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Introduction

This testimony is presented on behalf of the State Water Contractors (SWC), an organization representing 27 of the 29 public water entities¹ that hold contracts with the California Department of Water Resources (DWR) for the delivery of water from the State Water Project (SWP). Collectively, the members of the SWC provide all, or a part, of the water supply delivered to approximately 25 million Californians, roughly two-thirds of the State's population, and to over 750,000 acres of irrigated agriculture. The members of the SWC provide this water to retailers, who, in turn, serve it to consumers throughout the San Francisco Bay Area, the San Joaquin Valley, the Central Coast, and Southern California.

This testimony is organized to respond to the following four questions:

1. How can we best improve the State of California's management of water rights to promote more efficient use and allocation of the state's water resources?
2. Does the State Water Project's placement within the Department of Water Resources create impediments to efficient operation of the Project, or influence DWR's ability to conduct other activities?
3. How can we improve the organization of scientific research in state government to provide more effective scientific input to water resources management activities?
4. How does the proposed BDCP governance structure fit with/conflict with other ongoing governance discussions among stakeholders and in the Legislature?

¹ Alameda County Zone 7 Water Agency, Alameda County Water District, Antelope Valley-East Kern Water Agency, Casitas MWD on behalf of the Ventura County Flood Control District, Castaic Lake Water Agency, Central Coast Water Authority on behalf of the Santa Barbara FC&WCD, City of Yuba City, Coachella Valley Water District, County of Kings, Crestline-Lake Arrowhead Water Agency, Desert Water Agency, Dudley Ridge Water District, Empire West-Side Irrigation District, Kern County Water Agency, Littlerock Creek Irrigation District, The Metropolitan Water District of Southern California, Mojave Water Agency, Napa County FC&WCD, Oak Flat Water District, Palmdale Water District, San Bernardino Valley MWD, San Gabriel Valley MWD, San Geronio Pass Water Agency, San Luis Obispo County FC&WCD, Santa Clara Valley Water District, Solano County Water Agency, and Tulare Lake Basin Water Storage District..

How can we best improve the state of California's management of water rights to promote more efficient use and allocation of the state's water resources?

California's water rights system has been developed to provide the legal foundation for moving water from areas with sources of supply to areas where it is needed, either locally or elsewhere. Communities throughout California have invested billions of dollars in reliance on their water rights or water-supply contracts issued under others' water rights. Moreover, Northern California communities, including those in the Delta, have relied on area of origin laws that ensure they shall not be deprived by the operation of the SWP and Central Valley Project (CVP) of the prior right to develop through the normal water rights application process future water supplies reasonably required to adequately supply reasonable beneficial uses in those areas.

With a resource as variable as water, and with constantly changing land use patterns, some flexibility in the administration of the rights is needed and has been designed into the system. For example, appropriative water rights provide this flexibility by allowing their holders to modify the ways they are exercised (place of use, point of diversion, purpose of use) as long as other legal users of water or the environment are not injured. This approach also supports a robust and growing water transfer market.

This flexibility, however, must be tempered by the overriding consideration that the rights, once granted, form a basis for infrastructure investments and economic development in the billions of dollars. Thus, if water is to be reallocated to ecosystem enhancement, reallocations must occur through voluntary transfers to the maximum extent possible in order to respect the massive investments communities have made based on their water rights. We recognize that California law and policy supports the notion that environmental impacts caused by diversion and use of water may be regulated to protect the public interest. However, involuntary and uncompensated reallocation of water supplies to any other purpose other than the one for which they were intended when the reallocation does not address impacts caused by the water users, or is not proportional to the impacts caused by those users, conflicts with the water rights system and the investments that have been made based on that system. Such a reallocation would not only reduce the value of the targeted water user's investments, but would introduce significant uncertainty into the security of all water rights, which could seriously constrain water markets. It is with these concepts fully in mind that one should consider how to improve water rights management.

Water Transfers

Californians have developed an increasingly sophisticated voluntary water transfer market to meet short-term and long-term demands. California law has evolved to support such efforts by recognizing that the certainty of water rights is a precondition

to effective transfers. In Water Code section 109, subdivision (a), the Legislature found and declared that:

“The growing water needs of the state require the use of water in an efficient manner and that the efficient use of water requires certainty in the definition of property rights to the use of water and transferability of such rights.”

The SWC believe that the State Water Resources Control Board (SWRCB) should continue to preside over water transfers and the underlying existing water rights structure that makes transfers possible.

However, several changes could improve the efficiency of our growing transfer market. While transfers have occurred on numerous occasions, they are hindered by overly cumbersome regulatory requirements and have been subject to repeated litigation. Many recurring transfers have shown that they can be an efficient, flexible and timely means of providing needed water supplies in times of shortage without injuring other beneficial uses of water. Due to extensive and repetitive regulatory requirements, however, water transfers are becoming more expensive and more difficult to implement, which is a trend that will impair the State’s ability to match supply and demand through efficient use of water delivery infrastructure.

