

List of BDCP Activities to be Evaluated in the Effects Analysis

[Note to reviewers: This handout includes a list of BDCP activities that will be evaluated this spring in the Effects Analysis. The BDCP will be seeking authorization under ESA sections 7 and 10 for all covered activities and associated Federal actions on this list and for upstream actions necessary to implement the BDCP in-Delta actions. The BDCP Effects Analysis will address the effects on covered species of all covered activities and associated federal actions on this list, all conservation measures, and all upstream actions necessary to implement the BDCP in-Delta actions. Note there is ongoing discussion regarding the relationship between the ESA section 7 and 10 processes for BDCP. Also note that additional entities may be interested in adding their activities to this list and the best approach to such requests is under consideration.]

The activities identified or described for Federal actions by Reclamation are not “covered activities” for the purposes of the ESA Section 10(a)(1)(b) permit. Reclamation’s activities are subject to ESA Section 7 and Reclamation is seeking authorization under ESA section 7 for their actions.]

Covered Activities

Existing SWP Facilities Operations and Maintenance

- Clifton Court Forebay (CCF)
 - Near- and long-term operations criteria and adaptive range
- Harvey O. Banks Pumping Plant
 - Near- and long-term operations criteria and adaptive range
- Barker Slough Pumping Plant and North Bay Aqueduct
 - Up to 175 cfs, as authorized
- State Water Project Diversions
 - DWR is currently (2010) obligated to make 4.167 MAF/year of water available to its contractors, except under certain conditions specified in the contract (obligation incrementally increases to reach the maximum amount of 4.173 MAF/year in 2021 [quantity may be exceeded if DWR determines surplus water is available above and beyond that needed to satisfy all regulations, permits, and operational requirements])
 - Non-Project water for Drought Water Banks, Dry Water Purchase Programs, and individual transfers have been conveyed through SWP facilities in the past and are expected in the future

- 1 ○ SWP facilities support groundwater banking programs, such as the Semitropic Water
- 2 Banking and Exchange Program
- 3 ○ Near- and long-term operations criteria and adaptive range
- 4 ▪ John E. Skinner Delta Fish Protective Facility
- 5 ○ Large fish and debris directed away from the pumps by a 388-foot-long trash boom;
- 6 smaller fish are diverted from the intake channel into bypasses by a series of metal
- 7 louvers, while the main flow of water continues through the louvers and toward the
- 8 pumps
- 9 ○ Salvaged fish returned to the Delta in oxygenated tank trucks
- 10 ▪ Temporary Barriers In The South Delta
- 11 ○ Continued implementation of South Delta Temporary Barrier Project (annual
- 12 installation and removal of temporary barriers at Middle River, Old River, Grant Line
- 13 Canal, and at the Head of Old River)
- 14 ○ Rock barrier may be installed during the Fall at the Head of Old River to improve flow
- 15 quality for salmon migration in the San Joaquin River; a non-physical or physical
- 16 (rock) barrier may also be installed at the Head of Old River in the Spring
- 17 ▪ Maintenance and Monitoring Activities
- 18 ○ Routine activities that maintain the capacity and operational features of the existing
- 19 water diversion and conveyance facilities described above
- 20 ○ Monitoring activities include water quality and other SWP monitoring activities
- 21 including monitoring of chemical, physical and biological parameters to evaluate
- 22 conditions of concern for drinking water, recreation, and fish and wildlife

23 Coordinated Operations

- 24 ▪ Joint Point Of Diversion Operations
- 25 ○ Stage 1 – for water service to Cross Valley Canal contractors, Tracy Veterans
- 26 Cemetery and Musco Olive, and to recover export reductions taken to benefit fish
- 27 ○ Stage 2 – for any purpose authorized under the current Project water right permits
- 28 ○ Stage 3 – for any purpose authorized up to the physical capacity of the diversion
- 29 facilities
- 30 ▪ Transfers
- 31 ○ Water passing through the Delta associated with water transfers

- 1 ▪ Suisun Marsh Facilities Operations¹
- 2 ○ Existing facilities include: Suisun Marsh Salinity Control Gates; Morrow Island
- 3 Distribution System; Roaring River Distribution System; Goodyear Slough Outfall;
- 4 and various salinity monitoring and compliance stations throughout the Marsh
- 5 ○ Maintenance activities for existing facilities include: levee repairs, vegetation
- 6 removal, fish screen cleaning or installation of new screens, mechanical repairs,
- 7 structural repairs, removal or replacement of monitoring and compliance stations
- 8 (can involve in-water work) and instrumentation installation on or near existing
- 9 facilities

