



February 19, 2014

Attention: Imported Water Committee

Bay-Delta Conservation Plan: Economic and Financial Risk Assessment to the Water Authority (Discussion)

Purpose

The purpose of this memo is to provide an economic and financial risk assessment of the Bay Delta Conservation Plan (BDCP) to the Water Authority.

Background

The Sacramento-San Joaquin Bay-Delta is an important estuary that supports many fish, wildlife and plant species. It is also an important water source for Californians – about two-thirds of residents and more than 40 percent of irrigated farmland receive at least some of their water supplies from the Delta. The Water Authority gets about 20 percent of its supplies from the Delta via the State Water Project. Over the years, the competing uses of the Delta are among the factors that have stretched it to the breaking point. The Delta ecosystem is in steep decline, and the Delta as a water source for many Californians is threatened. Since the late 2000's, the Delta water deliveries have been severely impacted by restrictions imposed by a federal court and several regulatory agencies to address the decline of several fish species.

The efforts to resolve water supply and ecosystem conflicts in the Delta have a long history,¹ with the latest being the Bay Delta Conservation Plan (BDCP) process, a joint effort of state and federal agencies. The BDCP is a habitat conservation plan, intended to provide long-term permits from regulatory agencies that would allow water export facilities – the State Water Project and federal Central Valley Project – to be operated in a more stable and reliable manner over the 50-year permit period.

Because of the importance of the Delta – both in terms of the value it provides to the environment and as a water supply – the Water Authority has long been a proponent of a Delta fix. Additionally, the Water Authority is a strong advocate for its ratepayers, and as such, it has consistently promoted a cost-effective Delta solution that would stabilize the environment, and provide improved water supply reliability. The solution must also include “right-sized” facilities that are backed by water exporters’ and their respective unit’s or member agencies’ long-term firm financial commitments to pay for the project.

In addition to the BDCP proposed action, which the Brown Administration and state agencies are pursuing, other stakeholders have suggested variations of Delta fix strategies. Last July, Water Authority management convened a multi-disciplinary team of Water Authority staff to evaluate four Delta fix strategies (including a no action approach) with an aim to assess how these strategies would address the Water Authority’s Bay-Delta Policy Principles² and meet supply diversification and

¹ August 1, 2013, *Historical context*:

http://www.sdcwa.org/sites/default/files/files/board/2013_agendas/2013_08_08_ImportedWater.pdf

² February 15, 2012, *Policy principles*: http://www.sdcwa.org/sites/default/files/files/board/2012_02_23_boardmemo01-baydelta-adopt-principles.pdf

reliability goals expressed in the 2010 Urban Water Management Plan. The goals of this review are two-fold: to provide input during the BDCP environmental review process and to provide technical assessments on various proposals to assist the Board in making policy decisions regarding the BDCP.

Four options were selected to be analyzed further:

1. BDCP proposed action (including a new 9,000 cubic-feet-per-second (cfs) conveyance system)
2. Delta Vision Foundation (DVF) BDCP Plus proposal (6,000 cfs conveyance)³
3. Natural Resources Defense Council (NRDC) Portfolio proposal (3,000 cfs conveyance)⁴
4. No action alternative (included in BDCP public review draft)

The two alternatives – DVF’s BDCP Plus and NRDC’s Portfolio proposal – have not gone through the same level of analysis in their totality as alternatives analyzed under the BDCP process. Since these alternatives may potentially meet the board’s Delta policy principles to support a process that includes all stakeholders, to include additional project components that may result in a Delta conveyance that is “right-sized” and to acknowledge, integrate and support the development of local water resources, they were included in the evaluation.

Similar to the BDCP proposed action, both alternatives include a new north of Delta conveyance system to work in conjunction with the existing waterway, but they differ in terms of the north Delta conveyance system capacity. Both alternatives, among other things, propose to rely on increased local water resources development, additional storage and better integration of water facilities to augment the reduction of Delta exports due to the reduced conveyance system capacity. The NRDC Portfolio proposal starts with a 3,000 cubic feet per second single tunnel, while BDCP Plus begins with a 5,000-6,000 cubic feet per second conveyance system. Because these alternatives have not been analyzed in totality under the BDCP process, a hybrid approach is utilized when evaluating these alternatives:

- 1) In Delta: utilized analyses performed in the BDCP process, including its assessment of the conveyance facilities
- 2) Outside of Delta: Water Authority’s own experience in local projects development is utilized for local projects analysis.

The evaluations have focused on how these alternatives address the board’s Delta Policy Principles and meet long-term supply diversification and reliability goals for the Water Authority -- rather than an evaluation of statewide impacts.

³ DVF suggests a north Delta conveyance system of 5,000 cfs- 6,000 cfs; for ease of comparison in staff’s analysis, 6,000 cfs is utilized as a proxy. Similar to NRDC Portfolio, BDCP Plus couples the new conveyance with a portfolio of increased local supplies and storage, and relies on improvements in water system integration to augment the reduced export capacity.

⁴ NRDC Portfolio suggests a north Delta conveyance system of at least 3,000 cfs; for ease of comparison, 3,000 cfs is utilized. NRDC Portfolio coupled new conveyance with a portfolio of local supply and south of Delta storage to augment the reduced export capacity.

Discussion

This report provides the second of a two-part report on the economic and financial assessment of BDCP alternatives as they pertain to the Water Authority. The January 15, 2014 Board memo⁵ included an assessment of potential BDCP cost impacts of the proposed action – depending on a range of cost allocation scenarios – on the Metropolitan Water District (MWD) and the Water Authority. This board memo continues the financial assessment of the alternatives and addresses in summary fashion the following elements for consideration of future board action regarding BDCP:

- Cost estimate and yield ranges
- Funding sources
- Cost impact based on the following risks
 - Cost allocation
 - Cost estimate
 - Construction delay
 - Financing cost
 - Decision tree/adaptive management
- Rate impact on Water Authority ratepayers

The economic and financial analysis of BDCP is complex. The Attachment 1 to this memo is a more detailed report of the above impacts to the Water Authority.

State and Federal Funding Commitment Not Yet in Place

A central component of the BDCP strategy for water exporters is a new conveyance system that would modify and improve water diversion from the San Joaquin and Sacramento rivers to lessen impacts on the ecosystem. The BDCP also includes habitat restoration that is intended to restore and protect the ecosystem. Although the BDCP indicates both federal funding and future state bonds would fund habitat restoration costs, these sources have yet to be secured.⁶

State law requires that costs of the conveyance system be paid by the state and federal water contractors. But the current BDCP public review draft states that costs to be divided between the federal and state contractors will not be determined until it is “*near the time that permits are issued for BDCP.*” If this timeline holds true, the cost allocation will not be known until many months after the public commenting period for the BDCP has ended.

At the present time, the stakeholders, including the water agencies, are being presented a complex and costly plan. Given the nature of the process, all parties are being asked to comment on (and presumably accept) a plan that is unclear regarding significant cost implications, including to the Water Authority (and all of MWD member agencies). Equally of concern is the lack of clarity on the commitments to fund ecosystem improvements and protections by the federal agencies and state funding sources.

⁵ http://www.sdcwa.org/sites/default/files/files/board/2014_Agendas/2014_01_23_Board%20Packet.pdf pp115-130.

⁶ State funding of \$4.1 billion from two new water bonds; federal funding of \$3.6 billion includes \$3.16 billion of new appropriations.

Cost Allocation Negotiations

As the largest member agency of the largest State Water Project contractor – MWD – the Water Authority and its ratepayers are being counted on to pay the second-largest⁷ share of BDCP costs in the state. Under MWD’s current methodology of allocating costs, wherein BDCP costs are allocated on transportation rates, even as the Water Authority continues to diversify its water supply sources and lessen its dependency on MWD, the Water Authority’s financial exposure to MWD’s BDCP costs will remain at 25 – 30 percent of MWD’s total cost exposure.⁸ BDCP cost allocation to MWD will have significant impacts to the Water Authority and its ratepayers. The recent communications between a group of State Water Project contractors and the Department of Water Resources (Attachment 2) about cost allocation and potential contract amendments further underscore this uncertainty. The contractors’ letter describes the potential of “*revisions in water management policies in the SWP contracts, in a cost allocation process.*” The letter goes on to discuss that revised water management practices could provide “flexibility” for some contractors to address potential concerns about “*being able to afford*” the additional supply reliability provided by BDCP. Clearly, new concepts are being presented and discussions are ongoing, which may result in significant cost exposure to water exporters. A recent report prepared by the Standard & Poors Rating Services “*The High Price of Water Supply Reliability: California’s Bay-Delta Conservation Plan Would Require Significant Investment*” (Attachment 3) noted the need for water contractors to increase their rates to finance the BDCP costs, and highlighted that these costs will need to be paid annually whether water is delivered or sold. As such, it further noted that “[f]or districts serving agricultural customers, increasing rates could weigh on the economics of the crops grown within those districts.” This statement raises the question on the ability for agricultural districts to afford the high costs associated with the BDCP.

For the above reasons, and since the cost negotiations are still taking place, the Water Authority has asked Governor Brown’s Administration, on numerous occasions, for the opportunity to be directly engaged in the BDCP cost allocation negotiation process, but has yet to receive a response. The Water Authority again raised questions on funding and financing issues as they relate to the BDCP in a recent comment letter (See Attachment 4).

Potential Cost Exposure

Without resolution of each of the aforementioned funding commitments, and holding MWD’s cost allocation as the only risk variable, the Water Authority’s financial exposure under the proposed action could range between \$1.1 billion and \$2.2 billion in 2012 dollars. When other cost risks are considered, such as potential increases in construction cost and/or reduction in anticipated export yields, the financial exposure to the Water Authority grows. This wide range of cost risks related to conveyance facilities would apply to all conveyance alternatives, including those proposed in the NRDC Portfolio and BDCP Plus.

⁷ Among MWD member agencies and second only to the Kern County Water Authority

⁸ The \$1.1 billion and \$2.2 billion cost range is based on the Water Authority paying for 25 percent of MWD’s BDCP costs; depending on MWD’s actual future sales, this amount may increase; conversely, if MWD were to change its allocation methodology to assess its BDCP costs on supply rates only, the Water Authority’s share may decrease.

Table 1 shows the potential yield benefits to MWD and the Water Authority under the three conveyance capacity options reviewed. These yields are modeling results from the BDCP public review draft, with the same operational criteria applied to all conveyance capacity options modeled. They represent “average” yields and rely on exporters’ abilities to take advantage of wet year supplies to realize the average yields. They do not include any potential increases in yields as a result of new storage. The MWD share of the yields is based on a 55/45 water share between SWP and CVP contractors, and MWD’s Table A allocation. The Water Authority’s share of the yield is calculated based on its current preferential right to MWD water. The potential cost range to the Water Authority is based on a range of potential cost allocation described in this memo.

Table 1. BDCP Conveyance Alternatives Yields and Costs to Water Authority

	BDCP Yield MWD ¹	BDCP Yield Water Authority ²	Total Cost to Water Authority ³	Additional Common Risks
9,000 cfs ⁴ (proposed action)	302 taf – 428 taf	55 taf - 78 taf	\$1,066M – \$2,208M	Construction estimate, scheduling delay, financing cost, reduced yield from Decision Tree/ adaptive management process
6,000 cfs ⁴	262 taf	48 taf	\$911M-1,885M	
3,000 cfs ⁴	187 taf	34 taf	\$612M-\$1,267M	
^{1.} Based on 1.2 maf – 1.7 maf on average of potential BDCP benefit; yield benefit is shared 55/45 SWP/CVP with MWD getting its Table A allocation ^{2.} Based on Water Authority’s preferential right to MWD water as of 6/30/2013 ^{3.} In 2012\$, based on cost allocation assumptions described in this memo, with Water Authority paying for 25% of MWD share, based on MWD’s current cost allocation methodology ^{4.} Modeling results for high outflow and low outflow are provided for 9,000 cfs only; export yields for other conveyance capacity options included results from high outflow only.				

Additional Implications of Storage Costs

Since the 1990’s, MWD has increased its storage capacity to about 6 million acre-feet. Because all conveyance alternatives provide minimal dry year supplies, the ability to fully realize the benefit of the average yield of each option depends upon each exporter’s capability and willingness to store water during wet years for dry year use. BDCP yields to MWD are included to display potential opportunities for MWD to take advantage of supplies, and they will be fully realized only if MWD takes all available wet year supplies for dry year use. As the conveyance size is reduced, the potential additional wet year export supply is reduced as well. However, without actually modeling MWD’s system using these yields together with MWD’s capability to take wet year flows and extract water in storage in dry years, it is unclear how MWD supplies would be impacted under each conveyance capacity option. The added costs associated with use of MWD’s storage portfolio – both facility and operational costs – that MWD may potentially assess on its member agencies as a result of implementing this strategy have not been identified and are not included. The Water Authority’s potential annual yields shown on Table 1 is assumed to be proportional to its preferential right to MWD water, as it is unclear how potential yield from the various conveyance options may impact total available MWD supplies to its member agencies during a drought.

Cost of Local Projects

To address the potential supply gap from MWD to the Water Authority as a result of uncertain SWP supplies, a selection of local resources projects were reviewed and their costs and risks assessed. These projects were not included in the Water Authority's 2010 Urban Water Management Plan as "verifiable projects." They are included to provide a sample of possible projects the region may pursue as the supply gap is better understood.

Table 2. Potential Local Resources Yields and Costs

	Potential Annual Yield	Total Capital Cost to Region	Unit Cost (\$/af)
Seawater desal ¹	56 taf-168 taf	\$1.43B-\$3.2B	\$2,260-\$2,860
Direct/Indirect Potable Reuse ²	93 taf	\$2.1B	\$2,175-\$2,375
<p>¹. Based on cost estimates prepared for proposed Camp Pendleton Seawater Desalination Project (Oct/Nov 2013); unit cost includes annual O&M costs; 30-year amortization @5% assumed</p> <p>². "Gross costs" based on city of San Diego Recycled Water Study (Integrated Reuse Alternatives); does not include any potential avoided wastewater costs or potential offset savings such as grants, or low interest loans; project may be scalable; unit cost includes annual O&M costs; 30-year amortization @5% assumed</p>			

Relying solely on the development of new local supplies is not without risk. Public acceptance, funding availability and permitting are just a few examples. Although local resources like seawater desalination and water recycling produce firm supplies even during times of drought, they take time to implement. It took nearly 15 years to execute the Carlsbad Seawater Desalination project, with an estimated cost ranging from \$2,014 per acre foot to \$2,257 per acre foot. The Camp Pendleton seawater desalination project will take years to develop. Direct, or indirect potable water reuse projects the City of San Diego and other member agencies are pursuing hold promise, but they too may take many years to implement. Additional conservation can also reduce demand.

Conclusion

It is clear that the Delta is broken and the current operational scheme is not sustainable. It is less clear however, that the BDCP proposed action would restore the ecosystem and stabilize the water export yields as described in the plan and within the cost estimates provided. Both the NRDC Portfolio and BDCP Plus alternatives would produce less Delta exports, and would require additional investments in storage and local resources. Focusing solely on the Water Authority's service area, additional local resources projects exist and could be pursued to fill the supply gap that may widen as a result of reduced export capacity.

Without clear public funding sources secured for the habitat restoration, and without cost allocation for the conveyance facilities clearly delineated and agreements obtained, the Water Authority is faced with too wide a range of potential cost exposure.

Ultimately, when the cost allocation is known, the board will be in a better position to weigh the cost and supply benefit the BDCP alternatives may provide to the San Diego region against the cost and reliability of developing additional local supply projects.

Next Steps

This month's economic and financial assessment report wraps up the assessment of BDCP alternatives. Next month, staff will present a list of issues identified through its internal evaluation of the BDCP public review draft documents that it plans to submit to the Natural Resources Agency through the BDCP environmental review process.

Prepared by: Amy Chen, Director of MWD Program
Dan Denham, Acting Director of Colorado River Program
Glenn Farrel, Government Relations Manager
Reviewed by: Dennis Cushman, Assistant General Manager

Attachment 1: BDCP Economic and Financial Analysis

Attachment 2: State Water Contractors' letter to Department of Water Resources Dated January 28, 2014

Attachment 3: Standard & Poors: *The High Price of Water Supply Reliability: California's Bay delta Conservation Plan would Require Significant Investment* Dated February 13, 2014

Attachment 4: Water Authority Comment Letter Dated February 5, 2014: BDCP Funding and Financing

BDCP Economic and Financial Analysis

Identification of Risks

There are several risk elements for the conveyance system that apply to all BDCP alternatives, including:

- Permitting risk
- Construction cost estimates
- Scheduling and litigation delays
- Failure of public funding
- Cost allocation
- Financing costs
- Failure of adaptive management
- Local control

Some of these risks may be quantifiable, and some not. This report groups issues in the following categories. Numeric values are placed on risk factors described to analyze cost impacts. When appropriate, other risks are noted in a qualitative manner.

- Cost estimate and yield ranges
- Funding sources
- Cost impact based on the following risks
 - Cost allocation
 - Cost estimate
 - Construction delay
 - Financing cost
 - Decision tree/adaptive management
- Rate impact on Water Authority ratepayers

It is evident that there are no easy solutions to resolve the Bay Delta water supply and ecosystem issues that have existed over the past 40-plus years and which have worsened in the recent years. The BDCP is intended as a comprehensive solution to improve management of water diversions and the health of the ecosystem.

Cost Estimate and Yield Ranges

In December 2013, the Natural Resources Agency made available the public review draft of the BDCP and associated environmental documents for review and comment. Included in the BDCP are 22 conservation measures collectively meant to achieve the BDCP's overall goal of "*restoring and protecting ecosystem health, water supply, and water quality within a stable regulatory framework.*" A central component of the BDCP strategy for water exporters is Conservation Measure 1 (CM1),¹ *Water Facilities and Operations*. Conservation Measures 2 through 22 (CM2 through CM22) cover ecosystem restoration and habitat protection in addition to reduction of other stressors, which are intended to restore and protect the natural communities and species. The proposed action described in the public draft includes new north Delta facilities and proposes a 9,000 cubic-feet-per-second (cfs) twin tunnel system to be operated as a dual system with the existing through-Delta conveyance

¹ The contractors are also responsible for the portion of CM2 through 22 attributable to CM1 mitigation and additional plan components.

facilities. Depending on the outcome of a “decision tree” process following construction of the tunnel system, the public review draft states the proposed action will provide a combined annual average export water yield for the State Water Project and Central Valley Project of between 4.7 million acre-feet and 5.6 million acre-feet, or about 1.2 million acre-feet and 1.7 million acre-feet of average supply benefits when compared with “no action,” as described in the BDCP Chapter 9, *Alternative to Take*.² The public review draft places the estimated cost for the proposed action at \$24.8 billion, of which \$16.9 billion is related to conveyance and related costs.³ BDCP envisions the remaining \$7.7 billion to be funded by the public through future state bonds and federal sources.

The BDCP public review draft Appendix 9.B *Take Alternative Cost Estimation* provides cost estimates for “take alternatives” evaluated in the BDCP. The take alternatives evaluated included both the 6,000 cfs and 3,000 cfs conveyance alternatives. The capital cost is estimated to be \$13.1 billion for the 6,000 cfs conveyance system, and \$10.8 billion for the 3,000 cfs system, both with twin tunnels and, similar to the proposed action, utilize the existing through-Delta conveyance system to a varying degree. Because NRDC Portfolio provides for only a single tunnel, the BDCP also provided a cost estimate of \$8.6 billion for the single tunnel 3,000 cfs system in a BDCP blog post. The public draft states that the 6,000 cfs system could provide a combined export capability of 4.5 million acre feet or about 1 million acre-feet on average of supply benefits, and 4.2 million acre feet or about 740 thousand acre-feet of average supply benefits under a 3,000 cfs system. Similar to the proposed action, these alternatives provide no benefit during dry years, and they rely on wet year supplies to increase the average yields.

As described in previous board memos, the potential range of BDCP yields rests largely on the operating criteria that the regulatory agencies will determine pending the success of habitat restoration. Through a “decision tree” process, following the construction of the conveyance facilities, the regulatory agencies will set the initial operating criteria on how the state and federal projects may be operated. An adaptive management process will follow, which may further adjust the projects’ operations. The purpose of the decision tree process is to address uncertainties associated with Delta outflow in fall months (to achieve habitat objectives for Delta smelt) and Delta outflow in the spring (to achieve habitat objectives for longfin smelt). High outflow represents more water flowing to the ocean and consequently less water for export; conversely, low outflow represents less water flowing to the ocean and increased water availability for export. The BDCP public draft provides potential yields for the proposed action under both high outflow and low outflow conditions. However, for other take alternatives, results from only the high outflow were provided. Table A1 summarizes the cost estimates and yields as reported in the BDCP public review draft.

² Previous discussions on potential yields and “decision tree” process may be found in September 18, 2013 memo http://www.sdcwa.org/sites/default/files/files/board/2013_09_26_BoardMemo-BayDelta.pdf, October 16, 2013 memo http://www.sdcwa.org/sites/default/files/files/board/2013_10_16_IW_01_BDCP.pdf, November 7, 2013 memo http://www.sdcwa.org/sites/default/files/files/board/2013_11_14_SpecialImportedWater.pdf, and January 2, 2014 memo http://www.sdcwa.org/sites/default/files/files/board/2014_Agendas/2014_01_09_SpecialIW.pdf

³ Including both capital and operating costs, values are expressed in undiscounted 2012 dollars; cost estimates for the conveyance system is based on 5-10 percent design level. January 15, 2014 *Preliminary financing assessment*: http://www.sdcwa.org/sites/default/files/files/board/2014_Agendas/2014_01_23_Board%20Packet.pdf.

Table A1. Cost Estimate and Yield Summary

Capacity	9,000 cfs		6,000 cfs	3,000 cfs	
Primary type of conveyance	pipelines/tunnels		pipelines/tunnels	pipelines/tunnels	
Tunnel	Twin		Twin	Twin	Single ^a
Operations	High Outflow	Low Outflow	High Outflow	High Outflow	High Outflow
Total Export	4.7 MAF	5.6 MAF	4.5 MAF	4.2 MAF	4.2 MAF
BDCP Benefits ^b	1.2 MAF	1.7 MAF	1 MAF	740 TAF	740 TAF
Capital Cost ^c	\$14,344M		\$13,146M	\$10,821M	\$8,600M
O&M Cost ^{c, d}	\$1,456M		\$1,311M	\$1,118M	

^a BDCP Blog http://baydeltaconservationplan.com/news/blog/13-11-12/Revised_Capital_Cost_for_3_000_cfs_Single_Bore_Tunnel.aspx

^b When compared against no action alternative as described in BDCP Chapter 9, *Alternative to Take*

^c Value expressed in undiscounted 2012 dollars

^d Source: Chapter 9.B “Take Alternatives Cost Estimation” Tables 9.B-9, -10, and -13. For ratio of annual O&M costs, utilized same assumptions as the proposed action (40 years of facility operation and power and 30 years of replacement cost).

