



"Small Town Atmosphere  
Outstanding Quality of Life"

MUNICIPAL LAW INSTITUTE SYMPOSIUM  
MARCH 18, 2022  
WATER, WATER...ANYWHERE?!

The following written materials are attached in support of the panel's presentation on water issues in California:

Quinn, T. 2019. *Forty Years of California Water Policy: What Worked, What Didn't and Lessons for the Future*. Stanford Digital Repository. Available at: <https://purl.stanford.edu/dj435dw5816>

The paper is reproduced pursuant to the Creative Commons Attribution-NonCommercial 3.0 Unported License: <https://creativecommons.org/licenses/by-nc/3.0/legalcode> and is from the Reports and Working Papers of Stanford Water in the West, a program of the Woods Institute for the Environment and the Bill Lane Center for the American West, for the noncommercial, educational purposes of the League of California Cities and Southwestern University School of Law.

510 LA GONDA WAY, DANVILLE, CALIFORNIA 94526

Administration  
(925) 314-3388

Building  
(925) 314-3330

Engineering & Planning  
(925) 314-3310

Transportation  
(925) 314-3310

Maintenance  
(925) 314-3450

Police  
(925) 314-3700

Parks and Recreation  
(925) 314-3400



# FORTY YEARS OF CALIFORNIA WATER POLICY: WHAT WORKED, WHAT DIDN'T AND LESSONS FOR THE FUTURE

By Timothy Quinn

Winter 2020

**Stanford** | Water in the West



This paper was written based on a water policy seminar series taught by the author while he was the Landreth Visiting Fellow at Stanford's Water in the West Program in May and June 2019. As Deputy General Manager of the Metropolitan Water District of Southern California and later Executive Director of the Association of California Water Agencies, the author was a direct participant in the California water policy initiatives discussed in Section IV during a 40-year career in California water policy. The paper reflects the experiences, lessons learned and sometimes the biases of the author as he worked through these case studies. Where the author has relied on documentary evidence, citations are provided. Where the author relies on his own recollections and conclusions, citations are not always possible. The views expressed here are his own and should not be attributed to Stanford University or any former employers.

## Acknowledgements

This report was written while the author served as the Landreth Visiting Fellow at Stanford University. I would like to thank Mr. William Landreth and my colleagues in the Water in the West program. While at Stanford, I received invaluable advice and guidance from **Leon Szeptycki** and **Barton "Buzz" Thompson**. Two Stanford students, **Kel Mitchel** and **Gemma Elizabeth Smith**, also provided insightful comments on earlier drafts of the paper. **Christine Black** of the Woods Institute and **Megan Glatzel** of Water in the West edited and considerably improved the report. Although any remaining errors are the author's responsibility, this paper was considerably improved by the comments provided by others including (in alphabetical order):

**Felicity Barringer-Taubman**, Stanford University  
**William Blomquist**, Indiana University  
**Greg Gartrell**, Contra Costa Water District (retired)  
**Sarge Green**, California State University, Fresno  
**Maurice Hall**, Environmental Defense Fund  
**Jay Lund**, University of California, Davis  
**Daniel Nelson**, San Luis Delta-Mendota Water Authority (retired)  
**Patrick Quinn**, Mayor, City of Broomfield, Colorado  
**Lester Snow**, Water Foundation (retired)  
**James Waldo**, Gordon, Thomas & Honeywell  
**John Watts**, Office of U.S. Senator Dianne Feinstein

## Recommended Citation

Quinn, T. 2019. *Forty Years of California Water Policy: What Worked, What Didn't and Lessons for the Future*. Stanford Digital Repository. Available at: <https://purl.stanford.edu/dj435dw5816>

