Improve Operational Efficiency and Transfers

Improving California's Operational Efficiency and Transfers involves … Insert Project Manger text here

Included in this strategy are:

1. **Conveyance- Delta**
2. **Conveyance- Regional/Local**
3. **System Reoperation**
4. **Water Transfers**

1. Conveyance—Delta

Conveyance provides for the movement of water. Conveyance infrastructure includes natural watercourses as well as constructed facilities like canals and pipelines, including control structures such as weirs. Examples of natural watercourses include streams, rivers, and groundwater aquifers. Conveyance facilities range in size from small local end-user distribution systems to the large systems that deliver water to or drain areas as large as multiple hydrologic regions. Conveyance facilities also require associated infrastructure such as pumping plants and power supply, diversion structures, fish ladders, and fish screens.

2. Conveyance—Regional/Local

Conveyance provides for the movement of water. Conveyance infrastructure includes natural watercourses as well as constructed facilities like canals and pipelines, including control structures such as weirs. Examples of natural watercourses include streams, rivers, and groundwater aquifers. Conveyance facilities range in size from small local end-user distribution systems to the large systems that deliver water to or drain areas as large as multiple hydrologic regions. Conveyance facilities also require associated infrastructure such as pumping plants and power supply, diversion structures, fish ladders, and fish screens.

3. System Reoperation

System reoperation means changing existing operation and management procedures for existing reservoirs and conveyance facilities to increase water related benefits from these facilities. System reoperation may improve the efficiency of existing water uses (e.g., irrigation) or it may increase the emphasis of one use over another. Although reoperation is generally regarded as an alternative to construction of major new water facilities, physical modifications to existing facilities may be needed in some cases to expand the reoperation capability. Legal changes also may be needed. Changes in water demands and the changing climate are the primary reasons to consider reoperation of existing facilities to increase project yield or address climate change impacts.

4. Water Transfers

A water transfer is defined in the Water Code as a temporary or long-term change in the point of diversion, place of use, or purpose of use due to a transfer or exchange of water or water rights.[1] Many transfers, such as those among contractors of the State Water Project or Central Valley Project, do not fit this definition. A more general definition is that water transfers are a voluntary change in the way water is usually distributed among water users in response to water scarcity.

Improve Operational Efficiency and Transfers: Recommendations:

FUNDING

Funding/Incentives: Conveyance – Delta

Funding/Incentives: Conveyance- Regional/Local

Funding/Incentives: System Reoperation

- DWR should complete its assessment of water system reoperation potential by June 2013, including integrating individual reoperation studies conducted by others into the larger system reoperation evaluations. An important premise of the assessment should be that supply benefits resulting from reoperation of local and regional reservoirs will remain with the owners of the system. Compensation should be provided to the owners of certain projects in the system for their loss taken due to any negative impacts resulting from system reoperation.

Funding/Incentives: Water Transfers

- Implementing water transfers, when a State or federal agency is serving as a purchaser, in cooperation with local partners, consistent with State water and environmental laws, and at a fair price.

- Developing water transfer policies that balance the ability of agriculture to provide water for transfers on a limited periodic basis to help with temporary water scarcity so that transfers do not destabilize agricultural productivity and economic benefits.
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- Providing financial assistance for local and regional groundwater management activities that promote sustainable and coordinated use of surface water and groundwater. This is being accomplished through the Sacramento Valley Water Management Program.

- Developing, with interested parties, acceptable ways to identify, lessen, and distribute economic impacts from transfers that use crop idling and crop shifting.

- Refining current methods on how to identify and quantify water savings for transfers using crop idling, crop shifting, and water use efficiency measures. This is being accomplished through a collaborative process that considers methods developed by others.

RESEARCH/DATA DEVELOPMENT

Research/Data Development: Conveyance- Delta

- Establish performance metrics relating quantitative measurements (such as the quantity of deliveries for agricultural and urban users or miles of rehabilitated conveyance facilities) to qualitative indicators (such as resiliency of conveyance to earthquakes or fewer regulatory conflicts).

Research/Data Development: Conveyance- Regional/Local

Research/Data Development: System Reoperation

Research/Data Development: Water Transfers

- Evaluate and implement regional water management strategies to improve regional water supplies to meet municipal, agricultural, and environmental water demands and minimize the need to import water from other hydrologic regions.

GOVERNANCE- POLICY AND LAW

Governance- Policy and Law: Conveyance- Delta

Governance- Policy and Law: Conveyance- Regional/Local

Governance- Policy and Law: System Reoperation

- Include consideration of a consistent climate change hydrology in all reoperation studies to allow for direct comparison of individual climate change studies. This standardized climate change hydrology should be designed with enough detail for the use of any local, State, or federal project.

Governance- Policy and Law: Water Transfers

- State and federal agencies, in addition to implementing State and federal law, should assist with resolving potential conflicts over water transfers when local government and water agencies are unable to do so and when there are overriding State or federal concerns.

- Improving conditions in the Delta and identifying and reducing statewide conveyance limitations.

