

1 **Table 8-50. Cost Estimate of BDCP Capital Outlays in Five-Year Increments (2010 Dollars)**

Low Estimate (millions)	Plan Year									
	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50
Water Conveyance ^a	\$5,170	\$7,521	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Natural Community Restoration	\$546	\$514	\$442	\$295	\$297	\$297	\$285	\$284	\$2	\$2
Other Stressors	\$27	\$0	\$4	\$0	\$0	\$4	\$0	\$0	\$4	\$0
Total Capital Outlays	\$5,743	\$8,035	\$446	\$295	\$297	\$301	\$285	\$284	\$6	\$2
High Estimate (millions)	Plan Year									
	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50
Water Conveyance ^a	\$5,170	\$7,521	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Natural Community Restoration	\$741	\$680	\$608	\$367	\$369	\$370	\$355	\$354	\$3	\$3
Other Stressors	\$33	\$0	\$5	\$0	\$0	\$5	\$0	\$0	\$5	\$0
Total Capital Outlays	\$5,944	\$8,201	\$613	\$367	\$369	\$375	\$355	\$354	\$8	\$3

^a CM1: Midpoint estimate

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1 **Table 8-51. Cost Estimate of BDCP Operating Outlays in 5-Year Increments (2010 Dollars)**

Low Estimate (millions)	Plan Year									
	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50
Water Conveyance ^a	\$10	\$10	\$192	\$192	\$422	\$422	\$422	\$422	\$422	\$422
Natural Community Restoration	\$15	\$28	\$32	\$38	\$42	\$45	\$49	\$55	\$59	\$59
Other Stressors	\$83	\$101	\$105	\$111	\$117	\$123	\$128	\$134	\$136	\$136
Program Oversight	\$46	\$47	\$52	\$53	\$54	\$59	\$61	\$61	\$59	\$56
Total Operating Outlays	\$154	\$186	\$381	\$394	\$635	\$649	\$660	\$672	\$676	\$673
High Estimate (millions)	Plan Year									
	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50
Water Conveyance ^a	\$10	\$10	\$192	\$192	\$422	\$422	\$422	\$422	\$422	\$422
Habitat Restoration	\$18	\$34	\$40	\$48	\$52	\$57	\$62	\$69	\$74	\$74
Other Stressors	\$104	\$132	\$143	\$155	\$167	\$178	\$189	\$201	\$205	\$205
Program Oversight	\$57	\$60	\$66	\$69	\$71	\$79	\$83	\$84	\$81	\$77
Total Operating Outlays	\$189	\$236	\$441	\$464	\$712	\$736	\$756	\$776	\$782	\$778
^a Midpoint estimate										

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1 **Table 8-52. Funding Estimate Summary by Entity, Sources, and Plan Component¹**

2 **[Note to reader: Funding commitments from state and federal water contractors are under discussion. All values in this table are preliminary.]**

Funding Source ³	Estimated Funding Relevant to BDCP, by Plan Component (in millions \$) ²						Total	%
	Program Administration	Monitoring, Research, Adaptive Management, and Remedial Measures	Water Facilities and Operations (CM1, CM2)	Natural Community Protection and Management (CM3, CM11)	Natural Community Restoration (CM2, CM4-10, CM12)	Other Stressors Conservation (CM13-21)		
State and Federal Water Contractors								
State Water Contractors	TBD	TBD	\$8,467	\$18	\$136	\$10	\$8,631	36.5%
Federal Water Contractors	TBD	TBD	\$8,467	\$18	\$136	\$10	\$8,631	36.5%
U.S. Bureau of Reclamation								
Central Valley Project Improvement Act				\$12	\$59	\$28	\$100	0.4%
California Bay-Delta Restoration Appropriations ⁴	\$90	\$909	\$95		\$603	\$230	\$1,926	8.2%
California Department of Fish and Game								
Ecosystem Restoration Program ⁵								0.0%
Environmental Enhancement Fund ⁵								0.0%
Fisheries Restoration Grant Program								0.0%
Other State Funding								
New Water Bond (2012)								
Water System Ops Improvement					\$300	\$300	\$600	2.5%
Delta Sustainability					\$1,204	\$581	\$1,785	7.6%
Conservation/Watershed Protection				\$76			\$76	0.3%
Water Supply Reliability						\$106	\$106	0.4%
<i>Subtotal: New Water Bond</i>				\$76	\$1,504	\$987	\$2,567	10.9%
Proposition 1E					\$184		\$184	0.8%
Proposition 84					\$42	\$21	\$63	0.3%
Wildlife Conservation Board				\$40	\$10		\$50	0.2%
Delta Stewardship Council		\$90					\$90	0.4%