10 Power Generation (Mirant)

- 11 ▪ Operation of Existing Mirant Plants
- 12 ○ Cooling water is drawn into the plants (Pittsburg and Contra Costa plants) through
- 13 9.5 mm (3/8 inch) screens, pumped to condensers, used to cool spent steam and
- 14 then discharged immediately back into the San Joaquin-Sacramento Delta
- 15
- 16 ○ The total current design flow for all Contra Costa Power Plant operations is
- 17 approximately 1,418 AF/day and 1,686.2 AF/day for all Pittsburg Power Plant
- 18 operations
- 19
- 20 ○ In addition to once-through cooling flows, Mirant discharges process wastewater
- 21 and stormwater (quantity and quality of discharges are subject to permits issued by
- 22 the State Water Resources Control Board and San Francisco and Central Valley
- 23 Regional Water Quality Control Boards)
- 24
- 25 ○ On April 30, 2013, Mirant Delta will permanently retire Contra Costa Power Plant
- 26 Units 6-7, the only remaining once-through cooled units at the Contra Costa Power
- 27 Plant
- 28
- 29 ○ The remaining Pittsburg Power Plant units (Units 5-7, of which Units 5-6 use once-
- 30 through cooling and Unit 7 uses closed-cycle cooling) are currently contracted
- 31 through a tolling agreement with PG&E through the end of 2010. Over the course
- 32 of 2010, Mirant Delta will determine whether the units (1) will be retired, (2)
- 33 continue to operate for a certain term in their existing configuration followed by
- 34 retirement (as at CCPP Units 6-7), or (3) continue to operate for a certain term with
- 35 retrofits to reduce or eliminate the use of once-through cooling.

¹ [Note to reviewers: This section on Suisun Marsh facilities may be subject to change since BDCP includes water operations conservation measures that address the salinity control facility. Additionally, BDCP habitat restoration measures would alter the environment in Suisun Marsh and Bay. Such changes will need the attention of the SWRCB for resolution.]

- 1 ▪ Recurrent Mirant Plant Maintenance and Modification Activities and Monitoring
- 2 Activities
- 3 ○ Maintenance Dredging, Equipment Maintenance and Modifications, and Levee and
- 4 Flood Control Maintenance
- 5 ○ Aquatic Studies & Covered Species Monitoring

6 New Water Facilities Construction, Operations and Maintenance

- 7 ▪ New North Delta intake and screen facilities
- 8 ▪ New isolated conveyance facilities
- 9 ▪ Near- and long-term operations criteria and adaptive range
- 10 ▪ In-Delta Conveyance Improvements
- 11 ○ Two Gates Demonstration Project

12 *[Note to reviewers: The Two-Gates Demonstration Project is under consideration and will be*
13 *addressed under a separate regulatory process from BDCP. If this project is carried forward by DWR,*
14 *it will be included in BDCP covered activities.]*

- 15 ▪ Fremont Weir and Yolo Bypass Improvements
- 16 ○ Construction and operations of the Fremont Weir Operable Gates
- 17 ○ Any powerlines needed to operate facilities
- 18 ○ Fremont Weir fish passage improvements
- 19 ○ Lisbon Weir fish passage improvements
- 20 ○ Putah Creek alignment improvements
- 21 ▪ North Bay Aqueduct Alternative Intake Project

22 *[Note to reviewers: The North Bay Aqueduct Intake Relocation Project is under*
23 *consideration as a covered activity pending additional information regarding how it would*
24 *integrate with BDCP proposed operations and facilities under analysis.]*

- 25 ○ A new intake location that exports from the Sacramento River or that draws from the
- 26 proposed BDCP North Delta facilities
- 27
- 28 ○ Designed to accommodate the projected future peak demand of up to 240 cfs

