

Impressions After a Long Career
Remarks by Tom Birmingham

February 24, 2023

Reno, Nevada

Thank you. It is an honor to be invited to speak to the Alliance. It is wonderful to see many familiar faces in the audience. I have previously said, and it bears repeating here, any success I may have had as Westlands Water District's general manager was the result of work by many people, many of whom are here today.

Dan Keppen extended the invitation for me to speak at this conference in November, shortly after I announced my retirement, so I have had a long time to think about what I would like to discuss. There are so many things: why certainty in the priority of water rights is so vitally important; the development of new water supply infrastructure; the inability or unwillingness of governments to make decisions to permit construction of water supply infrastructure; what constitutes a public benefit; the relationship between forest management and water supply; principles of federalism and the role of the federal government in managing water resources; how to manage water resources in light of climate change. Unfortunately, this is only a three-day conference, and I wasn't given the entire three days to make my remarks. So in the time I have, I would like to share with you some general impressions after working on California water issues for nearly 4 decades.

My first observation is that in four decades, at least in California, virtually nothing has improved. In fact, regardless of your perspective, things have gotten worse. Whether you're interested in protecting and enhancing the environment or interested in restoring and improving water supply, conditions have deteriorated. The abundance of at-risk species has declined to the point where the extinction of some species may be inevitable and the ability of water projects to deliver water for consumptive uses is nearly gone. The reasons for these trends are numerous, but from a water policy perspective a fundamental impediment is that too few people are willing to have an honest dialogue.

A clear example is the Endangered Species Act, the implementation of which has placed significant limitations on the operations of water projects around the west. The Endangered Species Act was enacted in 1973, and in the five decades since its enactment, the law has not been modified in any significant way. Ask yourself, is there any federal statute that after 50 years couldn't be improved, in one form or another, through amendment? The ESA certainly could. In its present form, the statute approaches conservation of species on a species-by-species basis. It vests authority to implement the law in two different federal departments, Interior and Commerce. These attributes can lead to absurd results, that are often at odds with the law's laudable purpose of protecting critically imperiled species from extinction.

In 2008 and 2009, the Fish & Wildlife Service and the National Marine Fisheries Service issued separate biological opinions for the long-term coordinated operations of the Central Valley Project and the California State Water Project. The first was issued by the Fish and Wildlife Service for the protection of the Delta smelt, and it imposed reasonable and prudent alternatives for operations of the projects, including Delta outflow requirements. The second was issued by NMFS for the protection of anadromous species and orcas, and it also imposed reasonable and prudent

alternatives for operations of the projects in the Delta and upstream reservoir operations, including maintaining a cold-water pool in Shasta Lake, a CVP reservoir, to avoid temperature mortality for winter run Chinook salmon spawning in the lower Sacramento River. A significant problem with the biological opinions was that for some water year types, they conflicted with one another. The Bureau of Reclamation could not comply with one opinion without violating the other. More specifically, Reclamation was put to the choice of releasing water from Shasta to comply with the smelt opinion outflow requirements and violating the winter run opinion or maintaining water in storage at Shasta to comply with the winter run opinion and violating the smelt opinion. And neither opinion adequately considered the impact of reasonable and prudent alternatives on other listed species including species, like the giant garter snake, that inhabit the Sacramento Valley or species, like the Kit fox, that inhabit the San Joaquin Valley.

The issue of conflicting biological opinions issued for operations of a reclamation project is not unique to the Central Valley Project. In the Klamath Project, actions prescribed to protect the Lost River Sucker and the Shortnose Sucker potentially conflict with actions prescribed to Coho salmon, which has led to some controversy.

So, one potential amendment to the Endangered Species Act would be to vest authority for its implement in one Department, rather than two. Indeed, President Barrack Obama once suggested this in a State of the Union speech, pointing to conflicting regulations sometimes imposed by the Fish & Wildlife Service and the National Marine Fisheries Service. In the last several congresses, Representative Ken Calvert has introduced legislation to accomplish this consolidation, but the legislation has gone nowhere.

Another potential amendment would be to abandon, the species-by-species approach to conservation, which sometimes results in actions taken to protect one listed species at the expense of another listed species, and replace it with a more holistic, ecosystem-based approach to conservation. During my tenure as general manager of Westlands Water District I had the opportunity to discuss this idea with high-ranking officials, including Secretaries of the Interior, and Members of Congress. The response of some is truly remarkable. Uniformly, everyone with whom I spoke thought this was a good idea, but for many it was not something they could advocate because it was not in line with the position of their environmental base. It was their view that any amendment of the ESA, even one that might make sense from the perspective of species recovery and conservation, was something that couldn't even be discussed. It is the third rail of environmental politics.