Therefore, SWC recommends the following changes:

1. Enact changes to the Water Code to expand the number of water transfers which can be considered ministerial to include those where the seller’s and buyer’s existing permit requirements, and water quality objectives, are maintained and where it can be conclusively determined that such transfers do not reduce the water rights of other users (constitute “real wet” water).
2. Combine place of use designations for the SWP and CVP for the San Joaquin Valley.

Illegal Diversions

The SWRCB Strategic Plan for the Bay-Delta properly emphasizes the need for the Division of Water Rights to focus its enforcement activities on illegal diversions of water from within or tributary to the Bay-Delta. Simply halting such illegal diversions could potentially “free-up” as much as 500,000 acre-feet of water. Since 1961 the SWRCB has recognized the need to determine water available for appropriation from the Delta. In the 1970s the Legislature recognized this need and set up the North Delta Water Agency (NDWA), Central Delta Water Agency (CDWA) and South Delta Water Agency (SDWA) to obtain water supply contracts from the SWP and CVP. To date, only the NDWA has negotiated a contract for water supply from the SWP.

Therefore, SWC makes the following recommendations regarding the role and activity of the SWRCB in its oversight of water rights:

1. To protect other beneficial users of water and the environment, the SWRCB should commence hearings to establish a diversion amounts and schedules for in-Delta water users within the CDWA and SDWA based upon water rights, hydrology and water legally available for diversion in the Delta after meeting the Bay-Delta Basin Plan objectives.
2. The SWRCB staffing should immediately be expanded to enable it to identify and halt all illegal diversions.
3. The SWRCB should remain the quasi-legislative, administrative body that considers what Delta water quality and flow requirements should be adopted, because it can transparently consider evidence, resolve scientific disputes, and balance reasonable use issues under Article X, Section Two, of the California Constitution. The SWRCB, however, must carry out this process with full recognition that the implementation of such water quality and flow objectives through involuntary reallocations of water used under vested water rights can have significant negative impacts on matters of broad social and economic importance.
4. The SWRCB's water rights processes, which are quasi-judicial in nature, likely need a thorough review, as there is a huge backlog of pending applications and petitions, many of which have been pending for years. Staffing augmentation and streamlined hearing procedures are needed.

Does the State Water Project's placement within the Department of Water Resources create impediments to efficient operation of the Project, or influence DWR's ability to conduct other activities?

The SWC believes this is a very important question, and we have collectively given a lot of thought to the answer. To summarize the discussion below, we believe that many of DWR's SWP functions could be accomplished more cost-effectively and efficiently if they were transferred to a public agency composed of the water agencies whose customers receive the benefit of the project and pay for its costs. And we believe that DWR could improve its effectiveness in its other areas of public responsibility if such a shift were made. Described below is the history behind why the SWP was originally established within the DWR, what has changed since then to make the arrangement less necessary and desirable, and what would be entailed in moving the SWP outside of DWR as a separate, stand-alone utility.

The SWP was conceived in the 1930s, authorized by the voters in 1960, and began significant deliveries in the 1970s. The purposes of the SWP were clear in the 1960s:

water supply, flood control, hydroelectric power generation, salinity control, recreation, and fish and wildlife enhancement. Today these purposes are far more difficult to balance than they were in the 1960s and the challenges faced by the SWP may call for a new management structure to take full advantage of the many changes that have occurred over the past four decades.

DWR administers the construction and operation of the SWP and currently has contracts with 29 public water agencies (Contractors) for delivery of up to 4.2 million acre feet of water throughout California. In addition to this vitally important enterprise, DWR also has other responsibilities to direct and oversee a wide range of activities related to other water matters within the state.

The state's operations and maintenance (O&M) of the SWP began in the 1960's when the SWP first became operational. At that time few local water agencies had the necessary experience or ability to contribute to O&M of the SWP. Today those local water agencies have the experience of actually operating and maintaining their own large water supply projects. Conversely, the state's capabilities have waned. The state's recurring fiscal concerns have reduced DWR's ability to adequately staff the SWP, in some cases leaving critical O&M positions unfilled due to hiring freezes or unable to pay competitive wages that can attract and retain the necessary workforce expertise. This is occurring even though the SWP costs are paid for by the SWP Contractors.

No longer do local water agencies wait idly by for the state or federal governments to take the lead in building massive water projects for their benefit. Examples of this are Diamond Valley Reservoir constructed by Metropolitan Water District of Southern California and Los Vaqueros Reservoir constructed by Contra Costa Water District. No longer is it necessary for large infrastructure projects to be centrally operated, managed, or maintained.

Today, local agencies develop local water projects that provide water supplies on a regional rather than statewide scale. Individual water agencies own, operate, and maintain large dams, vast underground water reservoirs, and state-of-the-art water treatment plants. They buy and sell large amounts of electrical energy, construct extensive water supply infrastructure projects, and manage comprehensive water resources programs that range from financial incentives for water conservation to water reclamation programs that reuse wastewater for non-potable uses. Formerly the exclusive purview of the state, now the planning, environmental compliance, design, construction and O&M of the water supply infrastructure necessary to meet California's water needs is also performed by local water agencies.