Funding Sources

The Delta Reform Act of 2009 required that the cost of a new water conveyance facility be paid by water users. The major water users of Delta water are water contractors from the State Water Project and the federal Central Valley Project.

The BDCP public review draft indicates the plan will be funded by the “Authorized Entities,” which include funding from public sources – through state and federal agencies, and other public funding sources. Authorized Entities include:

- California Department of Water Resources
- U.S. Bureau of Reclamation
- Kern County Water Agency
- Metropolitan Water District of Southern California
- San Luis & Delta-Mendota Water Authority
- Santa Clara Valley Water District
- State and Federal Water Contractors Agency
- Westlands Water District
- Alameda County Flood Control and Water Conservation District (Zone 7 Water Agency)

State and federal regulations require assurance of funding before issuance of permits under the habitat conservation plan. Although BDCP identifies public funding sources to support the \$7.7 billion estimated cost, and their respective estimated shares, it also notes that in most cases the estimates are based on funding history and that “[f]unding estimates from state and federal agencies do not represent commitments and are subject to grant awards, annual appropriations from Congress, and passage of water bonds by the voters of California.” Of the total \$7.7 billion public financing amount, \$3.8 billion is dependent on the successful passage of future water bonds from the state, and \$3.2 billion is dependent on future federal funding appropriations. The BDCP’s current reliance on funding history to support yet-to-be appropriated federal sources and future water bonds makes it unclear how regulatory agencies would determine if funding assurances are sufficient to meet standards for permit issuance.

At the same time, while the bulk of the BDCP is envisioned to be financed by water exporters, the BDCP does not include a detailed finance plan. Instead, the public review draft relies on the anticipated benefits afforded to exporters to represent funding support for the conveyance facilities. An economic benefit and cost summary in the BDCP public review draft shows the proposed action could result in a net statewide benefit of between \$4.5 billion and \$5.3 billion, depending on the outcome of the “decision tree” process. However, the division of conveyance cost obligations between state and federal contractors has yet to be agreed upon. The public review draft states that the actual funding share between the federal and state contractors will not be determined until it is “*near the time that permits are issued for BDCP.*”

Under the endangered species act, the habitat conservation plan permits can only be issued after the federal and state environmental review processes are concluded. If this timeline described in the public review draft holds true, the cost allocation will not be determined until well after the public commenting period has been closed. It is unclear how the BDCP will determine whether sufficient contractors have signed up to fund the project, or when contractors would be required to make that crucial decision before the project can moved forward. The BDCP does not address how the following would be resolved in the event not all contractors agree to fund the project:

- How and who determines the quantity of the available annual export resulting from BDCP for allocation to those who agreed to pay;
- The decision process and which water (existing project yield or BDCP yield) gets storage priority in the projects’ reservoirs for future use; and
- How disputes would be addressed and resolved.

Cost Allocation of Proposed Action

There are two major beneficiary groups for the BDCP conveyance facilities: the State Water Project (SWP) and the Central Valley Project (CVP). Each beneficiary group includes a set of contractors with possibly unique water supply needs and financial drivers. Currently, the water contractors within the SWP follow a prescribed cost allocation and financing system that ensures they pay all SWP costs, the federal CVP system does not require full payments by the existing contractors.⁴ The lack of clear full payment structure for the existing CVP adds another layer of uncertainty regarding the federal contractors’ ability to pay. But how the costs will be shared between the federal and state contractors and within the individual contractor groups is vitally important for water agencies, like the Water Authority, whose ratepayers will ultimately pay a share of the costs.

Since BDCP is “voluntary” in nature, existing contractors are not all required to commit to pay for the new facilities.⁵ And because the “willingness to pay” factor varies among urban contractors and agricultural contractors (in many parts of the state, water rates in urban agencies are in general much higher than agricultural agencies), there has been occasional public discussion suggesting that urban agencies could bear a larger share of costs than agricultural agencies because of the perceived higher “value” BDCP water represents for urban agencies.⁶ A recent letter signed by several State Water

⁴ See February 5, 2014 *Governance*

http://www.sdcwa.org/sites/default/files/files/board/2014_Agendas/2014_02_13Special%20IW%20Agenda.pdf

⁵ “But it is a voluntary project. There’s nothing mandatory about this. The State cannot impose these costs on anyone.” Jerry Meral at Water Authority IWC meeting, May 23, 2013.

⁶ The definition of “value” has not been established; see slide 20, Beacon Economics presentation to MWD board, December 9, 2013 <http://edmsidm.mwdh2o.com/idmweb/cache/MWD%20EDMS/003734608-1.pdf> for reference to “willingness to pay.”

Project contractors to Mark Cowin of the Department of Water Resources⁷ further underscores the uncertainty of these cost allocation discussions. The letter suggests revisions to the “*water management policies in the SWP contracts*” may accommodate “*potential concerns about being able to afford the additional supply reliability provided by BDCP.*” But it is unclear what these water management policies are and how potential revisions of these policies in the SWP contracts may impact cost allocation. Depending on how the SWP contracts are revised, how many existing contractors agree to pay for the project and whether urban agencies end up subsidizing the agricultural agencies, the actual financial impact of BDCP on individual urban water agencies may increase significantly.⁸ So far, most of the discussions in the public forum have been that the project would be paid under the “beneficiary pays” concept, or that the payments will “follow the water.” But the lack of specificity of the cost allocation between state and federal contractors and within individual contractor groups severely handicaps water agencies’ ability to assess the cost impacts of the proposed action to their individual agencies.

To address the uncertainties associated with the proposed cost allocation, the January 15, 2014 board memo included a range of “bookend” potential cost impacts of the proposed action based on three cost allocation scenarios:⁹

1. Contractors pay for only conveyance and mitigation related costs of \$16.9 billion, with cost shared between SWP and CVP 55/45; MWD share assumed to be existing Table A allocation
2. All of the \$24.8 billion of BDCP costs paid by contractors, with cost shared between SWP and CVP 55/45; MWD share assumed to be existing Table A allocation
3. Contractors pay for only conveyance and mitigation costs, with urban agencies from SWP and CVP paying for 90 percent of the cost and agricultural agencies paying for the remaining 10 percent; MWD share assumed to be 58 percent¹⁰ of urban share

The analysis in Table A2¹¹ depicts that the potential cost to the Water Authority ranges between \$1.1 billion and \$2.2 billion (in undiscounted 2012 dollars) depending on cost allocation among federal and state contractors and the level of public funding. This range does not consider other potential risks due to construction cost estimates and/or supply yields.

⁷ Letter attached as Attachment 2 of this board memo.

⁸ Whether a price differential based on “value” alone is consistent with cost of service pricing requirements of Propositions 218 and 26 has not been addressed.

⁹ January 15, 2014 *Preliminary Assessment of Financing Risks*

http://www.sdcwa.org/sites/default/files/files/board/2014_Agendas/2014_01_23_Board%20Packet.pdf

¹⁰ Estimated proportional share based on Table A allocation for urban SWP and CVP urban long-term average deliveries.

¹¹ The analysis shown last month contained a minor error; any discrepancies between the two reports reflect the data correction.

Table A2. Potential BDCP Proposed Action Cost to the Water Authority Based on A Variety of Cost Allocation Assumptions (undiscounted 2012 \$)

	Scenario 1	Scenario 2	Scenario 3
Description	Contractors pay for conveyance; cost share 55/45/ SWP/CVP	Contractors pay for all costs; cost share 55/45 SWP/CVP	Contractors pay for conveyance; urban and agricultural split: 90/10
Total Cost (Capital and O&M)	\$16,930M	\$24,754M	\$16,930M
SWP (or urban in scenario 3)	\$9,312M	\$13,617M	\$15,237M
MWD	\$4,266M	\$6,168M	\$8,832M
Water Authority	\$1,066M	\$1,542M	\$2,208M

The January board memo also included a summary of annualized capital debt service unit cost calculation.¹² The unit cost analysis was performed at the MWD level (as opposed to the Water Authority level) because of BDCP's reliance on wet year storage to make it work. Over the past two decades, MWD has built a storage portfolio of more than 6 million acre-feet of storage capacity. As shown on Table A3 below, depending on how costs are allocated, and under what operating criteria, MWD's unit costs for BDCP could vary between \$653 per acre-foot and \$1,916 per acre-foot.¹³

Table A3. Range of Annualized Potential Debt Service Cost of BDCP Proposed Action to MWD

	Scenario 1		Scenario 2		Scenario 3	
Description	Contractors pay for conveyance; cost share between SWP & CVP 55/45		Contractors pay for all costs; cost share 55/45 SWP/CVP		Contractors pay for conveyance; urban and agricultural split: 90/10	
Annualized Debt Service	\$1,111M		\$1,563M		\$1,111M	
SWP share (or urban)	\$611M		\$859M		\$1,000M	
MWD	\$280M		\$394M		\$579M	
BDCP Yield	High Outflow	Low Outflow	High Outflow	Low Outflow	High Outflow	Low Outflow
Potential Benefit to MWD (TAF)	302	428	302	428	302	428
Incremental Unit cost to MWD (\$/AF)	\$926	\$653	\$1,201	\$847	\$1,916	\$1,351

Potential BDCP Benefits

MWD's average annual use of SWP has been about 1.04 million acre feet for the past two decades. Post 2003, when MWD initially lost almost half of its Colorado River surplus supplies, it significantly shifted its reliance to SWP supplies. In 2003, MWD's SWP take was 1.7 million acre feet. Since then, as MWD developed its Colorado River programs and as the Water Authority Quantification Settlement Agreement supplies increased, MWD's take of SWP declined to around

¹² Annualized costs shown are the peak debt service requirement over the project's financing term; potential BDCP benefits for MWD are based on MWD share of its SWP Table A allocation, and a 55/45 split of SWP/CVP.

¹³ Unit cost calculation based on total debt service divided by water yield over life of the project.

1.22 million acre feet on average. The public review draft states that the SWP could provide on average between: 4.7 million acre feet and 5.6 million acre feet of water with the proposed action (9,000 cfs); 4.5 million acre feet of SWP water under a 6,000 cfs system; and 4.2 million acre feet with a 3,000 cfs system. Assuming a 55/45 benefit share between SWP and CVP, and MWD's Table A allocation, these modeling results translate to between 1.18 million acre feet and 1.41 million acre feet of SWP on average to MWD under the proposed action, 1.13 million acre feet of water under the 6,000 cfs option and 1.06 million acre feet of water under the 3,000 cfs option.

Because the Water Authority lacks access to MWD's resources modeling, it is difficult to determine with any degree of certainty the future value that these varying levels of forecasted SWP supplies have to MWD. It is clear that if the existing conveyance ("no action") as described in Appendix 9.A, which is used to compare BDCP economic benefits, is the future, then MWD's imported supplies to meet the region's needs will be severely limited. At the same time, if as a result of reduced SWP supplies, MWD were to enter into supply allocation, the only MWD supply the Water Authority could assert under the MWD Act is the Water Authority's preferential right to the water. The Water Authority's preferential right to the water applies to the entire portfolio of MWD water, but for the purpose of illustration, Table A4 shows the potential yields based on the public review draft's description of what each alternative would provide. In Table A4 MWD's shares are calculated based on a 55/45 cost share formula between SWP and CVP, and apportioned to MWD under its Table A allocation. The Water Authority's shares are calculated based on its current preferential rights of 18.11 percent:

Table A4. BDCP Conveyance Alternatives Yields

Capacity	9,000 cfs		6,000 cfs	3,000 cfs	"No action" ¹	
Operating Criteria	High Outflow	Low Outflow	High Outflow	High Outflow	High Outflow	Low Outflow
Total Yield (Average)	4.7 MAF	5.6 MAF	4.5 MAF	4.2 MAF	3.5 MAF	3.9 MAF
BDCP benefit (Average)	1.2 MAF	1.7 MAF	1 MAF	0.7 MAF	--	--
MWD Share ² (Total SWP)	1,185 TAF	1,409 TAF	1,131 TAF	1,055 TAF	882 TAF	983 TAF
MWD Share ² (BDCP benefit)	302 TAF	428 TAF	262 TAF	187 TAF	--	--
Water Authority Share ³ (Total SWP)	215 TAF	255 TAF	205 TAF	191 TAF	160 TAF	178 TAF
Water Authority Share ³ (BDCP Benefit)	55 TAF	78 TAF	48 TAF	34 TAF	--	--

¹ As described in BDCP Chapter 9 *Take Alternative* as "Existing Conveyance Scenario"

² Based on 55/45 SWP/CVP share and MWD Table A allocation

³ Based on Water Authority's current 18.11% preferential rights to MWD water

Unit Cost Analysis at Water Authority Level

The analysis of how costs may be allocated is an important component of the cost risk assessment. To evaluate the cost impact of the other BDCP options, the analysis that follows focuses first on a unit cost comparison of different conveyance capacity options based on allocations assumed in Scenario 1 described above. Additional costs from local resources that may be needed to make up a potential supply gap are then assessed. Risks factors such as cost allocation, construction delay, financing costs and other factors are subsequently included.

The BDCP public draft states the total cost, including capital and operations and maintenance, for the 6,000 cfs conveyance system is \$14.5 billion, and \$12 billion for the 3,000 cfs dual tunnel system (or \$9.7 billion for the single tunnel, assuming the O&M costs are the same for either the dual or the single system). The estimated average yield from the 6,000 cfs system is 4.5 million acre feet, or 1 million acre feet of BDCP benefit when compared with no action. Under cost share Scenario 1, this translates to \$3.6 billion to MWD, with a potential BDCP benefit to MWD of 262,000 acre feet of water on average under high outflow operating criteria, the unit cost of a 6,000 cfs facility is \$963/af.

The estimated average yield from the 3,000 cfs system is 4.2 million acre feet, or 742,000 acre feet of BDCP benefit yield. Under Scenario 1, this means \$2.4 billion to MWD, with a potential BDCP benefit of 187,000 acre feet on average, the unit cost of a 3,000 cfs facility is \$883/af for MWD.

Table A5. Range of Potential Total Conveyance Cost of Alternatives Evaluated Based on “Scenario 1”
(Undiscounted 2012 \$)

Description	9,000 cfs twin tunnels		6,000 cfs twin tunnels	3,000 cfs single tunnel
Total Cost (Capital and O&M)				
Total Cost	\$16,930M		\$14,457M	\$9,718M ¹
MWD Share ²	\$4,266M		\$3,643M	\$2,449M
Water Authority Share ³	\$1,066M		\$911M	\$612M
Annualized Cost (Capital Only)				
Total Annualized	\$1,111M		\$1,002M	\$655M
MWD Share	\$280M		\$252M	\$165M
Potential BDCP Benefit (TAF, on Average)				
Operation Assumption	High Outflow	Low Outflow	High Outflow	High Outflow
Potential Benefit to MWD based on Table A	302	428	262	187
Water Authority's Share based on Preferential Right	55	78	47	34
Unit Cost (Capital Cost Only)				
Unit Cost to MWD (\$/af)	\$926	\$653	\$963	\$883
Unit Cost to Water Authority (\$/af)	\$1,278	\$901	\$1,329	\$1,220

¹. Assumed same O&M costs as dual tunnel

² Cost share formula described in "Scenario 1" of this memo

³ Based on the Water Authority's projected MWD purchases and MWD's current rate allocation

⁴ Unit cost based on total debt service divided by water yield over life of project

Local Resources Cost

Table A6 shows a range of potential new local resources projects within the Water Authority's service area that could be pursued to augment the possible reduction in MWD supplies. The table also lists the potential cost and associated yield of these projects.

Table A6. Local Resources

	Potential Annual Yield	Total Cost to SDCWA Region	Unit Cost (\$/af)	Risks
Seawater desal ¹	56 taf-168 taf	\$1.43B-\$3.2B	\$2,260-\$2,860	Site availability, Construction cost, energy cost, permitting requirements
Direct/Indirect Potable Reuse ²	93 taf	\$2.1B	\$2,175-\$2,375	Regulatory approval, construction cost, cost allocation, consumer acceptance
¹ . Based on cost estimates prepared for proposed Camp Pendleton Seawater Desalination Project (Oct/Nov 2013); unit cost includes annual O&M costs; 30-year amortization @5% assumed ² . "Gross costs" based on city of San Diego IRP (Integrated Reuse Alternatives); does not include any potential avoided wastewater costs or potential offset savings such as grants, or low interest loans; project may be scalable; unit cost includes annual O&M costs; 30-year amortization @5% assumed				

Unit Cost Discussion

The BDCP is intended to stabilize the regulatory environment so export facilities would be operated in a more reliable manner. Under the BDCP proposed action, the public review draft states it will provide between 1.2 million acre-feet and 1.7 million acre-feet of average export yields when the new facilities are put into operation and following the outcome of the decision tree process.

It should be noted that projects such as BDCP differ from those projects that produce a consistent volume of water on a year-in, year-out basis. Programs and projects like the Water Authority's Colorado River Quantification Settlement Agreement (QSA) supplies and the Carlsbad Seawater Desalination produce water on a consistent basis. The Water Authority's QSA supplies have extremely high priority thus are not as susceptible to hydrologic conditions as BDCP, and seawater desalination is immune from hydrology. A major benefit of such projects is that water can be counted on during a drought, when water demand is at a premium.

BDCP provides little or no improvements for water supplies in dry years. Instead the bulk of the supply benefits come during wet years.¹⁴ The unit cost calculation performed here is based on "average yield" which assumes the full utilization of wet year supplies. To fully realize the benefit of BDCP – i.e., the use of "average yield" to determine unit cost -- it is important that the wet-year supply be fully captured for later use. To fully capture the wet-year BDCP supply at MWD depends on MWD's (and its member agencies') ability (physically or contractually) to receive and store the water, the financial capability and willingness to pay and store the wet-year water, and the ability to extract the water during dry-year needs.

¹⁴ BDCP yield based on comparison of proposed action against no action existing facilities using the same operation criteria as BDCP under future conditions; see October 16, 2013 *Environmental Review Process*:
http://www.sdcwa.org/sites/default/files/files/board/2013_10_16_IW_01_BDCP.pdf

The MWD unit costs represented in Table A5 are calculated based on the “average” water yield. To achieve the “average” yield, it assumes all the wet-year yields are beneficially used. This means MWD (and/or its member agencies) will have the physical facilities capable of receiving and storing the wet-year supplies and financial capability and willingness to pay for the wet year supply for dry-year use. MWD currently does not have a long-term storage or fill plan. There are additional costs associated with filling and storing BDCP supplies to ensure BDCP benefits are fully captured. The Water Authority could chose to store the water in its region instead, although there will also be additional cost associated with that approach. These additional costs – both facility costs and operational storage costs – are not included in the unit cost analysis. The Water Authority’s most assured supply from MWD is proportional to its preferential rights to MWD water, because MWD water is subject to allocation. A unit cost analysis of BDCP supply on the Water Authority based on its proportion of preferential rights is also included.