We hear repeatedly, "we need to follow the science." But we are all also familiar with the concept of confirmation bias, the tendency to interpret new evidence as confirming a person's existing beliefs or theories. In the water arena it is all too common, and in some cases extreme. I once had the opportunity to cross-examine a Fish and Wildlife Service biologist who had conducted an analysis he claimed demonstrated a significantly significant relationship between rates of water pumping at the CVP and SWP southern Delta pumping plants and the success of San Joaquin River salmon escapement. This was contrary to everything that I had ever read, so I sent his analysis to an expert statistician for review. After a short time, the expert contacted me, and excitedly said, "Tom, you won't believe what this guy did. His report shows that he did a regression analysis and it showed there was not a statistically significant relationship, so he changed the P factor. He did this repeatedly, until his analysis showed the existence of a relationship."

On cross-examination the federal biologist acknowledged he had done multiple regression analyses using different P factors until a relationship had been demonstrated, but he was unapologetic. He said common sense compelled the conclusion; more pumping would reduce salmon escapement. I am not an expert in statistics, but it is my understanding that a P factor is a probability value; it that tells you how likely it is that your data could have occurred under the null hypothesis. I have also been told by numerous statisticians that it is more than a little intellectually dishonest to keep changing that probability value until you get the answer you are looking for.

For decades, restrictions have been imposed on operations of water projects for the putative protection of the environment or at-risk species, but when data analyses indicate that the restrictions are not having the desired effects, rather than re-examining the scientific basis of the restrictions imposed, the inevitable reaction is that the prior restrictions simply did not go far enough. If data collected over decades show that some action, say an inflow/export ration imposed in April and May, did not benefit species as hypothesized, rather than eliminating the inflow/export ratio and recovering hundreds of thousands of acre-feet of water lost as a result of the inflow/export ratio, the reaction is we need to make the ratio more restrictive or the ratio may not be benefitting the intended species, but now we think it's benefitting a different species, so we need to maintain it. Honestly, I am not making this up.

I do not believe that “we need to follow the science,” even in the context of the ESA, if that means science is going to dictate the decision. Rather, I believe science should inform policy decisions, which also consider other factors, like the socio-economic consequence of adopting the decision. The distinction may be subtle, but it is important.

There may be some scientific basis report that suggests a 60% unimpaired flow standard will protect the beneficial use of water for aquatic species, but that should not inevitably lead to the adoption of that standard. Nor in many situations, does the law require it. For instance, in the context of water quality control planning, California law mandates that when the State Water Resource Control Board is deciding what is “reasonable,” it must consider “all demands being made and to be made on the waters [to be protected] and the total values involved, beneficial and detrimental, economic and social, tangible and intangible.” To often, these other factors are given little, if any, consideration.

In addition, if science is going to inform important policy decisions, the science should be robust. This is particularly true in a world where courts give deference to analyses conducted by government scientists when there are conflicting scientific opinions. The basic scientific process involves making an observation, forming a hypothesis, making a prediction, conducting an experiment, collecting data, and finally analyzing the results. In federal court, the *Daubert* standard is used by trial judges to assess whether an expert witness's scientific testimony is admissible as evidence. The fundamental question is whether the expert's testimony is based on “scientifically valid reasoning,” and in making this determination federal judges consider various factors, including: **1) Whether the theory or technique employed by the expert is generally accepted in the scientific community; 2) Whether it has been subjected to peer review and publication; 3) Whether it can be and has been tested; and 4) Whether it has a known error rate.**

There is no similar test to determine whether scientific analyses conducted by government scientists, which inform or in some situations dictate the outcome of incredibly important policy decisions and affect millions of people and billions of dollars in economic activity, are based on “scientifically valid reasoning.” Rather, policy makers and courts are expected to blindly accept the opinions expressed by agency scientists. And we have seen the consequences if they do not.

Julie MacDonald, who served in the George W. Bush administration as the Deputy Assistant Secretary for Fish and Wildlife, often expressed her frustration that some draft biological opinion or draft listing decision couldn’t be justified. You see, Julie not only took the time to read the draft opinions or draft listing decisions, but she also took the time to review the literature or other material cited in those documents to support the conclusions reached. If she found that the cited literature or material did not support the proposition for which it had been cited, and she would insist that agency staff either (1) find some other scientific basis to support for their conclusions, or (2) modify their conclusion to align with the literature or material cited.

