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Department of the Interior
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Washington DC 20240

Secretary John Laird
California Natural Resources Agency
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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 permissible. 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

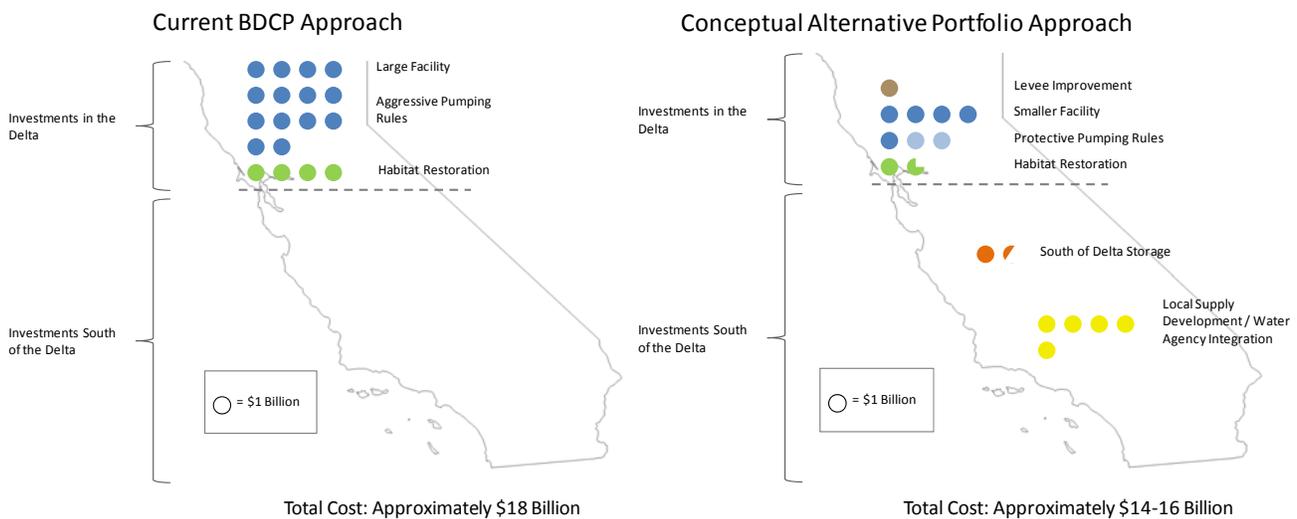


Jonas Minton, Water Policy Advisor
Planning and Conservation League



Benefits of a Diversified Portfolio Approach to the Bay-Delta and Water Supply

A Bay Delta Conservation Plan that includes a balanced portfolio of investments both in and outside of the Delta offers a wide range of potential benefits in comparison with a narrow focus on a large new Delta water conveyance facility and habitat restoration. Given the statewide importance of a Delta solution, we urge BDCP, the Delta Stewardship Council and others to analyze these and other potential benefits from a portfolio approach to restoring the Bay-Delta and improving water supply reliability in export areas.



Cost-Effective Solutions: By considering the benefits of water supply investments that do not depend on increased exports from the Delta, a portfolio approach can help in developing the most cost-effective plan for the Bay-Delta and improved water supply reliability. This approach is similar to integrated planning efforts undertaken by individual water agencies across the state and has the potential to provide superior benefits at a lower overall cost.

More Water for California’s Economy: A smaller Delta facility would save billions of dollars in construction, operations and maintenance costs. Some of these savings can be invested in proven water supply tools such as water conservation and recycling, and in South of Delta storage that can provide improved dry year water supply. Considered as a complete portfolio, this approach can produce more water for export water users than would be produced through a narrow focus on a large Delta facility.

Jobs for Southern California, the Bay Area and the Central Valley: Investing billions of dollars in new water sources in export areas will generate thousands of jobs in the communities that will provide the local cost share for these investments. Based on an analysis by the City of Los Angeles, a \$3.5 billion investment in local water solutions in the urban sector would generate 10,000 jobs over a five year period. In contrast, a narrow focus on a large Delta facility and habitat restoration would generate few direct jobs in communities south of the Delta.

Science-Based and Permittable: By basing proposed operations in the Delta on the best available science and by investing in alternative water supply sources that reduce reliance on the Delta, a portfolio approach allows BDCP to develop a truly science-based plan that can receive required regulatory permits.