# TABLE OF CONTENTS

<b>I. INTRODUCTION .....</b>	<b>1</b>
<b>II. FRAMEWORK FOR UNDERSTANDING PUBLIC POLICY FORMATION.....</b>	<b>3</b>
Evolving Decision-Making Processes .....	3
On Political Markets and Private Markets .....	6
Coalition Building is the Essence of Political Competition.....	7
‘Warrior’ Coalitions and ‘Collaborative’ Coalitions.....	7
The Role of the Policy Entrepreneur.....	9
<b>III. CRITERIA FOR SUCCESSFUL COLLABORATIVE COALITIONS.....</b>	<b>10</b>
Facilitative Leadership.....	10
Stakeholder Commitment to the Process.....	11
Institutional Design .....	11
Sound, Shared Science .....	12
Comprehensive Solution Sets.....	12
Financing .....	13
Adaptive Implementation.....	13
<b>IV. CALIFORNIA WATER POLICY INITIATIVES 1985-2019: THE COLLABORATIVE CRITERIA AT WORK .....</b>	<b>14</b>
The 3-Way Process and Realigning Stakeholder Coalitions.....	15
The Best Management Practices Agreement .....	17
The 1991 Drought Water Bank .....	18
The Central Valley Project Improvement Act .....	20
The Bay-Delta Accord .....	20
The Monterey Amendments .....	24
The Sustainable Groundwater Management Act .....	27
Common Themes.....	29
<b>V. THE DELTA CONUNDRUM: RECOMMENDATIONS FOR MOVING FORWARD.....</b>	<b>31</b>
Why Have the 21st Century Delta Initiatives Failed? .....	31
Early Action by the Newsom Administration .....	34
Recommendations for Initiating a Collaborative Coalition in Support of a Durable Delta Policy .....	35
<b>VI. CONCLUSION.....</b>	<b>38</b>
<b>INDEX OF ACRONYMS .....</b>	<b>39</b>
<b>INDEX OF CITED WATER POLICY LEADERS .....</b>	<b>40</b>
<b>REFERENCES.....</b>	<b>42</b>



# I. INTRODUCTION

Like many other natural resource issues, California water policy is complex, controversial and ever changing. The technical resource complexities of water, the complicated institutional structure that manages it and its tangled politics make for vexing policy conundrums. After all, Californians are internationally famous for fighting over water (think Chinatown). Yet, despite these challenges, water policy makers in California have often found success in recent decades. Starting in the mid-1980s, urban agencies began developing integrated resource management plans, significantly diversifying their water resource portfolios and broadening involvement in water planning by stakeholders and the public. In 1991, urban water managers worked with the environmental community to adopt a statewide conservation Best Management Practices agreement that guided increased investment in water demand management for nearly two decades. Also in the early 1990s, innovative drought water banks were developed to use market forces to soften the impacts of an extended, severe drought. California has a functional water market today that was virtually non-existent in the mid-1980s. Local resource managers have implemented highly effective ecosystem and water management programs on the Yuba River, Butte Creek, Battle Creek, the Tuolumne River and other tributaries and streams. On a grander scale, in the mid-1990s, federal, state and stakeholder negotiators developed and implemented the Bay-Delta Accord (1994), which calmed the Delta political waters (at least somewhat) for over a decade. The Accord was followed by a long-term planning process, called CALFED, that resulted in a comprehensive water strategy for moving California water policy forward. The Monterey Amendments to the State Water Contracts (1994), while controversial for some, created new policy tools to better manage water resources in a new environmental era for both water supply and the environment. In the California legislature, the 2009 Delta Reform Act and the 2014 Sustainable Groundwater Management Act were truly historic breakthroughs, allowing for better management of California's surface and groundwater resources. During the past 30 years, California voters have approved seven water bonds, which have provided funds vital for a more diverse water supply portfolio and a healthier environment.

At the same time, California water managers have had their failures. Many water marketing agreements have been implemented successfully with little or no controversy, while others have brought cries of "Owens Valley"<sup>1</sup> and failed or became mired in controversy. California's agricultural economy continues to be at risk in large part due to a failure to adopt a water policy that can restore our environment and at the same time provide adequate supplies to replenish groundwater basins and grow food. Perhaps the greatest policy failure has been in the Sacramento-San Joaquin Delta. Following the collaborative success of the Bay-Delta Accord in the 1990s, stakeholders and governmental agencies retreated to adversarialism in the 2000s. The ambitious Bay Delta Conservation Plan, with the strong support of Gov. Arnold Schwarzenegger, sought agreement on an integrated, state-federal habitat conservation plan that would implement conveyance solutions in the Delta and invest in an unprecedented habitat restoration program to improve the ecosystem. The BDCP was controversial and failed to obtain permits from state and federal regulatory agencies. It was replaced by Gov. Jerry Brown's WaterFix and EcoRestore programs also known as the Twin Tunnels. Yet, one of the first actions in early 2019 by California Gov. Gavin Newsom was to pull the permit applications for these initiatives. After hundreds of millions of dollars in studies and permit applications and with 15 years of bipartisan governors determined to "fix" the Delta, California appears to be back at square one with regards to its most important and difficult water policy issue.