For her trouble, Julie was vilified. She was accused of being abusive to Fish & Wildlife staff and of forcing staff to modify their conclusion for political reasons. I cannot speak to the abuse accusation because I do not have any personal knowledge of her interactions with staff, but to insist that staff cite literature or other material that in fact supports their conclusions is hardly “political.” If I may paraphrase Pacific Legal Foundation’s analysis of the situation, Julie had one concept of how the ESA science process should work, and Fish and Wildlife staff had another, and when Julie pressed her view, the staff did not like it.

Similarly, former District Court Judge Oliver Wanger was admonished by the Ninth Circuit Court of Appeals for substituting his judgment for the that of agency biologists when he ruled that the 2008 and 2009 were unlawful because they were not based on the best scientific and commercial data available and agency biologists had not adequately explained how the data on which they relied led them to the conclusions they had reached, as required by the Administrative Procedures Act.. Judge Wanger conducted a multi-day bench trial, in which he received testimony and other evidence from agency biologists. He also heard testimony and received evidence from other experts, including experts offered by the State of California, all of whom testified that the science on which the agency biologists relied did not support the conclusions they reached, the agency biologists had improperly conducted some analyses, and the agency biologists had failed to consider other scientific data available. But in the Ninth Circuit’s view, if the government scientists said “good enough,” it was good enough, and it was an abuse of discretion for a District Judge to second guess the conclusions reached by those scientists.

So what this means, at least in California, is we are faced with restriction, after restriction placed on the operations of water projects for the putative protection of at-risk species without any apparent scientific justification for those restrictions. But don’t take my word for it.

In 2010, at Senator Dianne Feinstein’s urging, the National Academy of Sciences conducted a review of the scientific basis of the 2008 and 2009 biological opinions for coordinated operations of the Central Valley Project and California State Water Project. About various restrictions placed on project operations by the biological opinions, the Academy’s report is replete with statements like the following:

Although there is evidence that the position of X2 affects the distribution of smelt, the weak statistical relationship between the location of X2 and the size of smelt populations makes the justification for this action difficult to understand.

In some years, these restrictions result in water supply reductions in excess of a million acre-feet, and yet the most prominent, independent scientists in the nation, like Judge Wanger, said the justification for the actions is difficult to understand.

So, over the last three decades, we have watched as regulation after regulation has further reduced the delivery capability of the Central Valley Project, that in the early 1990s had a yield capable of meeting all project demands during a repeat of the worst drought on record, to a point where merely two years after a wet year, like 2019, the project cannot even meet its “core demands,” let alone deliver a single acre-foot of water to the nearly million acres of farmland served by water service or repayment contractors.

In the western states, hydrologic conditions demand water resources be put to beneficial use to the fullest extent of which they are capable. In California, this principle is so important that it is embedded in the State’s constitution. But today, our existing water supply infrastructure and water resources are not being efficiently managed because in the name of environmentalism, significant volumes of water are being wasted. By this, I mean millions of acre-feet of water are being managed or used for fishery protection or restoration, without any quantifiable benefit.

If I had one wish it would be for government officials and interested parties to sit down and have an honest dialogue about how water resources are being managed, what uses are being made of water, what are the social, economic, and environmental consequences of policy decisions made about the use of water, and how are we going to mitigate those consequences. But too often, when people have those discussions, they are met with vitriol and contempt.

Anthony Saracino is a perfect example. In 2015 Anthony, who was an intellectually honest man with impeccable environmental credentials, was forced to resign from the California Water Commission because he had the temerity to suggest that the Commission should evaluate whether enlarging Shasta Dam would adversely affect the free-flowing condition of the McCloud River above Shasta Lake or its wild trout fishery. As reported in E&E News, Anthony resigned “after environmental groups raised a furor over his advocacy for considering the expansion of Shasta Dam.” But Anthony didn’t advocate enlarging the Dam, he simply proposed that the Commission consider whether the Dam could be enlarged in a manner consistent with state law.

Earlier I mentioned the 2010 National Academy of Sciences review of the 2008 and 2009 biological opinions. About one of the reasonable and prudent alternatives imposed by the 2008 biological opinion, the Academy report stated:

...it is scientifically reasonable to conclude that high negative OMR flows in winter probably adversely affect smelt populations. Thus, the concept of reducing OMR negative flows to reduce mortality of smelt at the SWP and CVP facilities is scientifically justified ... but the data do not permit a confident identification of the threshold

values to use ... and ... do not permit a confident assessment of the benefits to the population...As a result, the implementation of this action needs to be accompanied by careful monitoring, adaptive management and additional analyses that permit regular review and adjustment of strategies as knowledge improves.

