EDITOR'S NOTE:

The controversial Bay Delta Conservation Plan is the recent subject of extensive attention and media coverage statewide. The views expressed in this article and its sidebars represent the authors' opinions and not the policies or positions of the League.

The Bay Delta Conservation Plan:

AN OVERVIEW AND LOCAL PERSPECTIVES

BY MARK COWIN

For 60 years the biggest water projects in California have been drawing water out of the Sacramento-San Joaquin Delta for cities and farms. People have been talking for even longer about a better way to divert that water.

In a 1982 referendum that split the state, voters rejected a proposal to move the Delta's main diversion point from its existing location in the south Delta near Tracy. Ever since, efforts to balance the needs of fish, farmers and cities for water from the Delta have been characterized as "water wars." It's an easy narrative: Water-rich north versus water-short south.

But nothing about the Delta is that simple, except this: It's hard to overstate the Delta's importance to California's economy and natural heritage. The Delta supplies a large share of the water used in Southern California and the Santa Clara and San Joaquin valleys. California would not be the same without that water — hundreds of billions of dollars of economic activity a year depend upon it. Much of the fresh fruit, vegetables and nuts produced in the nation is grown with Delta water.

Similarly, the hundreds of miles of river channels that crisscross the Delta's farmed islands provide a migratory pathway for Chinook salmon, which support an important West Coast fishing industry.

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Chinook salmon support a major West Coast fishing industry and use the Delta's waterways during migration.

Other native fish species depend upon the complex mix of fresh and salt water in the Delta estuary.

But the fish are in trouble. Some species reached historically low populations in recent years. Efforts to protect salmon and Delta smelt have reduced the volume of water delivered to farms and cities and made those supplies unpredictable. Furthermore, the current water delivery infrastructure in the Delta is vulnerable to catastrophic disruption.

OCTOBER DEADLINE FOR DRAFT WATER PLAN DOCUMENTS

The State of California and the Obama Administration have set a formal deadline of Oct. 1, 2013, for the release of the draft Bay Delta Conservation Plan and accompanying environmental documents for public review and comment.

Thirty Years of Knowledge: The Forces at Work

Since voters considered the idea of a "peripheral canal" to carry Sacramento River water around the Delta, we've gained 30 years' worth of knowledge. We now know far more about how:

- The existing diversion system in the Delta does not work for native fish species;
- Seismic risks threaten the Delta water delivery system, which depends on vulnerable earthen levees; and
- Climate change is already raising sea levels, with more to come.

The specter of climate change also raises the likelihood of more intense storms and higher peak runoff surging through the Delta. If the levees break and Delta islands flood, salt water could be drawn inland, forcing the shutdown of water project pumps for weeks, months or years.

Climate change essentially nullifies the historical precipitation record we've relied on to predict the future. The Sierra Nevada snowpack that drains to the Delta is expected to shrink 25 percent or more in coming decades, with precipitation increasingly falling as winter rain, not snow. Protecting California from floods, meeting environmental water needs and capturing runoff for water supply will be complicated.

According to the Public Policy Institute of California, "Changes in the Delta are inevitable, given the unstoppable processes of sea level rise, land subsidence, earthquakes and a warming climate bringing larger floods."

A New Plan

In the face of that inevitable change, state, federal and local leaders propose a new way to divert water from the Delta. The Bay Delta Conservation Plan (BDCP), seven years in the making, would prevent water delivery disruption by constructing three new screened intakes along the Sacramento River 35 miles north of the existing pumping plants. Twin tunnels buried up to 150 feet beneath the Delta's peat soil would carry the water south, ensuring that water supplies could be delivered even if climate change and other forces resculpt the interior Delta.

Delta smelt, salmon, sturgeon, sandhill cranes, Swainson's hawks and dozens of other kinds of Delta wildlife need the food and shelter a healthy Delta ecosystem would offer.