Better Environmental Results: By reducing pressure for Delta exports, a portfolio approach could help implement science-based flow standards in the Bay-Delta to restore the largest estuary on the West Coast, to help recover listed species and to rebuild the California salmon fishery. In addition, investments in local water supplies in the export areas can reduce energy use and greenhouse gas emissions associated with transporting water from northern to southern California. Some of those investments, such as water recycling, groundwater management and urban stormwater capture can also improve Southern California coastal water quality and reduce contamination in groundwater basins.

Faster Water Supply Benefits: The length of time required to provide benefits is a key factor in designing a Delta plan. A large new Delta facility would provide no benefits until construction is complete – perhaps 15-20 years from today. In contrast, investments in local water supplies and stronger Delta levees produce benefits more rapidly, as each project is completed. In addition, a smaller facility could likely be constructed more rapidly. The delay in receiving benefits from a large facility could result in even higher costs for export water users, who could be forced to make major investments in local water supplies during the coming 15-20 years, in addition to the cost of financing a large Delta facility.

More Local Control Over Water Supplies: By increasing investments in local water sources, a portfolio approach would increase local control over water supplies. Communities including Los Angeles, San Diego, Long Beach, Santa Monica and many others are already planning major investments in local water supplies that will reduce their reliance on water imported from the Delta. This approach is also consistent with the state water code requirement to reduce reliance on Delta water supplies.

Greater Reliability, Especially During Dry Years: A portfolio approach would provide multiple water supply benefits during dry years, when water is most precious. First, local water sources such as conservation and water recycling are far less vulnerable to droughts, earthquakes and climate change impacts than are Delta supplies. Second, a portfolio approach would invest in South of Delta water storage to increase water availability in dry years. And third, by investing in Delta levees and a smaller Delta facility, a portfolio approach would provide greater dry year reliability than would a large facility alone. BDCP currently anticipates that more than 75% of Delta exports will come from the existing South Delta pumps in the driest years – even with a large new North Delta intake. Under this approach, investments in Delta levees are needed to decrease the vulnerability of 75% of Delta exports in the driest years. In any “dual conveyance” alternative that would divert from both the North and South Delta, investments in Delta levees would improve the reliability of ongoing exports from the South Delta.

Broader Potential Support: Most of the concepts included in a portfolio approach have been supported by a wide range of stakeholders for many years. This approach could provide broader benefits for the Delta, for the environment and for water users than an approach that is artificially constrained to the Delta alone. This portfolio approach could attract broader support, leading to new potential financing partners and easier implementation.



FOR IMMEDIATE RELEASE

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New Plan Offers an Effective, Affordable Package of California Water Supply and Bay-Delta Fisheries Solutions

SAN FRANCISCO, CA (January 16, 2013) – Investing in a broad portfolio of Bay-Delta water solutions can save Californians billions of dollars in costs while increasing water supply and strengthening protections for the ailing delta ecosystem and its fisheries, according to a new proposal released today by business and conservation groups in advance of the draft Bay Delta Conservation Plan expected next month. The Bay-Delta is the largest estuary in the West and a critical source of water supply for more than 22 million Californians.

“This is the kind of fresh approach that is needed to protect the Bay-Delta environment, state taxpayers, and meet California’s water needs,” said **Congressman George Miller (D – Concord)**. “I know how powerful it can be when thoughtful environmentalists, business leaders and urban water agencies reach common ground on the water solutions that are so critical to our state’s future.”

The proposal, [*A Portfolio-Based Conceptual Alternative for the Bay Delta Conservation Plan*](#), offers a more effective and affordable package of solutions to address the complex water challenges facing the delta today. The alternative plan proposes focusing on a smaller, less expensive new water conveyance tunnel in the delta, and investing the cost savings in water recycling and conservation to meet the long-term water needs of cities and farms. Additional savings could be used to shore up the delta’s aging levees and to increase water storage south of the delta. Collectively, this package of solutions would cost billions of dollars less than the \$18 billion price tag for the current draft Bay Delta Conservation Plan that is narrowly focused on a much larger set of twin tunnels and habitat restoration.

A group of conservation and business groups, including **The Bay Institute**, the **Contra Costa Council**, **Defenders of Wildlife**, **Environmental Entrepreneurs**, the **Planning and Conservation League** and the **Natural Resources Defense Council**, sent a [letter](#) urging U.S. Interior Secretary Ken Salazar, Secretary John Laird, Deputy Secretary Jerry Meral and Commissioner Michael Connor to consider seriously this alternative as they move forward to finalize the plan for the future of the delta. Separately, **San Diego Mayor Bob Filner** and a group of urban water agencies, including **Contra Costa Water District**, **East Bay Municipal Utility District**, **Alameda County Water District**, **San Francisco Public Utilities Commission**, **San Diego County Water Authority** and **Otay Water District** also sent a joint [letter](#) in support of careful analysis of this new proposal.