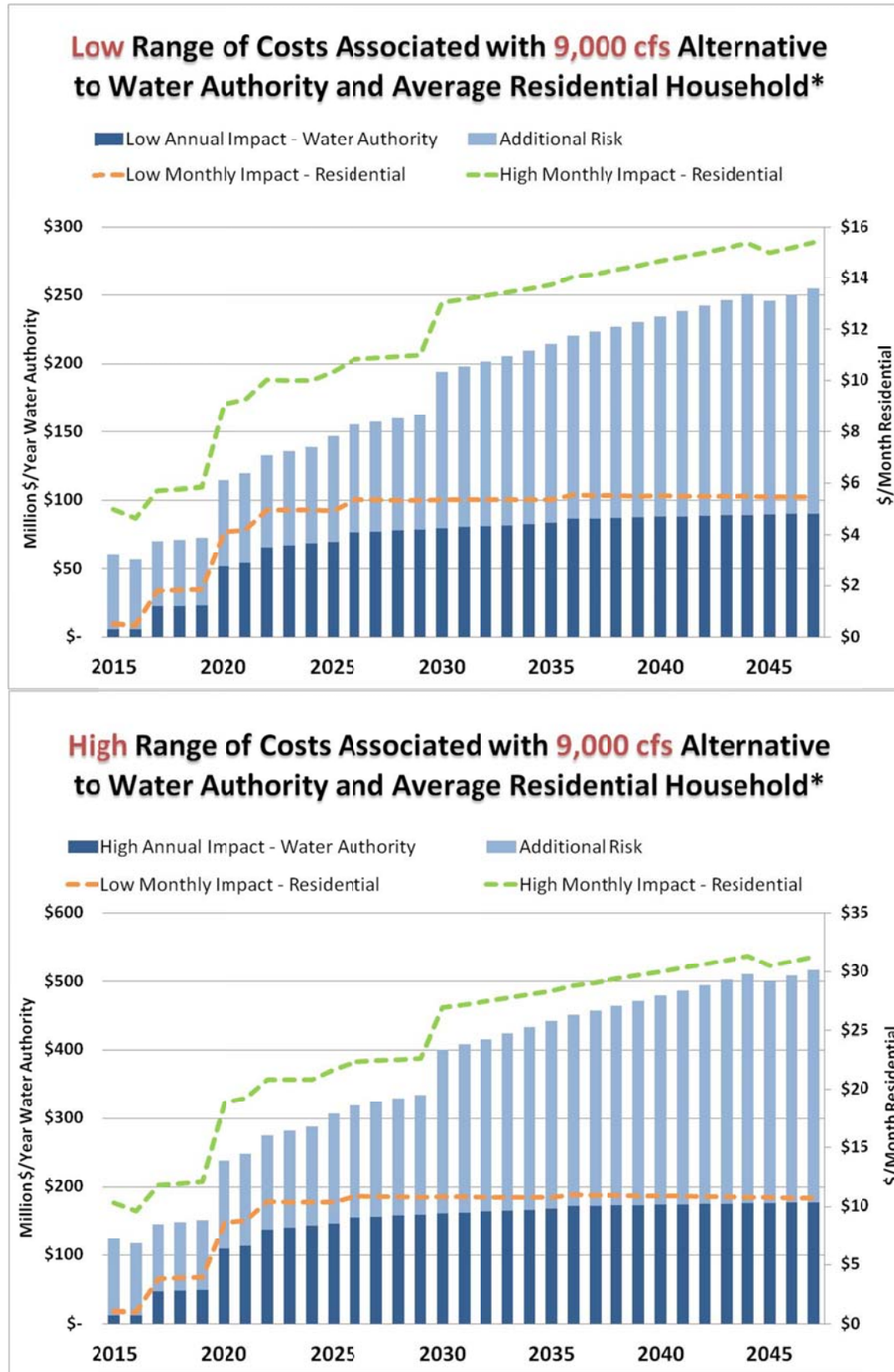
Rate Impact Analysis

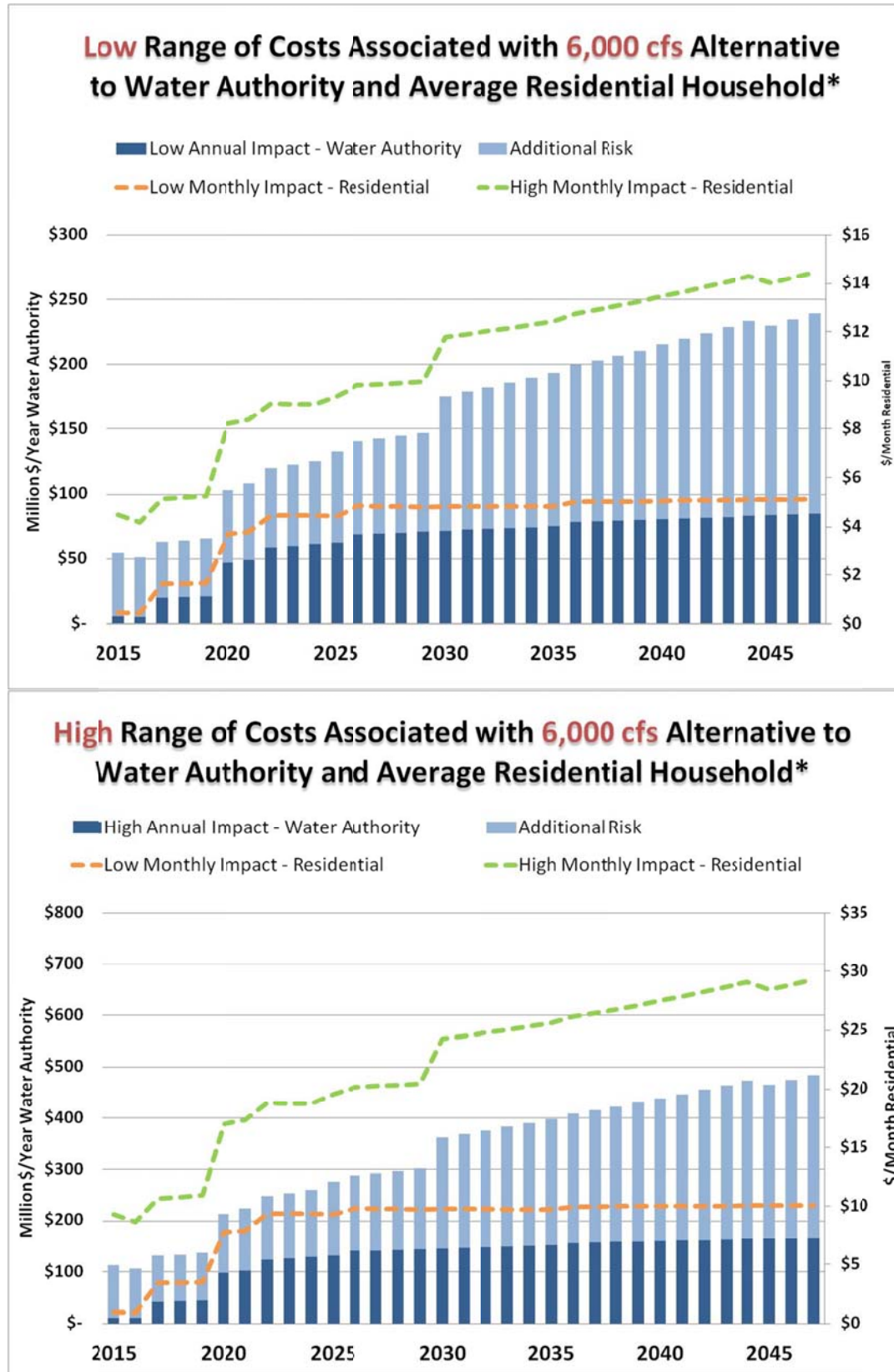
To relate the cost analysis described in this report to the Water Authority ratepayers’ level, the following charts summarize the melded range of costs associated with the 9,000 cfs, 6,000 cfs, and 3,000 cfs conveyance facilities. “Low” and “High” scenarios are based on Scenarios 1 and 3 as displayed in Table A3 of this report. Additional cost risks, including construction cost overruns, scheduling delays, financing costs, failed water bond and decision tree/adaptive management risk are overlaid on top of the cost allocation book-end. The assumptions included in the evaluation of the additional risks are described below followed by an example of these risks applied to the 9,000 cfs alternative. It is important to note that the rate impacts shown here represent the “melded” rate impact; that is, the cost of BDCP option is spread over the projected MWD sales base, and the MWD rate associated with the BDCP option is applied and spread over the Water Authority’s projected sales base. The actual rate impact to individual household will vary, depending on the individual Water Authority member agencies’ imported water purchasing profiles.

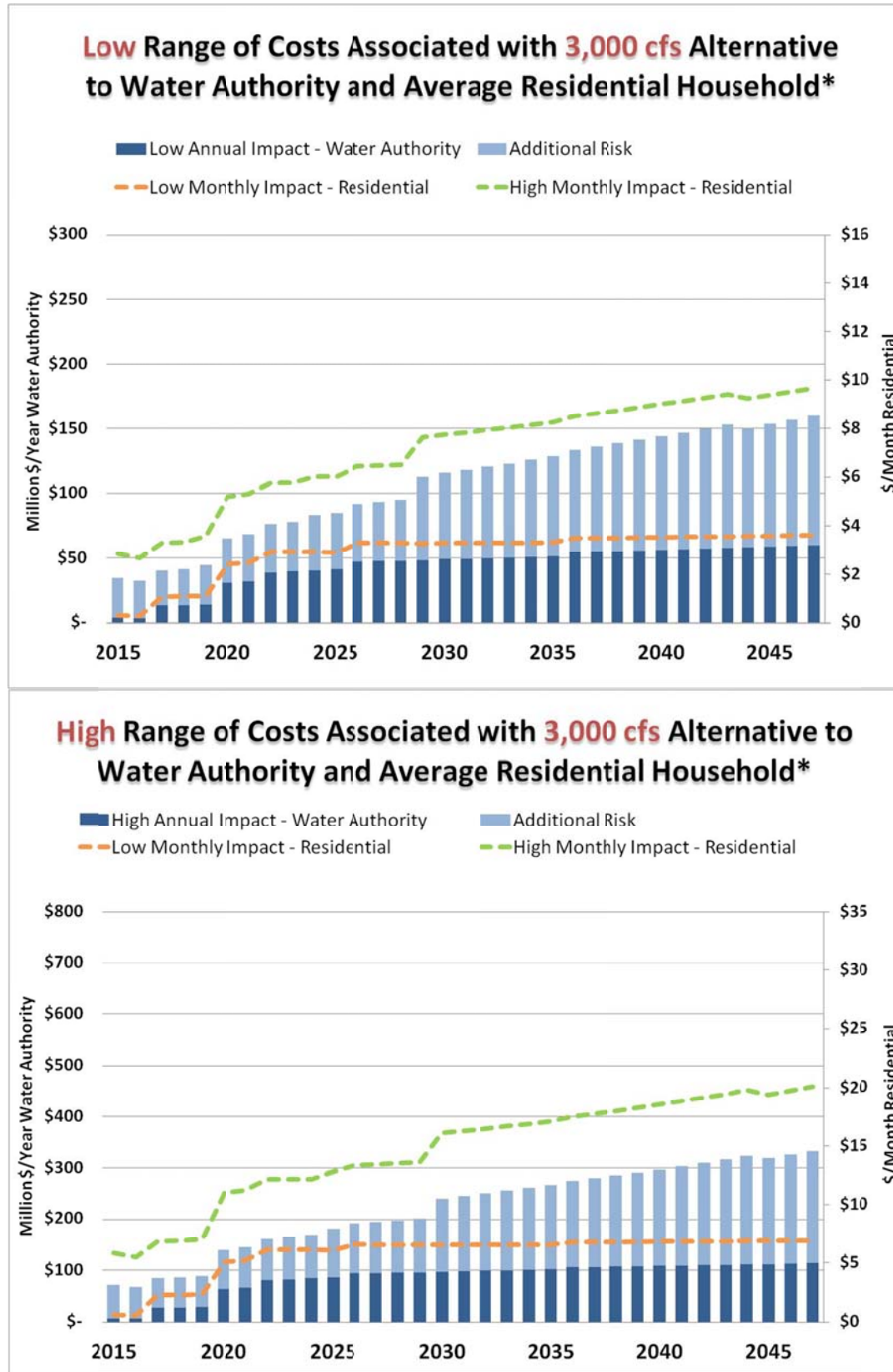
Risk Element	Evaluation Assumptions
Construction Cost Increase	50 percent increase applied to capital cost estimates. ¹⁵ Additional exposure is amortized over 40 years.
Construction Delay	5-year construction delay represented as a delay in the issuance of bonds from 2015 to 2020. Additional exposure is amortized over 40 years.
Cost of Funds Increase	100 basis points added to project financing.
Failed Water Bond	Assumes contractors pay for 100% of habitat funding contemplated in the water bond.
Failed Decision Tree Approach	3% added to O&M costs 10 years after project completion to reflect a more expensive move from decision tree to adaptive management.

¹⁵ See cost estimate discussion in February 7, 2014, *Infrastructure review*:

http://www.sdcwa.org/sites/default/files/files/board/2014_Agendas/2014_02_13Special%20IW%20Agenda.pdf







January 28, 2014

Mr. Mark W. Cowin, Director
Department of Water Resources
P.O. Box 942836
Sacramento, CA 94236-0001

Dear Mr. Cowin:

With the recent release of the Bay Delta Conservation Plan (BDCP), it is time to begin addressing related BDCP implementation topics such as cost allocation and financing. As you know, some State Water Project (SWP) contractors have held preliminary discussions on various approaches to allocating BDCP benefits and costs over the past months. This letter describes our thinking and requests that the Department of Water Resources (DWR) initiate appropriate contract discussions to support the approach identified here.

As background, the projected \$14.6 billion construction cost for BDCP Conservation Measure 1 (CM1), along with directly related mitigation, are assigned to water users. Costs for CM1 are planned to be split between the SWP and the CVP proportionate to the water received. This results in a projected average annual cost to the SWP contractors of \$700 million to \$765 million over a 40-year repayment period.

As you are aware, the SWP contractors are very interested in how these costs will be allocated among SWP contractors. Initial discussions have identified a wide range of potential options for allocating BDCP benefits and costs. These options ranged from allowing individual SWP contractors to opt-in to a preferred BDCP participation level to requiring all SWP contractors to be included.

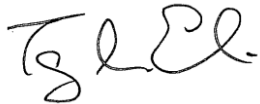
While a consensus alternative has not been identified to address various SWP contractor concerns and interests, some elements of a cost allocation approach have broad agreement. For example, there is general agreement on an assumption that North of Delta SWP contractors will be largely excluded from repayment obligations for the costs of BDCP CM1, although they would continue to be responsible for past obligations for existing facilities and Endangered Species Act compliance that are existing obligations of SWP contractors. North of Delta SWP contractors receive a different water supply allocation resulting from recent Area of Origin amendments. Although they may experience indirect effects of BDCP, they would generally not experience direct benefits of CM1 such as improved water quality or reduced threat of temporary water supply restrictions from catastrophic failure of Delta levees.

Other elements of a cost allocation approach will require discussion and development of consensus. Additionally, many SWP contractors support including related measures, such as revisions in water management policies in the SWP contracts, in a cost allocation process. We believe that considering revised water management practices is a sound management approach that provides flexibility for some contractors to address potential concerns about being able to afford the additional supply reliability provided by BDCP. By providing enhanced management

tools, individual SWP contractors would be able to sell or exchange their supply as needed to other SWP contractors on a willing partner basis. The proposed approach is also consistent with California's established policy stated in Water Code Section 109(a): "It is hereby declared to be the established policy of this state to facilitate the voluntary transfer of water and water rights where consistent with the public welfare of the place of export and the place of import."

All the potential allocation and water management measures being considered will require refinement and likely will evolve as we move forward. Since many of the approaches involve potential contract amendments, these will need to be discussed in a public process in compliance with DWR policies. We are interested in your views on the proposed process to develop cost allocations and would like to begin discussing specific actions that we can take jointly to define BDCP cost allocation issues.

Sincerely Yours,



Terry Erlewine, General Manager
State Water Contractors



Jim Barrett, General Manager
Coachella Valley Water District



Jim Beck, General Manager
Kern County Water Agency



Walt Wadlow, General Manager
Alameda County Water District



Jill Duerig, General Manager
Alameda County Zone 7 Water Agency



Kirby Brill, General Manager
Mojave Water Agency



Beau Goldie, Chief Executive Officer
Santa Clara Valley Water District



Douglas Headrick, General Manager
San Bernardino Valley Municipal Water District



Jeff Kightlinger, General Manager
MWDSC

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The High Price Of Water Supply Reliability: California's Bay Delta Conservation Plan Would Require Significant Investment

Primary Credit Analyst:

Robert L Hannay, CFA, San Francisco (1) 415-371-5038; robert.hannay@standardandpoors.com

Secondary Contacts:

Tim Tung, San Francisco (1) 415-371-5041; tim.tung@standardandpoors.com

Paul J Dyson, San Francisco (1) 415-371-5079; paul.dyson@standardandpoors.com

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Located at the confluence of the Sacramento and San Joaquin rivers, the Sacramento-San Joaquin River Delta (the Delta) is the largest estuary on the West Coast. The Delta is a vital link in California's water infrastructure network, supplying water to farmland and residents throughout the state. It is also an important ecosystem, providing habitat for an array of fish and wildlife. From settlers building levees and developing farmland to the construction of massive state and federally funded water projects, the Delta has undergone continual change that has led to negative environmental consequences. The decline in local fish species, in particular, has resulted in years of litigation and increasing constraints on the operations of state and federal water infrastructure.

It is against this backdrop that federal, state, and local agencies have collaborated during the past seven years to develop the Bay Delta Conservation Plan (BDCP). The BDCP is a 50-year habitat conservation plan and natural community conservation plan, as defined under federal and state law, intended to meet the "co-equal" goals of ecosystem restoration and water supply reliability. The plan offers significant investment in the Delta in exchange for a 50-year permit to continue moving water through the Delta under the terms of the plan for municipal and agricultural needs.

Overview

- The BDCP's purpose is to increase water supply reliability for the State Water Project and Central Valley Project while improving the Delta's ecosystem.
- The costs of the plan are high, with much of the funding expected to come from water utilities reliant on Delta export supply.
- We believe the majority of the funding will be in the form of long-term debt backed by water contractors -- an ongoing obligation that must be paid regardless of the amount of water delivered.

The plan and its associated environmental documents are undergoing a public review period, scheduled to end April 14, 2014. The plan calls for major investment in infrastructure, including a new water conveyance facility, to provide more reliable supply to water utilities and districts that are currently reliant upon water exported from the Delta. But this reliability would come at a cost to the contractors importing the water under the plan's "beneficiary pays" model, largely in the form of debt service that must be paid regardless of the amount of water delivered from the Delta.

The two large water projects that sit at the center of the BDCP are the California Department of Water Resources' (DWR) State Water Project (SWP) and the U.S. Bureau of Reclamation's (USBR) Central Valley Project (CVP). Both projects derive water supply from north of the Delta, divert the supply to the Delta, and re-divert it from the Delta in the south for delivery to contractors via a system of canals. The projects bring water to farms and population centers -- including the San Francisco Bay Area and Southern California -- that do not have sufficient local supply. Standard &

The High Price Of Water Supply Reliability: California's Bay Delta Conservation Plan Would Require Significant Investment

Poor's Ratings Services maintains ratings on 14 water contractors that receive water directly from the SWP and CVP. Standard & Poor's also rates bonds issued by the DWR for SWP improvements. In addition, Standard & Poor's maintains ratings on numerous water utilities located throughout the state that purchase water from contractors of the two projects.

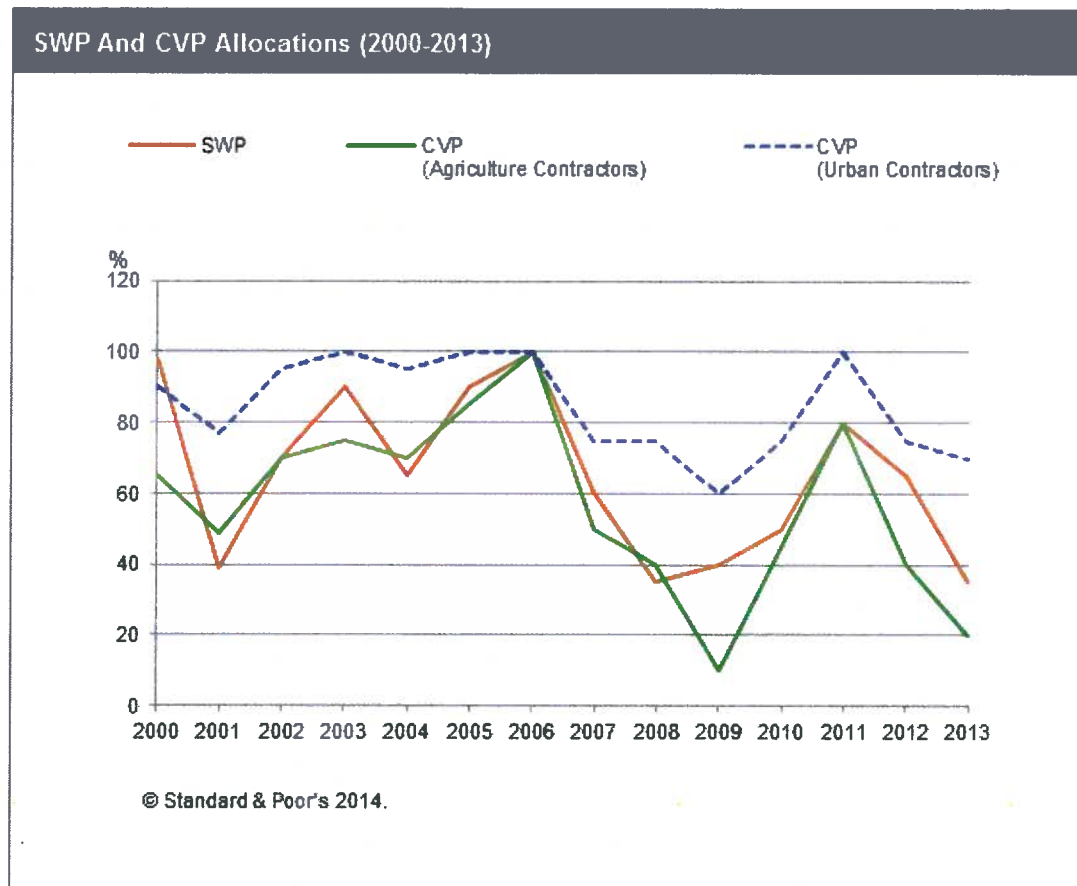
The Problem: Reduced Supply Reliability And A Declining Ecosystem

California's water supply picture can vary greatly year-to-year based on weather conditions. Many of the projects that move water across the state, including the SWP and CVP, rely on snowpack in the Sierra-Nevada mountain range, with annual supply driven by the number and intensity of winter storms in that year. The state is currently in a third year of drought conditions, with 2013 being the driest year on record. On Jan. 17, 2014, Gov. Jerry Brown declared a drought emergency while also asking residents to reduce water use by 20%. A Jan. 30, 2014 snow survey found statewide snowpack to be 12% of average for that time of year.

While varying weather already leads to supply uncertainty, the operations of the SWP and CVP are further impacted by environmental regulations in the Delta. The projects' movement of water through the Delta and operation of large pumping plants in the South Delta have had a negative impact on native fish populations, including the endangered Delta Smelt and local salmon. The projects face operational constraints under two biological opinions, both of which continue to be challenged in court. The exposure to future court decisions and potential new requirements under revised biological opinions add to the supply uncertainty for water utilities reliant on the two projects.

The mix of varying weather and environmental constraints has meant wide fluctuations in available supply from the SWP and CVP in recent years (see chart). Current dry conditions have led to the state announcing a projected 0% allocation for 2014 although the number could rise if weather conditions improve. This marks the first 0% projected allocation for all contractors in the project's 54-year history. USBR has not yet made an allocation announcement for 2014 although a similarly low allocation is expected.

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The BDCP

Twin tunnels and an improved ecosystem may result in a more secure water supply

The BDCP is aimed at increasing the operational flexibility of the SWP and CVP projects and improving the local ecosystem. The new water supply infrastructure in the plan, coupled with additional conservation measures, are intended to increase the reliability of the Delta's water supply for the two major water projects.

A key element of the BDCP is a new water conveyance facility, which would divert water from the Sacramento River in the north Delta and deliver it to pumping plants in the south Delta. The proposed project involves constructing two 40-foot diameter, 30-mile-long tunnels more than 150 feet below ground to move water through the Delta. The project also includes three intakes along the Sacramento River, a new forebay near the intakes to collect Sacramento River water, and improvements to a south Delta forebay, where the tunnels will terminate. The project has a design capacity of 9,000 cubic feet per second (cfs) -- downsized from 15,000 cfs in 2012 but still too large for many opponents. To protect passing fish, the BDCP calls for modern fish screens at the intakes. According to the plan, combining the new conveyance facilities with existing facilities would allow for better management of flows within the Delta to benefit fish populations.

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To further restore the Delta's ecosystem, the plan calls for implementing additional conservation measures throughout the 50-year plan period. These efforts include restoring habitats, controlling invasive fish species, enforcing fishing regulations, and developing fish hatcheries. Much of the funding is expected to come from state and federal sources although funding from water contractors is also anticipated.

Another "peripheral canal"?

The idea of diverting water north of the Delta and transporting it through separate facilities to the south is not new. The USBR considered a peripheral canal in the Delta during the 1960s to reduce the salinity of exported water. The DWR also proposed a joint state-federal effort to build a peripheral canal in the late 1970s. But the project faced stiff opposition, particularly in Northern California, culminating in the defeat of a statewide referendum in 1982 that asked voters to approve the project.

BDCP proponents tout the new conveyance plan as much improved from the peripheral canal, with a smaller capacity, smaller footprint, and enhanced environmental restoration. For some opponents, the footprint of the project and the potential environmental impact are still too great. Other opponents allege the plan's potential benefits for water users or the environment do not measure up to the plan's high -- and unfinalized -- costs.

The Cost Of More Reliable Water

An expensive plan

By all accounts, the BDCP represents a massive investment in California's water infrastructure. The water conveyance facility alone is estimated to cost \$14.57 billion in 2012 dollars, \$9.19 billion of which are direct construction costs. With inflation, the actual cost will be higher. This estimate, which is based on a 10% engineering design level, comes with a high level of uncertainty. The BDCP states that direct construction costs could be up to 50% higher than projected or as much as 25% lower than projected (though the \$14.57 billion total includes \$3.33 billion in contingency). In addition, facility operation, maintenance, and capital replacement costs add \$1.456 billion to the overall cost of the conveyance facility during a 50-year period. The capital cost of the entire BDCP, including conveyance and other conservation measures, is estimated to total \$19.9 billion in 2012 dollars. The operating costs are projected to total another \$4.9 billion over the 50-year plan.

