

Draft Annotated Outline for BDCP Chapter 8 Implementation Costs and Funding Sources

Chapter 8 Implementation Costs and Funding Sources

NOTE TO REVIEWERS: This chapter ultimately will address both estimated costs and sources of funding. At this point in the development of the BDCP, however, the focus is on estimating the expected cost of the plan. Consequently, the subsections for section 8.4 – Funding Sources & Assurances – are not included with this draft. They will be added later with development of the funding plan.

8.1. Introduction

Note: This section will introduce the purpose, scope, and organization of the cost and funding chapter.

8.1.1. Purpose and Scope of Cost Analysis

8.1.2. Purpose and Scope of Funding Analysis

8.1.3. Organization of Chapter

8.2. Cost Estimation Methodology

Note: This section will summarize major common assumptions used for the cost analysis. The subsections below give an indication of anticipated common assumptions. These may change and others may be added once the cost analysis has been completed.

8.2.1. Common Assumptions

8.2.1.1. Costing Periods

8.2.1.2. Financial Assumptions

8.2.1.3. Land Acquisition Transaction Costs

8.2.1.4. Uncertainty and Cost Contingencies

8.2.1.5. Other Common Assumptions

8.2.2. Program Administration

Note: This section will summarize how administrative costs of plan implementation were estimated. The subsections below are based on other recent HCP/NCCP documents and give an indication of anticipated cost categories. These may change and others may be added once the cost analysis has been completed.

8.2.2.1. Staffing Requirements

8.2.2.2. Staff and Associated Costs

8.2.2.3. Office Space and Associated Costs

8.2.2.4. Insurance

8.2.2.5. Legal and Financial Assistance

8.2.2.6. Public Outreach and Involvement

8.2.3. Water Facilities Construction and Operation

Note: The BDCP Team is coordinating its cost analysis with DWR's DHCCP. It is anticipated that most cost estimates for water facilities construction and operation will come from DHCCP. The subsections below give an indication of anticipated organization of cost information for water facilities construction and operation. These may change and others may be added following input from DHCCP staff.

8.2.3.1. Planning, Design, and Engineering

8.2.3.2. Environmental Compliance and Permitting

8.2.3.3. North Delta Intake Facility (WOCM 1)

- 8.2.3.3.1. Land Acquisition
- 8.2.3.3.2. Intake Construction
- 8.2.3.3.3. Fish Screen Construction

8.2.3.4. Conveyance Facility (WOCM 1)

- 8.2.3.4.1. Land Acquisition
- 8.2.3.4.2. Conveyance Construction
- 8.2.3.4.3. Levee Modification

8.2.3.5. Fremont Weir and Yolo Bypass Modification (WOCM 2)

- 8.2.3.5.1. Land Acquisition
- 8.2.3.5.2. Weir Modification
- 8.2.3.5.3. Levee Modification
- 8.2.3.5.4. Grading and Landscaping

8.2.3.6. Water Operations, Maintenance, and Repair

8.2.4. Physical Habitat Restoration

Note: This section will describe the sources of data, major assumptions, and models used to estimate physical habitat restoration costs. Costs will be grouped by type of restoration

activity and subgrouped by ROA. This section will also address the annual OM&R for managing restored habitat. The subsections below give an indication of anticipated cost categories for physical habitat restoration. These may change and others may be added once the cost analysis has been completed.

8.2.4.1. Planning, Design, and Engineering

8.2.4.2. Environmental Compliance and Permitting

8.2.4.3. Tidal Marsh Habitat Restoration (HRCM 4-9, 16)

- 8.2.4.3.1. Land Acquisition
- 8.2.4.3.2. Levee Modification
- 8.2.4.3.3. Grading and Landscaping

8.2.4.4. Riparian Habitat Restoration (HRCM 11, 14)

- 8.2.4.4.1. Land Acquisition
- 8.2.4.4.2. Levee Modification
- 8.2.4.4.3. Grading and Landscaping

8.2.4.5. Channel Margin Enhancement (HRCM 12, 13, 15)

- 8.2.4.5.1. Land Acquisition
- 8.2.4.5.2. Levee Modification
- 8.2.4.5.3. Grading and Landscaping

8.2.4.6. Seasonally Inundated Floodplain Restoration (HRCM 1-3)

- 8.2.4.6.1. Land Acquisition
- 8.2.4.6.2. Levee Modification
- 8.2.4.6.3. Grading and Landscaping