To its credit, the Fish and Wildlife Service followed this recommendation. It conducted monitoring, performed additional analyses, and worked with Reclamation, the State, public water agencies, and other interested groups, to identify potential adjustments, including adaptive management, to the negative OMR flow management action. In the Service's judgment, the potential adjustments would adequately protect fish, while restoring some water supply. The potential adjustments ultimately were incorporated into subtitle J of the WIIN Act. Mind you, the bill language was carefully crafted by a bi-cameral, bipartisan group of congressional staff, with significant technical support from the Department of the Interior. The bill language had broad, bipartisan support from members of California congressional delegation including Senator Feinstein and Representatives Kevin McCarthy, Ken Calvert, Jim Costa, John Garamendi, and David Valadao. But other members of the California congressional delegation reacted negatively, claiming the proposed legislation was nothing more than a naked attempt by California water interests, particularly "big corporate agriculture," to gut the Endangered Species Act and enactment of the legislation would inevitably lead to the extinction of numerous species. Their hyperbole bordered on the outrageous. Notwithstanding, their objections the bill was enacted, and none of the species went extinct. In fact, the abundance of some species increased, albeit temporarily.

When similar adjustments to the negative OMR flow management action were incorporated into a 2019 biological opinion, some of these same members of Congress insisted the new biological opinion was the product of unacceptable political interference and insisted that career Fish and Wildlife Service staff, like regional director Paul Souza, be fired. Never mind that Mr. Souza had a long, distinguished career with the Service and was appointed to his current position during the Obama administration. Relaxing restrictions on operations of the projects and restoring some operational flexibility, with concomitant water supply improvements was proof positive that he was unsuitable for his position.

So it appears that for some, "follow the science" only applies when the "science" is consistent with the agenda they want to advance.

But to be fair, outrageous hyperbole is not the sole domain of people or groups who measure success by how much water they take from irrigators or cities. I have too often heard people on my side of the debate make baseless assertions like the Delta smelt is a trash fish or an introduced species not entitled to protection under the Endangered Species Act or that the State Water Resources Control Board abused its power by issuing curtailment orders to limit diversions by water right holders during dry periods. I, on the other hand, have sometimes wondered, while watching the natural flow in a stream decline to near nothing, why did the State Water Board wait so long to issue the curtailment order?

By my comments I do not want to leave you with the impression that I don't give a damn about the environment, fish, or wildlife. To the contrary, I care deeply about the health of the

environment, fish and wildlife. One of the things of which I am most proud is that late in tenure as Westlands general manager, the district, in cooperation with the California Department of Water Resources and state and federal fishery agencies, completed what is, to date, the largest tidal habitat restoration project in the Delta, and the project appears to be providing the intended benefits to listed species.

But I genuinely believe important policy decisions should be based on accurate information, not sentiment or conjecture. Science that informs those decisions should be robust. We need to learn from our past actions, and if water dedicated to an environmental use is not achieving its intended benefit, that water should be available for a different beneficial use, including irrigation. And sometimes, we have to accept some negative environmental impact if the benefits of the action causing that impact outweigh the negative. We need to resist gravitating towards a solution merely because it is the easiest. I have read too often during period of water shortages, agriculture uses too much water, and we can resolve the crisis simply by reallocating water from agriculture to other uses, be it M&I use or environmental uses. I could spend hours debating that simplistic proposal, but if the pandemic taught us nothing else, I pray it taught us that we cannot be dependent on foreign nations for something as essential as food.

And that leads me to my final observation. Absent from virtually every water policy debate is the question, what will be the impact on farming? In 1997, Marc Reisner, who previously had written *Cadillac Desert*, wrote:

California farmland is an irreplaceable, global resource providing wildlife habitat as well as unparalleled food production capacity. . . . A reliable, affordable irrigation water supply is critical to the protection of California farmland. Without it, farmland conversion will likely be hastened; assuring it could be a powerful new incentive for farmland protection, if water security and land protection are linked.

At the time Reisner wrote those words, the primary focus of water policy discussions in California was how the Central Valley Project Improvement Act would be implemented. That law, which was enacted in 1992, added mitigation, protection, and restoration of fish and wildlife as an authorized purpose of the Central Valley Project, and the statute included provisions directing the Secretary of the Interior to make water available for fish and wildlife purposes, including (1) dedicating and managing 800,000 acre-feet of CVP yield for the primary purpose of implementing the fish, wildlife, and habitat restoration purposes and measures authorized by the act; (2) providing increased “permanent instream fishery flow” for the Trinity River; and (3) delivering to identified managed wetlands specified quantities of water, known as Level 2 refuge supplies.