This proposal would divert a total of 9,000 cubic feet per second as opposed to the 1982 proposal for intakes of 21,800 cubic feet per second and a 43-mile-long canal through farmland. The earlier canal proposal assumed California would increase its reliance on the Delta for water supplies. The proposal being refined today does not guarantee bigger water deliveries. In fact, the 2009 Delta Reform Act passed by the California Legislature mandates *reduced* reliance on the Delta for future supplies.

Changing the way we divert water in the Delta cannot solve all of California's water problems. It would not replace the need for regions to build their own self-sufficiency by investing heavily in water conservation, water-use efficiency, water recycling and use of groundwater basins. Similar investments are needed to create new water storage, whether in reservoirs or aquifers.

Regional efforts to stretch water supplies are unfolding throughout California, but they cannot offset entirely the loss of reliability associated with the Delta. For better or worse, California's nearly $2 trillion economy depends to a great degree on moving Delta water hundreds of miles.

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Sandhill cranes arrive in the Delta in late September each year and spend the fall and winter months there.

THE CURRENT PLAN IS FLAWED

by Don Nottoli

The 2009 Sacramento-San Joaquin Delta Reform Act calls on leaders at all levels to work to achieve the coequal goals of "providing a more reliable water supply for California and to protect, restore and enhance the Delta ecosystem." It also prescribes that the coequal goals "shall be achieved in a manner that protects and enhances the unique cultural, recreational and natural resources and agricultural values of the Delta as an evolving place."

The Delta region is key to addressing these goals. It's imperative for others — including lead state and federal agencies responsible for preparing the Bay Delta Conservation Plan (BDCP) — to understand and respect what's at stake for the people who live and work in the Delta as well as those who enjoy its recreational opportunities.

The Delta is a majestic place. Encompassing some of the world's most fertile soil and a fragile and uniquely special ecosystem, it is a place where people make their homes, raise their families and grow crops that sustain the regional economy while contributing to the state, national and global economies. The Delta is also a popular recreational destination that depends on a healthy environment, fresh water and the 1,100 miles of levees that protect it. For these reasons and many others, the Delta is a place worth saving and protecting today and for future generations.

What is proposed under the guise of BDCP's Conservation Measure 1 will vastly alter a tranquil 10-mile stretch along the Sacramento River from Freeport to Walnut Grove. Historic river towns and a quilt of family farms, orchards, row crops and vineyards will be transformed into an "industrial complex" — a landscape littered with 1,600 acres of muck ponds, borrow pits and a web of electrical lines and realigned roadways. This ruination would be the result of the planned construction of three giant, six-story pumping plants, a 1,000-acre reservoir and twin 40-foot diameter tunnels traversing 35 miles of the Delta. The BDCP calls for permanent impacts to more than 145,000 acres of farmland.

Suggesting that California invest billions of dollars to undertake construction of a massive water conveyance project without impacts being fully known and addressed is not good public policy and is simply unacceptable. Furthermore, we do not know important details such as operational impacts and how much water is really available for export. No true cost-benefit analysis has been done, nor does the BDCP provide for meaningful local involvement and enforceable assurances and protections for the Delta region.

In pursuing the BDCP, those in charge are forsaking the Delta and its people. The current BDCP is flawed and fails to demonstrate how it can be accomplished without forever damaging the Delta's historic communities, agricultural heritage and rural way of life. We owe it to the people of the Delta and California to get this right, without sacrificing one region of the state for the benefit of another.

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Water diverted from the Delta is used on farms in the Santa Clara and San Joaquin valleys.

Unpredictable water supplies put a large portion of California's economy and population at risk.

A new Delta water conveyance system would safeguard the water delivery system. But the ecological imperative for such an improvement is as compelling as the economic reasons.

Ecological Considerations

The existing water project pumping plants draw from a dead-end channel in the south Delta. Even if fish here avoid getting sucked into the pumps, they have little hope of finding their way back to the Delta's main channels and a great chance of being eaten by striped bass and other predators. To upgrade fish screens here would cost a lot of money and yield minimal benefit, as the fish would still have to be collected, put into tanks and trucked elsewhere in the Delta for release.