---

1 In the early 20th century, the City of Los Angeles constructed an aqueduct to transport water from the rural Owens Valley, located east of the Sierra Nevada mountains, to the growing Los Angeles region. The project was highly controversial and became a symbol of concerns regarding large-scale transfers of water from one region to another.

Why have some initiatives succeeded, and others failed? Answering this question and discerning the lessons for the water policy of future state and federal administrations is the challenge of this report. One key lesson over recent decades is that in 21st century California collaboration works and conflict doesn't. Conflict has played a constructive role in the water management of the past. For example, the decisions to protect the ecological resources of Mono Lake and add environmental values to the purposes of the federal Central Valley Project arose from decision-making processes characterized by high levels of conflict. But over time, circumstances are changing to substantially enhance the importance of collaboration and inclusion in making resource management decisions, especially in controversial and complex policy arenas like California water.

This lesson is consistent with the findings of political scientists in recent years (Schlager and Blomquist, 2008; Ansell and Gash, 2007; Margerum, 2011). Water policy in the western states was once primarily the realm of large water agencies working with federal and state agencies to build large scale water projects to meet the water demands of a growing economy and provide flood protection and hydroelectric power. But that centralized form of decision-making is now long past and will not return. Natural resource policy making in the 21st century is more decentralized, democratic and complex. Legal and regulatory reforms beginning in the 1970s opened decision-making to previously marginalized groups. This trend strongly argues for collaborative, more inclusive decision-making processes to make major decisions about water policy. The main theme of this paper is that projects that recognize this change in decision-making and seek collaborative solutions are more likely to succeed. Projects that resist these changes and rely on decision-making processes of the past are more likely to fail. Therein lies an important lesson for those seeking changes in the Sacramento-San Joaquin Delta where California failed once again in 2019, but where failure should not be an option.

In what follows, Section II relies on the political science literature and the author's experience to provide insights into the policy formation process. Section II also introduces the concepts of the political marketplace, coalition building and the role of the policy entrepreneur in creating new and better policy equilibria. Section III presents a common sense set of criteria that make a collaborative process more likely to succeed. These criteria are used in Section IV to assess the strengths and weaknesses of seven California water policy initiatives that have occurred since the mid-1980s. Section V offers some observations regarding 21st century Bay-Delta initiatives and recommendations about how to improve water policy decision-making, especially for the Sacramento-San Joaquin Delta.



Mount Diablo in Contra Costa County. Photo credit: Florence Low/DWR.

## II. FRAMEWORK FOR UNDERSTANDING PUBLIC POLICY FORMATION

Ultimately, public policy decisions come down to who gets to decide, who gets what and when and how these decisions are to be made (Schlager and Blomquist, 2008, ix). In California water policy, these questions have been answered very differently as the decision-making processes for natural resource policy have changed dramatically in recent decades. Understanding how these basic questions have been answered over time is fundamental to understanding 21st century natural resource policy – and how to influence it.

### Evolving Decision-Making Processes

Schlager and Blomquist (2008) divide watershed (or natural resource) management into three eras: the development, regulatory and collaborative eras. This characterization fits California water policy well. The objectives and decision-making processes of the three eras vary markedly and are summarized in Table 1. From roughly 1900 to 1980, large public water agencies and the state and federal governments dominated water policy decision-making during a prolonged water development era to build the water supply, flood control and hydropower infrastructure that serves California to this day. Concerns over the substantial environmental impacts of this 20th century development era led to the passage of powerful state and federal environmental laws and the creation of regulatory agencies, giving rise to the regulatory era, which began in the 1970s and lingers today. Starting in the late 1980s, California water managers, environmentalists and state and federal leaders have experimented with collaborative decision-making. Some examples are highlighted in Section IV.

Despite these successes, California water policy has yet to fully emerge into a collaborative era. Finishing this transition needs to become a primary goal of state decision makers.