By providing for themselves, local and regional water agencies have significantly improved and expanded their capability to manage and operate large water supply facilities. In many cases, the experience and capability of local water agencies is now

sought out by the state to assist it in the construction or operation of its own water supply facilities. For example, in the mid-1990s DWR chose to contract with the Central Coast Water Authority (CCWA), an SWP contractor, to design and construct a portion of the SWP's Coastal Branch Phase II project to reduce construction delays being experienced by DWR on other parts of the Phase II project. Prior to commencement of the Coastal Branch Phase II operations, DWR contracted with CCWA to reduce operational inefficiencies and take advantage of CCWA's O&M capabilities, which also happened to be physically located closer to the Coastal Branch facilities than is DWR's O&M staff. DWR also contracts with the Metropolitan Water District of Southern California for services from its machine shop because many of DWR's maintenance needs for the SWP can be met by MWD, thereby relieving DWR of the need to support the overhead of a duplicate machine shop. These are two examples of the ongoing shift in management of the state's water supply facilities from state control to local or regional control. These examples illustrate how local water agencies have evolved from agencies that once followed the state's lead, to agencies that now rival the state in planning, environmental compliance, design, construction, and O&M of water supply infrastructure.

Administering the SWP in today's changed environment has resulted in a heavy burden on DWR personnel and management. Although the SWP Contractors completely fund all the water supply portions of capital and O&M activities related to the SWP through direct payments made under their contracts with DWR, the SWP is still subject to all personnel, contract and management requirements placed on other state departments that rely solely on taxpayer money from the General Fund. This has negatively impacted the ability of DWR to adequately staff and operate the SWP.

Several years ago, a number of the SWP Contractors formed the State Water Project Contractors Authority (SWPCA) with all the legal requirements incumbent on a joint powers authority under state law. The purpose of the Authority was to assist DWR with some of its personnel and contracting issues in order to expedite processing for various SWP activities, as well as reducing SWP costs, which are the sole responsibility of the SWP Contractors.

A recent example contract was the required five-year review of urban water quality, the SWP Sanitary Survey, required by the state Department of Public Health. This project and consultants who performed the work were managed by the Authority. The contract was processed in a timely manner and the project brought in on time and within budget.

Another example is the funding of DWR's Delta Habitat Conservation and Conveyance Plan (DHCCP). A group of SWP Contractors working with SWPCA and the CVP contractors are providing \$140 million to fund the DHCCP and to provide input into it.

The SWP essentially functions as a major utility within California and is essential to the state's economy. However, DWR is having more and more difficulty operating the SWP under state requirements that are not geared toward cost-effectively and efficiently addressing O&M of such a utility. Thus, there may be value in separating the SWP O&M functions into a stand-alone utility, in a model that is commonplace across the United States in both energy and water supply sectors.

While the SWP was originally set up essentially as a utility, new organizational and governance structures would be needed to separate it from DWR and establish it as an independent organization. Presumably, the new utility would be governed by a board composed of representatives of the public water agencies whose ratepayers pay for all project costs and who are accountable to their own ratepayers and governing boards. One example would be the board of the Metropolitan Water District of Southern California, which has thirty-seven board members representing twenty-six member agencies. Each member agency has a minimum of one board member and an additional board member for each five percent of assessed valuation. Some member agencies appoint a member of their own board, others have their mayor appoint a member, and others select from members of their community. Board votes are weighted in accordance with the votes allocated each member agency under a formula established by the MWD Act, based on the assessed valuation of property within each member agency. Another example would be the JPA model, such as that used in the CVP. The SWPCA is formed as a JPA, and could be used as the governing board of the SWP. Its board consists of up to nine members, with members chosen to represent several of the larger individual water districts and several representative groups of smaller districts. Alternatively, a new JPA could be formed for the purpose of utility operation.

Regardless of the governing body of the new utility, it would still be subject to regulation under existing and state and federal water quality, water rights, environmental protection, environmental compliance and endangered species protection laws. If DWR were to retain title of the project, it would also be subject to regulation under these same statutes.

As water resources management has evolved over the past 40 years, it is clear that many of DWR's SWP functions could be accomplished more cost-effectively and efficiently if they were transferred to a public agency composed of the water agencies whose customers receive the benefit of the project and pay for its costs. As previously mentioned, the SWP contractors formed a new joint powers authority in 2003 in anticipation of such a transition. SWPCA is a public agency governed by state law and subject to all of the same public notice and environmental laws as its public agency members.

A precedent for use of such a JPA for water project operations is found in the CVP. The best example is the San Luis & Delta-Mendota Water Authority (SLDMWA), which is a

JPA made up of the water agencies that receive water from that portion of the CVP. The SLDMWA is responsible for O&M of the CVP from the Cross Channel gates in the northern part of the Delta to the end of its aqueduct in the San Joaquin Valley at Mendota Pool, including the Tracy Pumping Plant. During the past 12 years the SL&DMWA has significantly improved the efficiency of the project's operation while reducing its operational costs.

Other large portions of the CVP also are operated by local agencies including the Contra Costa Water District, the Friant Water Users Authority and the Tehama-Colusa Canal Authority. In each case the federal government transferred its O&M responsibilities to a local agency or JPA because the local water agencies have developed the experience and capability to operate and maintain large water supply projects in the same way that the local water agencies that make up the SWPCA have developed those abilities.