New intakes built on the main Sacramento River, however, could be fitted with low-velocity approach screens to shield even young salmon headed to the ocean. Once they pass the intakes, the fish would continue their journey up or down the river. Reducing reliance on the south Delta pumps would also allow for more natural east-west flows in the tidally influenced south Delta. That would minimize the extent to which reverse flows caused by pumping may draw migratory fish off course.

There's another reason to build a northern diversion point: Threatened Delta smelt rarely venture so far north in the Sacramento River. Generally Delta smelt avoid the stretch of the river where the federal and state governments propose to build new intakes. In comparison, Delta smelt frequent the south Delta. Rules to protect the smelt frequently force shutdowns of the south Delta pumps.

For example, huge volumes of water from December 2012 storms could not be captured because of U.S. Endangered Species Act rules to protect Delta smelt and salmon. As a result, less water was captured to deliver to the San Francisco Bay Area, Southern California cities and San Joaquin Valley farms. Those regions are already dealing with reduced supplies due to dry weather in early 2013. New pumping plants outside the zone of prime Delta smelt habitat would have helped both fish and people this year.

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LEGAL ISSUES RAISED BY THE BAY DELTA CONSERVATION PLAN

by Martha Lennihan

The tiny Delta smelt, less than three inches in length, is an endangered species found only in the Delta. Such species present legal issues in light of the Bay Delta Conservation Plan.

The Bay Delta Conservation Plan (BDCP) raises a number of questions related to existing law. The following list highlights some — but by no means all — of the key legal issues likely to come into play if the BDCP goes forward.

Compliance with environmental laws. To comply with the environmental review laws such as the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), the BDCP will need to develop an environmental document that discloses and evaluates its impacts. Given the complexity and importance of the affected hydrologic regimes, competent technical analyses will be required. The associated hydrologic modeling and assumptions that drive it will be important elements. The technical analyses are one of the conditions for satisfying the environmental review laws' requirements.

Area-of-origin laws. The federal Central Valley Project (CVP) and the State Water Project (SWP) were built based in part on laws referred to as the "area-of-origin" laws, which provide that those projects would not deprive Northern California communities of water needed for their present and future needs. One of the legal issues presented by the BDCP is how the CVP and SWP facilities will be operated to comply with these laws while enabling the new Delta diversions that the BDCP proposes.

Water rights. The SWP and the CVP water rights are senior to (and thus have priority over) more recent water rights, and they are junior to other more senior water rights that either pre-date those projects' water rights or have priority for other reasons (for example, the area-of-origin laws). Many — though not all — Northern California water rights have priority over the CVP and SWP water rights. There are also water-right settlement contracts with Northern Californians that require the CVP and SWP to provide particular water supplies to them, in exchange for allowing those projects to be constructed. This presents the legal issue of how the BDCP will affect the ability of the CVP and the SWP to comply with these water rights priorities and settlement contracts.

Endangered Species Act and/or Natural Community Conservation Planning Act. The BDCP may be the largest and most complex effort to obtain permits for harming or killing endangered and threatened species, which is also referred to as "incidental take." The BDCP's goal of improving conditions for those species in the Delta will need to consider the effects for those same species, and other threatened and endangered species, in the Delta's tributary waterways. For example, the hydrologic analyses referenced earlier should indicate whether the BDCP will have no effect on, enhance or reduce cold-water storage in upstream reservoirs. Cold-water storage is an important tool for maintaining tolerable conditions for endangered fish species in upstream tributaries, such as the Sacramento and American rivers.

Coordination between the SWP and the CVP. The state and federal projects are large efforts that both impact and benefit many Californians and many aspects of the environment. They also impact one another, given that they are managing and affecting rivers, streams and reservoirs in the same hydrologic system. They are now operated pursuant to a coordinated operation agreement (COA). Whether or how the BDCP will alter the balance previously achieved in the COA is a significant unknown factor.