The "beneficiary pays" principle

The BDCP was developed under the principle that those benefiting from the project must pay for it. To that end, state and federal water supply contractors represent the largest funding source, at 68% of total funding. The bulk of this participation represents conveyance facility construction and operations costs, which would be fully covered by the contractors. The BDCP also calls for contractors to cover portions of other conservation measures from which they benefit. Many of the contractors have already participated in funding the development of the plan through the Delta Habitat Conservation and Conveyance Program (DHCCP). Under the DHCCP agreement between participating agencies, half of the \$240 million in planning costs is funded by the state and SWP contractors while the other half is funded by USBR and federal contractors.

Additional funding is slated to come from the state (17%), federal government (14%), and interest earnings (1%). The plan anticipates that much of the contractors' portion of conveyance system capital costs would be financed with

The High Price Of Water Supply Reliability: California's Bay Delta Conservation Plan Would Require Significant Investment

revenue bonds. The state sources are predominantly two future water general obligation bond measures -- both of which would need to be passed by voters. The federal funding largely comprises assumed appropriations, similar to past funding levels.

Bonds backed by contractors are central to the plan

By its own admission, the BDCP is not a specific funding plan for the benefitting state or federal contractors. The plan anticipates a series of bond issuances backed by the revenues of the contractors to finance the conveyance facility over 10 years. However, it is up to the contractors to determine the security structure and timing of the financings.

DWR already issues bonds regularly to finance SWP improvement costs, which are repaid through payments from the state contractors. However, those bonds have never been issued with maturity dates past 2035 -- the year many SWP contracts currently expire (the BDCP contemplates several series of 40-year bonds). The federal CVP does not have a similar history of bond issuances backed by contractor revenues. However, the San Luis and Delta-Mendota Water Authority (SLDMWA), which represents 27 federal CVP contractors, has issued bonds on behalf of a subset of the contractors to finance DHCCP planning costs. Past SLDMWA bonds have been secured 100% by Westlands Water District, which is in turn reimbursed by participating contractors for their allocable shares of debt service. Both structures offer examples of shared financings among contractors.

The plan itself mentions the State and Federal Contractors Water Agency, created in 2009 by SWP and CVP contractors, as a possible bond issuer with repayment from the contractors using the Delta supply. The final structure of the financing, including any security features (such as step ups and required reserves) will have implications on the credit quality of the debt itself and on the liabilities of the participating contractors.

Rates must keep pace with increasing costs

If the BDCP is implemented, it will be up to the contractors to increase their own rates to cover increasing imported water costs. And the majority of the cost increase will be debt service, which must be paid regardless of hydrologic conditions, the amount of water delivered, or the amount of water sold. We do not believe the cost increases would be sudden -- financing would likely be divided into a series of debt issuances during construction, with interest possibly capitalized for a period of time. And full operating costs would not begin until the project is complete, which could be 10 or more years after work begins. This would allow agencies to phase in a series of rate increases over time although many utilities have their own capital needs and cost pressures requiring additional rate increases.

The Metropolitan Water District of Southern California (MWD) estimates that the BDCP would ultimately increase the average Southern California household water bill by \$5 per month (in 2013 dollars). MWD uses 40% to 50% of the SWP supply and sells water to 18 member agencies, which in turn provide water to 18 million customers in Southern California. We note that household retail rates are actually set by the utilities that purchase water from MWD, requiring each utility to make its own rate adjustments. Water utilities in California generally have the authority to raise rates, subject to state laws requiring public notice. For districts serving agricultural customers, increasing rates could weigh on the economics of the crops grown within those districts. The size of the cost increases and any required rate increases for a retail water agency would be at least partly driven by its reliance on SWP or CVP supply. Many agencies have other sources, including groundwater or other surface water, to balance their supply portfolio, which could mitigate some of the cost increase.

The High Price Of Water Supply Reliability: California's Bay Delta Conservation Plan Would Require Significant Investment

Majority of state funding requires voter approval

State funding represents about 17% of total financing sources, with 91% of this funding anticipated from future statewide general obligation bonds, which require voter approval. The state legislature has already placed an \$11.4 billion water bond measure on the 2014 ballot although its future remains uncertain. The measure was first placed on the ballot in November 2010 but has been delayed twice, partly due to the recession. Recent polling by the Public Policy Institute of California suggests a measure of this size may not have the needed voter support in November, and members of the legislature have proposed smaller measures that could replace the current water bond. The BDCP assumes \$1.5 billion of the 2014 bond measure would be available for the project, plus \$2.2 billion from a future water bond measure.

Estimating the project's potential benefits

With such high costs, the anticipated benefits of the BDCP must also be high to compel the contractors to participate. The plan itself includes an economic benefits study, which concludes that the BDCP's estimated benefits exceed the overall costs on a present value basis.

Increased water supply reliability provides the highest estimated benefit to the contractors (87% of total contractor benefit in the report). The BDCP is intended to reduce supply uncertainty related to environmental regulations. But the SWP and CVP supply will still be exposed to variability in hydrologic conditions. And certain Delta outflow requirements to support covered fish species, which impacts available supply, will not be determined until after implementation of the plan begins. The plan estimates that, if implemented, the BDCP would increase average annual water deliveries from the Delta by between 1.3 million acre feet and 1.7 million acre feet, based on the range of potential Delta outflow requirements. This would be an estimated increase of 37% to 44% compared with projections of average available supply if the plan is not implemented.

The BDCP also estimates that the water supply contractors would further benefit from improved water quality due to lower salinity levels (10% of total benefit). And the BDCP's isolated conveyance facility reduces the projects' exposure to seismically vulnerable levees in the Delta (3% of total benefit). Under current conditions, SWP and CVP supplies could be disrupted for some time if a major earthquake in the area causes levees to fail.

The plan's cost-benefit analysis estimates that the implicit supply cost of the BDCP for contractors ranges from \$238 per acre foot to \$321 per acre foot in 2012 dollars based on the project's capital costs. The BDCP estimate is based on the range of estimated supply increases from the Delta if the project is implemented. We believe the actual annual cost after accounting for project inflation and actual debt service will likely be higher. It is worth noting that these figures do not include the operating costs of the BDCP or the cost to transport the water to the CVP and SWP facilities. For example, Delta supply that reaches Southern California must flow along the 443-mile California Aqueduct and be pumped over the Tehachapi Mountains, which entails water transport costs payable to DWR. The estimate also does not include treatment of the water, which is necessary for non-irrigation use. The BDCP's economic benefits section states that the estimated annual cost is well below potential alternatives, such as wastewater recycling or desalination. But those types of projects are usually only considered in urban areas, with costs spread out among many customers. Districts serving agricultural customers may find the estimated cost range less palatable, particularly if it changes the economic viability of the district's customers.

The High Price Of Water Supply Reliability: California's Bay Delta Conservation Plan Would Require Significant Investment

A Long Road Ahead

A public review period for the draft BDCP and its associated environmental impact documents is ongoing through April 14, 2014. The BDCP must then be approved by regulatory agencies before work can proceed. If it is approved, the contractors would have to create a financing structure to issue and support the large amount of debt needed to pay for the project. Then the project must be managed and built -- no small matter for a project of this size and scope. And there is still the question of what happens if one or more contractors choose not to participate in financing the project. Presumably all contractors would benefit from greater supply reliability and less regulatory risk -- but by what mechanism would nonparticipating agencies pay for this benefit?

If the BDCP does move forward, utilities reliant on CVP and SWP water will need to proactively adjust rates to prepare for its large capital costs. And these costs will predominantly be in the form of debt service, increasing ongoing fixed charges related to supply. Meanwhile, the projects will likely operate with more regulatory certainty. But unpredictable weather and ongoing adaptive outflow requirements will still leave supply varying from year to year.

For the water utilities we rate that are reliant on the SWP and CVP, our ratings have incorporated -- and will continue to incorporate -- the financial obligations related to Delta supply and the potential BDCP project. The ratings also incorporate each utility's operations and water supply portfolio, including potential reliability benefits derived from the project. We will continue to monitor the BDCP and assess its credit impacts. This includes analyzing the costs and benefits of the project if it proceeds or the ongoing supply uncertainty if the plan is shelved.

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San Diego County Water Authority

4677 Overland Avenue • San Diego, California 92123-1233
(858) 522-6600 FAX (858) 522-6568 www.sdcwa.org

February 5, 2014

BDCP Comments

Ryan Wulff, National Marine Fisheries Service
650 Capitol Mall, Suite 5-100
Sacramento, CA 95814

MEMBER AGENCIES

Carlsbad
Municipal Water District
City of Del Mar
City of Escondido
City of National City
City of Oceanside
City of Poway
City of San Diego
Fallbrook
Public Utility District
Helix Water District
Lakeside Water District
Olivienham
Municipal Water District
Otay Water District
Padre Dam
Municipal Water District
Camp Pendleton
Marine Corps Base
Rainbow
Municipal Water District
Ramona
Municipal Water District
Rincon del Diabla
Municipal Water District
San Dieguito Water District
Santa Fe Irrigation District
South Bay Irrigation District
Vallecitos Water District
Valley Center
Municipal Water District
Vista Irrigation District
Yuima
Municipal Water District

OTHER REPRESENTATIVE

County of San Diego

Dear Mr. Wulff:

This letter raises a number of questions related to the funding and financing issues embodied within the Public Review Draft Bay-Delta Conservation Plan (BDCP). In addition to these questions, which are submitted as part of the BDCP open house in San Diego on February 6, 2014, the Water Authority intends to submit a more comprehensive comment letter on the Public Review Draft BDCP and associated Draft EIR/EIS documents prior to the April 14, 2014 comment deadline and close of public review.

As the largest member agency of the largest State Water Contractor, the Metropolitan Water District of Southern California (MWD), the Water Authority and its ratepayers are being counted upon to pay the second-largest share of BDCP costs in the state (among MWD member agencies, and second only to the Kern County Water Agency). Accordingly, we have requested – on multiple occasions – the opportunity to directly engage in the BDCP cost allocation discussions and negotiations process. Those requests have gone unanswered. We renew that request with this letter. The stakes are so high for the San Diego region that the Water Authority should clearly be afforded the opportunity to directly participate in the cost allocation negotiations and be provided the information we need to assess whether the preferred alternative advocated by the BDCP program will provide water supply benefits commensurate with the billions of dollars our ratepayers are being counted upon to pay. We also must ensure that our ratepayers are not at risk of paying costs for BDCP water supplies of other MWD member agencies or other state or federal water contractors, and that costs are allocated to the participants based on proportion of benefits received. To date, we have received no assurances to allay these concerns.

Over the past several years, I have sent several letters to officials with the California Natural Resources Agency raising a number of questions regarding the proposed project. To date, the Water Authority has received no responses to those questions. I incorporate those letters, attached, and the questions they raised, with this letter. We renew our request for answers raised in those letters with this letter.

We strongly believe that each participant in the BDCP must have clearly delineated capital and operations and maintenance cost responsibility identified, and be provided sufficiently detailed information to evaluate the cost-benefit (or feasibility) of participating in the project. The Water Authority has previously heard Dr. David Sunding report to the MWD Board of Directors that

Mr. Ryan Wulff
February 5, 2014
Page 2

cost-benefit analyses have been produced by BDCP for all urban and agricultural water contractors, and that include cost-benefit analyses for each MWD member agency, including the Water Authority. The Water Authority has made multiple requests for this information. These requests have been ignored. We renew that request with this letter.

As we have consistently stated in a variety of public venues, the Water Authority believes that any BDCP financing plan must include enforceable agreements to pay for the project, not only from state water contractors directly, but also from the member agencies or units that provide revenues to their respective state water contractor. The stakes are far too high to simply rely on the hope that the contractors' variable water sales revenues will be adequate over the long-term to pay the project's costs.

Equally important, the Water Authority is also concerned that future progress of the BDCP and efforts to resolve seemingly intractable conflicts in the Delta will falter, especially if the cost allocation for those expected to be participants in the BDCP is not expected to be resolved before the BDCP environmental review process concludes. Without the cost allocation explicitly agreed upon, how does BDCP expect water agencies to evaluate the cost-benefit of the various alternatives or reasonably limit the risk that their ratepayers will be expected to assume?

The attachment to this letter outlines a series of issues and questions that the Water Authority believes should be thoroughly resolved in the context of the BDCP public review process. We are requesting formal, written responses to each of these items. We are concerned that the Public Review Draft BDCP does not comprehensively or adequately conduct due diligence on all of the facts and circumstances highlighted in the attachment. We remain concerned that a potential cascading collapse of funding could occur if information that should be included in a proper due diligence analysis is not provided, in a timely manner, to those who are expected to fund the program.

We appreciate the opportunity to provide these initial comments on the Public Review Draft BDCP. We remain committed to working with all parties to evaluate, address, and resolve these critical financing issues. We look forward to your written responses to our questions.

Sincerely,



Maureen A. Stapleton,
General Manager

Attachment 1: BDCP Financing and Economic Issues and Questions

Attachment 2: October 7, 2013 letter to California Natural Resources Secretary John Laird

Attachment 3: July 30, 2013 letter to California Natural Resources Agency Deputy Secretary
Gerald Meral

Attachment 4: August 28, 2012 letter to California Natural Resources Agency Deputy Secretary
Gerald Meral

Attachment 1**BDCP Financing and Economic Issues and Questions****Take-Or-Pay Contracts/Enforceable Commitments**

As the Water Authority has pointed out during discussions and written correspondence over the past two years, MWD – which, as the largest state water contracting agency, is the foundation for financing the BDCP project – relies on a financial rate structure that is not sustainable to pay its long-term financial obligations. While more than 80 percent of MWD’s costs are fixed, less than 20 percent of MWD’s revenues are paid from fixed charges. MWD’s heavy reliance – more than 80 percent -- on variable water sales to meet its financial obligations causes its water rates to be highly volatile. Since 2007, water rates at MWD have increased by more than 86 percent while sales have declined by 31 percent.

Although MWD sales have increased this year due to dry conditions, they are nowhere near the historically high water sales level. Region-wide, MWD’s per-capita water use in 2012 reduced by about 15.5 percent from its 2005 10-year average baseline. MWD’s member agencies are not required to purchase any water from MWD. The variability of water sales – and thus uncertain future water sales revenues – coupled with Southern California water agencies’ current and future planned actions to implement the State’s policy to improve water use efficiency and invest in local water resource development, raises significant question regarding MWD’s capability to provide the financial backing needed to fund long-term BDCP obligations. This should be a major concern for the State of California, whose full faith and credit will be expected to back up the financing of the project. And yet, Chapter 8 makes no mention of this material, foundational risk to BDCP financing.

The Water Authority believes that, at a minimum, state water contractors that are wholesale water agencies must demonstrate that their customers have take-or-pay contracts or other enforceable long-term financial commitments to pay the fixed costs of the BDCP program corresponding to the term of the contractor’s BDCP obligation. The Water Authority continues to be prepared to make such a commitment to MWD, as long as the Water Authority gets the water supplies in return for its payments. We also believe that the willingness to make such a firm financial commitment to a Delta solution will determine the true demand for Delta water supply, and therefore help inform the best sizing for the conveyance facility. It would not be in the state’s best interest to construct a facility only to have it stranded because no one is willing or able to pay for it, or hoped-for water sales necessary to pay for it do not materialize.

“Step-Up” Provisions

Existing State Water Project contracts contain provisions under which non-defaulting contractors can be assessed to cover payments not made by defaulting contractors, up to 25 percent of the defaulting contractors’ obligations. Additionally, the East Branch Extension of MWD’s State Water Project contract has a provision obligating MWD to cover default by any and all other participants. These State Water Project contract stipulations are known as “step-up” provisions. We are informed that bond underwriters for the BDCP project are expected to require a “step-up” provision by which each BDCP participant in BDCP-related bonds pledges to assume the obligations of defaulting participants. In fact, the Public Review Draft BDCP Chapter 8, at Section 8.3.3 (page 8-71) suggests amending the existing contracts as a potential funding source:

“Existing water contracts would need to be amended to include the new costs of the BDCP assigned to the state water contractors and the repayment schedule.”

Since “step-up” provisions are already embodied within, and apply to, MWD’s existing State Water Project contract, it would appear that such provisions would apply to the *“new costs of the BDCP assigned to the state water contractors.”* Given those “step-up” provision obligations, we remain concerned that the Public Review Draft BDCP does not fully analyze the possible financial effects of the “step up” provisions on MWD and the other participants in the BDCP.

Property Taxes

The Public Review Draft BDCP suggests that property taxes may be used as back-up security for BDCP payment obligations of individual state water contractors. However, there are very clear and significant limitations in MWD’s existing taxing authority under the provisions of the MWD Act:

- The Act limits MWD’s ability to levy taxes to pay its State Water Project obligations. MWD is limited to levying taxes for *“the composite amount required to pay (1) the principal and interest on general obligation bonded indebtedness of the district and (2) that portion of the district’s payment obligation under [the SWP contract] which is reasonably allocable, as determined by the district, to the repayment by the state of principal and interest on ISWP bonds] as of [January 1, 1985] and used to finance construction of facilities for the benefit of the district.”*
- Although the Act contains override ability in the event of a fiscal crisis, as determined by the MWD board, the override is limited to only one year at a time. In such an event, the State of California and bondholders would be relying upon an annual vote of MWD’s Board of Directors in which it *“... finds that a tax in excess of these restrictions is essential to the fiscal integrity of the district....”*
- It is unclear whether, or to what extent the MWD board would override this taxing limitation to back its BDCP obligation. The Public Review Draft BDCP should address and answer these questions.

Given these limitations and uncertainties, it is difficult to consider MWD’s or other contractors’ existing taxing authority as a meaningful back-up security for BDCP payment obligations. It is also highly questionable whether the financing of BDCP can be – or should be – backed by taxing authority that was authorized by voters decades ago, when the program was much different than is being discussed today. A careful legal analysis of MWD taxing authority should be included in the BDCP due diligence process if taxes are going to be relied upon as additional back-up security for BDCP project debt. The Public Review Draft BDCP is silent on this issue.

Funding Sources

Both state and federal regulations are clear in terms of their requirement for funding assurance before issuance of permit under the habitat conservation plan. The federal Endangered Species Act requires that a habitat conservation plan applicant ensure that adequate funding for the plan will be provided. The case law under ESA provides that:

- The plan must “ensure” funding over the lifetime of the permit
- The HCP cannot rely on federal funding to “ensure” funding of the plan in light of the “Anti-Deficiency Act and the availability of appropriated funds”
- The HCP must provide “remedies for failure to meet funding obligations by signatory measures”
- The HCP “cannot rely on speculative funding actions of others” for funding
- The HCP effectively must be backed by a guarantee by applicant to ensure funding for all plan element

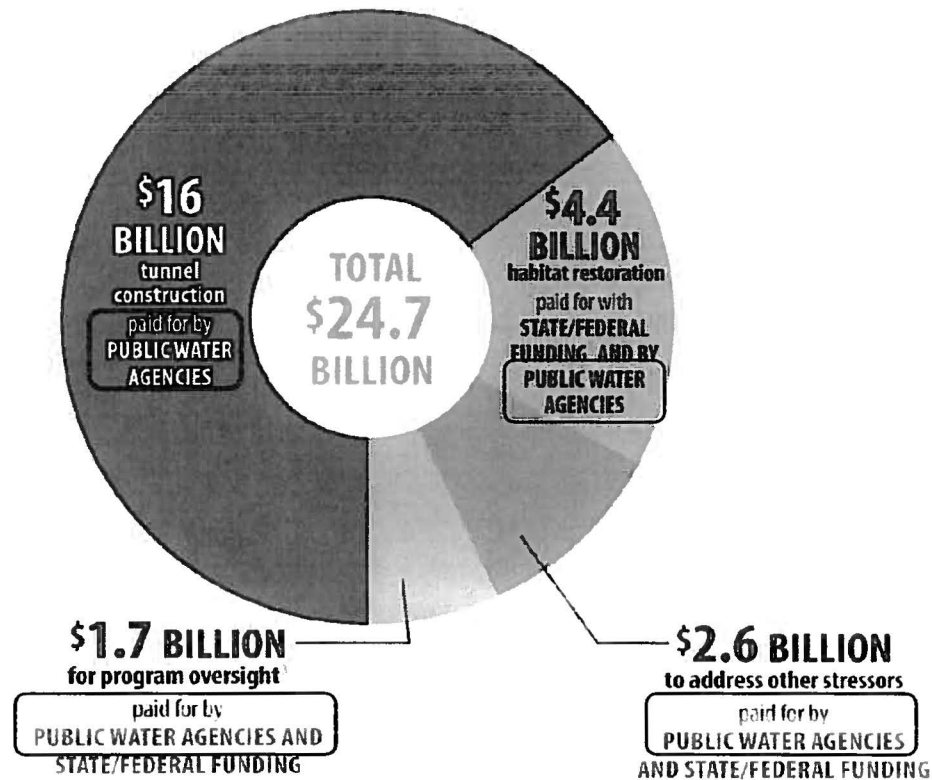
Yet, the BDCP appears to rely on federal funding that has yet to be appropriated and voter passage of future state water bonds to finance the habitat restoration costs. In fact, footnote “a” in Table 8-37 of the Public Review Draft states:

“In most cases, funding amounts are estimates only based on funding history... Funding estimates from state and federal agencies do not represent commitments and are subject to grant awards, annual appropriations from Congress, and passage of water bonds by voters of California...”

The BDCP must address whether the regulatory agencies will accept BDCP’s reliance on public funding sources yet to be approved as sufficient funding assurance before issuance of permits.

While the Public Review Draft BDCP goes to great lengths to explain the various funding sources and the responsibilities of the parties to fund components of BDCP implementation, Section 8.4.2 discusses the actions that will be taken or required in the event of a shortfall in state or federal funding. Specifically, the Public Review Draft BDCP states that: *“The Authorized Entities will not be required to provide land, water, or monetary resources beyond their commitments in this Plan in the event of a shortfall in state or federal funding.”* This statement appears to directly conflict with “step-up” provisions in existing State Water Project contracts, and which will likely be included in amended contracts.

This statement found in Section 8.4.2 also appears inconsistent with the BDCP public messaging regarding what will occur in the event of a shortfall in state or federal funding. The graphic below – taken directly from a BDCP presentation – demonstrates the reliance on water contractors to also provide some or, potentially *all* funding for BDCP program components beyond implementation of Conservation Measure 1.



Cost Allocation

Even though the bulk of the BDCP will be paid by the federal and state water contractors, we are disappointed to learn that the actual funding share between the federal and state contractors will not be determined until it is “*near the time that permits are issued for BDCP.*” If this timeline, as described in the Public Review Draft, holds true, each contractor’s share of BDCP’s cost obligation will not be known until many months after the closing of the public comment period. How would water agency policy makers be in a position to assess whether BDCP is cost effective for their own unique jurisdictions? Relying on an overarching declarative statement that “*the costs of CM1 and associated mitigation and construction are affordable by ratepayers of the urban and agricultural agencies...*” is simply insufficient, and is certainly no guarantee that funding will materialize.

Even assuming that the BDCP, as a whole, would provide a statewide net positive benefit, how the costs are allocated and benefits apportioned could impact individual water agencies differently. Without a clear description of how costs are allocated, it is simply impossible to assess the cost-benefit of BDCP to individual water agencies and their ratepayers. Without this important piece being concluded or disclosed, what is the assurance that individual contractors will all find the BDCP cost effective when it is finally disclosed? And if not all contractors sign up to pay for the BDCP, how would that impact the costs that the remaining contractors must bear?