Funding Source ³	Estimated Funding Relevant to BDCP, by Plan Component (in millions \$) ²						Total	%
	Program Administration	Monitoring, Research, Adaptive Management, and Remedial Measures	Water Facilities and Operations (CM1, CM22)	Natural Community Protection and Management (CM3, CM11)	Natural Community Restoration (CM2, CM4-10, CM12)	Other Stressors Conservation (CM13-21)		
U.S. Fish and Wildlife Service								
Cooperative Endangered Species Conservation Fund				\$100			\$100	0.4%
Land and Water Conservation Fund				\$25			\$25	0.1%
National Coastal Wetlands Conservation Grants					\$10		\$10	0.0%
CA Bay-Delta Restoration Fund ⁴	\$54	\$9		\$101	\$101		\$266	1.1%
National Marine Fisheries Service								
Regional Ecosystem Conservation					\$5	\$5	\$10	0.0%
Estuary Restoration Act					\$3	\$2	\$5	0.0%
National/Regional Partnership Grants					\$7	\$3	\$10	0.0%
CA Bay-Delta Restoration Fund ⁴		\$72					\$72	0.3%
U.S. Army Corps of Engineers								
Bay-Delta Fund-Related ⁴	\$5				\$23		\$27	0.1%
U.S. Environmental Protection Agency								
San Francisco Bay Area Water Quality Improvement Fund					\$5		\$5	0.0%
Bay-Delta Fund-Related ⁴					\$252		\$252	1.1%
Natural Resource Conservation Service								
Environmental Quality Incentives Program				\$50			\$50	0.2%
Wetlands Reserve Program				\$125			\$125	0.2%
CA Bay-Delta Restoration Fund ⁴					\$108		\$108	0.5%
U.S. Geological Survey								
CA Bay-Delta Restoration Fund (Monitoring, Research) ⁴		\$158					\$158	0.7%
Other Funding Sources								
Interest income	\$100					\$65	\$165	0.7%

Funding Source ³	Estimated Funding Relevant to BDCP, by Plan Component (in millions \$) ²						Total	%
	Program Administration	Monitoring, Research, Adaptive Management, and Remedial Measures	Water Facilities and Operations (CM1, CM22)	Natural Community Protection and Management (CM3, CM11)	Natural Community Restoration (CM2, CM4-10, CM12)	Other Stressors Conservation (CM13-21)		
Summary								
Total Funding	\$249	\$1,238	\$17,029	\$566	\$3,189	\$1,360	\$23,630	100.0%
Total Cost	\$290	\$1,037	\$16,934	\$608	\$2,886	\$1,391	\$23,146	
Funding-Cost	\$(42)	\$201	\$95	\$(42)	\$303	\$(31)	\$484	2.1%
Total Water Exporter Funding	TBD	TBD	\$16,934	\$37	\$272	\$20	\$17,263	73%
Total State Funding ⁶	\$-	\$-	\$-	\$116	\$1,740	\$1,008	\$2,864	12%
Total Federal Funding	\$149	\$1,238	\$95	\$289	\$1,176	\$268	\$3,213	14%
Notes:								
¹ In most cases, funding amounts are estimates only based on funding history, overlap with BDCP goals, and assessment of competitiveness of BDCP projects. Funding estimates from state and federal agencies do not represent commitments and are subject to annual appropriations from the Legislature and Congress, respectively. ² See text for rationale of funding estimate. Where a range is provided in the text, the midpoint of the range is used for this table. Where funding sources apply to multiple Plan components, funding is allocated proportional to cost across applicable components, unless there is a basis to allocate funds differently. Allocations are estimates of potential funding and do not imply dedicated or guaranteed funding. ³ See text for explanation of funding source. ⁴ See Table 8-56 for details on Bay-Delta Fund funding. ⁵ Funding may be provided from this source but it is not assumed due to the uncertainty in funding to support BDCP. ⁶ Include IEP funding, which is jointly state and federally funded.								