8.2.4.7. Protection of Existing Terrestrial and Non-Tidal Wetland Habitats

- 8.2.4.7.1. Land Acquisition

8.2.4.8. Non-tidal Wetlands Restoration

- 8.2.4.8.1. Land Acquisition
- 8.2.4.8.2. Grading and Landscaping

8.2.4.9. Habitat Preserves Operations and Maintenance

8.2.5. Measures to Address Other Stressors

Note: Other Stressors Conservation Measures comprise a broad array of possible scientific research, financial support, and program creation and/or support. The draft outline groups them thematically: Toxic Contaminants Measures, Non-Native Predators/Competitors Measures, Legal and Illegal Harvest Measures, Genetic Threat Measures, and Non-Project Entrainment Reduction Measures. It is anticipated that separate cost estimates for each measure will be prepared. However, the analysis will be structure so that costs can be grouped by theme as well as type of outlay (e.g. grants or other financial support, staff costs, equipment purchases, etc.).

8.2.5.1. Toxic Contaminants Measures

- 8.2.5.1.1. Wastewater Ammonia(um) Research and Assistance (OSCM 1)
- 8.2.5.1.2. Wastewater EDC Research and Assistance (OSCM 2)
- 8.2.5.1.3. Methylmercury TMDL Assistance (OSCM 3)
- 8.2.5.1.4. Agricultural Chemical Discharge Reduction Assistance (OSCM 4)
- 8.2.5.1.5. Urban Runoff/Stormwater Discharge Reduction Assistance (OSCM 5)
- 8.2.5.1.6. Deep Water Ship Channel DO Diffuser(s) (OSCM 7)
- 8.2.5.1.7. Managed Seasonal Wetlands Discharge WQ (OSCM 8)

8.2.5.2. Non-Native Predators/Competitors Measures

- 8.2.5.2.1. Non-Native Organisms from Recreational Watercraft (OSCM 10)
- 8.2.5.2.2. Non-Native Species Rapid Detection and Response (OSCM 11)
- 8.2.5.2.3. Non-Native Aquatic Vegetation Removal (OSCM 13)
- 8.2.5.2.4. Non-Native Predatory Fish Harvest (OSCM 14)
- 8.2.5.2.5. Localized Predator Control Program (OSCM 24)

8.2.5.3. Legal and Illegal Harvest Measures

- 8.2.5.3.1. Salmon, Steelhead, Sturgeon Illegal Harvest Reduction (OSCM 16)
- 8.2.5.3.2. Sacramento Splittail Harvest Study and Draft Regulations (OSCM 17)

8.2.5.4. Genetic Threat Measures

- 8.2.5.4.1. Salmon Hatchery and Genetic Management Plans (OSCM 18)

8.2.5.4.2. Chinook Salmon Mark-Select Fishery Program (OSCM 19)

8.2.5.4.3. Delta and Longfin Smelt Propagation Programs (OSCM 20)

8.2.5.5. Non-Project Entrainment Reduction Measures

8.2.5.5.1. Non-Project Diversion Entrainment Reduction (OSCM 21)

8.2.5.5.2. Non-Physical Migrating Fish Barriers (OSCM 25)

8.2.6. Monitoring, Research, and Adaptive Management

Note: this section will lay out the method, data, and assumptions for estimating on-going costs for monitoring, research, and adaptive management activities.

8.2.7. Remedial Measures

Note: this section will lay out the method, data, and assumptions for estimating costs to implement remedial measures in response to changed circumstances or the failure to meet performance standards.

8.3. Program Cost Summaries and Tables

Note: This section will present the cost summary tables for the BDCP. It is anticipated that the data model proposed for the cost analysis (see the memo BDCP Cost Memo 1) will enable substantial flexibility with regard to the level of detail or aggregation in which to present BDCP cost information. Hence, we anticipate being able to present a wide range of tabular cost information relating to the BDCP in its entirety or subparts of the BDCP.

8.4. Funding Sources and Assurances

Note: The subsections for this section have not yet been developed. They will be added to the chapter later with development of the funding plan.

Technical Appendix for Cost Estimation

Note: The technical appendix will provide more detailed information on data sources, assumptions, and cost models used to estimate expected BDCP costs.