At the end of the day, the implementation of these provisions of CVPIA resulted in the reallocation of more than 1.2 million acre-feet annually from irrigation to fish and wildlife water uses. But in 1997, how the law would be implemented and its ultimate impact on irrigation water supplies were unknown, and little attention was paid to potential impacts on irrigated agriculture. This caused Reisner to write:

Agricultural land protection may be the single most significant issue that has for all intents and purposes been left out of the CVPIA implementation process. This is unfortunate, because there are unhappy similarities between the farmland protection issue today and the salmon conservation issue fifty years ago. Prior to World War II, salmon were still so plentiful in California that dams were built without regard for the consequences; . . . No one could imagine that the most abundant of California's four races of chinook salmon, the Spring-run, would be reduced from hundreds of thousands to fewer than 500 spanning survivors in little more than half a century.

The disappearance of prime California farmland is a phenomenon just as subtle, just as inexorable, and a tragedy we may regret just as much. . . . Paved over farmland is gone forever.

Reisner was prophetic. Despite his warning, impacts on farmland were never evaluated in connection with CVPIA's implementation, and there are numerous examples of subsequent statutes enacted or policies adopted without regard to their potential impacts on the ability of farmers to produce food and wildlife to inhabit farmland. In the 2½ decades since Reisner wrote those words, in the San Joaquin Valley more than 100,000 acres of farmland have been permanently retired from irrigated agricultural production, up to an additional half-a-million acres are fallowed on an annual basis, and it is estimated that an additional 700,000 acres will have to be permanently retired, all because of inadequate, unreliable water supplies. These are impacts that must be evaluated in any honest dialogue related to how water resources are managed and used.

During my tenure as Westlands' general manager, I was often asked two questions: why did you take this job; and how have you managed to do the job for so long?

I took the job for a very simple reason. I believe farming is a noble enterprise. Maybe it's because I grew up in a small ranching community, longing to be a cowboy. To this day, my favorite smell is the aroma of freshly mowed alfalfa drying in the field. But despite incredible challenges, some imposed by nature, others imposed by institutions, farmers do something that is truly miraculous; they produce nutritious food that benefits countless people, worldwide. What could be more noble?

And with regard to how was I able to do it for so long? Again, I believe the answer is relatively simple. Like farmers, I am a tenacious, optimist.

At the outset of my remarks, I said the fundamental impediment to improving or restoring the environment and water supply "is that too few people are willing to have an honest dialogue." But I am optimistic because there are some people in positions of authority or influence who are willing to have that dialogue. People like Paul Souza, the regional director of Fish and Wildlife. After the Trump administration, the easiest thing for Mr. Souza to have done is jumped on the band wagon and said: "yes, I was forced to bow to political pressure and approve a biological opinion that was not adequately protective." But he did not do that. Mr. Souza has always tried to honestly assess issues within the Service's authority and search for means to adequately protect species without devastating the water supply upon which millions of people, including farmers, rely. To

this day, despite all the criticism, Mr. Souza maintains the 2019 biological opinions are more protective of listed species than the biological opinions they replaced. And there are many other dedicated staff in the Service and other agencies that fit perfectly into Mr. Souza's mold.

Elected officials, in both state and the federal governments, on both sides of the political aisle, consistently say we must find a better, smarter way to serve multiple interests, including making water available to farmers.

I am also optimistic because of the existence of this organization. To put this in some context, several years ago I took Leon Panetta, a former member of the House of Representatives, White House chief of staff, director of the Central Intelligence Agency, and Secretary of Defense, on a tour of Westlands. During our tour I discussed with Secretary Panetta many of the issues I touched on today, and at the end of our tour, he was very blunt. He said, "you do not have a water supply problem, you have a political problem." He was correct. So how does that pertain to the Family Farm Alliance?

Well, experience has demonstrated that finding a solution to any political problem depends on finding a way to make people understand why they should care. I have always marveled at what the Family Farm Alliance has been able to do on a shoestring budget. With very limited resources, Dan Keppen, Pat O'Toole, and others with the Alliance have done a remarkable job of making people around the west and in Washington, DC, understand why they should care. This organization's effectiveness gives me optimism. But I have also wondered, what could the Family Farm Alliance accomplish if it had greater resources. So, I am going to end my talk by doing something that is unorthodox.

I am presenting Dan with a check, which represents my first payment on a five-year pledge of annual contributions in that amount. And shame on me for not doing this sooner. I would like to invite others, water agency staff, directors, consultants, lobbyists, farmers, if you don't already contribute personal funds to the Alliance, please join me. Think about how the Alliance's work makes your job easier, how it contributes to your own efforts, and how you benefit from and rely on its exceptional work. Prior to the end of March make a five-year pledge for an annual contribution, in whatever amount is comfortable, to enable the Alliance to better explain to people, why they should care.

Thank you.