Postponing the cost allocation discussion to *after* the public commenting period is concluded is not acceptable. The BDCP must address this issue and keep the public commenting period open until this issue is resolved to afford the public an opportunity to comment on this critically important element.



San Diego County Water Authority

4677 Overland Avenue • San Diego, California 92123-1233
(858) 522-6600 FAX (858) 522-6568 www.sdcwa.org

October 7, 2013

Secretary John Laird
California Natural Resources Agency
1416 Ninth Street, Suite 1311
Sacramento, CA 95814

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City of Escondido
City of National City
City of Oceanside
City of Poway
City of San Diego
Fallbrook
Public Utility District
Helix Water District
Lakeside Water District
Olivenhain
Municipal Water District
Otay Water District
Padre Dam
Municipal Water District
Camp Pendleton
Marine Corps Base
Rainbow
Municipal Water District
Ramona
Municipal Water District
Rincon del Diablo
Municipal Water District
San Dieguito Water District
Santa Fe Irrigation District
South Bay Irrigation District
Vallecitos Water District
Valley Center
Municipal Water District
Vista Irrigation District
Yuima
Municipal Water District

OTHER REPRESENTATIVE

County of San Diego

Dear Secretary Laird:

On behalf of the San Diego County Water Authority (Water Authority), thank you for your September 11, 2013 letter to Chair Wornham and me responding to a January 2013 multi-agency letter requesting analysis of the Natural Resources Defense Council's portfolio approach to statewide water management and the Bay-Delta Conservation Plan (BDCP).

We look forward to working with you to help develop a BDCP project that achieves the co-equal goals and is affordable. As the largest member agency of the largest State Water Contractor, the Metropolitan Water District, the Water Authority and its ratepayers are being counted upon to pay the second-largest share of BDCP costs.¹ Yet, we have been relegated to the status of an outside observer who may have no financial stake in the BDCP. Accordingly, we request the opportunity to become more directly engaged in the BDCP cost allocation discussions and negotiations process – and be part of the solution. The stakes are sufficiently high for the San Diego region to be afforded the opportunity to be at the cost allocation negotiating table.

As you know, the Water Authority has not endorsed any alternative that has been considered by the BDCP program or advanced by others, including the Natural Resources Defense Council's Portfolio Alternative and the Delta Vision Foundation's BDCP-Plus. However, we firmly believe that a thorough and comprehensive analysis of Delta fix alternatives is critical to help inform the ultimate selection of an implementable plan for achieving the co-equal goals.

The Water Authority is committed to helping find a Delta solution, and to that end, is continuing its multi-year effort to inform our Board of Directors and civic and business leaders in our region on a variety of issues associated with the Delta. In addition, over the past several months, the Water Authority Board and staff have been engaged in an intensive, comprehensive review of BDCP-related alternatives to assess how various options may improve the San Diego region's water supply reliability along with risks associated with each. This review process is ongoing, and is scheduled to continue into 2014. We were disappointed to learn from Natural Resources Agency Deputy Secretary Jerry Meral at our September 12 Board workshop that determinations regarding the cost allocation among contractors will not be concluded when the BDCP and its environmental documents are released for public review next month. Although we plan to

¹ Among MWD's member agencies, and second only to the Kern County Water Agency.

A public agency providing a safe and reliable water supply to the San Diego region

A public agency providing a safe and reliable water supply to the San Diego region

Secretary John Laird
 October 7, 2013
 Page 2

submit a formal comment letter during the BDCP environmental review process, the allocation of BDCP costs and the resultant rate impacts on San Diegans will remain a central element in our Board's consideration of which option to support.

While we had hoped that your Agency's evaluation of the Portfolio Alternative would be helpful to the Water Authority's ongoing review and analysis, some of the information contained in your September 11 letter raises more questions than it answers.

- The letter states that a single-tunnel, 3,000 cfs conveyance facility (which is proposed in the Portfolio Alternative) would cost \$6 billion less than the BDCP preferred alternative (9,000 cfs twin tunnels) - \$8.5 billion compared to \$14.5 billion. However, on September 16, a corrected version of the evaluation was posted on the BDCP website, which indicates that the 3,000 cfs single-tunnel conveyance facility would only cost \$3 billion less than the BDCP preferred alternative. Further, none of these numbers match Dr. David Sunding's economic benefit analysis, which he shared with us at our September 12 Board of Directors workshop, which identified the cost at \$10 billion.

Many entities that are undertaking review and analysis of the Delta fix options, like the Water Authority, would benefit from reliable cost estimates for the conveyance features of the Portfolio Alternative. The lack of clarity in the cost estimate has made it challenging to have a meaningful cost comparison of the various conveyance feature sizes. Could you please provide an apples-to-apples cost comparison of the 3,000 (single tunnel), 6,000 and 9,000 cfs conveyance project sizes?

- In terms of the benefit cost ratio of alternatives, your evaluation indicates that *"the 3,000-cfs tunnel has a negative benefit cost ratio, largely because the cost of the 3,000-cfs tunnel is approximately two thirds of building the proposed 9,000-cfs twin tunnels but the water yield is much smaller."* The evaluation may be accurate; we are not attempting to dispute or refute the calculations and findings. However, with the numerous cost estimates for the conveyance features included in your own evaluations it is difficult to definitively understand the benefit cost ratio at which the evaluation arrives. A more comprehensive evaluation and identification of the appropriate assumptions would be valuable for those seeking to undertake independent analysis of cost-related information.
- The evaluation regarding the potential water supply yield in water recycling and water use efficiency projects that could be achieved from a \$3B investment in local and regional water supply projects requires additional analysis. Your evaluation indicates, that with respect to investments in local and regional water recycling projects and water conservation projects, *"it is doubtful that a \$3 billion investment would produce even 100,000 acre-feet of reliable new water supply in urban areas, and would do nothing for agricultural users."* This evaluation appears at odds with the Department of Water Resources' California Water Plan Update, which provides an analysis from which it may be concluded that a \$3 billion investment in water recycling projects could actually

Secretary John Laird
October 7, 2013
Page 3

produce approximately 400,000 acre-feet of new water supplies (2009 Water Plan Update, Page 11-10). In addition, data developed by the Water Authority on local project costs and implementation also indicates that BDCP's estimate is very low. We believe this warrants additional analysis to better understand how your evaluation arrived at a potential yield of 100,000 acre-feet or less. We would be happy to share the Water Authority's data and our observations on local supply development with your staff.

- The evaluation with respect to the ability to export water from the south Delta following a significant seismic event stated that, *"It may take from one to 10 years to rebuild enough Delta levees to once again allow substantial exports from the south Delta."* While certainly more work remains to be completed in terms of the efforts that have been undertaken through the Delta Emergency Rock and Transfer Facilities Project and the Delta Emergency Response Program to secure water supply reliability following a significant seismic event, it is our understanding that significant progress has been made to reduce the worst-case export outage. A more comprehensive analysis on this issue would be beneficial.

We look forward to working with you to consider a BDCP project that is implementable, achieves the co-equal goals, and improves water supply reliability and is affordable within the San Diego region and the rest of the state. In addition, we look forward to arranging a meeting with you in the near-term to explore avenues for additional information sharing and the Water Authority's participation in the cost allocation negotiation process.

Sincerely,



Maureen A. Stapleton
General Manager

Attachments:

1. January 2013 multi-agency letter regarding NRDC Portfolio Alternative
2. September 11, 2013 correspondence and Portfolio Alternative evaluation from Secretary John Laird

January 16, 2013



The Honorable Ken Salazar
Secretary
U. S. Department of the Interior
1849 C Street, N. W.
Washington, DC 20240

The Honorable John Laird
Secretary
California Natural Resources Agency
1416 Ninth Street, Suite 1311
Sacramento, CA 95814

Dr. Jerry Meral
Deputy Secretary
California Natural Resources Agency
1416 Ninth Street, Suite 1311
Sacramento, CA 95814

The Honorable Michael L. Connor
Commissioner
U. S. Department of the Interior
1849 C Street, N. W.
Washington, DC 20240

Dear Secretary Salazar, Secretary Laird, Deputy Secretary Meral,
and Commissioner Connor:

We are writing to you in advance of the planned release of the public review draft of the Bay Delta Conservation Plan (BDCP), out of a deep concern over the status of this effort. We are united in a desire for a successful project that can be supported by project proponents, Delta stakeholders, and the public. That chance for success is substantially diminished as a result of the alternatives analysis that we have seen thus far. Up to now, the BDCP process has been strongly focused on advancing a large capacity conveyance which, along with the suite of associated conservation measures, will be burdened with large uncertainties and for which a solid business case has not yet been made. These unquantified risks include impacts on listed species, impacts on the Delta landform, hydrology and water quality, open-ended costs to direct water users and to the public, political controversy, and potentially lengthy litigation.


Secretary Salazar, Secretary Laird, Deputy Secretary Meral,
and Commissioner Connor
January 16, 2013
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Absent so far has been a portfolio-based alternative that features a smaller conveyance facility with additional, complementary investments in local water supply sources, regional coordination, south of Delta storage, levee improvements, and habitat restoration (see attachment) as advanced in the coalition letter sent by other organizations today. We believe that it is critical to evaluate in detail a conveyance as small as 3,000 cfs, as it would provide considerable water supply benefits to the export community while better protecting broader interests in the Delta. Such a facility would also realize significant financial savings in comparison with a larger conveyance facility, face fewer legal and political challenges, and potentially be completed sooner. With accompanying investments in proven, cost-effective regional water strategies, this approach could increase export area water supplies and reduce the vulnerability of water supplies and Delta infrastructure to disruption from earthquakes and other disasters. We urge that this conceptual alternative be seriously considered in the BDCP process, including the required CEQA/NEPA analyses and the Clean Water Act Section 404 alternatives analysis.


A portfolio approach could produce superior benefits at a similar or lower cost to water users and the public, and at reduced levels of environmental impacts. It has the potential to be consistent with the best available science and, as a result, may be more readily permittable and capable of delivering benefits more rapidly. It would appear that a solid business case can be made for such an alternative; in any event, the business case must be made before any project proceeds.

We fully appreciate the magnitude of the challenges facing the Delta, and urge a comprehensive solution that is both affordable and science-based. We recognize the enormous effort you have undertaken toward this end, and hope that this conceptual alternative will continue to advance the discussion.

Sincerely,



Jerry Brown
General Manager
Contra Costa Water District

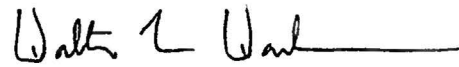


Maureen A. Stapleton
General Manager
San Diego County Water Authority

Secretary Salazar, Secretary Laird, Deputy Secretary Meral,
and Commissioner Connor
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Michael P. Carlin
Deputy General Manager
San Francisco Public Utilities Commission



Walter L. Wadlow
General Manager
Alameda County Water District



Alexander R. Coate
General Manager
East Bay Municipal Utility District



Mark Watton
General Manager
Otay Water District



Bob Filner
Mayor
City of San Diego

Attachment



Secretary Ken Salazar
Department of the Interior
1849 C St, N.W.
Washington DC 20240

Secretary John Laird
California Natural Resources Agency
1416 Ninth Street, Suite 1311
Sacramento, CA 95814

Commissioner Michael Connor
Bureau of Reclamation
1849 C Street NW
Washington DC 20240

Deputy Secretary Jerry Meral
California Natural Resources Agency
1416 Ninth Street, Suite 1311
Sacramento, CA 95814

January 16, 2013

Re: A Portfolio-Based Conceptual Alternative for BDCP

Dear Secretary Salazar, Secretary Laird, Deputy Secretary Meral and Commissioner Connor,

We represent a coalition of business and environmental organizations. We are writing to request that the attached conceptual alternative be considered in the BDCP process, including as a stand-alone alternative in the required CEQA/NEPA analyses and Clean Water Act Section 404 alternatives analysis. Our constituents believe strongly in the need for a science-based, cost-effective BDCP plan to help achieve the co-equal goals of restoring the Bay-Delta ecosystem and salmon fishery, and improving water supply reliability for California. None of us believes that the status quo in the Delta is acceptable.

Although many stakeholders have recommended that BDCP consider certain elements that are included in the attached document, we thought it would be most helpful at this point in the BDCP process to offer a *package* of actions and investments that, taken together, represent an alternative that could attract support from a diverse coalition of interests. This is a conceptual alternative, not a proposed BDCP preferred project. We believe that analysis of this alternative will assist BDCP in developing the most cost-effective, environmentally beneficial final BDCP project with the best chance of implementation.

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At the heart of the conceptual alternative are two simple principles. First, BDCP must be grounded in the best available science regarding ecosystem management. This approach is essential to designing a successful, long-term plan for a water supply system and ecosystem as complex and dynamic as the Bay-Delta. This approach is also essential to ensure that the BDCP plan can meet legal requirements and receive permits. We applaud Governor Brown and Secretary Salazar for emphasizing their commitment to a science-based approach to BDCP in their July 25, 2012 announcement.

The second core principle is that the BDCP make fiscal sense. The final BDCP plan must be both affordable and financeable or it will ultimately fail. We believe it is imperative at this point in the BDCP process to avoid the economics and financing issues that plagued CALFED and contributed to its eventual failure.

This conceptual alternative was also developed with two practical realities in mind. First, the conceptual alternative has been developed based on the reality that many California water suppliers are looking closer to home to meet their long-term water supply needs and are planning to reduce their demand for water imported from the Bay-Delta. The second reality is that cities and water agencies, as well as federal, state and local budgets are facing significant financial constraints. We believe that it is critically important to balance the timing and need for investments in the Delta with a strategy that also advances continued water agency investments in local water supply development.

This “portfolio-based” approach reflects the real world desire of water suppliers and the public to evaluate the relative benefits of investments both within and outside of the Delta, and is consistent with the increased discussion in BDCP, over the past six months, of South of Delta water supply alternatives.

One of the cornerstones of the conceptual alternative is a proposal to evaluate a 3,000 cfs, single-bore North Delta diversion facility. This facility would produce significant financial savings, in comparison with a larger conveyance facility, while still providing water reliability benefits. In fact, we believe it could produce greater overall benefits at a lower cost, with some of the savings invested in local water supply sources, new South of Delta storage, levee improvements and habitat restoration. For example, investments in proven, cost-effective local water supply strategies can both increase export area water supplies and reduce the risk of disruption from earthquakes and other disasters. Southern California 2010 Urban Water Management Plans have already identified 1.2 MAF of potential additional local supply projects, only a small fraction of which have been factored into Delta planning.

Many of these local investments could provide significant, broad and long-term benefits. For example, a relatively small investment (in comparison with the cost of a new Delta facility) in Delta levees would provide significant water supply benefits beyond those achievable by the BDCP as currently conceived. The BDCP currently anticipates that, even with a large facility, on average, approximately half of the water exported from the Delta would still be pumped by the South Delta facilities (with more than three quarters of exported water pumped from the

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South Delta in critically dry years). Therefore, reducing the vulnerability of Delta levees would provide significant water supply reliability benefits for South of Delta water users, particularly in dry years. Such an investment, in combination with local and public funds, would provide additional local benefits in the Delta. We believe that BDCP should include such “win-win” opportunities to collaborate with in-Delta interests.

It is essential not to delay an evaluation of the likely yield of a new Delta facility. The conceptual alternative also calls for the careful analysis of the best science available today regarding water project operations with a new facility. In particular, this approach calls for the analysis of an operations proposal developed by state and federal biologists to conserve and manage a full range of covered Delta fish species, including consideration of the need to protect upstream fisheries resources. We understand that state and federal biologists have undertaken an extensive effort to prepare such an operational scenario. The signatories to this letter have not endorsed these proposed operations. Rather, given that this operational scenario represents an important effort by state and federal biologists, it should be analyzed in the BDCP EIR/EIS, the Effects Analysis and the 404 analysis.

This conceptual alternative includes initial cost estimates that suggest that this approach could provide superior environmental results, increased water supply and greater reliability at a reduced cost. By expanding benefits and lowering costs, this portfolio approach could assist with project financing. We encourage BDCP to include this approach in its analysis of economics and financing issues, and to refine the cost estimates included in this conceptual alternative.

We sincerely believe that this conceptual alternative has the potential to produce superior benefits at a similar or lower cost to water users and the public. Because it is based on the best available science, we believe it would be more readily permittable. It also promises to deliver benefits more rapidly. And, finally, we believe that this approach will be helpful in attracting broader support for BDCP, both within and outside of the Delta.

We request that this conceptual alternative be analyzed as a stand-alone alternative in BDCP’s environmental documents. In addition, we recommend that BDCP use this portfolio approach to compare the potential benefits and impacts of multiple alternatives, including a full range of different conveyance facility capacities. Such comparisons are needed so decision-makers can fully understand the choices they face and can select the optimum portfolio of actions that will best serve the state.

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Thank you for your hard work to design an effective plan to meet the challenges we face in the Delta. We hope that this conceptual alternative will continue to advance the discussion. We look forward to an opportunity to discuss the conceptual alternative with you, including how it may best be incorporated into BDCP's analysis.

Sincerely,



Barry Nelson, Senior Policy Analyst
Natural Resources Defense Council



Tony Bernhardt
Environmental Entrepreneurs



Linda Best, President and CEO
Contra Costa Council



Gary Bobker, Program Director
The Bay Institute



Kim Delfino, California Program Director
Defenders of Wildlife



Jonas Minton, Water Policy Advisor
Planning and Conservation League

A Portfolio-Based BDCP Conceptual Alternative

The eight components described below represent a conceptual alternative, not a proposed BDCP project. The analysis of this alternative is intended to assist BDCP in developing the most cost-effective and environmentally beneficial final BDCP project that can be implemented and produce benefits rapidly. Variations on the approaches below should be analyzed as well, including a full range of conveyance capacities.

Guiding Principles

Science-Based Ecosystem Management: Credible, proven science will determine ecosystem improvements and water management, using on-the-ground results as the central driver of decision-making.

Water Supply Reliability: The BDCP can contribute to improved water supply reliability by reducing the physical vulnerability of Delta water supplies and embracing a portfolio approach that recognizes that water suppliers and the public have a broad range of options both in and outside of the Delta to meet their water needs and improve reliability.

A Strong Business Case: A strong business case is central to the success and financial viability of the BDCP. Sound economic principles and cost-benefit analysis must inform water supply improvements so that water ratepayers understand that the benefits they will receive from the project are reasonably proportional to what they are being asked to pay.

Water Quality: Delta water quality will be strongly influenced by the final BDCP plan, with potential impacts and benefits to export water users, local municipalities, Delta residents, Delta farmers and the ecosystem.

Conceptual Elements of a Diversified Portfolio Approach

New Conveyance Facility: Focus BDCP analysis on one 3,000 cfs North Delta intake facility and a single tunnel sized for 3,000 cfs gravity flow. This smaller facility would lower BDCP costs, improve reliability and reduce opposition. If implementation proves successful in meeting biological goals and objectives, a second phase could be constructed subsequently, but would not be permitted at this time.

Project Operations: Analyze, as a starting point for analysis of future SWP and CVP operations, the best science available today. In particular, analyze the operations proposal developed by state and federal biologists to conserve and manage a full range of covered Delta fish species, including consideration of the need to protect upstream fisheries resources.¹ Project operations should utilize a “big gulp, little sip” approach that increases exports in wet years – when water is available in excess of environmental needs

¹ The work of state and federal agency biologists to produce a science-based operational scenario is summarized on pages 1-16 of this BDCP presentation - http://www.essexpartnership.com/wp-content/uploads/2012/11/BDCP_CS5_Update_NGO-Meeting_11_14_12v3.pdf

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– and reduces diversions in average and drier years, particularly during key periods such as the spring and fall. Such an operations proposal has been developed over the past year by state and federal fish agency biologists. This is an important agency analysis that should be subjected to additional refinement in an open, transparent process, utilizing independent external peer reviewers. It is essential not to delay a detailed analysis of the likely yield of a new facility based on the best available science.

Estimated Water Exports: ~ 4 - 4.3 MAF/ year (2025). This is an initial estimate of average exports. BDCP has not yet modeled a 3,000 cfs facility with additional South of Delta storage and the agency-developed operational scenario included in this proposal.

Reduced Reliance on the Delta through Investments in South of Delta Water Supplies: DWR, many Urban Water Management Plans and other analyses have concluded that local water supply tools including conservation, water recycling, and other approaches, can provide reliable, sustainable and plentiful new sources of supply that will also be cost-effective over the long run. These sources can also be provided rapidly through additional investments. There is approximately as much new water available from these new water supply sources as is currently exported from the Delta.

This conceptual alternative proposes a smaller capital investment in a Delta facility, in comparison with the current BDCP preliminary project, and investment of savings in local water supply projects. For analytical purposes, this alternative includes a \$2 billion investment in water recycling (at a capital cost of approximately \$6,430 - 6,470 per AF of permanent water recycling capacity) and a \$3 billion investment in urban conservation (at an initial/capital cost of \$3,230-4,860 per AF).² Urban stormwater capture, groundwater cleanup, and conjunctive use should be included as cost-effective methods for generating future new sources of water, and would also be important elements of a large-scale effort to invest in new local water sources. Additional cost-effective savings can also be obtained from investments in agricultural conservation.³

Estimated Yield: 926,000 - 1,245,000 acre-feet of permanent water supply. (309,000 – 311,000 acre-feet from water recycling and 617,000 - 934,000 acre-feet from urban efficiency.)

Improved Water Agency Integration: The principles of integrated regional water management planning should form the foundation for improving cooperation and integration among Bay Area, Central Valley, and Southern California water agencies to provide improved water supply reliability and quality benefits. Increasing integration and

² See attachment for additional detail regarding cost and yield estimates. Note that these are initial/capital costs, not annual per-acre-foot unit costs. A comprehensive BDCP analysis should also address operations and maintenance costs of a full range of alternative investments.

³ The Department of Water Resources Bulletin 160-2009 <http://www.waterplan.water.ca.gov/cwpu2009/index.cfm> (Volume 2, Chapter 2, page 2-13) states that agricultural water conservation costs range from \$35-\$900 per AF. Because of the width of this cost range, agricultural conservation is not included in the conceptual cost and yield numbers above. A final BDCP portfolio proposal should, however, include agricultural water use efficiency investments.

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cooperation among these agencies could produce substantial potential benefits and cost-savings. For example, more than a dozen significant water agencies serve the Bay Area. Improved physical connections and increased cooperation among these agencies could reduce risks related to earthquakes and localized drought conditions, facilitate wastewater recycling, and utilize existing infrastructure more efficiently.