1 Habitat Restoration, Enhancement, and Management Activities

- 2 ▪ Restore 80,000 acres of tidal habitat, riparian habitat, and new floodplain (65,000 acres of tidal
3 habitat, 5,000² acres of riparian habitat, and 10,000 acres of new floodplain)³ including the
4 following actions:
 - 5 ○ Grading, excavation, and placement of fill material
 - 6 ○ Breaching, modification, or removal of existing levees and dikes and construction of
7 new levees and dikes
 - 8 ○ Modification, demolition, and removal of existing infrastructure (e.g., buildings, roads,
9 fences, electric transmission and gas lines, irrigation infrastructure)
 - 10 ○ Construction of new infrastructure (e.g., buildings, roads, fences, electric transmission
11 and gas lines, irrigation infrastructure)
 - 12 ○ Removal of existing vegetation and planting/seeding of vegetation
 - 13 ○ Controlling the establishment of non-native vegetation to encourage the establishment
14 of target native plant species
 - 15 ○ Control of non-native predator and competitor species (e.g., feral cats, rats, and non-
16 native foxes)
 - 17 ○ Minor grading, excavation, and filling to maintain infrastructure and habitat functions
18 (e.g., levee and dike maintenance; grading or placement of fill to eliminate fish
19 stranding locations)
 - 20 ○ Maintenance of infrastructure (e.g., buildings, roads, fences, electric transmission and
21 gas lines, irrigation infrastructure, fences)
 - 22 ○ Maintaining vegetation and vegetation structure (e.g., grazing, mowing, burning,
23 trimming)
 - 24 ○ Ongoing control of terrestrial and aquatic non-native plant and wildlife species

25 Activities to Reduce Contaminants

- 26 ▪ **Control of Methylmercury Load in BDCP Restoration Sites**

27 Activities to Reduce Predators and Other Sources of Direct Mortality

- 28 ▪ **Removal of Non-native Aquatic Vegetation in BDCP Restoration Sites:** Removal of
29 Brazilian waterweed, water hyacinth, and other non-native submerged and floating aquatic
30 vegetation from BDCP restoration sites.

² Portions of the 5,000 acres of riparian would be included within the 10,000 acres of floodplain and 65,000 acres of tidal habitat.

³ The 10,000 acre target for new floodplain restoration does not include floodplain habitat enhanced in the Yolo Bypass under a separate conservation measure.

- 1 ▪ **Funding to Increase Enforcement of Regulations and Reduce Illegal Harvest of Covered**
2 **Species:** Providing funding to increase the enforcement of fishing regulations in the Delta and
3 Bays to reduce illegal harvest of covered salmonids and sturgeon
- 4 ▪ **Reduce Effects of Predators:** Reducing the effects of predators on covered fish species by
5 conducting localized predator control using a variety of methods in locations in the Delta that
6 are known to have high densities of predators (“predator hot spots”)
- 7 ▪ **Install Non-Physical Barriers:** Installing non-physical barriers at the junction of channels
8 with low survival of outmigrating juvenile salmonids to deter fish from entering these
9 channels

10 Monitoring and Research Programs

- 11 ▪ Activities such as preconstruction surveys, construction monitoring, compliance monitoring,
12 effectiveness monitoring, and system monitoring
- 13 ▪ Focused research may be undertaken or contracted to develop information necessary to better
14 inform BDCP implementation

15 Other Conservation Actions

- 16 ▪ **Operating and Maintaining Oxygen Diffuser (s):** Operating and maintaining an oxygen
17 diffuser(s) in the Stockton Deep Water Ship Channel
- 18 ▪ **Supporting Development/Implementation of HGMPs:** Minimizing potential adverse
19 effects of hatchery reared salmonids on wild salmonid stocks by supporting the accelerated
20 development and implementation of Hatchery and Genetic Management Plans (HGMPs) for
21 all state Chinook salmon and steelhead hatcheries in the Central Valley of California
- 22 ▪ **Support Smelt Conservation Hatchery and Establishment/Expansion of Refugial**
23 **Population:** Supporting: (1) the development of a delta and longfin smelt conservation
24 hatchery by the USFWS to house a delta smelt refugial population and provide a source of
25 delta and longfin smelt for supplementation or reintroduction, if deemed necessary by Fishery
26 Agencies, and (2) the expansion of the refugial population of delta smelt and establishment of
27 a refugial population of longfin smelt at the University of California, Davis Fish Conservation
28 and Culture Laboratory to serve as a population safeguard in case of a catastrophic event in the
29 wild

30 Emergency Actions

31 Repairs of imperiled or broken utility lines, or utility failures; repairs of structures damaged by floods;
32 repair, replacement, and/or removal of failed structures and associated facilities; repair of structures
33 that are in imminent danger of serious damage or failure; protection of structures and property from
34 flooding; fire suppression; response to accidents; cleanup of tree blow downs; repair of gates; repair
35 of levees; cleanup of spilled hazardous materials and/or waste; emergency sedimentation and erosion
36 control activities.

