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If we can't see the end of the tunnel, are we still on the road to somewhere?

Introduction

Californians have been arguing about water for 163 years, since we became part of the United States. Our early water battles involved physical violence, but disputes today are mostly restricted to the legislative halls of Sacramento and Washington D.C., and courtrooms around the country.

These modern water battles are contentious to be sure, but they now reflect the problems of a mature society, as concerned with preventing environmental damage as with a reliable supply of water. This is dramatically different from the approach in our early years¹.

The Sacramento-San Joaquin Delta has drawn the energy, emotion and attention of generations of engineers, lawyers, elected officials, citizens and academics. This attention to the Delta makes some sense, since about 40 percent of the state's runoff from rain and snow historically moved to the Delta, and then to the San Francisco Bay, and finally to the ocean. The urge to move water from the Delta to somewhere else started early and continues today. In many ways our Delta debate is similar to Southern California's debate over its use of the Colorado River.

Today's Delta is radically different from the Delta of the past. It is no longer a place of seasonally flooded wetlands, riverine floodplains or flood basins near natural channels.² Most species of native fish have been declining for decades, and there is no permanent improvement yet in sight.³

Human actions have altered or destroyed the historical geography of the Delta, favoring farms and urban development over nature. We have constructed high levees, narrowed and deepened the river channels bounded by those levees, reduced the number and shape of meandering streams that once characterized the Delta, and completely altered the timing and pulsing of historic water flows into the Delta. Urban runoff, agricultural pollution and the presence of mercury are legacy problems. Add the presence of invasive non-native species, and a pile of additional problems, and you summarize the problems that plague the Delta today. Almost all result from human uses of water.

In spite of decades of human effort and large amounts of money, much of the Delta remains at high risk of flooding. The Delta is ‘inherently flood prone’⁴, and no credible engineer or flood control expert claims to be able to protect Delta residents against all future risk. In spite of this, urban development continues to replace agricultural with houses, and puts new residents at serious risk of death or injury through floods.

Nature has complicated our problems. Our weather patterns are changing and becoming more erratic. The average temperature of the earth is rising and this will shrink our snowpacks, possibly doom some fish species, and increase the risk of flooding in the Delta. These changes also threaten a more reliable water supply for California and an improved and restored Delta ecosystem.

In spite of all this, the Delta remains a highly valuable ecosystem, part of the largest estuary in the western hemisphere. Restoring a significant part of the Delta’s ecosystem is a legal requirement, and a moral obligation in my view. More important, restoration offers the chance to protect our water export system, improve the level of flood protection for current residents and help ensure the survival of fish species and improve water quality for all Californians. Science tells us that it is unrealistic to expect to restore the Delta ecosystem of the 1800s, and cautions that we also cannot guarantee to maintain the current Delta for all times. This sobering message, best expressed by the National Research Council of the National Academies, cuts against the traditional view that if we make up our minds to do so, we can ‘guarantee’ almost anything.

The massive State Water Project and federal Central Valley Project move water through the Delta, primarily to water users in the Central Valley, around the San Francisco Bay Area, and to urban Southern California. These water exports have been going on since the late 1950s, but they represent only about 15 percent of the total annual human water used in California for our homes, businesses, industry or agriculture.⁵

Upstream water users --- those of us in Northern California --- use twice as much water as is exported from the Delta⁶, and we donate to the Delta virtually all of our urban runoff, agricultural pollution, legacy mercury contamination, and a host of other problems.

As a society, we tend to shy away from some basic facts:

- Our water comes mostly from rain and snow, with much smaller amounts ‘imported’ from surrounding states. This supply of water is relatively static. On average, there has been no major increase or decrease in total precipitation since we started to keep records in the 1880s.⁷
- Ongoing changes in our climate mean our water supply is increasingly erratic. Most of our water supply comes during a very few weeks of the year, and arrives or not with no prior announcement. The water management problems created by climate change are staggering, and they directly impact our ability to have reliable water and an improved Delta ecosystem.

- As the per capita water use in California slowly drops, our growing population and economy still demand ‘more’ water for human purposes and for the environment. Demand bumps up against a finite supply.