In Southern California, additional benefits could be obtained, for example, by facilitating water management agreements and programs among agencies with the potential to construct water recycling facilities and agencies that have groundwater storage resources. The Metropolitan Water District could operate its system to facilitate innovative and cost-effective water management programs between agencies in Southern California and elsewhere in the state. Southern California groundwater agencies could allow water from Southern California surface storage facilities to be managed conjunctively with regional groundwater storage facilities. This could, in essence, create new surface storage capacity at the far lower cost associated with groundwater storage. This approach could help take advantage of the supplies available during “big gulp” opportunities in the Delta. Similar potential benefits may exist through increased integration and cooperation in the agricultural sector.

In all of these opportunities it is imperative that program costs be clearly identified and allocated to the water suppliers that benefit. In this way, each public water supplier is able to account to the public it serves that their water ratepayer dollars are being spent wisely, according to law and in a manner that provides clear benefits.

New South of Delta Surface and/or Groundwater Storage: Include up to 1 MAF⁴ of new South of Delta storage, with funding allocated through competitive bidding to evaluate proposed surface, groundwater and conjunctive use projects. Investments should be focused on projects that can be completed quickly and that are most cost-effective. Additional South of Delta storage⁵ can allow for greater water exports in wetter years. As discussed above, surface storage south of the Delta could be used conjunctively with groundwater facilities to store wet-year exports for future dry years. This increase in storage capacity must be accompanied by new Delta operations that ensure that the new storage will be operated to implement “big gulp, little sip” operations.

Levee Improvements: Improve existing levees and build setback levees as part of habitat restoration. A \$1 billion additional investment could improve Delta levees to protect life, property, and important infrastructure, and also upgrade key levees including the eight western Delta islands to a higher standard with improved stability and resilience

⁴ This 1 MAF storage target is based on limited BDCP modeling and may be revised based on further analysis.

⁵ As used in this proposal, South of Delta storage is defined as storage integrated into the existing SWP and CVP Delta export system, including surface and groundwater storage in the Bay Area, the west side of the San Joaquin Valley, Kern County and Southern California. It includes storage controlled by the CVP, the SWP, MWD, Kern County Water Agency and other regional and local agencies.

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in the face of seismic risk. Upgrading these key levees would provide significant water reliability benefits and would be an appropriate use of exporter funds.

Regardless of the size of a Delta facility, maintaining and improving Delta levees is critical to ensuring the physical reliability of Delta exports. Even with new conveyance, the CVP and SWP will continue to rely on water exports from the South Delta, particularly in drier years. With a 9,000 cfs facility, exports from the South Delta would constitute approximately 50 percent of total exports. In critically dry years, BDCP currently anticipates that 75 percent of total exports would be diverted from the South Delta.⁶ Therefore, the benefits of this proposed investment in levee improvements would be particularly significant in dry years. BDCP does not currently include a strategy to reduce the physical vulnerability of the portion of Delta exports that would continue to rely on the Delta levee system.

East Bay Municipal Utility District, Contra Costa Water District and Delta landowners currently contribute to the maintenance of the levees upon which they rely. An analogous investment by export agencies would produce significant reliability benefits. For example, with average exports of 4 MAF/y, a contribution of \$8/AF would produce \$480 million to help improve Delta levees over the coming 15 years. Public funds for levee improvements are appropriate to protect Delta residents and infrastructure of regional and state importance (e.g. highways). Additional local contributions may be required.

Delta Floodplain and Tidal Marsh Habitat Restoration: Implement a large scale, approximately 40,000 acre habitat restoration program to benefit Delta fish and wildlife species, to provide a broad range of ecosystem functions and to be integrated with Delta flood management improvements. There is strong scientific evidence that floodplain habitat restoration, combined with adequate flows, can benefit salmon and other species. However, agency “red flag” memos and the National Research Council review of the existing biological opinions concluded that floodplain restoration cannot substitute for required ecosystem flows. Restoration of tidal marsh habitat, also a desirable activity, nonetheless, has far greater uncertainty associated with it, regarding benefits for many covered species, in comparison with the likely benefits of floodplain restoration. Tidal marsh restoration should be included in the BDCP plan as a complement to flow augmentation and floodplain restoration, as it is more likely to benefit some covered fish species in combination with these elements. Habitat restoration, particularly tidal marsh restoration, should in any case be implemented within an adaptive management framework. Existing CVP and SWP mitigation responsibilities, as well as new mitigation responsibilities associated with a new Delta facility, will be paid for by water exporters, while public funding should be focused on conservation benefits that go beyond

⁶ BDCP Draft Effects Analysis, April 13, 2012. Tables C.A-24 and C.A-27 from Appendix 5.C - Attachment C-A, which can be found on p. C.A. 83 and C.A. 92 at this link: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/BDCP_Effects_Analysis_-_Appendix_5_C_Attachment_C_A_-_CALSIM_and_DSM2_Results_4-13-12.sflb.ashx

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mitigation. This proposal is focused on the coming 15-20 years. Long-term restoration efforts are likely to require additional funding.

Integrating Science into Delta Management: Increase the integration of the best available science into all aspects of Delta and related resource management. The Delta is a complex and highly dynamic system. During the past decade, an expanded investment in science has improved our understanding of this ecosystem. With ongoing investments, that understanding will continue to improve. A long-term investment in science and a program to integrate new scientific results into ongoing management are essential to long-term success. Therefore, BDCP should include the following:

- External independent scientific review at critical points, with clear mechanisms to incorporate peer review results.
- Quantified performance objectives, such as SMART⁷ biological objectives and criteria for ecosystem restoration and water operations.
- Governance and adaptive management processes designed to ensure that goals and objectives are achieved, to obtain the best available science over time, and to ensure that scientific results are fully integrated into on-the-ground management.
- Carefully designed roles for the state and federal projects, as well as other stakeholders, to ensure a reliance on objective science.

This science-based approach is not anticipated to result in large increases in project costs. In fact, this approach would increase the cost-effectiveness of BDCP efforts, and should result in savings.

Affording, and Paying for the Portfolio-Based Conceptual Alternative

Our organizations strongly support an analytically-based beneficiary pays approach to BDCP financing. We believe that the analysis of this portfolio approach will assist BDCP in developing detailed cost allocations and in attracting additional funding partners. It will also help reduce pressure for public funds and ensure that such funds are spent effectively and appropriately.

Preliminary cost estimates indicate that this conceptual alternative is less expensive than the current preliminary preferred BDCP project. In addition, some of the investments in this portfolio alternative, such as levee and local water supply investments, are likely to be necessary even with a large Delta facility. Therefore, the actual cost difference between these two different approaches may be larger than indicated here.

This conceptual alternative is more financially viable than the preliminary preferred 9,000 cfs Delta facility project. That project, pegged at \$14 billion or more, is proposed to be paid for by water exporters. Proposed habitat restoration could cost up to an

⁷ SMART objectives are those that are specific, measurable, achievable, relevant to the goal and timebound.

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additional \$4 billion, raising the total capital cost of the current approach to approximately \$18 billion. By reducing the size of the project to a 3,000 cfs, single-bore facility, many billions of dollars can be freed up to invest in more local supply development and the water exporter shares of the other conceptual alternative components.

The water code requires water users to pay for a new Delta facility.⁸ The public share of this conceptual alternative could be funded in part by a reduced water bond. The increased benefits and reduced cost of this approach can assist BDCP in attracting increased funding from beneficiaries, reducing the pressure on the water bond. We believe that the diversified portfolio approach in this conceptual alternative could assist in the effort to develop a broadly supported and effective new water bond.

Estimated Cost Summary

Conceptual Portfolio Component	Estimated Cost	Source of Funding
New 3,000 cfs North Delta Facility	~ \$5-\$7 billion ⁹	Export water agencies
Local Supply Development	\$5 billion	Local water agencies and cost share per state Integrated Regional Water Management Program (IRWMP)
Improved Water Agency Integration	TBD (may be funded through local supply funds described above)	Water agencies and cost share per state IRWMP
New South of Delta Surface and/or Groundwater Storage	~\$1.2 billion ¹⁰	Exporters or local water agencies, and public cost share per IRWMP
Levee Improvements	\$1 billion	Public, water exporters and other beneficiaries and Delta community
Delta Floodplain and Tidal Marsh Habitat Restoration	\$1.7 billion	Export agencies and public
Integrating Science into Delta Management	TBD	Public and water agencies
Total Conceptual Alternative Cost	~\$14 to \$16 billion	

⁸ California Water Code Section 85089.

⁹ A BDCP July 1, 2010 presentation estimated the capital cost of a 3,000 cfs facility with 2 18-foot diameter tunnels at \$7.2 billion. Using a single tunnel would reduce costs significantly.

¹⁰ See attachment for details regarding cost estimates.

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Total Conceptual Alternative Water Supply Benefits

~ 4.9-5.5 MAF/YR.

Delta exports: ~ 4-4.3 MAF/Y.

New South of Delta sources: ~ .93-1.2 MAF/Y



September 11, 2013

Dear Chair Wornham and Ms. Stapleton:

Working together, California stands at a precipice not reached in more than 40 years: decisions in the California Delta that will stabilize our water reliability for generations to come. I want to thank the San Diego County Water Authority (SDCWA) for its considerable contribution to that progress, and, in the spirit of transparent and informed public policy, I would also like to detail a framework of issues and processes that yet remain before us.

In January of this year, the SDCWA along with other water agencies and environmental groups asked that a proposal containing a wide variety of elements be considered as an alternative to the proposed Bay Delta Conservation Plan (BDCP). Please find attached an evaluation of the potential of such a concept to meet the co-equals of water supply reliability and ecosystem restoration in the Delta established by the California Legislature in 2009.

While there are many areas of agreement in regard to local water supply development, water use efficiency, storage, and other essential water management strategies, the fundamental premise that cost savings from building a smaller facility could generate funding for substantial and adequate investments in other regional and local water supply to meet California's future water needs does not bear out. That said, the portfolio of water management strategies you identified in January will be the foundation upon which my agency, in collaboration with the California Environmental Protection Agency, and California Department of Food and Agriculture will embark on the development of a broad water action strategy for California. This is also described in more detail in the attached document.

I want to thank the ratepayers, board, and professional staff of the San Diego County Water Authority, for their ongoing financial, policy and technical support of the BDCP and its environmental review documents. After six years of study, and hundreds of millions of dollars of sound science, evaluation, assessment and collaboration, the BDCP has seen its first public release – and is several weeks away from initiating formal public review of a draft proposed plan for environmental actions and infrastructure investments needed to reach the twin goals.

Please do not hesitate to contact me with further questions. I look forward to continuing our work together to meet California's water needs in an efficient and sustainable way.

Sincerely,

A handwritten signature in dark ink, appearing to read 'John Laird'.

John Laird
California Secretary for Natural Resources

1416 Ninth Street, Suite 1311, Sacramento, CA 95814 Ph. 916.653.5656 Fax 916.653.8102 <http://resources.ca.gov>



Portfolio Approach to Statewide Water Management and the Bay Delta Conservation Plan

September 11, 2013

The Bay Delta Conservation Plan (BDCP) is one effort among many others aimed at developing a broad and sustainable water portfolio for California's water future. The California Natural Resources Agency (CNRA), the California Environmental Protection Agency (Cal EPA) and the California Department of Food and Agriculture (CDFA) are collaborating to develop a statewide approach that identifies specific actions to most efficiently and sustainably manage our water resources statewide.

There are key integrated water management elements that help achieve the co-equal goals of the BDCP, but which are not within the BDCP's specific scope, including:

- Increased water use efficiency and conservation (as mentioned above).
- Increased water supply through storage, desalination, water recycling, and groundwater management.
- Improved operational efficiency through other water conveyance projects, increased Central Valley Project and State Water Project operational efficiencies, and voluntary water transfers/exchanges.
- Ecosystem enhancements throughout California watersheds.

The BDCP is governed by the legislatively-mandated co-equal goals to restore the ecosystem of the Delta and determine what water can be exported in a way that's environmentally sustainable and reliable in the face of an extreme event or disaster made more likely by climate change. The ability of the BDCP to meet these coequal goals is the lynchpin for broader, statewide integrated water management. Without a successful BDCP, the effectiveness of local efforts to improve groundwater management, maintain and improve water quality, and develop recycled water supplies to meet California's water future will be greatly diminished.

The BDCP is significant, because for the first time, and as a direct result of the co-equal goals provided by the Legislature, biological objectives will help determine water deliveries. The water project will meet the stringent requirements of the Endangered Species Act and Natural Community

Conservation Planning Act. State and federal agencies have been working together to define a project that can be permitted within these laws.

The BDCP will be one of the largest and most complex water supply and habitat conservation plans in the nation. Hundreds of millions of dollars have gone into its planning in the form of engineering work, biological studies, economic analyses and water supply modeling. The state Department of Water Resources (DWR) has worked in close partnership with water agencies, environmental groups, scientists, and state and federal fish and wildlife experts to move the plan forward. If the BDCP is to be approved by state and federal fish agencies, the plan must meet the stringent environmental standards of both state and federal law. The current “proposed project” includes, among other things, a new 9,000 -cubic feet per second (cfs) north Delta export facility (three intake structures and two parallel tunnels from near Hood to the state and federal pumps in the South Delta) and 65,000 acres of restored tidal marsh habitat.

Response to the January, 2013 Portfolio Concept

In January, 2013, some environmental groups and water agencies asked that a proposal containing a wide variety of elements be considered as an alternative concept to the proposed BDCP project. This “portfolio” proposal includes a new 3,000- cfs north Delta water export facility (one intake structure and a single tunnel), reduced habitat restoration, increased water storage and conservation around the state, funds for Delta levee repairs, and other elements. The proponents of this statewide proposal suggest that it might save the water exporters money, which could be used for more diverse water sources, such as water conservation, wastewater recycling, and other types of water management.

Although the portfolio proposal, with its emphasis on conservation, diversification, and improved storage, has considerable merit from a policy standpoint, the proposal as a package is not practical as an alternative to the BDCP proposed project. The portfolio alternative has four premises. The first two are explicit, while the second two are implicit.

1. It would be cheaper and more cost-effective to build a 3,000- cfs north Delta water export facility with a single tunnel than to build a 9,000- cfs facility with two parallel tunnels.

2. The 3,000- cfs facility, combined with the existing south Delta facilities, could export annually about 1 million acre feet less water than is being exported today. This lost water would be

made up by other water management techniques such as water conservation, wastewater recycling, groundwater management, and additional water storage that are more cost-effective and more protective of the environment than the BDCP proposed project.

3. The biological goals and objectives of BDCP could be met by the “portfolio” alternative, thus fulfilling the requirements of both a Habitat Conservation Plan (HCP) under the federal Endangered Species Act, and a Natural Community Conservation Plan (NCCP) under the California Natural Community Conservation Planning Act. These stringent goals and objectives would be met despite continued very heavy reliance on exports from the south Delta.

4. A smaller Delta water export facility would provide adequate protection against a prolonged inability to export water from the South Delta due to the flooding of Delta islands following an earthquake or major storm.

Each of these premises are examined below.

1. Premise: It would be cheaper and more cost-effective to build a smaller Delta water export facility.

From an engineering point of view, redundancy in underground water systems (tunnels) is highly desirable to allow for maintenance and unforeseen outages. The BDCP proposed 9,000- cfs project includes two tunnels in order to provide this redundancy. The portfolio proposal does not provide the desired infrastructure redundancy. If the project were to include two tunnels the cost would be about \$1 billion more than the single bore version.

The cost of a 3,000- cfs tunnel would be \$8.5 billion. The cost of the 9,000- cfs tunnels would be \$14.5 billion. Based on Chapter 9 of the BDCP, water supply from a 3,000- cfs tunnel project would be an average of 4.2 million acre- feet per year. Water supply from a 9,000- cfs project, in contrast, would average at least 4.7 million acre-feet per year.

The substantial reduction in water supply provided by the 3,000- cfs facility would result in a large reduction in economic benefits compared to the larger facility. The economic analysis performed in BDCP Chapter 9 shows that most alternatives to the proposed project have positive benefit cost ratios. But the 3,000- cfs tunnel has a negative benefit cost ratio, largely because the cost of the 3,000- cfs tunnel is approximately two thirds of building the proposed 9,000- cfs twin tunnels but the water yield is much smaller. (Right-of-way and equipment mobilization costs are not much smaller for a small project than for a large one.)

The proposed project would increase the reliability of exports by allowing more flexibility to deliver water from the north Delta when environmental conditions are appropriate, while increasing total average annual exports from 3.5 million acre feet per year (with no project) to 4.7 million acre feet per year even if very high Delta outflows are required to protect sensitive fish species.

Conclusion: Building a 3,000- cfs tunnel has a benefit/cost ratio of less than 1, and results in a reduction in the Delta water supply of 500,000 acre- feet per year compared to the 9,000- cfs tunnels.

2. Premise: spending the money saved on the smaller facility to develop water supply alternatives would be more cost effective than building the larger facility.

DWR believes that Delta improvements and a wide variety of water supply alternatives will be needed to meet California's future water needs. This is particularly true because climate change will adversely impinge on existing water supplies in a several ways:

- Snowfall in the Sierra will gradually be replaced by rain. The slow and steady snowmelt will be somewhat replaced by immediate rain runoff. The rain will come when reservoirs must be drawn down for flood control, whereas snowmelt allows reservoirs to fill gradually after the flood season is over. These changes will make storage of the rain runoff difficult.
- Less reliable and more variable water supplies will lead to greater demand for groundwater, increasing groundwater overdraft. This trend will gradually lead to a greater demand for surface water supplies as groundwater becomes less affordable.
- The water supply from the Colorado River to Southern California may decline due to climate change and the increasingly erratic precipitation pattern in the Colorado River watershed. Also, demand for Colorado River water by other states in the watershed is increasing.
- If increased rainfall leads to higher peak winter flows in the Central Valley rivers, the U.S. Army Corps of Engineers may increase the flood reservation requirements in the major reservoirs. Such a change in reservoir operations could reduce the water supply, hydroelectric, recreational, cold water pool, and other benefits of the reservoirs.

These impacts, along with increased water demand to relieve groundwater overdraft and to accommodate economic and population growth, are challenges that transcend the BDCP. For that reason, as mentioned above, CNRA, Cal EPA, and CDFA are working to develop a broader statewide action plan. The action plan will also be designed to contribute to achieving the goal of the Delta Reform Act to reduce future reliance on the Delta by making the most efficient use of the existing Delta system.

The portfolio plan calls for a \$2 billion investment in water recycling and a \$3 billion investment in urban conservation. The proposal also calls for unspecified investments in agricultural conservation. As described above, reducing the size of the tunnels from 9,000 cfs to 3,000 cfs only saves \$5 billion while producing less water for export, a lack of redundancy, and fewer economic benefits. Also, many statewide conservation, efficiency, recycling and other water management programs are underway, and while they are not part of the BDCP, they were studied at length in the BDCP Appendix 1C (Demand Management Measures). These water management strategies are already anticipated to contribute to the success of the BDCP and will be addressed in the water action plan.

Investing \$3 billion in the most cost effective forms of water conservation and wastewater recycling would not come close to replacing the water supply lost as a result of reducing the size of the tunnels. Water recycling costs are often in the range of \$1,000 - \$1,500 per acre-foot per year, and sometimes much higher. Conservation is often somewhat less expensive than recycling, but in most urban areas served by the SWP, has a cost of \$1,000 per acre-foot and above. Indeed, reviewing the actual costs of recent water recycling projects in California, it is doubtful that a \$3 billion investment would produce even 100,000 acre-feet of reliable new water supply in urban areas, and would do nothing for agricultural users. Further, investing \$3 billion in conservation and recycling to make up for the smaller tunnel size would use up the most cost effective water conservation and wastewater recycling opportunities, making it more expensive to implement water conservation and wastewater recycling in the future.

The portfolio proposal includes development of new surface or groundwater storage south of the Delta. DWR agrees such new storage should be part of an overall water supply program for California in coming decades, this is made clear in BDCP Appendix 1B (Water Storage).

In the past two decades, significant new water storage space in the form of reservoirs and groundwater storage banks has been created south of the Delta. Improving the Delta conveyance

system will increase the ability to use this new storage space and set the stage for additional future storage investments.

Conclusion: California will need investment in all alternatives due to increasing demand for water, especially since existing supplies will be reduced by climate change. Many such investments should occur independent of, and parallel to, the BDCP. But investment in protecting the supply of water from the Delta is the most cost effective way to protect an important source of California water supply from disruption. A more detailed discussion of water supply management alternatives is in Appendix 1C (Demand Management Measures) of the BDCP administrative draft EIR/EIS.

3. Premise: The biological goals and objectives of BDCP could be met by the “portfolio based” alternative, thus fulfilling the requirements of both a Habitat Conservation Plan under the federal Endangered Species Act, and a Natural Community Conservation Plan under the California Natural Community Conservation Planning Act.

The portfolio alternative reduces by one-third (from 65,000 acres down to 40,000 acres) the amount of tidal marsh habitat that would be restored. This reduction would save money, but would also reduce the environmental benefits of BDCP. The BDCP is an ecosystem-based plan designed to restore fish and wildlife species while also providing a more reliable water supply. The goal is to do more, not less, to help the environment. The proposed project includes a tidal habitat restoration target of 65,000 acres because tidal marsh habitat may contribute to the recovery of some critical fish species, and will surely provide a wide variety of other environmental benefits. There appears to be sufficient land available to achieve this goal over the first 40 years of BDCP implementation. Adaptive management could allow for subsequent adjustment of this program. DWR looks forward to working with the portfolio signatories through the adaptive management process to make adjustments as necessary to achieve BDCP biological goals and objectives.

According to the analysis contained in Chapter 9 of the BDCP, 72 percent of mean total CVP and SWP deliveries would be diverted through south Delta intakes with the 3,000- cfs proposal, compared with 51 percent under the BDCP proposed action’s 9,000- cfs project. The south Delta is where fish species are most at risk from pumping. When more water is diverted through the south Delta intakes, such action increases the potential for take of aquatic species from entrainment and predation. Thus, the reduced opportunity to divert from the north Delta when environmental

conditions are appropriate represents a reduced opportunity to address existing, ongoing adverse environmental conditions in the south Delta. Under both scenarios, pumping is maximized during wet periods, and minimized during dry periods.

Conclusion: Based on the best available science restoration of tidal marsh is an important habitat for some species and DWR is committed to doing more, not less to meet the biological goals and objectives of the plan. The portfolio plan may undermine this biological objective.

4. Premise: A smaller Delta water export facility would provide adequate protection against a prolonged inability to export water from the south Delta due to the flooding of Delta islands following an earthquake or major storm.