The potential restructuring of the administration of the SWP is founded on three principles:

1. Maintain the financial integrity of the SWP consistent with the water supply contracts to protect SWP bondholders
2. Policy decisions necessary to protect the broad public interest should remain with DWR or its successor, subject to direction by the SWRCB, the USFWS, NMFS, DFG and other regulatory agencies
3. Planning, construction, operations and maintenance of SWP facilities should be done by the utility

Each of these principles was used to develop the proposal described below, which was originally developed in response to recommendations made by the California Performance Review in 2004. While SWC is not actively advocating this proposal at present, it provides detailed insight into how such a shift might be undertaken. The proposal describes a new administration of the SWP that relies on the local experience and direct financial interest of the SWP's contractors (and their customers) to improve project operations and reduce project costs. The proposal seeks to differentiate issues that are of broad public interest from those that affect exclusively, or primarily, the SWP contractors and the businesses, farms, and residents to which they provide water. Clearly, issues that are of broad public interest and for which DWR is currently responsible must remain with DWR or its successor.

A. Maintain the financial integrity of the SWP consistent with the water supply contracts to protect SWP bondholders. Under the current water supply contracts, the SWP contractors make annual payments to the state and the state uses a portion of those payments to repay the principal and interest on the bonds issued to construct project facilities. At the time the bonds were issued, it was necessary for the state to serve as the issuer because the SWP contractors were not yet defined as a group,

and, in some cases, individual SWP contractors did not have sufficient financial ability to support a bond issue. As that time, the state was the preferred bond issuer and the SWP contractors provided the revenue stream necessary to repay the bonds. Under this arrangement, the risk of default by any of the SWP contractors does not affect the state's obligation to repay the bonds and it is the state's financial backing that was required by the bond purchasers to guarantee the fiscal integrity of the bonds. This relationship has changed over the past 40 years and, to a great degree, the bond ratings of some contractors now support the state's bond rating. This change in financial circumstances reflects how the SWP contractors have expanded their capabilities to plan, design, perform environmental compliance of, construct, operate and maintain large infrastructure projects and have maintained or improved their financial health while the state's fiscal integrity has deteriorated. However, even in light of this financial reversal, SWP contractors do not believe that the state's primary obligation for bond repayment negatively affects its administration of the SWP. The SWP contractors recommend continuing the current system of making payments to DWR to support the state's bond repayment obligation.

B. Policy decisions necessary to protect the broad public interest must stay with DWR or its successor. DWR performs several functions that benefit the state as a whole, without differentiating between Californians who receive their water from the SWP and those that receive their water from other sources (e.g. statewide water supply planning, dam safety, etc.). In addition, a few of DWR's current SWP functions provide benefits to Californians outside the SWP service area (e.g. flood control or recreation provided by SWP facilities such as Del Valle, Oroville, Silverwood, Perris, Pyramid and San Luis Reservoirs). The SWP contractors believe that policy decisions related to SWP functions that serve the broad public interest should remain with DWR.

1. Water Rights and Delta Protection. DWR holds the water rights for the SWP. As a Delta water rights holder, DWR is required to meet specific conditions on its water rights. These conditions on the water rights of DWR and other water users in the Central Valley protect the public interest. The role of protecting the public interest is appropriately vested with the state and with DWR as the water rights holder. The contractors believe that DWR should remain as the water rights holder for the SWP.

2. Flood Protection. Through the SWP, DWR provides flood protection through the operation of Oroville Dam and Reservoir for the Feather and Sacramento rivers. DWR operates Oroville Dam in compliance with flood control prescriptions required by the U.S. Army Corps of Engineers. Flood control is one of the originally authorized purposes of the SWP and DWR operates the dam for primarily flood control purposes from approximately November through April. These flood control functions serve many areas of the state and its citizens that are not part of the SWP service area. SWP contractors

believe that the flood control purposes of Oroville Dam are in the broad public interest and should remain with DWR.

3. FERC License. DWR is the state agency that owns Oroville Dam and as a consequence is also responsible for compliance with the FERC license. The FERC license places many different mandates on the state as owners of the Oroville facilities including community, environmental, and recreational projects. These projects often exceed the scope of activities necessary to operate Oroville Reservoir. As an example, DWR constructed camping facilities and boat ramps at Oroville Lake that are not necessary to the operation of the Oroville Dam for its primary purpose of water supply. These recreational facilities benefit the state's citizens as a whole, far beyond those Californians that live in the SWP service area. The SWP contractors believe that the FERC license is an obligation of ownership and that the mandates of the FERC license benefit Californians as a whole and therefore the FERC license, and the obligations it requires, should remain with DWR.

4. Recreation. A variety of recreational facilities have been constructed at sites throughout the SWP that are operated by the Department of Parks and Recreation or under contract to local regional parks districts. The recreational facilities serve all Californians and are a statutory requirement of the SWP under the Davis-Dolwig Act, which requires that they be paid for by the State's General Fund in recognition the state's general interest in providing recreational facilities for its residents. The SWP contractors believe that the state should continue its current role of overseeing recreational features associated with the SWP.