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1 and 8,000 acres of tidal and subtidal natural community restoration. DWR estimates that roughly
 2 \$700 million is already committed to activities that overlap with the BDCP, of which \$543 million
 3 overlaps specifically with natural community restoration. (Potential Funding Sources for the BDCP,
 4 September 30, 2011.)

5 **Table 8-62. BDCP Costs Funded by State and Federal Water Contractors, Including Mitigation (millions)**

6 **[Note to reader: Funding commitments from state and federal water contractors are under discussion and not**
 7 **finalized. All values in this table are preliminary and may change.]**

BDCP Cost Item	Total Cost	% Funded by Contractors	Amount Funded by Contractors	Rationale
Program administration	\$290	TBD	\$TBD	
Monitoring, research, and adaptive management	\$812	TBD	\$TBD	
Changed circumstances	\$225	TBD	\$TBD	
CM1 Water Facilities and Operation (capital costs)	\$12,691	100%	\$12,691	Fully funded by water contractors
CM1 Water Facilities and Operation (operational costs)	\$4,225	100%	\$4,225	Fully funded by water contractors
CM2 Yolo Bypass Fisheries Enhancement	\$715	7.4%	\$53	Portion related to OCAP BiOp Commitments in Yolo Bypass (RPA Actions I.6.3, I.6.4, I.7) ¹
CM3 Natural Communities Protection and Restoration	\$409	5.0%	\$20	% share of reserve system proportional to impact of CM1 construction
CM4 Tidal Natural Communities Restoration	\$1,689	12.3%	\$208	Portion of tidal wetland restoration required by OCAP BiOp (8,000 acres of 65,000 acres in BDCP) ¹
CM6 Channel Margin Enhancement	\$60	19.5%	\$12	19.5% = 3.9 of 20 miles (amount of channel margin removed by N Delta intakes and 1:1 restoration)
CM11 Natural Communities Enhancement and Management	\$325	5.0%	\$16	% share of reserve system proportional to impact of CM1 construction
CM15 Predator Control	\$48	20.0%	\$10	% share related to impacts of N Delta facilities and need for predator control at selected Delta locations.
CM16 Nonphysical Fish Barriers	\$498	2.0%	\$10	Portion related to OCAP BiOp (RPA Action IV.1.3) ¹
Total			\$17,245	
Total New Costs²			\$16,974	

Notes:

¹ Provisions of the 2007 and 2009 BiOps may change in response to legal proceedings. If the requirements of the BiOps change, funding requirements related to them will be reevaluated for actions that overlap with BDCP.

² New costs are those not associated with previous commitments under the BiOps that overlap with BDCP.

1 **Table 8-64. Costs of Large-Scale Water Projects in California, Sorted by Per Capita Costs**

Project	Agency	Date Completed	Capital Cost (millions) ¹	Population within Service Area (millions)	Project Cost per Capita
Diamond Valley Reservoir/Inland Feeder	Metropolitan Water District	2000	\$2,087	18	\$116
Freeport Project	East Bay Municipal Utility District	2010	\$517	1.3	\$398
BDCP North Delta Facilities (CM1)	CA Dept. of Water Resources	Est. 2025	\$12,691	25	\$508
Emergency Storage Project	San Diego County Water Agency	Est. 2014	\$1,500	2.8	\$536
Los Vaqueros Reservoir Expansion Project	Contra Costa Water District	2012	\$570	0.55	\$1,036
Coastal Branch Aqueduct	Dept. of Water Resources and Central Coast Water Authority	1997	\$575	0.43	\$1,337
Hetch Hetchy Aqueduct Improvement Project	San Francisco Public Utilities Commission	On-going	\$4,600	2.5	\$1,840
Red Bluff Fish Passage Improvement Project	U.S. Bureau of Reclamation and Tehama-Colusa Canal Authority	On-going	\$230	TBD	TBD

Source: Bay Delta Conservation Plan: Economic Benefits and Financing Strategies, February 2012.
¹ In dollars at the time project completed or today's dollars if project not yet completed.

