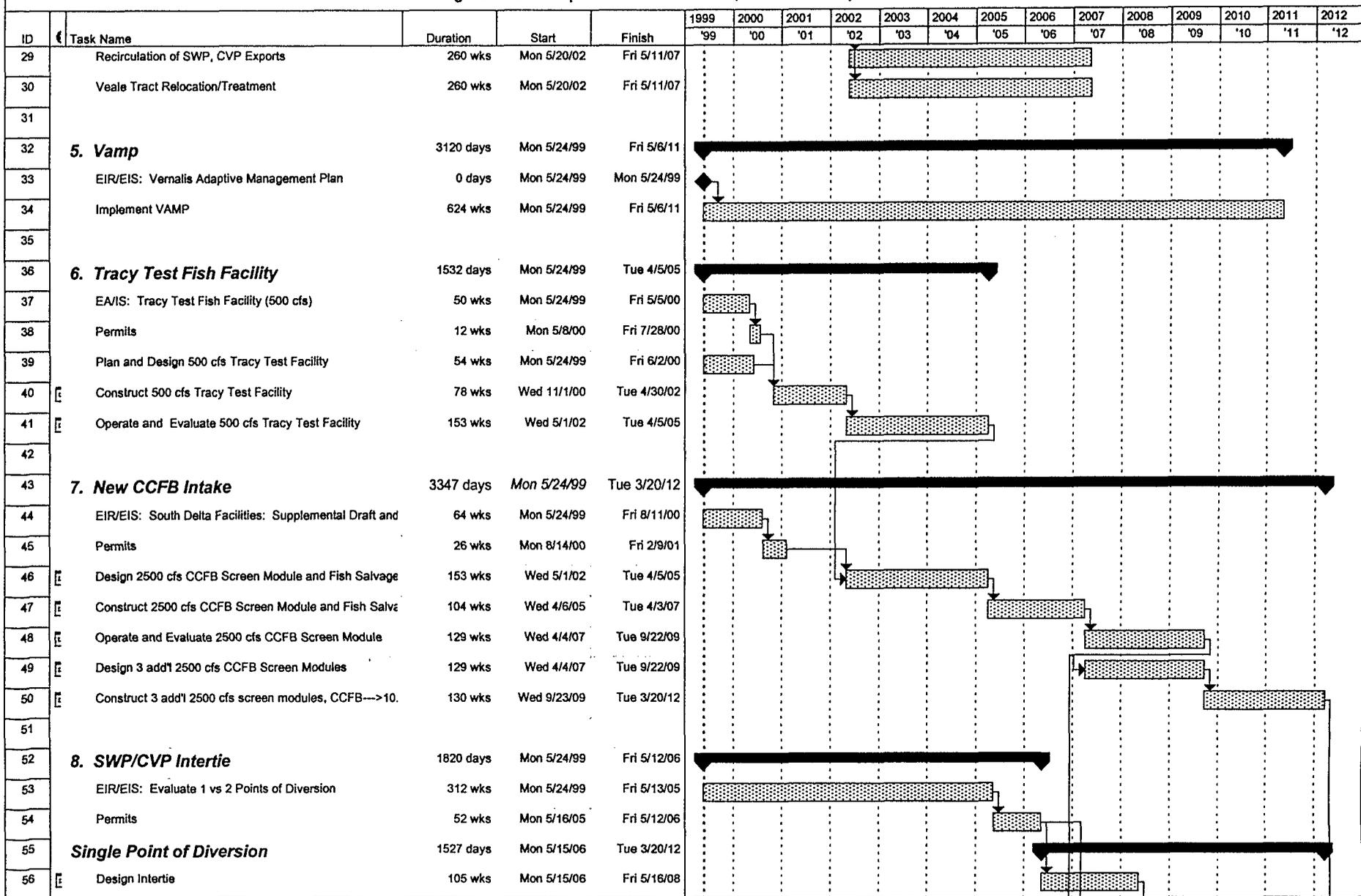
Figure 1. Draft Implementation Schedule, South Delta Improvements