5. SWP Allocations. DWR currently allocates water supply for the SWP through application of its water supply guidelines. These guidelines specify the hydrologic probabilities and carryover policies that, together with water rights and other constraints, define the SWP's allocations. The procedure for determining future SWP allocations should continue to be jointly developed by DWR and the SWP contractors.

C. Planning, Design, Environmental Compliance, Construction, Operation and Maintenance of the SWP could all be shifted to the new utility. SWP operation and maintenance is currently performed by DWR, which is subject to all of the same staffing and contracting limitations that are imposed on all state agencies. Many, if not all, of these constraints are intended to promote accountability for the expenditure of public funds by state agencies. Hiring freezes to protect the general fund and contracting practices that are not able to meet the quick timelines of the power and water markets are two examples of operational restrictions that decrease the efficiency of the SWP. These protective restrictions have two negative effects on the SWP. They increase costs and ignore exceptions for expenditures that would improve SWP

operation. Because the SWP is self-funded, these restrictions, which are intended to protect the general fund, are not necessary.

The best cost control is the customer that pays the bill. For the SWP, the project's customers will most aggressively control costs that balance those cost-cutting with improvements to the SWP's efficiency. Today, many SWP contractors have the experience and capability to perform these functions because they already perform them for their own water supply infrastructure. SWP contractors buy and sell large amounts of electrical energy, construct extensive water supply infrastructure projects including large dams and underground storage reservoirs, and manage extensive water resource programs that range from financial incentives for water conservation to water reclamation programs that reuse wastewater for non-potable uses. By moving the SWP's O&M functions to the utility, the SWP will benefit from the O&M capabilities of its contractors, while relieving itself from the unnecessary administrative burdens of state government.

1. Planning for future SWP facilities could be a joint function of DWR in partnership with the new utility. Planning for future SWP facilities is an extension of the state's obligation to provide water supplies for its businesses, farms, and residents. Those planning efforts must be coordinated with other water supply planning efforts that provide water for other areas of the state that are not served by the SWP. For this reason it is appropriate for DWR to be involved in planning for future SWP facilities. However, the main purpose of the planning function is to provide water supply facilities for the SWP. Another equally important purpose of the planning function is to integrate operation of new facilities with the existing facilities and to operate and maintain those facilities. For these reasons, it is equally important for the SWPCA to be involved in the planning function as part of its role in future planning, design, environmental compliance, construction, operation and maintenance of the SWP. The SWP contractors believe that future planning for SWP facilities should be done as a partnership between DWR and the utility.

2. Operation and maintenance of SWP facilities could be performed by the utility. The SWP contractors believe that O&M of SWP facilities that can be done more efficiently by SWPCA should be done the utility.

a. SWP facilities. The SWP facilities extend from above Oroville in the north to Riverside County in the south and include separate facilities that serve Napa and Solano County, the South Bay, and the Central Coast. In each case the SWP facilities are broken into "branches" or "units" that run through or to the service areas of the SWP contractors they serve. As a result, the SWP contractors' facilities and their O&M functions for their own facilities frequently are in very close proximity to the SWP. This proximity to the SWP branches and units that serve them, coupled with the experience and capabilities of the SWP contractors,

make it possible for the SWP contractors to efficiently perform O&M functions necessary to operate and maintain the SWP. The SWP contractors believe that O&M of SWP units could be performed by SWPCA, or the new utility, with actual conversion of SWP units to the utility operations supported by a business case and phased to maintain cost-effective and efficient operations.

b. Funds necessary to support Operations, Maintenance, Power and Replacement (OMP&R) functions. Currently, funds necessary to pay for DWR's ongoing OMP&R of the SWP are paid to DWR exclusively by the SWP contractors. These funds are necessary to continue operations of the SWP and allow SWP contractors to support the state's repayment of the bond obligations described above. The SWC recommends that future funding for OMP&R costs, including the OMP&R costs incurred by the utility, should be billed by DWR and where possible, DWR should employ the utility as an agent of the state for the purposes of collecting and expending the funds necessary for OMP&R.

c. Intra-project transfers. Water transfers of SWP water from one SWP contractor to another do not result in changes to the overall SWP allocation and do not negatively impact any other water rights holder. The SWP contractors believe that where a transfer is intra-project, it is an operational transfer that improves the SWP's overall cost-effectiveness, efficiency and reliability and should be handled by the utility as part of its operational responsibilities. For these reasons the SWP contractors believe that approval of intra-project water transfers should be done by the utility and that the responsibility for environmental compliance should appropriately remain with the SWP contractors involved in the transfer.

d. Water Acquisition. Historically DWR has developed programs to acquire water to meet SWP contractor needs. During the past decade several of the SWP contractors have developed significant expertise in developing water acquisition programs and DWR is no longer the only entity that can negotiate, and administer very large water acquisition programs. The SWP contractors believe that water acquisitions for the SWP should be done by the new utility.

e. Power Acquisition and Sale. The SWP is the single largest user of power in the state and one of its larger power generators. Operation of the SWP power facilities is separate from policy decisions regarding how those facilities are used. The routine sale and purchase of power to and from the SWP is a function that is operational in nature and can be performed by the SWP contractors. Several of the contractors have experience in power issues and the Metropolitan Water District is a significant buyer and seller of power for its own facilities. With the exception of policy decisions necessary to protect the state's power supply, the SWP contractors believe that the routine operation and maintenance of the SWP power facilities, including acquisition and sale of power, should be done by the utility.