The United States Geological Survey has stated that, in the next 40 years, there is a high likelihood of a major earthquake that will collapse from several to many Delta islands. (Appendix 3E of the 2nd Administrative Draft discussed Seismic Risk and Climate Change in the Delta). Another likely event is a major storm that would cause the same result. If many Delta islands fail, sea water will enter the Delta, replacing fresh water in the Delta and greatly reducing water exports. It may take from one to 10 years to rebuild enough Delta levees to once again allow substantial exports from the south Delta. It may even be impossible to fully restore enough islands to allow export from the south Delta to resume on a reliable basis. The Delta is currently nearly one fifth of the state's water supply. Large regions in the Bay Area (e.g., the Silicon and Livermore valleys, and the Contra Costa Water District), Central Valley, and Southern California rely on the Delta for 25 percent to 100 percent of their water supply. Delta exports averaged 5.3 million acre-feet per year over the last 20 years. If it appears that Delta exports are not possible for several to many years, a tunnel project would likely have to be built to provide water as soon as possible to prevent an economic catastrophe. Statewide economic impacts of a multi-year Delta outage could be as high as \$10 billion per year, and job losses could be as high as 40,000 per year. In this scenario, a 3,000- cfs facility would be insufficient to meet the State's water needs and avert huge economic losses. Adding an additional 6,000 cfs under urgent conditions to avert this disaster would cost more than \$11 billion (in addition to the \$9 billion of building the 3,000- cfs facility initially). The portfolio concept includes \$1 billion in levee improvements in the Delta to address seismic risks. While this level of investment in Delta levees may be appropriate for the long term, it will not prevent the type of levee collapse that is threatened by earthquake, major storm events,

and sea level rise. Nor can it substitute for the type of protection against levee collapse that the 9,000- cfs tunnels would provide.

Conclusion: building a 3,000- cfs tunnel would leave California dangerously exposed to a 75 percent reduction in Delta water supply after a major earthquake or storm. Building an emergency facility in the event of a major Delta island failure would cost more than building the 9,000- cfs tunnels now and would have to be done under enormous pressure to restore water supply reliability.

Conclusion

This analysis indicates that while the portfolio approach includes many worthwhile elements, it ultimately is not a viable solution for meeting the state's co-equal goals for restoration of the Delta ecosystem and a more reliable water supply. Moreover, integrating activities beyond the Delta into the permit process would be legally challenging and substantially increase the complexity of complying with the legal requirements of an NCCP, and is therefore not a practical alternative to the BDCP proposed project. But the proposed approach helpfully draws attention to the larger statewide policies that will contribute to the success of the BDCP and are needed as we plan for more sustainable water management. DWR is committed to working with the portfolio proponents to ensure that the elements identified in the portfolio approach are part of a broader statewide effort to manage water resources more efficiently and sustainably.

**Portfolio Approach to Statewide Water Management
and the Bay Delta Conservation Plan**

September 11, 2013

The Bay Delta Conservation Plan (BDCP) is one effort among many others aimed at developing a broad and sustainable water portfolio for California's water future. The California Natural Resources Agency (CNRA), the California Environmental Protection Agency (Cal EPA) and the California Department of Food and Agriculture (CDFA) are collaborating to develop a statewide approach that identifies specific actions to most efficiently and sustainably manage our water resources statewide.

There are key integrated water management elements that help achieve the co-equal goals of the BDCP, but which are not within the BDCP's specific scope, including:

- Increased water use efficiency and conservation (as mentioned above).
- Increased water supply through storage, desalination, water recycling, and groundwater management.
- Improved operational efficiency through other water conveyance projects, increased Central Valley Project and State Water Project operational efficiencies, and voluntary water transfers/exchanges.
- Ecosystem enhancements throughout California watersheds.

The BDCP is governed by the legislatively-mandated co-equal goals to restore the ecosystem of the Delta and determine what water can be exported in a way that's environmentally sustainable and reliable in the face of an extreme event or disaster made more likely by climate change. The ability of the BDCP to meet these coequal goals is the lynchpin for broader, statewide integrated water management. Without a successful BDCP, the effectiveness of local efforts to improve groundwater management, maintain and improve water quality, and develop recycled water supplies to meet California's water future will be greatly diminished.

The BDCP is significant, because for the first time, and as a direct result of the co-equal goals provided by the Legislature, biological objectives will help determine water deliveries. The water project will meet the stringent requirements of the Endangered Species Act and Natural Community

Conservation Planning Act. State and federal agencies have been working together to define a project that can be permitted within these laws.

The BDCP will be one of the largest and most complex water supply and habitat conservation plans in the nation. Hundreds of millions of dollars have gone into its planning in the form of engineering work, biological studies, economic analyses and water supply modeling. The state Department of Water Resources (DWR) has worked in close partnership with water agencies, environmental groups, scientists, and state and federal fish and wildlife experts to move the plan forward. If the BDCP is to be approved by state and federal fish agencies, the plan must meet the stringent environmental standards of both state and federal law. The current "proposed project" includes, among other things, a new 9,000 -cubic feet per second (cfs) north Delta export facility (three intake structures and two parallel tunnels from near Hood to the state and federal pumps in the South Delta) and 65,000 acres of restored tidal marsh habitat.

Response to the January, 2013 Portfolio Concept

In January, 2013, some environmental groups and water agencies asked that a proposal containing a wide variety of elements be considered as an alternative concept to the proposed BDCP project. This "portfolio" proposal includes a new 3,000- cfs north Delta water export facility (one intake structure and a single tunnel), reduced habitat restoration, increased water storage and conservation around the state, funds for Delta levee repairs, and other elements. The proponents of this statewide proposal suggest that it might save the water exporters money, which could be used for more diverse water sources, such as water conservation, wastewater recycling, and other types of water management.

Although the portfolio proposal, with its emphasis on conservation, diversification, and improved storage, has considerable merit from a policy standpoint, the proposal as a package is not practical as an alternative to the BDCP proposed project. The portfolio alternative has four premises. The first two are explicit, while the second two are implicit.

1. It would be cheaper and more cost-effective to build a 3,000- cfs north Delta water export facility with a single tunnel than to build a 9,000- cfs facility with two parallel tunnels.

2. The 3,000- cfs facility, combined with the existing south Delta facilities, could export annually about 1 million acre feet less water than is being exported today. This lost water would be

made up by other water management techniques such as water conservation, wastewater recycling, groundwater management, and additional water storage that are more cost-effective and more protective of the environment than the BDCP proposed project.

3. The biological goals and objectives of BDCP could be met by the “portfolio” alternative, thus fulfilling the requirements of both a Habitat Conservation Plan (HCP) under the federal Endangered Species Act, and a Natural Community Conservation Plan (NCCP) under the California Natural Community Conservation Planning Act. These stringent goals and objectives would be met despite continued very heavy reliance on exports from the south Delta.

4. A smaller Delta water export facility would provide adequate protection against a prolonged inability to export water from the South Delta due to the flooding of Delta islands following an earthquake or major storm.

Each of these premises are examined below.

1. Premise: It would be cheaper and more cost-effective to build a smaller Delta water export facility.

From an engineering point of view, redundancy in underground water systems (tunnels) is highly desirable to allow for maintenance and unforeseen outages. The BDCP proposed 9,000- cfs project includes two tunnels in order to provide this redundancy. The portfolio proposal does not provide the desired infrastructure redundancy. If the project were to include two tunnels the cost would be about \$1 billion more than the single bore version.

The present value capital cost of a 3,000-cfs tunnel would be \$9.2 billion, a savings of \$3 billion as compared to a 9,000-cfs tunnel*. Based on Chapter 9 of the BDCP, water supply from a 3,000- cfs tunnel project would be an average of 4.2 million acre- feet per year. Water supply from a 9,000- cfs project, in contrast, would average at least 4.7 million acre-feet per year, a loss of over 500,000 acre-feet annually.

The substantial reduction in water supply provided by the 3,000- cfs facility would result in a large reduction in economic benefits compared to the larger facility. The economic analysis performed in BDCP Chapter 9 shows that most alternatives to the proposed project have positive benefit cost ratios. But the 3,000- cfs tunnel has a negative benefit cost ratio, largely because the cost of the 3,000- cfs tunnel is approximately two thirds of building the proposed 9,000- cfs twin

tunnels but the water yield is much smaller. (Right-of-way and equipment mobilization costs are not much smaller for a small project than for a large one.)

The proposed project would increase the reliability of exports by allowing more flexibility to deliver water from the north Delta when environmental conditions are appropriate, while increasing total average annual exports from 3.5 million acre feet per year (with no project) to 4.7 million acre feet per year even if very high Delta outflows are required to protect sensitive fish species.

Conclusion: Building a 3,000- cfs tunnel has a benefit/cost ratio of less than 1, and results in a reduction in the Delta water supply of 500,000 acre- feet per year compared to the 9,000- cfs tunnels.

2. Premise: spending the money saved on the smaller facility to develop water supply alternatives would be more cost effective than building the larger facility.

DWR believes that Delta improvements and a wide variety of water supply alternatives will be needed to meet California's future water needs. This is particularly true because climate change will adversely impinge on existing water supplies in a several ways:

- Snowfall in the Sierra will gradually be replaced by rain. The slow and steady snowmelt will be somewhat replaced by immediate rain runoff. The rain will come when reservoirs must be drawn down for flood control, whereas snowmelt allows reservoirs to fill gradually after the flood season is over. These changes will make storage of the rain runoff difficult.
- Less reliable and more variable water supplies will lead to greater demand for groundwater, increasing groundwater overdraft. This trend will gradually lead to a greater demand for surface water supplies as groundwater becomes less affordable.
- The water supply from the Colorado River to Southern California may decline due to climate change and the increasingly erratic precipitation pattern in the Colorado River watershed. Also, demand for Colorado River water by other states in the watershed is increasing.
- If increased rainfall leads to higher peak winter flows in the Central Valley rivers, the U.S. Army Corps of Engineers may increase the flood reservation requirements in the major reservoirs.

Such a change in reservoir operations could reduce the water supply, hydroelectric, recreational, cold water pool, and other benefits of the reservoirs.

These impacts, along with increased water demand to relieve groundwater overdraft and to accommodate economic and population growth, are challenges that transcend the BDCP. For that reason, as mentioned above, CNRA, Cal EPA, and CDFA are working to develop a broader statewide action plan. The action plan will also be designed to contribute to achieving the goal of the Delta Reform Act to reduce future reliance on the Delta by making the most efficient use of the existing Delta system.

The portfolio plan calls for a \$2 billion investment in water recycling and a \$3 billion investment in urban conservation. The proposal also calls for unspecified investments in agricultural conservation. As described above, reducing the size of the tunnels from 9,000 cfs to 3,000 cfs only saves \$3 billion* while producing less water for export, a lack of redundancy, and fewer economic benefits. Also, many statewide conservation, efficiency, recycling and other water management programs are underway, and while they are not part of the BDCP, they were studied at length in the BDCP Appendix 1C (Demand Management Measures). These water management strategies are already anticipated to contribute to the success of the BDCP and will be addressed in the water action plan.

Investing \$3 billion in the most cost effective forms of water conservation and wastewater recycling would not come close to replacing the water supply lost as a result of reducing the size of the tunnels. Water recycling costs are often in the range of \$1,000 - \$1,500 per acre-foot per year, and sometimes much higher. Conservation is often somewhat less expensive than recycling, but in most urban areas served by the SWP, has a cost of \$1,000 per acre-foot and above. Indeed, reviewing the actual costs of recent water recycling projects in California, it is doubtful that a \$3 billion investment would produce even 100,000 acre-feet of reliable new water supply in urban areas, and would do nothing for agricultural users. Further, investing \$3 billion in conservation and recycling to make up for the smaller tunnel size would use up the most cost effective water conservation and wastewater recycling opportunities, making it more expensive to implement water conservation and wastewater recycling in the future.

The portfolio proposal includes development of new surface or groundwater storage south of the Delta. DWR agrees such new storage should be part of an overall water supply program for California in coming decades, this is made clear in BDCP Appendix 1B (Water Storage).

In the past two decades, significant new water storage space in the form of reservoirs and groundwater storage banks has been created south of the Delta. Improving the Delta conveyance system will increase the ability to use this new storage space and set the stage for additional future storage investments.

Conclusion: California will need investment in all alternatives due to increasing demand for water, especially since existing supplies will be reduced by climate change. Many such investments should occur independent of, and parallel to, the BDCP. But investment in protecting the supply of water from the Delta is the most cost effective way to protect an important source of California water supply from disruption. A more detailed discussion of water supply management alternatives is in Appendix 1C (Demand Management Measures) of the BDCP administrative draft EIR/EIS.

3. Premise: The biological goals and objectives of BDCP could be met by the “portfolio based” alternative, thus fulfilling the requirements of both a Habitat Conservation Plan under the federal Endangered Species Act, and a Natural Community Conservation Plan under the California Natural Community Conservation Planning Act.

The portfolio alternative reduces by one-third (from 65,000 acres down to 40,000 acres) the amount of tidal marsh habitat that would be restored. This reduction would save money, but would also reduce the environmental benefits of BDCP. The BDCP is an ecosystem-based plan designed to restore fish and wildlife species while also providing a more reliable water supply. The goal is to do more, not less, to help the environment. The proposed project includes a tidal habitat restoration target of 65,000 acres because tidal marsh habitat may contribute to the recovery of some critical fish species, and will surely provide a wide variety of other environmental benefits. There appears to be sufficient land available to achieve this goal over the first 40 years of BDCP implementation. Adaptive management could allow for subsequent adjustment of this program. DWR looks forward to working with the portfolio signatories through the adaptive management process to make adjustments as necessary to achieve BDCP biological goals and objectives.

According to the analysis contained in Chapter 9 of the BDCP, 72 percent of mean total CVP and SWP deliveries would be diverted through south Delta intakes with the 3,000- cfs proposal, compared with 51 percent under the BDCP proposed action’s 9,000- cfs project. The south Delta is where fish species are most at risk from pumping. When more water is diverted through the south

Delta intakes, such action increases the potential for take of aquatic species from entrainment and predation. Thus, the reduced opportunity to divert from the north Delta when environmental conditions are appropriate represents a reduced opportunity to address existing, ongoing adverse environmental conditions in the south Delta. Under both scenarios, pumping is maximized during wet periods, and minimized during dry periods.

Conclusion: Based on the best available science restoration of tidal marsh is an important habitat for some species and DWR is committed to doing more, not less to meet the biological goals and objectives of the plan. The portfolio plan may undermine this biological objective.

4. Premise: A smaller Delta water export facility would provide adequate protection against a prolonged inability to export water from the south Delta due to the flooding of Delta islands following an earthquake or major storm.

The United States Geological Survey has stated that, in the next 40 years, there is a high likelihood of a major earthquake that will collapse from several to many Delta islands. (Appendix 3E of the 2nd Administrative Draft discussed Seismic Risk and Climate Change in the Delta). Another likely event is a major storm that would cause the same result. If many Delta islands fail, sea water will enter the Delta, replacing fresh water in the Delta and greatly reducing water exports. It may take from one to 10 years to rebuild enough Delta levees to once again allow substantial exports from the south Delta. It may even be impossible to fully restore enough islands to allow export from the south Delta to resume on a reliable basis. The Delta is currently nearly one fifth of the state's water supply. Large regions in the Bay Area (e.g., the Silicon and Livermore valleys, and the Contra Costa Water District), Central Valley, and Southern California rely on the Delta for 25 percent to 100 percent of their water supply. Delta exports averaged 5.3 million acre-feet per year over the last 20 years. If it appears that Delta exports are not possible for several to many years, a tunnel project would likely have to be built to provide water as soon as possible to prevent an economic catastrophe. Statewide economic impacts of a multi-year Delta outage could be as high as \$10 billion per year, and job losses could be as high as 40,000 per year. In this scenario, a 3,000- cfs facility would be insufficient to meet the State's water needs and avert huge economic losses. Adding an additional 6,000 cfs under urgent conditions to avert this disaster would cost more than \$11 billion (in addition to the \$9 billion of building the 3,000- cfs facility initially). The portfolio concept includes \$1 billion in levee improvements in the Delta to address

seismic risks. While this level of investment in Delta levees may be appropriate for the long term, it will not prevent the type of levee collapse that is threatened by earthquake, major storm events, and sea level rise. Nor can it substitute for the type of protection against levee collapse that the 9,000- cfs tunnels would provide.

Conclusion: building a 3,000- cfs tunnel would leave California dangerously exposed to a 75 percent reduction in Delta water supply after a major earthquake or storm. Building an emergency facility in the event of a major Delta island failure would cost more than building the 9,00-0 cfs tunnels now and would have to be done under enormous pressure to restore water supply reliability.

Conclusion

This analysis indicates that while the portfolio approach includes many worthwhile elements, it ultimately is not a viable solution for meeting the state's co-equal goals for restoration of the Delta ecosystem and a more reliable water supply. Moreover, integrating activities beyond the Delta into the permit process would be legally challenging and substantially increase the complexity of complying with the legal requirements of an NCCP, and is therefore not a practical alternative to the BDCP proposed project. But the proposed approach helpfully draws attention to the larger statewide policies that will contribute to the success of the BDCP and are needed as we plan for more sustainable water management. DWR is committed to working with the portfolio proponents to ensure that the elements identified in the portfolio approach are part of a broader statewide effort to manage water resources more efficiently and sustainably.

**Updated on 9/16/13 to correct reporting errors.*



San Diego County Water Authority

4677 Overland Avenue • San Diego, California 92123-1233
(858) 522-6600 FAX (858) 522-6568 www.sdcwa.org

July 30, 2013

Dr. Gerald Meral
Deputy Secretary
California Natural Resources Agency
1416 Ninth Street, Suite 1311
Sacramento, CA 95814

MEMBER AGENCIES

Carlsbad
Municipal Water District

City of Del Mar

City of Escondido

City of National City

City of Oceanside

City of Poway

City of San Diego

Fallbrook
Public Utility District

Helix Water District

Lakeside Water District

Olivienhain
Municipal Water District

Olney Water District

Padre Dam
Municipal Water District

Camp Pendleton
Marine Corps Base

Rainbow
Municipal Water District

Ramona
Municipal Water District

Rincon del Diablo
Municipal Water District

San Dieguito Water District

Santa Fe Irrigation District

South Bay Irrigation District

Vallecitos Water District

Valley Center
Municipal Water District

Vista Irrigation District

Yuma
Municipal Water District

OTHER REPRESENTATIVE

County of San Diego

Dear Jerry:

Thank you for the efforts that you, your state and federal agency colleagues, and the Administration have made to bring the BDCP to the point where it stands today. We appreciate the opportunity that the release of an administrative draft of the BDCP affords us to provide comments and questions that should be addressed in the next draft. This letter is a follow-up to the Water Authority's previous correspondence on BDCP Chapter 8, and conversations we have had with you over the past year.

Like many other stakeholders, the San Diego County Water Authority anticipated the May 29 release of the final chapters of the administrative draft of the BDCP document and believed, based upon earlier representations, it would address the questions and concerns the Water Authority has raised over the past several years over project financing. In particular, we were anxious to review the new draft of Chapter 8 in light of the correspondence we sent you 11 months ago (attached), in which we raised a series of BDCP financing issues and concerns. Our subsequent conversations led us to believe these concerns would be addressed in the most current iteration of Chapter 8. Instead, and disappointingly, Chapter 8 begins with this jarring admission:

"Details of the financing... are still being determined through on-going discussion between the state and federal governments and between the government, the state and federal water contractors and other interests."

After reviewing the newly-revised Chapter 8 of the BDCP administrative draft, seven years into the BDCP planning process, and nearly a year after commenting on the prior draft, the most critical financing issues confronting the BDCP have yet to be addressed.

As we shared with you previously, potential participants in the BDCP must have sufficiently detailed information to evaluate the cost-benefit (or feasibility) of participating in the project. We recently heard David Sunding report to the Metropolitan Water District of Southern California's (MWD) Board of Directors that a cost-benefit analysis has been produced for all urban and agricultural water contractors, and that it includes an urban cost-benefit analysis for all MWD member agencies. Would you please send a copy of the complete report to me in advance of Dr. Sunding's Sept. 12 appearance before our Board's Imported Water Committee?

A public agency providing a safe and reliable water supply to the San Diego region

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 July 30, 2013
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As we have consistently stated, the Water Authority believes that any BDCP financing plan must include enforceable agreements to pay for the project, not only from state water contractors directly, but also from the member agencies or units that provide their revenues. The costs are far too high to simply rely on the hope that the contractors' water sales will be adequate over the long-term to pay the project's costs.

As the largest customer of the largest state water contractor – MWD – the Water Authority's member agency ratepayers have a great deal at stake in the BDCP process and its financing plan, its risks and contingencies. The Water Authority must be able to assess that the preferred alternative advocated by the BDCP program will provide sufficient benefits to be affordable for our member agency ratepayers. We also must ensure that our ratepayers are not at risk of paying BDCP costs associated with the water supplies of other MWD member agencies or other state or federal water contractors. The Water Authority is already in litigation with MWD over how it allocates its *current* State Water Project costs.

The Water Authority is concerned that future progress of the BDCP and efforts to resolve seemingly intractable conflicts in the Delta will falter if those expected to be participants in the BDCP are not able to evaluate the cost-benefit of the various alternatives or reasonably limit the risk that their ratepayers will be expected to assume. In this context, we renew our request that our comments and concerns raised in our August 28, 2012 correspondence regarding Chapter 8 of the BDCP administrative draft – *Implementation Costs and Funding Sources* – be addressed in the next draft.

Comments

In our August 28, 2012 correspondence, we identified three specific issue areas as lacking necessary discussion within Chapter 8:

- State water contractors that are wholesale water agencies should demonstrate that their customers – the member agencies or units that purchase their water and provide their revenue – have take-or-pay contracts or other enforceable, long-term commitments to pay the fixed costs of the project commensurate with the term of the BDCP obligation.
- It is important to analyze the possible effects of “step up” provisions – those bond pledges that may require other BDCP participants to assume the obligations of defaulting participants – on MWD and other participants in the BDCP.
- A careful legal analysis should be undertaken of MWD taxing authority within the BDCP due diligence process, to examine the feasibility and appropriateness of relying upon property taxes as additional back-up security for project debt.

Take-Or-Pay Contracts/Enforceable Commitments

As we have previously pointed out in discussions with you, MWD – which, as the largest state water contracting agency, is the foundation for financing the BDCP project – has been struggling over the past several years to pay its current fixed costs, let alone a substantially larger new cost associated with the BDCP. More than 80 percent of MWD's costs are fixed – however, less than 20 percent of MWD's revenues are paid from fixed charges. Conversely, more than 80 percent of MWD's revenues are from water sales – a variable revenue source – and those sales have

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declined by 30 percent since 2007. Furthermore, MWD's member agencies are not required to purchase *any* water from MWD. The variability of water sales – and thus uncertain future water sales revenues – coupled with Southern California water agencies' current and future planned actions to implement the State's policy to reduce reliance on water supplies imported from the Delta, creates significant uncertainty regarding long-term financing of BDCP obligations. This should be a major concern for the State of California, whose full faith and credit will be expected to back up the financing of the project. And yet, Chapter 8 makes no mention of this material, foundational risk to BDCP financing.

The Water Authority believes that, at a minimum, state water contractors that are wholesale water agencies must demonstrate that their customers have take-or-pay contracts or other enforceable long-term commitments to pay the fixed costs of the BDCP project corresponding to the term of the BDCP obligation. The Water Authority continues to be prepared to make such a commitment to MWD as long as the Water Authority gets the water supplies in return for its payments. We also believe that the willingness to make a financial commitment to a Delta solution will largely determine the demand for Delta water supply, and therefore help inform the best sizing for the conveyance facility. It would not be in the state's best interest to construct a facility only to have it stranded because no one is willing to pay for it, or hoped-for water sales necessary to pay for it do not materialize.