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 by: Stein Buer  
 CALFED Bay Delta Program

Task		Summary		Rolled Up Progress		Project Summary	
Progress		Rolled Up Task		Split			
Milestone		Rolled Up Milestone		External Tasks			

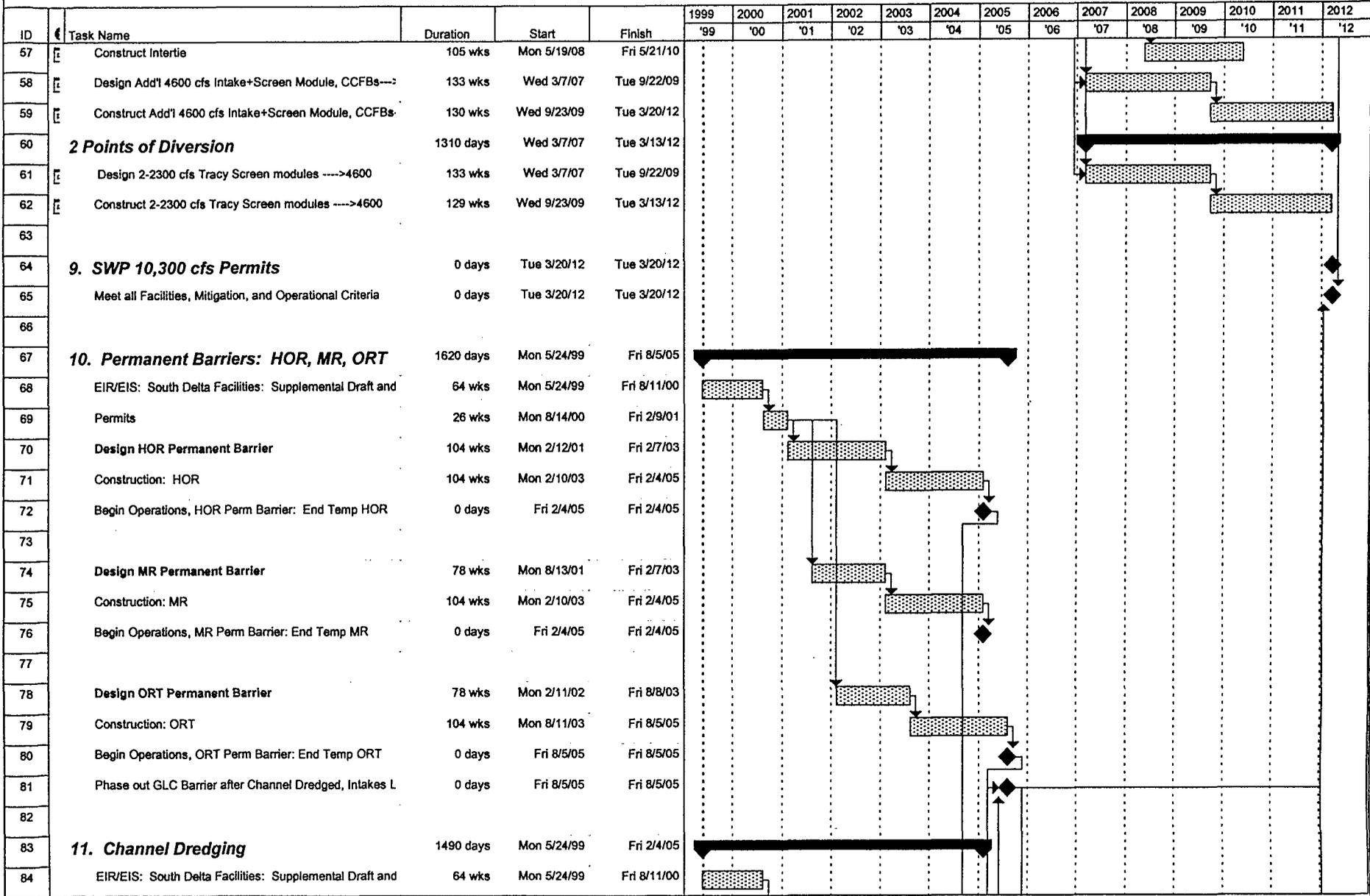
Figure 1. Draft Implementation Schedule, South Delta Improvements