f. Contracting. Where some planning, design, environmental compliance, construction and O&M functions remain with DWR, the administrative processes necessary to support those functions must be improved. In particular, DWR must be able to efficiently contract with and employ the consultants and employees necessary to fulfill the SWP's needs. Restrictions on contracting that impede timely completion of projects or hiring freezes that reduce DWR's labor force must be eliminated. DWR's SWP water supply and power functions are solely paid by the SWP contractors and should not be restricted by administrative protections intended to protect the general taxpayer. The SWP contractors believe that because they - and their customers - are responsible for DWR's costs, some of the generalized procedures required by the Department of General Services or the Department of Personnel Administration intended to protect the general taxpayer should be modified to allow DWR more flexibility to better operate and maintain the SWP.

How can we improve the organization of scientific research in state government to provide more effective scientific input to water resources management activities?

Much thought has been given to this topic as part of the preparation of the Bay Delta Conservation Plan (BDCP). The BDCP is a planning and environmental permitting process to restore habitat for Delta fisheries in a way that reliably delivers water supplies to 25 million Californians. Federal and state agencies, environmental organizations, fishery agencies, water agencies, and other organizations are all working together to develop the Plan.² The draft Conservation Strategy for the BDCP consists of measures providing habitat restoration, new conveyance facilities, new operational rules, and measures to address other stressors such as toxics. As these measures are undertaken, beginning in 2011, we will need substantial monitoring, data analysis, and adaptive management-based decisionmaking to guide implementation of what will be an ongoing program for decades to come.

Currently, much of the science research on Delta-related issues is associated with two entities: the Interagency Ecological Program (IEP), which was established in 1970 to develop a better understanding of the estuary's ecology and the effects of the SWP and Federal CVP operations on Delta conditions, and the more recent CalFed Science Program. Much of the information and foundation of the BDCP Conservation Strategy

² The BDCP is being developed under the Federal Endangered Species Act (ESA) and the California Natural Community Conservation Planning Act (NCCPA) and will undergo extensive environmental analysis that will include opportunities for public review and comment. As the BDCP evaluates alternatives necessary to restore the Delta ecosystem while providing water supply reliability, state and federal agencies are developing a joint Environmental Impact Report/Environmental Impact Statement (EIR/EIS) to determine the environmental impacts of the BDCP. The draft EIR/EIS is expected to be ready for public review and comment by the end of the year.

is based on the body of work from these two institutions. BDCP has already incorporated and will continue to be informed by advice from independent scientists, some from the CalFed Science Program and others from the broader scientific community across the country. But the greatest challenge has been and will continue to be how to integrate the best scientific information into the decision-making process for new conservation measures and operational decisions. BDCP commissioned a group of independent scientists to consider this question. Their comments are quoted in part below:

“Assessment is crucial to making monitoring useful. Much of the current monitoring in the Bay-Delta procures data that are under-analyzed and therefore under-used. The purpose of monitoring in the adaptive management framework is to provide a quantitative basis for analysis, synthesis, and evaluation....

Information from technical reports is often captured and transmitted to decision-makers in irregularly scheduled exercises, such as ad hoc white papers and through conferences to brief managers or policy makers. Such processes are inefficient and ineffective as a means of informing decision-makers, and lack the transparency needed in adaptive management....

To assimilate information and formulate recommends requires both policy and technical expertise. This step is fundamental to the successful integration of accumulating knowledge and information into plan policies, such as revising goals and objectives, refining analytical models, or allocating funding....

This therefore highlights the need for some highly skilled gent (person, team, office) to be assigned the responsibility for continually assimilating scientific information generated by investigations both within and external to the adaptive management program and transforming it into knowledge of the kind required for management actions....

The key principle, however, is that the process of transferring and transforming the results of technical analyses into knowledge to support decisions cannot be taken for granted in the hope that it will occur in the absence of a body specifically charged with making it happen. This function requires remarkable skillful people, who are truly interdisciplinary (“polymaths”). Whatever their training, these individuals (or team of individuals) need to be comfortable with a wide range of technical

information, as well as understand the functioning of government, law, economics, and the management of large projects....³

Conceptually, the BDCP panel suggested a process sketched in **Figure 1** to address these concerns, with great emphasis placed on the need for a few “polymaths” who understand both technical and policy ramifications.