In 2009, California adopted important new policies on water, and created the Delta Stewardship Council as part of that effort. The starting point is the Coequal Goals, now established in both state and federal law.⁸

‘Coequal goals’ means the two goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. The coequal goals shall be achieved in a manner that protects and enhances the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place.” CA Water Code Sec. 85054

A second notable policy of the state is to ‘...reduce reliance...’ on Delta water for future statewide water needs.

The policy of the State of California is to reduce reliance on the Delta in meeting California’s future water supply needs through a statewide strategy of investing in improved regional supplies, conservation, and water use efficiency. Each region that depends on water from the Delta watershed shall improve its regional self-reliance for water through investment in water use efficiency, water recycling, advanced water technologies, local and regional water supply projects, and improved regional coordination of local and regional water supply efforts. CA Water Code Sec. 85021

A normal person might read the law and think, “Well, the law’s the law: that ends the debate.” Good luck with that conclusion!

The famous scholar John Q. Wilson⁹ died last year, but left behind a valuable body of research on how Americans make public policy. He likened the process to a prizefight:

Policy making in the United States is more like a barroom brawl: Anybody can join in, the combatants fight all comers and sometimes change sides, no referee is in charge, and the fight lasts not for a fixed number of rounds but indefinitely or until everybody drops from exhaustion. To repeat former Secretary of State George Schultz’s remark, “It’s never over”¹⁰

He might have been writing about our water battles. Now, let us talk about a short list of hot water issues

About the Bay Delta Conservation Plan (BDCP)

Is there going to be a big, new Delta water export facility built anytime soon?¹¹

The short answer is that nothing happens rapidly in the water world, but the engineering and scientific groundwork for improvements in the current Delta water export system is moving forward.

BDCP has to be completed and receive federal and state regulatory clearance of any proposed new water facility, and the environmental elements of the plan. BDCP then has to purchase real property needed for water intakes, environmental mitigation and a host of other items. Ecosystem restoration will first focus on publically owned land, or land owned by nonprofits. Funding for a new Delta conveyance facility and environmental mitigation is essential.

After you do all these things, BDCP will face a number of legal challenges. Those challenges will come from all sides of the water battle and continue for years.

As a rule of thumb, most folks tell me to expect 10 to 15 years before any BDCP water facility is operational.

How big is the Delta water export facility going to be?

In July of last year, Governor Jerry Brown and US Interior Secretary Ken Salazar announce the project was getting a lot smaller. The capacity of the tunnels dropped by forty percent (40%), and so did the number of intakes for the proposed tunnels. The reduced capacity of the potential BDCP tunnels is almost 60 percent smaller than the famed Peripheral Canal, rejected by voters in 1982.¹²

I have no idea how ‘big’ the new facility will be. However, I am positive that supporters will say the size is barely adequate to save California from disaster. Opponents will claim the world is sure to end.

Is the new Delta facility going to export more water, less water or the same amount of water?

California has been exporting water from the Delta since the 1950s, and the current system is getting older and creakier. Of course, long before Delta water exports, people in the Delta itself and the rest of Northern California have used and diverted water around the Delta for their own purposes.¹³ This northern diversion continues. Exports from the Delta have added to the problem, but exports were not the first human uses to cause harm, and they are not the only source of our problems today.

How much are we going to export from a new facility? No one knows. However, this question was the most interesting part of the July 2012 press conference by Governor Jerry Brown and the U.S. Department of Interior Secretary Ken Salazar. *They indicated there would not be legal guarantees for future water delivery.*¹⁴

If there is truth to this statement, it means we are finally talking honestly about water supply and demand. Of course, this will not prevent water exporters from arguing they have been ‘promised’ a certain amount of water. It will not prevent environmentalists from demanding legal promises to maintain a minimum number of certain fish in the Delta. Nor will it stop some Delta residents from claiming that the state and federal governments should pay for all levee repairs in the Delta. Stay tuned, this is a very important matter.

How does science fit into BDCP, and who runs what?

The Governor and Secretary said that ‘science will guide’ *both ecosystem restoration and water exports*. This is a very important commitment.