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Task		Summary		Rolled Up Progress		Project Summary	
Progress		Rolled Up Task		Split		External Tasks	
Milestone		Rolled Up Milestone					

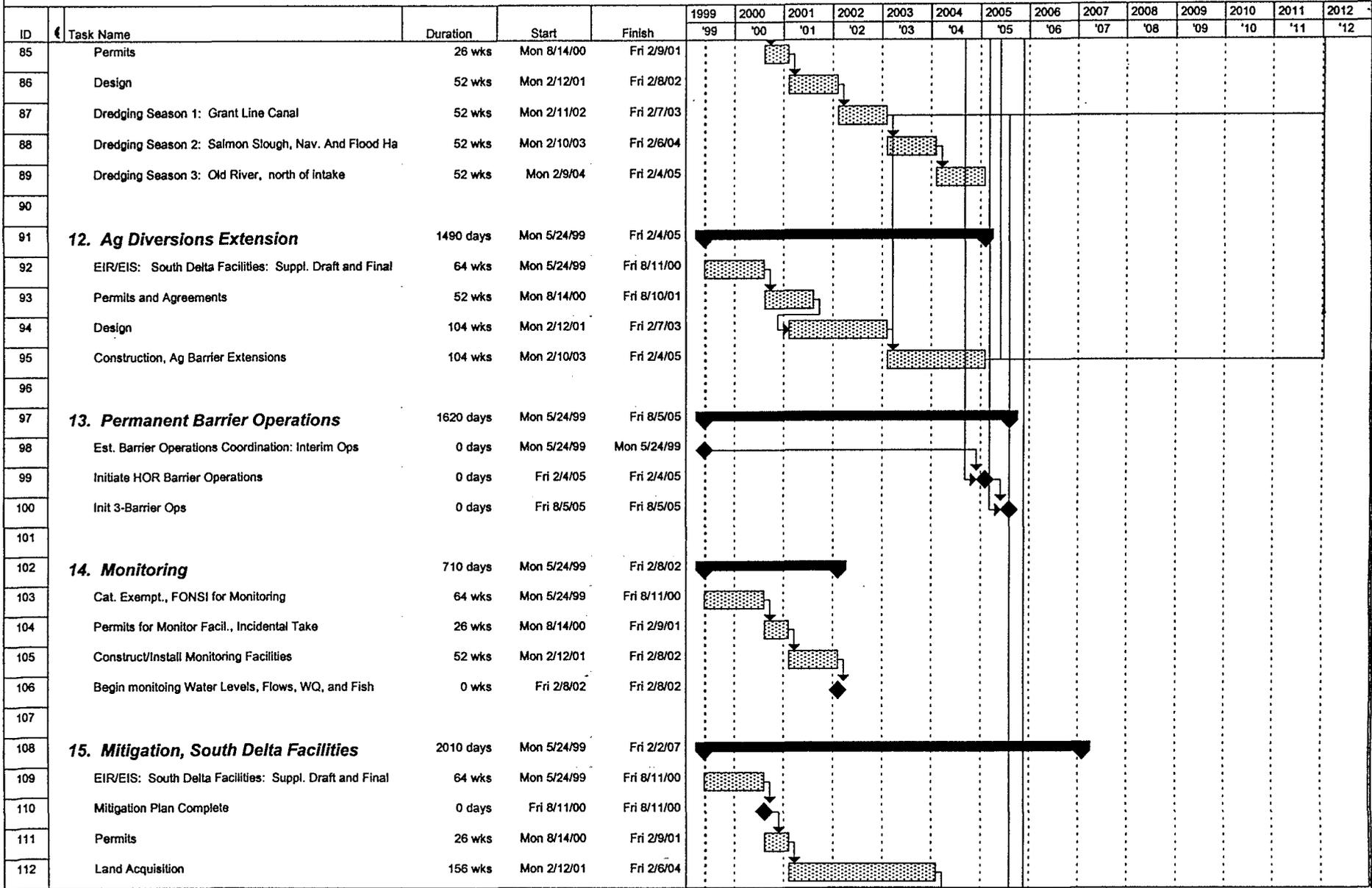
Figure 1. Draft Implementation Schedule, South Delta Improvements