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3 **Financing the State Water Project**

4 To date, the most expensive water infrastructure project in California is the SWP. In 1960, when the
 5 SWP began, the assessed value of the service area was \$6 billion and the population served was 13
 6 million. The \$1.75 billion bond⁵⁶ was the largest water revenue bond in the early 1960s. Of this
 7 amount, The Metropolitan Water District of Southern California's (MWD's) share was approximately
 8 half, at \$875 million; this share was roughly 15% of the assessed value of the MWD service area at
 9 that time.

10 About 78% of the costs of constructing the SWP have been financed by the sale of general obligation
 11 and revenue bonds. These bonds are being repaid in full by SWP beneficiaries, rather than the
 12 general taxpayer. The state water beneficiaries are responsible for all water supply-related costs,
 13 including operating and maintaining SWP facilities. Each of the 29 contractors pays the same per-
 14 acre-foot rate for the cost of constructing and operating facilities that store and convey the SWP

⁵⁶ In 2011 dollars, this bond would be worth \$12.9 billion to \$18.2 billion, depending on the method of calculation.

1 **Table 8-65. Potential Allocation of Costs among Selected State Water Contractors**

2 **[Note to Reviewers:** This table presents existing data on water contractor allocations that will likely serve as a
 3 starting point for discussions about allocations among state water contractors. Allocations may change as
 4 discussions progress.]

State Water Contractor	2025 Debt Service Payment for Estimated Share of BDCP	Table A Quantities (acre-feet per year)	Population in Service Area	Debt Service Payment per Capita	Cost per Acre
Metropolitan Water District of Southern California	TBD	1,911,500	19,000,000	TBD	TBD
Kern County Water Agency*	TBD	982,730	839,631	TBD	TBD
Antelope Valley-East Kern Water Agency**	TBD	141,400	557,330	TBD	TBD
Coachella Valley Water District	TBD	138,350	288,688	TBD	TBD
Santa Clara Valley Water District	TBD	100,000	1,682,585	TBD	TBD
Tulare Lake Basic Water Storage District	TBD	88,922	TBD	TBD	TBD
San Bernardino Valley Municipal Water District	TBD	102,600	661,546	TBD	TBD
Castaic Lake Water Agency	TBD	95,200	287,000	TBD	TBD
Alameda County Water District	TBD	42,000	328,325	TBD	TBD
Zone 7 Water Agency	TBD	80,619	226,000	TBD	TBD
Palmdale Water District	TBD	21,300	TBD	TBD	TBD
Desert Water Agency	TBD	55,750	73,000	TBD	TBD
Mojave Water Agency	TBD	82,800	445,000	TBD	TBD
Central Coast Water Authority	TBD	45,486	TBD	TBD	TBD

Source: The PFM Group 2012.
 N/A = not available
 * Statistics for Kern County
 ** Statistics for Antelope Valley and East Kern Valley

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6 **8.11.2.4.4 Cost-Sharing Among Federal Water Contractors**

7 The CVP beneficiaries are currently assumed to provide 50% of the funds necessary for CM1,
 8 including construction and operation of the new Delta conveyance facilities and all mitigation costs
 9 associated with construction. The allocation of costs for CM1 among beneficiaries is expected be
 10 determined consistent with established CVP cost allocation policies and procedures⁵⁷. Cost recovery
 11 is expected to occur consistent with established CVP rate setting policies and procedures. Annually,

⁵⁷ CVP capital cost allocation policies for conveyance and conveyance pumping facilities will not apply to the recovery of costs to convey CVP water through the isolated facility. Instead, CVP costs payable under an isolated facility joint use agreement, for construction and annual O&M, would be treated as O&M for CVP cost allocation purposes.

1 to disburse most or all of its funds within 10 years. For the purposes of this funding analysis, all of
 2 the funds relevant to BDCP are assumed to be disbursed within a 10-year period.