The current governance and science section of BDCP¹⁵ is a serious attempt to bring together under one umbrella multiple state and federal agencies, each with different duties and statutory mandates concerning water and the Delta ecosystem. At this point, it is not clear how the proposed management/science system will work. It is potentially something new and different: creation of a science-based process of making decisions for multiple federal and state agencies. If done correctly, it may serve as a model for the nation.

The current BDCP governance proposal is for a complicated set of committees, advisory bodies and the like, which appear to separate water operations from ecosystem operations, placing each in a different organizational silo. It is hard to see how bifurcated water and ecosystem science and decision-making meets the requirements of the coequal goals, let alone the direction of the Governor and the Secretary on the role of science.

To make all of this work, the BDCP draft proposes a dispute resolution system, hopefully to create order when government agencies cannot agree. Unfortunately, the dispute resolution system is not binding! To be sure, failure to reach agreement is embarrassing for public agencies. The current language needs a lot more work if BDCP hopes to have a governance/science model that makes rapid decisions informed by science.

The draft BDCP is not yet clear on *the role of science*. Yes, science will be more involved in the process, but the Governor and Secretary said science would guide water exports as well.

Will BDCP rely on established bodies of scientific information or new ones? The BDCP draft mentions the Interagency Ecological Program, the Delta Science Program and Delta Independent Science Board, all in existence for many years. It is not clear if these agencies will be the primary sources of scientific information for BDCP. There is no explanation of how much money will fund the scientific effort or where it will come from.

It is possible that BDCP intends to depend exclusively on science presented by project applicants, water contractors or advocacy groups.

An alternative is to have BDCP utilize ‘*independent science*’ to guide its water and ecosystem operations. I strongly prefer that approach and it seems to more appropriate for a water/environmental system based on the coequal goals.

Assuming “independent scientific opinion” is the basis of BDCP, should the scientific determinations be ‘actionable’? In other words, can agencies rely on the determination in conducting their water reliability and ecosystem restoration efforts? This would be desirable in my view, since the elevated role of science includes constant review and monitoring of water exports and ecosystem restoration efforts. At frequent points, government agencies have to make decisions and move ahead with projects. With an expansive science program, agencies should be entitled to rely and act on the recommendation of that program.

Last, what weight will independent scientific judgment be given by BDCP?

Are the other big issues for BDCP?

There are many other questions but here is a short list:

1. *Is BDCP obligated to meet the coequal goals of state and federal law?*
2. *Will BDCP include assumptions about decreased reliance on delta water for future uses?*
3. *What is the status of BDCP legal guarantees on levels of water export from the Delta?*
4. *How will the pending Delta Water Quality standards of the Water Resources Control Board be incorporated into BDCP?*

Left off this list is the question of who pays for what. Are all of the 29 water contractors willing to sign a binding agreement to pay the cost of BDCP and associated mitigation? How much money will the state and the federal government legally pledge toward environmental improvements? Is the federal or state funding available and able to be allocated, or is it just a hope to find funding in the future?

In spite of all my questions, it is refreshing to have a big, complicated process like BDCP talking about things that matter. Without judging the content of their drafts the process seems exhaustive and comprehensive.

Reading the tea leaves: Near-term actions, bonds and a few other things

We all talk a good game about water reliability and improving the Delta ecosystem, but cannot bring ourselves to start the work to improve things. Regional and interest group politics, conflicting priorities of government agencies, and the hope for lots of free money once BDCP is finished, seem to have prevented us from doing the things that need to be in short order. That may be changing.

I smell a political deal coming down the pike this year --- No, not a deal on BDCP itself. This is a deal on near-term actions: projects the warring parties support, and should not wait for BDCP to be finished. The inevitable modification of the 2014 water bonds is another prod for some near-term action.

- In January 2012, the Metropolitan Water District of Southern California signed a joint letter with six (6) Delta area or Northern California water districts urging the State of California to spend \$163 of state funds to improve several Delta levee projects.¹⁶ There is nothing new about local agencies asking for state money to pay for local projects. What is new is that MWD joined the northern water districts, and specifically suggested that some work on Delta levees benefits water exporters too.
- Local Delta interests and environmental groups like the Planning & Conservation League liked the general notion a lot. They conducted months of discussion between Delta interests, water contractors, environmentalists, state agencies and local water districts.