- Under Section 1802 of the Fish and Game Code, DFG must exercise its responsibilities as trustee for the resources of the State with jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species.

- Preparing programmatic and site-specific CEQA/NEPA documents and other technical assistance for inter-regional transfers.

- The SWRCB, DWR, and DFG must consider whether the transfer is likely to harm public trust resources, such as fish and wildlife, and must protect trust resources whenever feasible. The SWRCB and DWR, after considering all available information, including CEQA documents or other environmental documents and the input of DFG, may put conditions on transfer to protect trust resources. If the SWRCB or DWR find that proposed transfer will cause undue harm to trust resources, they may (1) add terms to avoid the harm, (2) the SWRCB may deny the petition, or (3) DWR may deny the use of its facilities. In many cases, transfers will not result in harm to public trust resources.

EDUCATION/OUTREACH:

Education/Outreach: Conveyance- Delta

Education/Outreach: Conveyance- Regional/Local

Education/Outreach: System Reoperation

Education/Outreach: Water Transfers

- Provide for community participation when identifying and responding to conflicts caused by transfers they are a party to.
- Facilitating cooperation among agencies proposing water transfers and regulatory agencies to obtain multiple benefits from proposals. For example, transfers intended for urban or agricultural use may also be scheduled to enhance flows for aquatic species in areas between the seller and buyer.
- Improving coordination and cooperation among local, State, and federal agencies with different responsibilities for surface water and groundwater management to
- Seeking consensus among interested parties about the role of water transfers as a water management strategy while identifying and preventing or mitigating potential impacts to other water users, third parties, the environment, and public trust resources.

PLANNING

Planning: Conveyance- Delta

- DWR should use the Improvement Strategies from Phase II of the Delta Risk Management Strategy to guide their actions to improve the aging Delta infrastructure to reduce risks and consequences of levee failures.

- DWR should use the recommendations from the Delta Vision Task Force and Bay-Delta Conservation Plan to guide their actions to increase operational flexibility and conveyance reliability through the Delta to benefit water supply as well as aquatic ecosystems.

- DWR should take the lead to reduce energy needs through improved operational efficiency. Power consumption can be reduced through facilities maintenance and upgrades such as upgrades to export pumps. Water treatment plant power consumption and chemical usage could also be reduced by improving Delta water quality with structures such as operational barriers reducing seawater intrusion.

- Ensure adequate resources to maintain the existing capacity and condition of natural channels and constructed conveyance facilities. This may include development of a strategy to maintain channel capacity in the Delta and existing floodways as well as financial support for regional, interregional, and Delta conveyance improvements.

Planning: Conveyance- Regional/Local

- Improve conveyance systems. This could take the form of improving the aging infrastructure, increasing existing capacities, or adding new conveyance facilities.
- Upgrade aging distribution systems that could provide reduced energy needs through improved efficiency and also provide improved water quality by eliminating sources of pollution from degraded pipelines.

- Promote development of more extensive interconnections among water resources systems such as, and in addition to, the SWP/CVP aqueduct intertie or improved connectivity within the Bay Area and Southern California. It is likely that leadership and funding on this will be at the local level. Agreements should be solidified in advance to avoid reaching critical impasses during extreme droughts or catastrophic events

- Establish performance metrics for quantitative indicators such as quantity of deliveries for agricultural and urban users and miles of rehabilitated conveyance facilities and qualitative indicators such as resiliency of conveyance to earthquakes and fewer regulatory conflicts.

- Assure adequate resources to maintain the condition and capacity of existing constructed and natural conveyance facilities. This may include development of a strategy to maintain channel capacity in areas of the Delta and in flood management facilities. Financially support regional, interregional, and Delta conveyance improvements.

Planning: System Reoperation

- The State should expand the use of forecast-based operations in reservoir reoperations.

- Project owners should consider reoperation along with other resource management strategies in meeting water related needs.

- Establish a baseline hydrology and enhanced description of present water management system components in order to support integrated system analysis and individual component benefit comparisons.

Planning: Water Transfers

- Develop groundwater management plans to guide implementation of water transfers that increase groundwater use or that could impact groundwater quality.

- Implement monitoring programs that evaluate potential specific and cumulative impacts from transfers, provide assurances that unavoidable impacts are mitigated reasonably, and demonstrate that transfers comply with existing law.

- Working with agencies proposing water transfers that move water through the Delta to monitor and evaluate short-term, long-term, and cumulative effects that could impact the condition of the Bay-Delta ecosystem. This is being accomplished through the Bay Delta Conservation Plan.
- Streamlining the approval process of State and federal agencies for water transfers where approvals are required while protecting water rights, the environment, and local economic interests..

DISINCENTIVES

Disincentives: Conveyance- Delta

Disincentives: Conveyance- Regional/Local

Disincentives: System Reoperation

Disincentives: Water Transfers

OTHER

Other: Conveyance- Delta

- Provide requested resources to support Delta Vision Blue Ribbon Task Force recommendations and address flagged issues