Water quality. When flow amounts, rates, and timing change, as they may in many locations included in the BDCP, the associated water quality can change. This includes a range of water-quality considerations from temperature to turbidity (cloudiness caused by sediment). These affect the source quality for other users and instream aquatic resources, such as fisheries, that can be very sensitive to temperature and other conditions. Existing water-quality regulation is complex and extensive. The present criteria to protect the Delta and Suisun Marsh environments, permits for wastewater dischargers and many other legal rules may need to be changed in order to address changes effected by the BDCP. It will be necessary to understand these changes — and the ripple effect of their ramifications — to understand the impacts of the BDCP.

Operational assurances. One contentious issue has been legal "assurances" that Delta export facilities will be operated in ways that do not injure fish and people in and north of the Delta. The export facilities and other CVP and SWP facilities can and may need to be operated in many different ways. Assuming such assurances are needed, determining how to provide the necessary legal protections while also preserving flexibility to address changing hydrologic and other conditions presents a significant challenge.

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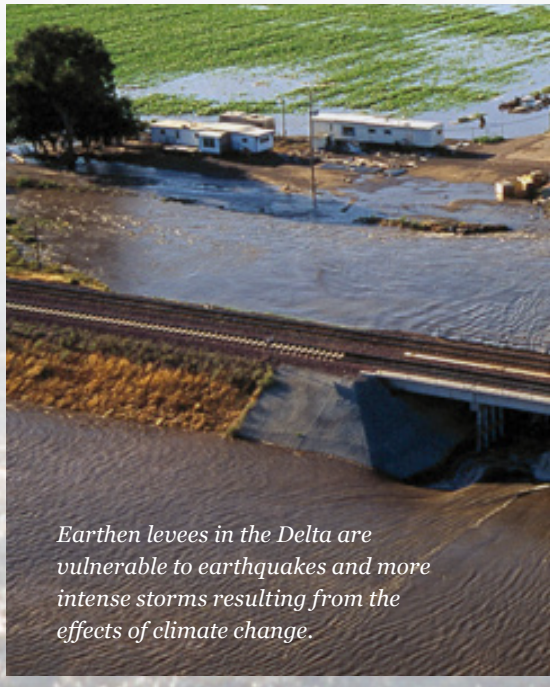
But Delta smelt, salmon, sturgeon, sandhill cranes, Swainson's hawks and dozens of other kinds of Delta wildlife need more than relocated pumping plants. They need the food and shelter a healthy Delta ecosystem would offer. Led by the California Natural Resources Agency, the U.S. Department of the Interior and the U.S. Department of Commerce, the agencies that seek to revamp the Delta's plumbing system seek with equal vigor to reverse the Delta's ecological decline. They propose to create at least 100,000 acres of tidal marsh, floodplain, riparian forest, grasslands and vernal pools that were largely eliminated in the 150-year-long human transformation of the Delta. Such habitat would serve not only to shelter fish and wildlife, but also to boost food production across the aquatic system. They also seek to address other stressors on the ecosystem, including non-native species, pollution and poaching.

If the levees break and Delta islands flood, salt water could be drawn inland, forcing the shutdown of water project pumps for weeks, months or years.



Earthen levees in the Delta are vulnerable to earthquakes and more intense storms resulting from the effects of climate change.

Critics of the BDCP argue that we cannot restore an estuary by taking more water from it. Some call the plan a "water grab."

In fact, the BDCP makes no promise of additional water deliveries from the Delta. Diversions may even decline. Pumping from the Delta would be governed by rules to protect fish and water quality and influenced by whether scientists can document progress toward the achievement of more than 200 biological goals and objectives spelled out in the plan. Examples include reducing the entrapment of fish at pumping plants, improving the survival rates of winter-run Chinook salmon as measured at two Delta islands and creating a viable migratory path for salmon through floodplains adjacent to the Sacramento River.