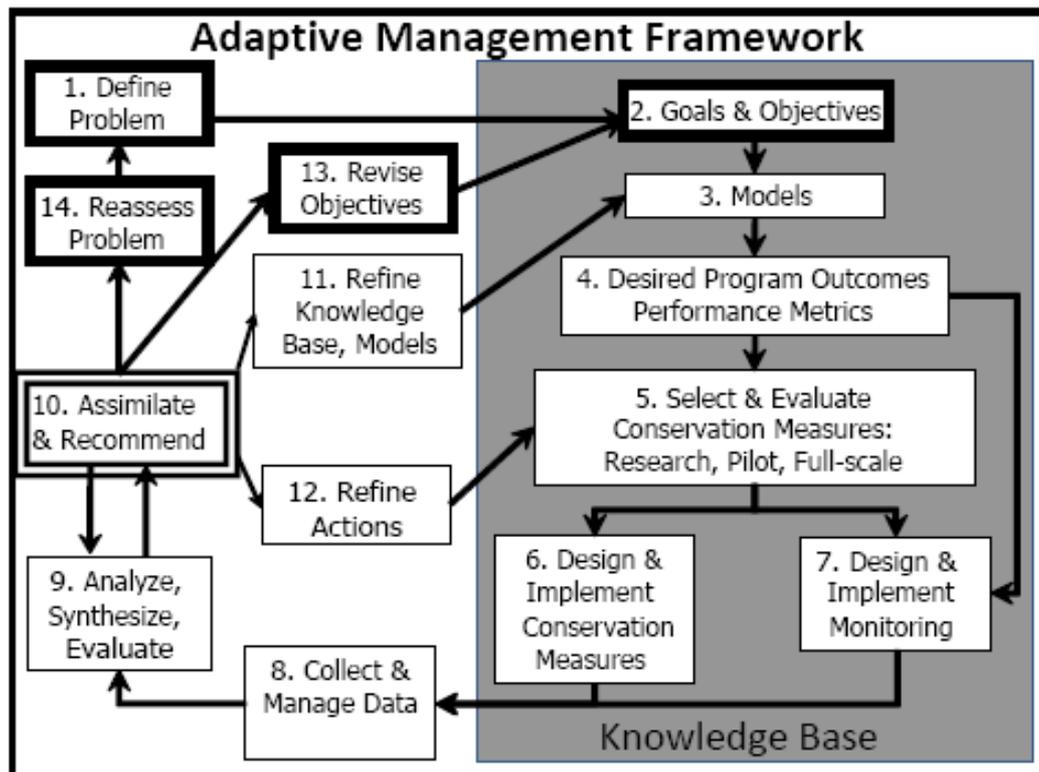


Figure 1. A recommended AMP framework for BDCP showing the flow of information and responsibilities of different entities. The large shaded box underlying the right side of the figure represents the knowledge base for defining goals and objectives, designing predictive models, predicting outcomes, identifying performance metrics, and designing and implementing conservation measures and monitoring actions. Boxes framed with thin lines represent tasks performed by technical staff, such as scientists, land and water managers, and other analysts. Boxes framed with bold lines represent tasks performed by senior decision makers (i.e. policy makers and program managers who control program objectives and funding). The box framed with double lines (Box 10) represents a key step that is missing from most AMPs: Assimilate and Recommend. This task requires a body of skillful “polymaths” who understand both the technical and policy implications of the information passed along by technical staff (who analyze, synthesize, and evaluate monitoring and other data; Boxes 8 and 9). The task represented by Box 10 is to assimilate this diverse information, understand its consequences, and formulate recommendations to both the senior decision makers and the technical staff, such as revising plan objectives or conservation measures.

³ Bay Delta Conservation Plan Independent Science Advisors’ Report on Adaptive Management, February 2009.

Another concept has been suggested by a USGS researcher with many decades of experience conducting “in the water” research in the Delta and participation in both IEP and the CalFed science program, as seen in **Figure 2**, below.