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Associated Federal Actions to Support the BDCP

The activities identified or described in this document for Federal actions by Reclamation are not “covered activities” for the purposes of the ESA Section 10(a)(1)(b) permit. These federal actions are actions that occur within the Delta which will be coordinated with DWR to support DWR’s compliance with the ESA Section 10 permit. Reclamation’s activities are subject to ESA Section 7 and Reclamation will consult under ESA section 7 on those actions. The Section 7 consultation will also include other CVP operations that are not within the BDCP permit area but are a necessary part of consultation on CVP operations.

CVP Operations and Maintenance

- **Delta Cross Channel**
 - Near- and long-term operations criteria and adaptive range
- **C.W. Jones Pumping Plant**
 - Near- and long-term operations criteria and adaptive range
- **Tracy Fish Collection Facility**
 - Uses behavioral barriers to guide entrained fish into holding tanks before transport by truck to release sites within the Delta
- **Contra Costa Water District Diversion Facilities**
 - CCWD diverts water from the Delta for irrigation and M&I uses under CVP contract; under its own permit and license at Mallard Slough; and under its own Los Vaqueros water right permit at Old River near State Route 4
 - CCWD’s system includes intake facilities at Mallard Slough, Rock Slough, and Old River near State Route 4; the Contra Costa Canal and shortcut pipeline; and the Los Vaqueros Reservoir
 - CCWD will be adding a fourth diversion point on Victoria Canal, the Alternative Intake Project [AIP], scheduled to begin operations by the spring of 2010
- **Central Valley Project Diversions**
 - Reclamation delivers water transported through facilities in the Delta to senior water rights contractors, long-term CVP water service contractors, refuges and waterfowl areas, and temporary water service contractors south of the Delta (total volume under contract, including Level 2 refuge supplies, is approximately 3.3 MAF per year)

- 1 ○ Additionally, the CVP provides Level 4 refuge water totaling approximately
- 2 100,000 AF
- 3 ○ Near- and long-term operations criteria and adaptive range
- 4 ○ Water passing through the Delta associated with water transfers (e.g., Drought
- 5 Water Bank and Dry Year Water Purchase Programs)
- 6 ○ As part of the San Joaquin River Restoration Program implementation,
- 7 Reclamation anticipates submitting a petition of permits to allow re-diversion of
- 8 the restoration flows either upstream of or in the Delta.
- 9 ○ In wet hydrologic conditions when CVP storage is not available, Delta is in excess
- 10 conditions, water is made available under temporary contracts for direct delivery -
- 11 the volume of water available for conveyance through the Delta is a result of
- 12 hydrologic conditions, upstream reservoir operations, upstream demands,
- 13 regulatory constraints on CVP operations, and from transfers of water from
- 14 upstream water users to south of Delta water users.
- 15 ▪ **Associated Maintenance and Monitoring Activities**
- 16 ○ Routine activities that maintain the capacity and operational features of the existing
- 17 water diversion and conveyance facilities
- 18 ○ O&M of electrical power supply facilities; and routine maintenance as needed to
- 19 ensure continued operations and replacement of facility or system components
- 20 when necessary to maintain system capacity and operational capabilities
- 21 ○ Monitoring activities refers to those actions necessary for monitoring water quality
- 22 and fisheries as conditioned by water rights permits and biological opinions, and
- 23 those actions undertaken as a result of the CVPIA and agreements and includes
- 24 routine daily, annual or other periodic sampling of water quality constituents as
- 25 well as trawls for various fish species in the Delta (including actions associated
- 26 with the Interagency Ecological Program)

27 **Coordinated Operations**

- 28 ▪ **Joint Point Of Diversion Operations**
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- 30 Cemetery and Musco Olive, and to recover export reductions taken to benefit fish
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- 9 facilities
- 10 ▪ Coordinated Operations in the Delta with New Water Conveyance facilities
- 11 ▪ In-Delta Conveyance Improvements
- 12 ○ Two-Gates Demonstration Project

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