In the past 20 years, annual water diversions from the Delta by the federal and state water projects have averaged about 5.3 million acre-feet. We estimate that the amount of water that could be delivered once intakes of 9,000 cubic feet per second were built on the Sacramento River would range from approximately 4.8 million acre-feet to 5.6 million acre-feet per year. Whether deliveries end up

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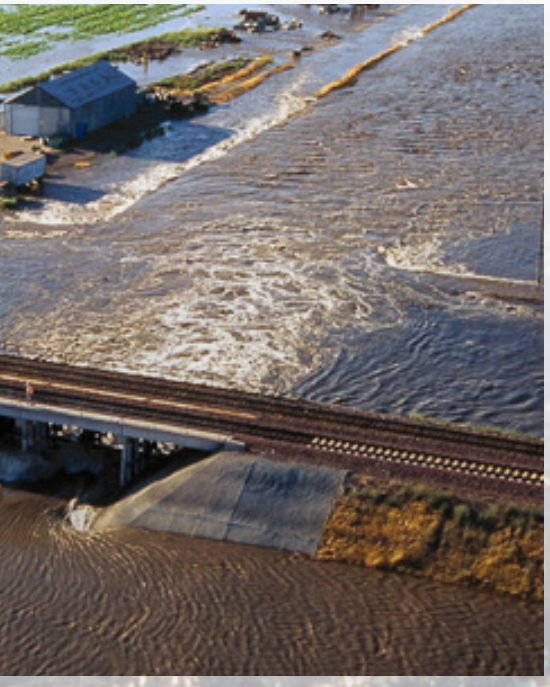

The Bay Delta Conservation Plan calls for impacts to more than 145,000 acres of farmland.

BIG CHALLENGES AND A HUGE NEED FOR LEADERSHIP

by Glen Becerra

California has great challenges to match its size. Among its longest-standing and most vital issues is water — specifically the Sacramento-San Joaquin River Delta that is the lynchpin of drinking water for most Californians.

The Delta provides drinking water for as many as 25 million California residents, including many in my home region of Southern California, and supports billions of dollars of economic activity, from farming to manufacturing and beyond.

The Bay Delta Conservation Plan (BDCP) was produced over seven years by a team of federal and state water experts, scientists and public water agencies working together to balance the needs of the environment with California's human and economic needs.

To protect the Delta, the plan needs to move forward. I have been involved in many regional and statewide planning efforts, and few issues loom larger than the Delta in terms of our state's safety and vitality.

California can't afford for Delta levees to break, flooding thousands of acres of fertile agriculture land with salt water, damaging the ecosystem and wildlife as well as shutting down the water to the San Joaquin Valley and Southern California residents.

The BDCP will stabilize the Delta, secure our water supply and ensure that our residents, farmers and businesses have a reliable water source for the foreseeable future. The project will also create as many as 137,000 jobs over its 50-year life.

Why is this important now? The Delta has been stretched to the breaking point, and the water that many Californians depend upon is at risk. Environmental restrictions on water deliveries meant to protect Delta fish have also greatly reduced the flexibility to meet statewide water supply needs. The BDCP will improve the Delta ecosystem so that water operations will become more reliable and secure. The direct benefits to water users — reliable supplies, reduced regulatory and legal uncertainty, improved water quality and reduced seismic risk — make the plan well worth the cost.

The Southern California Water Committee has been educating business and local government leaders on this issue. I encourage you to visit www.socalwater.org/delta-disrupted and www.baydeltaconservationplan.com for more information.

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Efforts to balance the needs of fish, farmers and cities for water from the Delta have been characterized as "water wars."

on the high or low end of that range would depend on how protected species fare and whether research conducted over the coming decades shows that higher outflows in the spring and fall help Delta smelt and longfin smelt.

Critics of the BDCP also argue that a north Delta diversion would harm water quality downstream.

The BDCP is examining nine alternative ways to divert water from the Delta, with 15 different variations of conveyance structure and operational rules. The alternatives range from using existing Delta channels to building intakes capable of diverting 15,000 cubic feet per second. Regardless of which alternative is chosen, state and federal water project operators must:

- Meet downstream water quality standards;
- Allow sufficient flow down the Sacramento and San Joaquin rivers to repel salt water from San Francisco Bay so that water quality is not impaired for farms in the central and south Delta; and
- Meet those standards or risk penalties from the State Water Resources Control Board.