This effort identified 43 projects (without any priorities) for water reliability, ecosystem improvement and flood protection. The entire list would cost a bit less than \$1 billion --- illustrating that agreement is always possible from interest groups if they are spending someone else's money. This was, nonetheless, a major concession on all sides.

- The State and Federal Water Contractors are going to improve the ecosystem benefits of 1,485 acres owned by Westlands Water District within the Yolo Floodplain.¹⁷

The key point is that Contractors are willing to pay the restoration costs *as part of their current obligations to satisfy the U.S. Fish & Wildlife Service Biological Opinion for smelt*. They are not waiting for BDCP! This is very significant, although eventual BDCP environmental credit could be given.

- The Nature Conservancy owns McCormick/Williamson track in the North Delta, near the Meadows and not far from the Consumes River Preserve. TNC has been trying to get a government buyer for the property for years, but for various reasons no one wanted to front the money. Now interest in this property is growing, and it clearly is a possible inclusion in a short list of near-term restoration projects.

Other significant ecosystem projects, as well as the Lower San Joaquin Floodplain Bypass, which is supported by many local agencies and environmental groups, and creation of a Delta Flood Risk Management Assessment District are logical candidates for inclusion in a short list of near-term projects.¹⁸ I have not yet figured how the recent letter¹⁹ suggesting a much smaller Delta export facility (3,000 cfs) fits into the picture. It is worth noting that the letter was signed by San Diego city, county and water district leaders, together with some Northern California water districts and statewide environmental groups.

A legislative near term deal would have the following rough outline:²⁰

- **The near-term actions would simultaneously seek to improve the current Delta water export system, improve the Delta ecosystem and implement flood control projects that serve the state goals in the Delta, as well as providing increased flood protection for local Delta residents.**

- **Accelerate the maintenance and repair of the State Water Project, including hiring and retention of key personnel.**
- **Identify a small number of key environmental projects in the Delta previously discussed, together with floodplain expansion and creation is essential.**
- **Test the idea of science guiding both water and environmental decisions, by utilizing existing federal and state agencies, and bodies of independent scientific judgment, as the basis for implementing and managing these near-term actions.**
- **Grant fast track authority to the new science-informed governing body that will implement and manage the near-term actions.**
- **Commit approximately \$1 billion for near-term projects implemented within the next 10 years.** This would include state funds, funds from the state water contractors, and also cost sharing from property owners in the Delta benefited by the near-term actions.²¹

The Governor, the National Academy of Science and talking sense about water and the environment

Governor Jerry Brown takes great pleasure in confounding his supporters and critics. He is a progressive Democrat who supports more funds for education, high-speed rail and steps to minimize the impacts of climate change. He really believes in balanced budgets and frugality. He pulled off an amazing thing last year by gaining voter approval of increased taxes through Proposition 30.

He wants to improve our existing water projects --- "*i volo impetro cacas factum*", as he famously said.²² He wants to protect the environment too. He enthusiastically defies conventional political wisdom.

I doubt the Governor has read the March 29, 2012 report *Sustainable Water and Environmental Management in the California Bay-Delta*²³, written by the National Research Council of the National Academies. If not, I hope he does, because these top national scientists sound a lot like him.

Focusing on BDCP and the Delta, they said some very surprising things:

- "...the future will require planning and management that specifically acknowledge and take into account that *there is not enough water to meet all desired uses in California with the required degree of reliability everywhere and all the time.*"
- "The fact of water scarcity does not mean that the state is 'running out of water.' Although most surface flows have been fully allocated or over-allocated, the state can use a number of tools that optimize the use of existing supplies."
- "The historic strategy of developing storage and conveyance facilities in response to growth in water demand is being replaced with a variety of supply and demand-management alternatives, including conservation..."

- “...the Delta as it was before large-scale alteration by humans (before about 1880) cannot be recovered.”
- When speaking of the Delta, “Consideration of the large number of stressors and their effects and interactions leads to the conclusion that efforts to eliminate any one stressor are unlikely to reverse declines in the listed species.”
- “Given the diverse set of organisms and processes that constitute the Delta ecosystem, *the ultimate success of any approach targeted to particular species seems doubtful.*” (Italics added.)