"Step-Up" Provisions

Existing State Water Project contracts contain provisions under which non-defaulting contractors can be assessed to cover payments not made by defaulting contractors, up to 25 percent of the defaulting contractors' obligations. Additionally, the East Branch Extension of MWD's State Water Project contract has a provision obligating MWD to cover default by any and all other participants. These State Water Project contract stipulations are known as "step-up" provisions.

We are informed that bond underwriters for the BDCP project are expected to require a "step-up" provision by which each BDCP participant in BDCP-related bonds pledges to assume the obligations of defaulting participants. In fact, the newly-released Chapter 8, at Section 8.10.1.1.1 (page 8-81) provides that:

"Existing water contracts would need to be amended to include the new costs of the BDCP assigned to the state water contractors and the repayment schedule."

Since "step-up" provisions are already embodied within, and apply to, MWD's State Water Project contract, it would appear that such provisions would apply to the "new costs of the BDCP assigned to the state water contractors." Given those "step-up" provision obligations, we renew our request that Chapter 8 fully analyze the possible financial and economic effects of the "step-up" provisions on MWD and the other participants in the BDCP.

Property Taxes

Some have suggested that property taxes may be contemplated as back-up security for BDCP payment obligations of individual state water contractors. There are very clear and significant limitations in MWD's existing taxing authority under the provisions of the MWD Act:

- The Act limits MWD's ability to levy taxes to pay its State Water Project obligations.

Dr. Gerald Meral
 July 30, 2013
 Page 4

MWD is limited to levying taxes for *“the composite amount required to pay (1) the principal and interest on general obligation bonded indebtedness of the district and (2) that portion of the district’s payment obligation under [the SWP contract] which is reasonably allocable, as determined by the district, to the repayment by the state of principal and interest on [SWP bonds] as of [January 1, 1985] and used to finance construction of facilities for the benefit of the district.”*

- Although the Act contains override ability in the event of a fiscal crisis, as determined by the MWD board, the override is limited to only one year at a time. In such an event, the State of California and bondholders would be relying upon an annual vote of MWD’s Board of Directors in which it *“...finds that a tax in excess of these restrictions is essential to the fiscal integrity of the district....”*
- It is unclear whether changes to the limitations provided under the MWD Act would require voter approval and/or new legislation. Chapter 8 should address and answer these questions.

Given these limitations and uncertainties, it is difficult to consider MWD’s existing taxing authority as a meaningful back-up security for BDCP payment obligations. It is also highly questionable whether the financing of BDCP can be – or should be – backed by taxing authority that was authorized by voters decades ago, when the program was much different than is being discussed today. A careful legal analysis of MWD taxing authority should be included in the BDCP due diligence process if taxes are going to be relied upon as additional back-up security for BDCP project debt. The newly-released version of Chapter 8 is silent on this issue.

Based on the assurances that you previously provided to the Water Authority, we expected that the full consideration and analysis of the issues we have raised would be integrated in to the Chapter 8 analysis and conclusions. And yet, the current version of Chapter 8 of the BDCP administrative draft does not comprehensively or adequately conduct due diligence on all of the facts and circumstances described in this letter and our previous correspondence. We remain concerned that a potential cascading collapse of funding could occur if the proper due diligence is not undertaken in a timely manner.

We appreciate the opportunity to provide comments on the newly-released Chapter 8 of the BDCP administrative draft. We remain committed to working with you and all parties to evaluate, address, and resolve these critical financing issues.

Sincerely,



Maureen A. Stapleton
 General Manager

Attachment: August 28, 2012 letter



San Diego County Water Authority

4677 Overland Avenue • San Diego, California 92123-1233
(858) 522-6600 FAX (858) 522-6568 www.sdcwa.org

August 28, 2012

MEMBER AGENCIES

Carlsbad
Municipal Water District
City of Del Mar
City of Escondido
City of National City
City of Oceanside
City of Poway
City of San Diego
Fallbrook
Public Utility District
Helix Water District
Lakeside Water District
Olivewood
Municipal Water District
Otay Water District
Padre Dam
Municipal Water District
Camp Pendleton
Marine Corps Base
Rainbow
Municipal Water District
Ramona
Municipal Water District
Rincon del Diablo
Municipal Water District
San Diego Water District
Santa Fe Irrigation District
South Bay Irrigation District
Vallecitos Water District
Valley Center
Municipal Water District
Vista Irrigation District
Yuma
Municipal Water District

OTHER REPRESENTATIVE

County of San Diego

Dr. Gerald Meral
Deputy Secretary
California Natural Resources Agency
1416 Ninth Street, Suite 1311
Sacramento, CA 95814

Dear Jerry:

Thank you for visiting with us on Wednesday. We enjoyed our discussion, and appreciate the information you shared on the progress of the Bay-Delta Conservation Plan. We very much appreciate the efforts by you, Secretary Laird, Governor Brown, Secretary Salazar and all of the state and federal agencies in bringing the BDCP to this point.

We promised to send you the Water Authority's comments on BDCP Chapter 8. We understand that work is under way to produce a new draft of Chapter 8. It is our hope that the issues outlined below will be considered and addressed.

Introduction

The San Diego County Water Authority is a wholesale water agency providing a safe and reliable water supply to 24 public agencies in San Diego County, supporting our region's \$186 billion economy and the quality of life of 3.1 million Californians. Highly dependent on imported water supplies, the Water Authority has historically and consistently been a strong advocate for the Delta and for the co-equal goals of providing a more reliable water supply for California, while protecting, restoring and enhancing the Delta ecosystem. The Water Authority's board of directors reaffirmed this longstanding support at its February 2012 board meeting. The board also adopted an updated set of policy principles relating to the Bay-Delta outlining the critical issues that must be resolved in the BDCP process; a copy of these Policy Principles is enclosed.

Chief among the Water Authority's concerns is the need to define the various components of the financing plan for the BDCP and the recently announced decision-tree concept in a manner that allows potential participants to evaluate the cost-benefit (or feasibility) of participating in the project. We believe the financing plan must include enforceable agreements to pay for the project, not only from state water contractors directly, but from the member agencies or units

A public agency providing a safe and reliable water supply to the San Diego region

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 August 28, 2012
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that provide their revenues. The costs are simply too great to rely on the hope that there will be enough water purchasers over the long-term to pay the project's costs.

As the largest customer of the largest state water contractor – the Metropolitan Water District of Southern California (MWD) – the Water Authority's ratepayers have a great deal at stake in the BDCP process and its financing plan. The Water Authority must be able to assess not only that the project will provide sufficient benefits to be affordable by our ratepayers, but also that they are not at risk of paying BDCP costs associated with the water supplies of other MWD member agencies or state contractors. The Water Authority is already in litigation with MWD over how it allocates its current State Water Project costs.

The Water Authority is concerned that all of the progress that has been made in bringing the BDCP to this point will be stymied, and that the BDCP will fail if participants are not able to evaluate the cost-benefit of the project or reasonably limit the risk their ratepayers are being asked to assume. It is in this light that we offer the following brief comments on the administrative draft of Chapter 8 – *Implementation Costs and Funding Sources*.

Comments

As the largest state water contractor, MWD is the foundation for financing the project. And yet, MWD itself has been struggling over the past several years to pay its current fixed costs – let alone a substantially larger cost associated with the BDCP. The reason is simple: more than 80 percent of MWD's costs are fixed while less than 20 percent of its revenues are paid from fixed charges. More than 80 percent of MWD's revenues come from water sales. Yet, MWD's member agencies are not required to purchase *any* water from MWD. With its member agencies unwilling to sign take-or-pay contracts or make any other firm financial commitments to MWD to cover its fixed obligations, the agency remains heavily dependent on revenues from variable water sales. MWD's water sales have declined approximately 30 percent since 2008, with its firm sales declining to less than 1.3 million acre-feet in fiscal year 2012. MWD's member agencies – including the Water Authority – have also experienced significant reductions in sales. A direct consequence of these declining sales is sharply higher imported water rates that have made additional local water supply investments economically competitive. As a consequence, MWD's member agencies – and their sub-agencies – are doing what they have been asked to do over the past 20 years: reducing reliance on water supplies imported from the Delta.

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 August 28, 2012
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We are concerned that the BDCP will become the kind of “big ticket project” that MWD board members vocally and enthusiastically support – at the same time their agencies are unwilling to make enforceable commitments to pay for the project.

A final note on the subject of risk: because the project is anticipated to be financed through project revenues, we are informed that bond underwriters are expected to require a “step up” provision by which each BDCP participant in BDCP-related bonds pledges to assume the obligations of defaulting participants.¹ The current draft of Chapter 8 is silent on this issue, yet it is conceivable that some of the BDCP participants may default, which would cause remaining participants, including MWD, to assume a greater portion of the debt. It is important that Chapter 8 analyze the possible effects of the “step up” provisions on MWD and the other participants in the BDCP.

Some have suggested that property taxes may provide the ultimate security for BDCP payment obligations of individual contractors. Putting aside the question whether property taxes levied under the authorization of the Burns-Porter Act may be used to pay for new projects contemplated by the BDCP, it is important to remember that MWD's taxing authority is further limited by the provisions of the MWD Act.² Although the Act contains override ability in the event of a fiscal crisis as determined by the MWD board (one year at a time³), it effectively limits MWD's ability to levy taxes to pay its SWP obligations. It is also unclear whether changes to this limit would require voter approval. Thus, a careful legal analysis of MWD taxing authority should be included in the BDCP due diligence process if taxes are contemplated as additional back-up security for project debt.

To effectively evaluate the finances available for the BDCP, the drafters of Chapter 8 need to conduct comprehensive due diligence on all of the facts and

¹ Under Section 50(h) of MWD's current State Water Project contract, non-defaulting contractors can be assessed to cover payments not made by defaulting contractors, up to 25 percent of the payment not made. Under Section 49(i) of its East Branch Extension of the State Water Project contract, MWD is obligated to cover a default by any and all other participants.

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³ In such an event, the State of California would be relying upon an annual vote of MWD's Board of Directors in which it “...finds that a tax in excess of these restrictions is essential to the fiscal integrity of the district....”

Dr. Gerald Meral
August 28, 2012
Page 4

circumstances described in this letter. Without such due diligence, the BDCP faces a potential cascading collapse of funding. At a minimum, state water contractors that are wholesale water agencies must demonstrate that their customers – the member agencies or units that buy their water and provide their revenues – have take-or-pay contracts or other enforceable commitments to pay the fixed costs of the project commensurate with the term of the BDCP obligation. The Water Authority continues to stand ready to make such a commitment to MWD that provides benefits commensurate with its payments.

Ultimately, the full faith and credit of the State of California will back up the bonds issued to build the conveyance project. Failure to secure enforceable financial commitments from the member agencies or units of water wholesale contractors could place all of California at significant risk of having tens of billions of dollars of new outstanding debt without sufficient water contractor payments to cover the debt service. This is why all California taxpayers have a stake in ensuring that there is a solid foundation and financing plan for the BDCP going forward.

Thank you again for providing the opportunity to comment on the administrative draft of Chapter 8 of the BDCP. We are committed to working with you and all parties to address and resolve these issues.

Sincerely,

A handwritten signature in black ink, appearing to read "Maureen A. Stapleton". The signature is fluid and cursive, with the first name being more prominent.

Maureen A. Stapleton
General Manager

Enclosure: Water Authority Bay-Delta Policy Principles



February 15, 2012

Attention: Imported Water Committee

Adopt Delta Policy Principles. (Action)

Staff recommendation

Adopt Delta Policy Principles to guide staff in evaluating Bay-Delta initiatives and the Water Authority's advocacy to ensure a successful implementation of a Delta solution.

Alternatives

1. Modify one or more draft principles.
2. Do not adopt Delta Policy Principles.

Fiscal impact

None.

Background

The Sacramento-San Joaquin Bay Delta is an important water supply source for Southern California. Metropolitan Water District (MWD) purchases water from the Department of Water Resources through its State Water Project (SWP) contract. MWD is the SWP's largest customer, providing more than 50 percent of its revenues. As such, MWD is the principle source of revenue under the current SWP as it will be for any proposed Bay Delta solution. As the largest steady purchaser of MWD water, the Water Authority has a vital interest in assuring that any Bay Delta solution is financially sustainable. The Water Authority has advocated for a number of changes in the MWD rate structure, including securing take-or-pay contracts with its member agencies or other firm commitments to pay the fixed costs of a Delta conveyance project.

Discussion

The Water Authority has been a strong advocate for a sustainable Bay Delta solution. The Water Authority actively engages in Bay Delta issues at the MWD board and other forums including the State Capitol, where it lobbied for passage of the 2009 comprehensive Bay Delta bill package. The 2009 bill package approved as state policy the co-equal status of restoring the Delta ecosystem and creating a more reliable water supply for California. Recently, the Water Authority held two Bay-Delta workshops receiving input from stakeholders on their views of the issues and a Bay Delta solution. The Water Authority also participates directly on three Bay Delta Conservation Plan (BDCP) working groups on Conveyance, Governance and Finance.

The Water Authority has consistently advocated for a "right-size" solution in the Delta that is also supported by a broad range of stakeholders in order to reduce challenges to implementation. A central point of the Water Authority's advocacy position in determining the "right size" of a Bay

**Imported Water Committee
February 15, 2012
Page 2 of 4**

Delta solution is clear commitments to pay through take-or-pay contracts or legal equivalent to pay the fixed costs of a project.

The Delta Policy Principles will help guide staff as they evaluate the BDCP and other projects and actions relating to the Bay Delta solution. Draft principles were presented to this committee for review last month; the attached recommended principles reflect comments received on the prior draft.

Prepared by: Debbie S. Discar-Espe, Senior Water Resources Specialist

**Reviewed by: Jeff Volberg, Government Relations Manager
Amy L. Chen, MWD Program Chief**

Approved by: Dennis A. Cushman, Assistant General Manager

Attachment: Delta Policy Principles

Imported Water Committee
February 15, 2012
Page 3 of 4

San Diego County Water Authority Delta Policy Principles

The San Diego County Water Authority Board of Directors supports a Bay Delta solution that will meet the co-equal goals and provide San Diego County with a reliable, high-quality supply of affordable, imported water consistent with the Water Authority's Urban Water Management Plan and Regional Facilities Optimization and Master Plan. The adopted policy principles will guide staff in evaluating projects and actions concerning the Bay-Delta.

Water Supply Reliability

- Continue to support the co-equal goals of water supply reliability and environmental restoration embodied in the 2009 Delta bill package.
- Support deliberative processes that are designed to ensure a meaningful dialogue with all stakeholders in order to reduce future conflicts and challenges to implementation of a Bay Delta solution.
- Provide regulatory certainty and predictable supplies to help meet California's water needs in the long-term.
- Encourage a Bay Delta solution that acknowledges, integrates and supports the development of water resources at the local level including water use efficiency, seawater and brackish water desalination, groundwater storage and conjunctive use, and recycled water including direct and indirect potable reuse.
- Improve the ability of water-users to divert water from the Delta during wet periods, when impacts on fish and ecosystem are lower and water quality is higher.
- Encourage the development of a statewide water transfer market that will improve water management.
- Support improved coordination of Central Valley Project and State Water Project (SWP) operations.

Ecosystem Restoration

- Restore the Bay-Delta ecosystem consistent with the requirements established under the state Natural Community Conservation Plan and the federal Habitat Conservation Plan, taking into account all factors that have degraded Bay-Delta habitat and wildlife.
- Work with all stakeholders to ensure a meaningful dialogue and that ecosystem restoration issues are addressed in an open and transparent process.

Finance and Funding

- Encourage and support a Bay Delta solution and facilities that are cost-effective when compared with other water supply development options for meeting Southern California's water needs.
- Require the total cost of any Bay Delta solution be identified before financing and funding decisions are made. The total cost must include the cost of facilities, mitigation and required or negotiated ecosystem restoration.
- Allocate costs of the Bay-Delta solution to stakeholders in proportion to benefits they receive.

Imported Water Committee
February 15, 2012
Page 4 of 4

- Seek and support independent financial analyses of Bay-Delta solution including the ability of all parties to pay their proportional costs.
- Require a firm commitment and funding stream by all parties to pay for the fixed costs associated with the proportional benefits they will receive from a Bay Delta solution, through take-or-pay contracts or legal equivalent.
- Condition financial support on provisions allowing access to any water conveyance or storage facilities that are included in the Bay Delta solution.
- Support the use of public funds to support specific projects and actions with identified costs that protect and restore the environment and provide broad-based public benefits.
- Oppose water user fees to fund ecosystem restoration and other public purpose, non-water-supply improvements in the Delta that benefit the public at large.

Facilities

- Require independent technical analysis of proposed key elements of the Bay-Delta solution, including forecasting future urban and agricultural demands and size and cost of any proposed conveyance facility, to ensure the solution realistically matches statewide needs.
- Support “right-sized” facilities to match firm commitments to pay for the Bay Delta solution.
- Allow access to all SWP facilities to facilitate water transfers.

Governance

- Support continued state ownership and operation of the SWP as a public resource.
- Support improved efficiency and transparency of all SWP operations.
- Oppose any transfer of operational control of the SWP or any of its facilities to MWD, the State Water Project Contractors, Central Valley Project Contractors, the State and Federal Contractors Water Agency, any entity comprised of MWD or other water project contractors, or any other special interest group.



San Diego County Water Authority

4677 Overland Avenue • San Diego, California 92123-1233
(858) 522-6600 FAX (858) 522-6568 www.sdcwa.org

August 28, 2012

MEMBER AGENCIES

Carlsbad
Municipal Water District

City of Del Mar

City of Escondido

City of National City

City of Oceanside

City of Poway

City of San Diego

Fallbrook
Public Utility District

Helix Water District

Lakeside Water District

Olivenhain
Municipal Water District

Otay Water District

Padre Dam
Municipal Water District

Camp Pendleton
Marine Corps Base

Rainbow
Municipal Water District

Ramona
Municipal Water District

Rincon del Diablo
Municipal Water District

San Dieguito Water District

Santa Fe Irrigation District

South Bay Irrigation District

Vallecitos Water District

Valley Center
Municipal Water District

Vista Irrigation District

Yuima
Municipal Water District

OTHER REPRESENTATIVE

County of San Diego

Dr. Gerald Meral
Deputy Secretary
California Natural Resources Agency
1416 Ninth Street, Suite 1311
Sacramento, CA 95814

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Dr. Gerald Meral
 August 28, 2012
 Page 2

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The Water Authority is concerned that all of the progress that has been made in bringing the BDCP to this point will be stymied, and that the BDCP will fail if participants are not able to evaluate the cost-benefit of the project or reasonably limit the risk their ratepayers are being asked to assume. It is in this light that we offer the following brief comments on the administrative draft of Chapter 8 – *Implementation Costs and Funding Sources*.

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Dr. Gerald Meral
 August 28, 2012
 Page 3

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Dr. Gerald Meral
August 28, 2012
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Thank you again for providing the opportunity to comment on the administrative draft of Chapter 8 of the BDCP. We are committed to working with you and all parties to address and resolve these issues.

Sincerely,

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Maureen A. Stapleton
General Manager

Enclosure: Water Authority Bay-Delta Policy Principles



February 15, 2012

Attention: Imported Water Committee

Adopt Delta Policy Principles. (Action)

Staff recommendation

Adopt Delta Policy Principles to guide staff in evaluating Bay-Delta initiatives and the Water Authority's advocacy to ensure a successful implementation of a Delta solution.

Alternatives

1. Modify one or more draft principles.
2. Do not adopt Delta Policy Principles.

Fiscal impact

None.

Background

The Sacramento-San Joaquin Bay Delta is an important water supply source for Southern California. Metropolitan Water District (MWD) purchases water from the Department of Water Resources through its State Water Project (SWP) contract. MWD is the SWP's largest customer, providing more than 50 percent of its revenues. As such, MWD is the principle source of revenue under the current SWP as it will be for any proposed Bay Delta solution. As the largest steady purchaser of MWD water, the Water Authority has a vital interest in assuring that any Bay Delta solution is financially sustainable. The Water Authority has advocated for a number of changes in the MWD rate structure, including securing take-or-pay contracts with its member agencies or other firm commitments to pay the fixed costs of a Delta conveyance project.

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The Water Authority has been a strong advocate for a sustainable Bay Delta solution. The Water Authority actively engages in Bay Delta issues at the MWD board and other forums including the State Capitol, where it lobbied for passage of the 2009 comprehensive Bay Delta bill package. The 2009 bill package approved as state policy the co-equal status of restoring the Delta ecosystem and creating a more reliable water supply for California. Recently, the Water Authority held two Bay-Delta workshops receiving input from stakeholders on their views of the issues and a Bay Delta solution. The Water Authority also participates directly on three Bay Delta Conservation Plan (BDCP) working groups on Conveyance, Governance and Finance.

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Imported Water Committee
February 15, 2012
Page 2 of 4

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Reviewed by: Jeff Volberg, Government Relations Manager
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Imported Water Committee
 February 15, 2012
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- Continue to support the co-equal goals of water supply reliability and environmental restoration embodied in the 2009 Delta bill package.
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- Work with all stakeholders to ensure a meaningful dialogue and that ecosystem restoration issues are addressed in an open and transparent process.

Finance and Funding

- Encourage and support a Bay Delta solution and facilities that are cost-effective when compared with other water supply development options for meeting Southern California's water needs.
- Require the total cost of any Bay Delta solution be identified before financing and funding decisions are made. The total cost must include the cost of facilities, mitigation and required or negotiated ecosystem restoration.
- Allocate costs of the Bay-Delta solution to stakeholders in proportion to benefits they receive.

Imported Water Committee
 February 15, 2012
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- Seek and support independent financial analyses of Bay-Delta solution including the ability of all parties to pay their proportional costs.
- Require a firm commitment and funding stream by all parties to pay for the fixed costs associated with the proportional benefits they will receive from a Bay Delta solution, through take-or-pay contracts or legal equivalent.
- Condition financial support on provisions allowing access to any water conveyance or storage facilities that are included in the Bay Delta solution.
- Support the use of public funds to support specific projects and actions with identified costs that protect and restore the environment and provide broad-based public benefits.
- Oppose water user fees to fund ecosystem restoration and other public purpose, non-water-supply improvements in the Delta that benefit the public at large.

Facilities

- Require independent technical analysis of proposed key elements of the Bay-Delta solution, including forecasting future urban and agricultural demands and size and cost of any proposed conveyance facility, to ensure the solution realistically matches statewide needs.
- Support “right-sized” facilities to match firm commitments to pay for the Bay Delta solution.
- Allow access to all SWP facilities to facilitate water transfers.

Governance

- Support continued state ownership and operation of the SWP as a public resource.
- Support improved efficiency and transparency of all SWP operations.
- Oppose any transfer of operational control of the SWP or any of its facilities to MWD, the State Water Project Contractors, Central Valley Project Contractors, the State and Federal Contractors Water Agency, any entity comprised of MWD or other water project contractors, or any other special interest group.