Bay/Delta Science Center

Organization Chart

J.R. Burau April 15, 2009

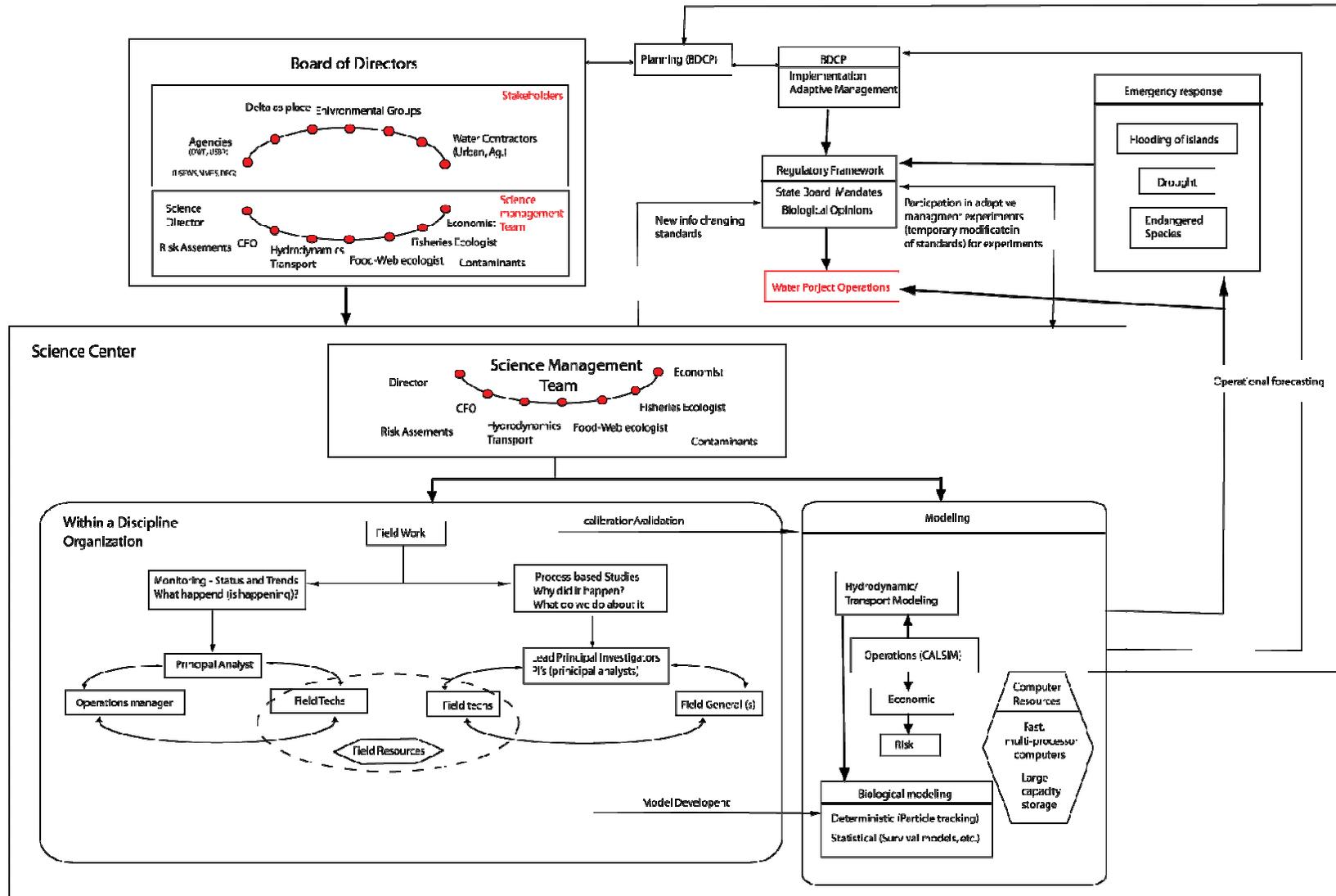


Figure 2.

While we have not arrived at a final answer, we believe that Delta scientific research efforts must be based on the following key points in order to be scientifically vigorous and useful to policymakers and project decision makers for implementation of the BDCP and other Delta-related initiatives:

- The program must consist of both policy /management representatives as well as science discipline team leaders, plus at least a few “skillful polymaths” who understand both the technical and policy implications of information passed along by technical staff;
- Some regulatory risks may be needed to advance scientific understanding, and there needs to be an active feedback loop for regulatory controls;
- The program must be flexible enough for both status and trends field work and process-based research studies; and
- The program must have built-in mechanisms to ensure coordination between the various disciplines and the project managers.

How does the proposed BDCP governance structure fit with/conflict with other ongoing governance discussions among stakeholders and in the Legislature?

Discussions are currently being held within the Legislature and by stakeholders within and without the BDCP process as to how the governance structure currently contemplated for BDCP might address and/or conflict with other governance proposals recommended by the Delta Vision Task Force and in current governance bill language. To put these questions in context, below is a summary of the governance structure most recently agreed to in principle by the BDCP Steering Committee.⁴

- The overriding BDCP governance mechanism, as with other HCPs and NCCPs, will occur through the permits issued to the water projects by the state and federal regulatory agencies. Those permits will establish terms dictating operating terms and implementation of specified conservation measures that will be legally enforceable requirements on how the projects may operate in the decades to come.
- In addition, the operational plan adopted in the permits will be reviewed by and modified as necessary by the SWRCB through a new water rights and water quality plan.
- Responsibilities for implementing the plan will be set out in the plan itself, as well as in a series of related regulatory authorizations and implementing agreements.

⁴ See BDCP Governance Working Group Revised Preliminary Recommendations for Governance Structure, Steering Committee handout, March 27, 2009.

- Construction and ownership of a new conveyance facility would be undertaken by DWR or another agency, with costs paid for by the state and federal contractors served by the facility; Reclamation would likely participate through an agreement with DWR but would not construct or own the facility.
- Implementation of the conservation measures could be done by DWR, a JPA of the water contractors, and/or another entity such as an existing or new conservancy.
- DWR and Reclamation would be the implementing entities for purposes of water operations, subject to the operational constraints imposed by the regulatory agencies.
- Implementation would be overseen by an Implementation Council, advisory in nature, but subject to the use of non-binding dispute resolution procedures.
- Project operation and implementation of conservation measures will be guided by new monitoring protocols, scientific review, and adaptive management. Some changes in plan implementation will be permissible as “routine” matters, while others would be made only under specified conditions.
- The plan will include provisions so that it is compatible with overall governance of Delta natural resources.

The above structure is still under discussion and formulation. It is admittedly somewhat at odds with the popular current thinking that the Delta ecosystem has collapsed due to a failure of existing institutions. It reflects a view that the current crisis will be solved more through a physical solution, with new rules for operations, than through an overhaul of the existing regulatory structure. We recognize that the BDCP governance structure does not deal with many of the other governance issues that must be answered in order to promote rational water management and the health of the Delta, but we believe it is a key part of the answer.