Our Governor would say these things in a more colorful way. He would parse each comment to reflect his view. Ultimately, however, the Governor and the National Academy of Science, each in their own way are saying the same thing: Be prudent.....make choices.....do things!

That sounds good to me.

¹ *The Great Thirst: Californians and Water, 1770s-1990s* (1992) Norris Hundley, Jr., University of California Press, Chapters 6 and 7, pps. 298-405. See also, California Water Code Sec. 5054.

² *Sacramento-San Joaquin Delta Historical Ecology Investigations: Exploring Pattern and Process*, August 2012, San Francisco Estuary Institute – Aquatic Science Center, Alison Whipple, Robin Grossinger, Daniel Rankin, Bronwen Stanford and Ruth Askevold, <http://www.sfei.org/DeltaHEStudy>. This excellent study prepared for the California Department of Fish and Wildlife summarizes available information on the historic Delta. The graphics are very impressive.

³ Final Draft Delta Plan, *Chapter 4: Protect, Restore, and Enhance the Delta Ecosystem*, http://deltacouncil.ca.gov/sites/default/files/documents/files/CH_04_Nov2012.pdf.

⁴ CA Public Resources Code Sec. 29704. See Delta Plan discussion of this in Chapter 7, Final Draft Delta Plan (hereafter Delta Plan, http://deltacouncil.ca.gov/sites/default/files/documents/files/CH_07_Nov2012.pdf

⁵ Final Draft Delta Plan, particularly *Chapter 3: A More Reliable Water Supply for California*, http://deltacouncil.ca.gov/sites/default/files/documents/files/CH_03_Nov2012.pdf.

⁶ See National Research Council of the National Academies *Sustainable Water and Environmental Management in the California Bay-Delta* (2012), <http://dels.nas.edu/Report/Sustainable-Water-Environmental-Management/13394>; Final Draft Delta Plan, Chapter 3 http://deltacouncil.ca.gov/sites/default/files/documents/files/CH_03_Nov2012.pdf.

⁷ Delta Stewardship Council, *Facts and Information on California’s Water and Environmental Problems* (2012), <http://deltacouncil.ca.gov/sites/default/files/documents/files/Water%20Primer%20Review.pdf> Delta Plan chart on precipitation history. See

⁸ CA Water Code Sec. 8056; and see Consolidated Appropriations Act of 2012, http://www7.nationalacademies.org/ocga/laws/PL112_74.asp, Chapter II, Section 205; H.R. 2055-280, Sec. 205.

⁹ John Q. Wilson, http://en.wikipedia.org/wiki/James_Q._Wilson. Wilson ended his professional career as the Ronald Reagan Professor of Public Policy at Pepperdine University, and had a long history of involvement in organizational research, criminal justice and related questions. He is generally described as a conservative scholar, but widely respected in his profession. He died March 2, 2012.

¹⁰ *Bureaucracy: What Government Agencies Do and Why They Do It* (1989) James Q. Wilson, Basic Books Inc., pps 299-300.

¹¹ In 2006, Governor Arnold Schwarzenegger initiated the latest chapter in the saga of whether or not to build an improved Delta water export system. Called the Bay Delta Conservation Plan --- or BDCP in water shorthand --- it is a process controlled by federal and state water and environmental agencies. The process is heavily influenced by water users (water contractors), environmentalists, Delta elected officials, land developers and the usual cast of characters who join the water battles.

After almost 7 years of work, and \$150 million (with another \$100 million to come), we will likely see later this year a 5,000 page Bay Delta Conservation Plan, a 17,000 page Environmental Impact Report on that Plan, and

thousands of feet of letters, reports, analysis and public comments on BDCP. In addition to recommending construction of underground tunnels to supplement the existing water export system, BDCP will probably also propose (or suggest or require) setting aside over approximately 130,000 acres of Delta land for environmental purposes, flood control and water quality.

Those who currently export water from the Delta have paid for almost all of the costs of the BDCP process. They will pay to complete the BDCP process. Those same water contractors have agreed to pay the entire construction costs for new Delta tunnel(s), and are legally obligated to mitigate any environmental damage that occurs from the construction of the project. The state and federal government will pick up some related environmental and flood protection costs, but the details of this are being hammered out in painful private discussion.