3 **Table 8-67. Funding for 2012 Water Bonds Relevant to BDCP**

4 **[Note to Reader: Funding allocations in the table are preliminary and subject to verification by DWR.]**

Category Relevant to BDCP	Total Funding Assumed (millions) ¹	Proportion Assumed for BDCP ²	Total Assumed for BDCP (millions)
Statewide Water System Operation Improvement			
<ul style="list-style-type: none"> • Provide public benefits associated with water storage projects that improve the operation of the state water system, are cost effective, and provide a net improvement in ecosystem and water quality conditions. 	\$3,000	20%	\$600
Delta Sustainability			
<ul style="list-style-type: none"> • Protect and enhance the sustainability of the Delta ecosystem. • Develop and implement the BDCP. • Protect and restore native fish and wildlife, including the acquisition of water rights and the removal of undesirable invasive species. • Reduce greenhouse gas emissions from exposed Delta soils. • Reduce impacts of mercury contamination and remediate and eliminate sources of mercury. • Scientific studies and assessments that support the projects described above. 	\$1,500	100%	\$1,500
<ul style="list-style-type: none"> • Provide public benefits and support Delta sustainability options, including projects and supporting scientific studies and assessments. • Ensure that urban and agricultural water supplies are not disrupted by failures of Delta levees. • Preserve economic viability and sustainability of agriculture and other economic activities. • Improve quality of drinking water. • Improve levee and flood control facilities and other vital infrastructure. • Provide physical improvements or other actions to create waterflow and water quality to provide adequate habitat for native fish and wildlife. • Facilitate similar projects with costs associated with planning, monitoring, and design of alternatives, and project modifications and adaptations. • Mitigate impacts of water conveyance and ecosystem restoration. • Provide or improve water quality facilities and other infrastructure. 	\$450	30%	\$135

Category Relevant to BDCP	Total Funding Assumed (millions) ¹	Proportion Assumed for BDCP ²	Total Assumed for BDCP (millions)
<ul style="list-style-type: none"> Assist local governments and local agricultural economy suffering loss of productive agricultural lands for habitat and ecosystem restoration. 	\$250	60%	\$150
<i>Subtotal: Delta Sustainability</i>			\$1,785
Conservation and Watershed Protection			
<ul style="list-style-type: none"> Ecosystem and watershed protection 	\$150	20%	\$30
<ul style="list-style-type: none"> Protection of watersheds, reforestation, vegetation, and fuel treatment activities 	\$100	5%	\$5
<ul style="list-style-type: none"> Central Valley Project Improvement Act project that improves salmonoid fish passage in Sacramento River 	\$60	40%	\$24
<ul style="list-style-type: none"> Public infrastructure revolving fund mitigation programs 	\$50	25%	\$13
<ul style="list-style-type: none"> Farmland Conservancy and Watershed Coordinator grant programs 	\$20	20%	\$4
<i>Subtotal: Conservation and Watershed Protection</i>			\$76
Water Supply Reliability			
<ul style="list-style-type: none"> Local and regional conveyance projects 	\$350	10%	\$35
<ul style="list-style-type: none"> San Francisco Bay Hydrologic Region 	\$132	25%	\$33
<ul style="list-style-type: none"> Sacramento River Hydrologic Region 	\$76	20%	\$15
<ul style="list-style-type: none"> San Joaquin River Hydrologic Region 	\$64	30%	\$19
<ul style="list-style-type: none"> Mountain Counties subregion³ 	\$44	10%	\$4
<i>Subtotal: Water Supply Reliability</i>			\$106
Total Funding Relevant to BDCP			\$2,567
<p>Note: Funding amounts are based on bond allocations defined in 2009. Allocations for the 2012 election may change or may be reduced. If the bond measure is deferred until 2014, allocations will almost certainly change.</p> <p>¹ Based on allocations for 2010 bond; amounts in 2012 or in a future year would likely be greater due to inflation.</p> <p>² Based on overlap of BDCP conservation measures with the purpose of the program and potential competitiveness of BDCP with other projects in the geographic area of the program (some are local, others are statewide).</p> <p>³ The Sacramento River Hydrologic Region and the San Joaquin River Hydrologic Region are both eligible for a portion of \$44 million for the Mountain Counties sub-region.</p> <p>Source: California Department of Water Resources 2009; Senate Bill 2, 2009-10 7th Ex. Sess. (CA 2009).</p>			

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Although the passage of the 2012 water bond is not certain, California voters have a long history of passing large water bonds, some by large margins (Table 8-68). If the 2012 water bond fails or is pulled off the ballot by the Legislature, the water bond could be included again on the ballot as early as 2014.