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Task		Summary		Rolled Up Progress		Project Summary	
Progress		Rolled Up Task		Split		External Tasks	
Milestone		Rolled Up Milestone					

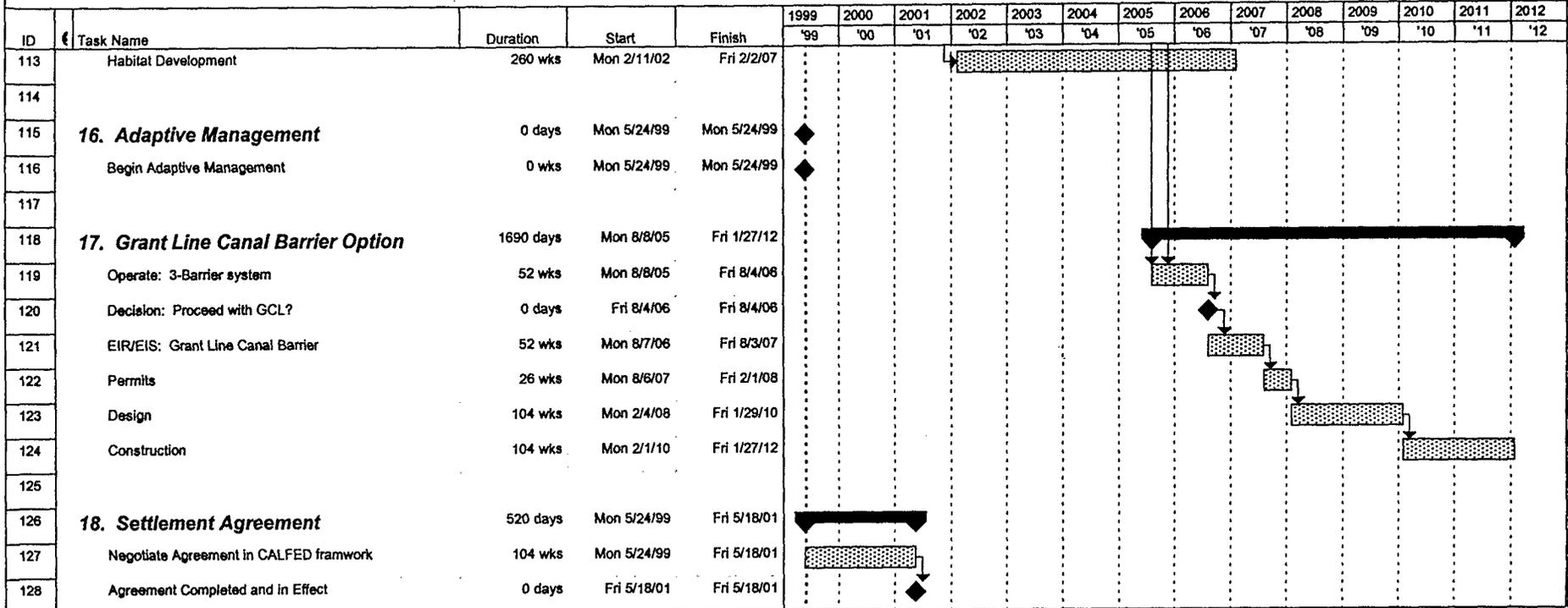
Figure 1. Draft Implementation Schedule, South Delta Improvements



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Task		Summary		Rolled Up Progress		Project Summary	
Progress		Rolled Up Task		Split			
Milestone		Rolled Up Milestone		External Tasks			

Figure 1. Draft Implementation Schedule, South Delta Improvements



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Task		Summary		Rolled Up Progress		Project Summary	
Progress		Rolled Up Task		Split			
Milestone	◆	Rolled Up Milestone	◇	External Tasks			