¹² BDCP Blog, November 28, 2012, <http://baydeltaconservationplan.com/Blog/Blog.aspx>. The referenced pdf document provides some very important historical information. The Peripheral Canal battle of 1982 was about a surface canal with a capacity to move water at a rate of 21,8000 cfs. BDCP first proposed a 15,000 cfs capacity, to be moved through underground tunnels. Governor Jerry Brown and U.S. Interior Secretary Ken Salazar announced in 2012 that the capacity of the tunnels would be no more than 9,000 cfs. That a forty percent (40%) smaller capacity than the original BDCP version, and about fifty-eight percent (58%) smaller than the Peripheral Canal.

¹³ For information on historic water uses in the Delta Watershed, and historic exports from the Delta, see correspondence from Isenberg to the State and Federal Water Contractors at <http://deltacouncil.ca.gov/sites/default/files/documents/files/08-24-11%20and%2009-29-11%20Letters%20Isenberg%20SWC%20San%20Luis.pdf>, and also see the background information in chart form, particularly *California's Water Supply is Not Growing and It Arrives Erratically*, p. 2., http://deltacouncil.ca.gov/sites/default/files/documents/files/dsc_facts-info_CA_water-environmental_debates_043012_0.pdf.

¹⁴ BDCP Blog, September 26, 2012, http://baydeltaconservationplan.com/blog/blog/12-09-26/No_Guaranteed_Delta_Diversions.aspx. See, also, http://baydeltaconservationplan.com/news/news/12-07-25/Governor_Brown_and_Obama_Administration_Outline_Path_Forward_for_BDCP.aspx, with attachment providing details of the joint statement by the Governor and Secretary.

¹⁵ BDCP, Chapter 7, Implementation Structure, http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Chapter_7_-_Implementation_Structure.sflb.ashx

¹⁶ Letter to John Laird, Secretary of the Natural Resources Agency, January 4, 2012, signed by the Alameda County Water District, Contra Costa Water District, East Bay Municipal Utility District, Metropolitan Water District of Southern California, San Francisco Public Utilities Commission, Santa Clara Valley Water District and Zone 7, Alameda County Flood Control & Water Conservation District, http://deltacouncil.ca.gov/sites/default/files/documents/files/Urban_Levees_Coalition_010412.pdf.

¹⁷ Delta Stewardship Council meeting, December 13, 2012, http://deltacouncil.ca.gov/sites/default/files/documents/files/Item_8_Presentation_Lower_Yolo_Ranch_Restoration_Project.pdf and http://deltacouncil.ca.gov/sites/default/files/documents/files/Item_8_7.pdf.

¹⁸ Delta Plan, Chapter 7, RR P4, pp. 290-291.

¹⁹ You can read the group cover letter at http://switchboard.nrdc.org/blogs/bnelson/01-16-13_BDCP%20Alternative%20Plan_release_FINAL.pdf, and also review a longer summary memo at <http://switchboard.nrdc.org/blogs/bnelson/Portfolio%20Based%20BDCP%20Conceptual%20Alternative%201-16-13%20V2.pdf>.

²⁰ A written summary of this was presented to the Senate Select Committee on Delta Stewardship & Sustainability hearing on *The Next Decade in the Delta*, October 15, 2012, http://deltacouncil.ca.gov/sites/default/files/documents/files/Final%20PLI%20comments%20to%2010%2015%202012%20%20dndredlineSenate%20hearing%20on%20near%20term%20actions%20doc%20v3_0.pdf.

²¹ Funding and Options for Near-Term Actions in the Delta, Legislative Analyst's Office, October 15, 2012, http://www.lao.ca.gov/handouts/resources/2012/Funding_and_Options_for_Delta_10_15_12.pdf.

²² You cannot believe how hard it is to translate into Latin the famed statement by Governor Brown, "I want to do shit". I consulted a colleague with ecclesiastic training, a friend who follows and annotates the Governor's use of Latin, Greek or Biblical phrases and references, and then talked to real scientists. Finally, Google got into the mix: <http://translate.google.com/#en/la/I%20want%20to%20get%20shit%20done>.