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PITTING NORTH AGAINST SOUTH IS NOT THE SOLUTION

by Darrell Fong

California needs a statewide solution to its water problems, which must be addressed so that everyone has access to clean, safe, reliable and affordable water. The governor's preferred proposal, the Bay Delta Conservation Plan (BDCP), will degrade the water reliability and quality of life for Northern California's residents because it lacks enforceable water supply assurances for the region. Without these assurances, the north state's economy and natural resources are in jeopardy.

Governor Brown's administration frequently states that the BDCP safeguards California's economy and its environment. Perhaps it does, but only for Southern California. A reliable supply for Northern California is being neglected. Why can the state guarantee water reliability for Southern California but not Northern California? It's because the project as proposed increases water supply reliability only to areas that export water out of the Delta, such as Southern California cities and agricultural interests in the San Joaquin Valley. The current plan simply transfers the water shortages from south to north despite the fact that many of these northern communities have long-standing senior water rights.

In a dry year there is not enough water for both Delta needs and south-of-Delta exporters. Where will the water come from to meet both the environmental needs of the Delta and the agricultural and/or urban needs of the south? The state has yet to answer this question and leaves Northern California to assume the worst. Focusing on increasing water supply assurances to half the state while jeopardizing the other half is not a viable solution for California's water supply problems. Pitting one part of the state against another will only result in more conflict and delay.

What can be done?

1. Gov. Brown must provide the leadership to address Northern California's concerns and water supply assurances for the entire state.
2. The solutions need to go beyond the size and operation of the tunnels that export water out of the Delta. California needs a portfolio of water supply strategies that increases conservation, water recycling, desalination and other means that diversify the water supply and decreases reliance on the Delta. This approach will increase regional self-dependence throughout the state and is critical in light of climate change and the anticipated annual decline of the snowpack.
3. A balanced governance of the Delta export operations must have Northern California representation. Governance should not be one-sided and should force consensus to ensure fair solutions.

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At the simplest level, the operating rules for any new intakes would tie diversions to the volume of flow in the Sacramento River, so that when flows are critically low, no water would be diverted. As flows increase, so could diversions, depending upon the presence of fish and other factors. Intakes of 9,000 cubic feet per second would allow the federal and state water projects to take a "big gulp" of winter storm flows, when pumping causes minimal ecological harm. If the intakes are too small, the existing south Delta pumping plants would remain the primary diversion, with all the attendant troubles for fish.

Examining the Cost

At a cost of roughly $25 billion over 50 years, the BDCP would not be cheap. Most construction, operation and maintenance costs — $14 billion — would be paid by the ratepayers of the water districts that buy water from the federal and state water projects. The general public would be expected to pay several billion dollars toward habitat restoration, most likely through future general obligation bonds.

A reasonable person might ask: Why should ratepayers make such a big investment for a project that may not increase water supplies at all?

Ultimately, the board of directors of each water agency must weigh the costs and potential benefits of the project and decide for themselves whether to commit to paying for the BDCP.

But the economic value of stabilizing the Delta's ecosystem and water deliveries — as well as reducing the risk of catastrophic disruption — is at least as powerful an incentive as any potential increase in water supplies. Once water district managers know what they can reasonably expect in Delta deliveries, they can invest efficiently to meet local demand.