By reducing the size and cost of a delta facility and habitat restoration, the proposal shows that billions of dollars could be saved and invested in a range of proven, cost-effective regional water solutions, including:

- **Dramatically increasing local water recycling and conservation:** Boosts water supply overall and improves the reliability of water in dry years by investing in local solutions south of the delta.
- **Reinforcing delta levees:** Reduces vulnerability to earthquakes, sea level rise and climate change impacts.
- **Improving cooperation among water agencies:** Strengthens collaboration among water agencies to maximize the benefits of water recycling and groundwater management to provide new water supplies at lower costs.
- **Developing new water storage south of the delta:** Improves our ability to store water in wet years to meet needs in dry years when high delta pumping levels can be most harmful.

The many potential benefits of these investments include more water at a lower cost in comparison with the current draft BDCP plan, a healthier environment, thousands of new jobs in the communities that would pay the majority of costs, greater likelihood of permitting from regulators, greater potential to attract funding partners and reduce pressure for public funding, faster water supply benefits; more local control of water supply, and less reliance on imported water.

The plan recommends restoring 40,000 acres of delta habitat, driven by the best available science to protect native fish and wildlife, over the next 15-20 years. Although ambitious, this restoration program would be a reduction from what is proposed in the current draft BDCP plan, and focused on the near term, which is when habitat restoration needs to occur.

This conceptual alternative also relies on proposed water flow and pumping rules developed by state and federal fisheries agency scientists to protect the delta and its fisheries, based on the best science available today. In these and several other areas, however, additional analysis of costs and benefits is needed to optimize this new approach.

Up to now, the Bay Delta Conservation Plan has focused largely on advancing a massive twin tunnel conveyance facility along with a very large scale habitat restoration effort. This approach could be burdened with large uncertainties, including impacts on imperiled species, uncertainty about future water supplies, open-ended costs to water agencies and the public, as well as heightened political controversy.

Following are statements from conservation and business groups in support of this conceptual alternative for the Bay Delta Conservation Plan:

“It is essential we find long-lasting solutions for the Delta,” said **Bob Whitley, co-chair Water Task Force at the Contra Costa Council**. “The solutions we put on the table must strengthen protections for the delta ecosystem and be financially viable so we can meet the water demands of all within our means.”

“In the investment community, it is accepted wisdom that a diversified portfolio is a wise strategy to minimize risk and obtain an acceptable return,” said **Barry Nelson, senior policy analyst with the Natural Resources Defense Council**. “The alternative plan set forth today uses a comprehensive approach to show how we can produce improved water supplies and a healthier Bay-Delta at a lower cost. This is the kind of integrated, science-based and economically sound approach that is needed to break the logjam in the delta debate and demonstrate that a healthy environment and a healthy economy go hand in hand.”

“If this proves out, it will be an affordable end to decades of California water wars,” said **Jonas Minton, water policy advisor at the Planning and Conservation League**.

“It is imperative that the BDCP succeed and deliver reliable water for California and reliable conservation for our declining Bay Delta fish and wildlife,” said **Kim Delfino, California director at Defenders of Wildlife**. “We are asking the agencies to analyze this alternative because we believe that the information gained will be critical in picking a winning plan.”

“It's impossible to solve the Delta's problems without looking outside the Delta to put in place the water management strategies that ensure California uses its finite water resources more wisely,” said **Gary Bobker, program director at The Bay Institute**. “The beauty of this alternative is that for the first time it links what we do in the Delta to how we manage water throughout the state.”

For more information on the alternative plan released today, see the following links:

- Complete alternative proposal: <http://bit.ly/13E0xsi>
- Letter from business and conservation groups: <http://bit.ly/UtOSKs>
- Letter from San Diego Mayor Bob Filner and urban water agencies: <http://bit.ly/W0JI8x>

- Conceptual alternative portfolio approach illustration: <http://bit.ly/W7kB0V>
- Current BDCP approach illustration: <http://bit.ly/X8nu0C>
- NRDC Kate Poole's blog: <http://bit.ly/XeNjwQ>
- NRDC Barry Nelson's blog: <http://bit.ly/SLm vbU>

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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.

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

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.

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