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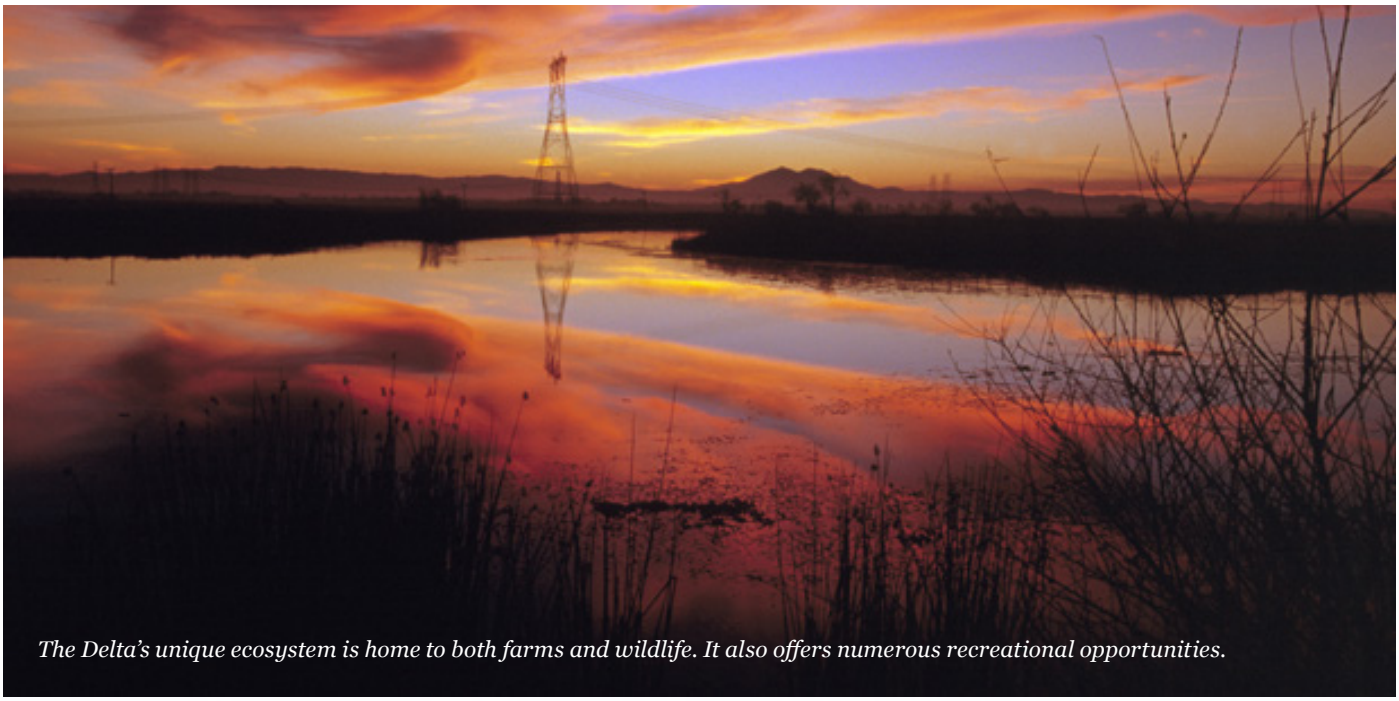
Protecting California from floods, meeting environmental water needs and capturing runoff for water supply will be complicated.

JOB OPPORTUNITIES



The Delta's unique ecosystem is home to both farms and wildlife. It also offers numerous recreational opportunities.

The Delta supply is not easily or cheaply replaced. Consider:

- Southern California, with half of the state's population, gets almost a quarter of its average water supply from the Delta;
- Kern County, which produces nearly $3 billion annually in grapes, almonds, pistachios, milk, citrus and carrots, depends on the Delta for about a fifth of its irrigation supply;
- The west side of the San Joaquin Valley also produces billions of dollars' worth of food and depends on the Delta for about three-quarters of its irrigation supply; and
- The San Francisco Bay Area, including the innovation hub of Silicon Valley, takes about half of its water supply from the Delta and its tributaries.

Economists at the California Department of Water Resources estimate that roughly 24 percent of California's economic activity is connected to the water supplied by the federal and state water projects based in the Delta.

After 60 years of drawing water from the Delta, Californians recognize that the existing system does not work for fish or people. We have a chance to reverse environmental degradation and guard water supplies before climate change creates even more difficult conditions for our economy and native wildlife. Doing nothing will cost future Californians a lot more someday. ■