The three eras have different policy objectives. The central goal of the development era was the planning and construction of water infrastructure for a growing economy generally with little regard for environmental consequences (Quinn et al., 2001). The central goal of the regulatory era was the protection and restoration of the environment sometimes with little regard for water supply impacts. As California moves into the collaborative era, the policy objectives are becoming more complex requiring consideration of the previous eras economic and environmental objectives simultaneously, a policy defined as “Coequal Goals” in legislation passed in 2009. However, implementing such a multi-goal policy is easier said than done.

**Table 1: Evolving Decision-Making Processes**

Era	Primary Goal	Decision-Making Process
Development Era	Infrastructure Development for Water Supply, Flood Control & Hydropower	Centralized, Managerial and Adversarial; Driven by Water Agencies
Regulatory Era	Environmental Protection and Restoration	Centralized, Managerial and Adversarial; Driven by Regulatory Agencies
Collaborative Era	“Coequal Goals”	Collaborative, Decentralized, Democratic and Inclusive

The policy eras have interesting similarities and dissimilarities in how policy decisions are made. Ansell and Gash (2007, 547) distinguish between three types of governance: collaboration, adversarialism, and managerialism. In collaborative decision-making, stakeholders and public agencies work to resolve their differences and agree on a common public policy through compromise. In adversarial decision-making, parties seek to resolve a dispute (that is, prevail over their adversaries) through a “winner-take-all” process, typically in a public institution such as the courts or legislature. According to Ansell and Gash (2007, 547): “In managerialism, public agencies make decisions unilaterally or through closed decision processes, typically relying on agency experts to make decisions.”<sup>2</sup>

Considering these distinct types of governance, decision-making in the development and regulatory eras is strikingly similar. Decision-making in both eras is centralized and managerial. The Ansell and Gash definition of managerialism applies equally well to the project builders of the development era and the regulators of the regulatory era. Both eras are characterized by highly centralized decisions driven by the managers of organizations vested with considerable power, often with adversarial relations among public agencies and stakeholders.

During the development era, the primary decisionmakers were public agencies who were promoting specific water infrastructure projects. Decisions relied on the expertise and judgement of the engineers, lawyers and other experts employed by these organizations and the decision-making process was relatively closed. Projects promoted during this era often had fierce opposition, but the decision-making process did not provide effective avenues for project opponents to impact public policy. Opponents of the Los Angeles Aqueduct resorted to violence in the Owens Valley, but water ultimately flowed from the valley down to Los Angeles. The governor of Arizona sent national guard troops to Parker, Arizona on the Colorado River to stop the building of Parker Dam and prevent the construction of an aqueduct to take water to Southern California. But, the Metropolitan Water District of Southern California (MWD) still built the Colorado River Aqueduct. John Muir passionately fought the City of San Francisco’s Hetch-Hetchy project in Yosemite National Park, but O’Shaughnessy Dam today still provides water and power to the City.

<sup>2</sup> Managerialism and adversarialism differ institutionally, but both are likely to foster conflict. By definition, adversarial decision-making emphasizes conflict over compromise. Managerialism does not necessarily result in adversity, but often results in conflict because of the closed nature of the decision-making process and the likelihood that there will be winners and losers. Even when managerialism appears to render a decision, it may trigger a subsequent adversarial process as the losers attempt to mitigate or reverse their losses.



During the regulatory era, decision-making was also highly centralized in regulatory agencies that relied on in-house expertise. The state and federal Endangered Species Acts (ESA), the Clean Water Act (CWA), the National Environmental Policy Act (NEPA), the California Environmental Quality Act (CEQA) and other legislation created powerful agencies where decision-making relies heavily on the bureaucrats, scientists and technicians who work for these regulatory agencies. Public participation is allowed, but stakeholders, by intent, are essentially observers and commenters and ultimately have no authority over decisions. Because stakeholders tend to view the regulatory process as creating winners and losers, regulatory decision-making is adversarial. While regulations are being considered, stakeholders will use the tools available to them (political pressure, technical information, legal arguments, public opinion) to protect their interests in the managerial decision-making process. Once the process concludes, the losers may resort to the courts, the legislature or Congress to try and mitigate or eliminate their losses.

Collaborative decision-making is decidedly different from the managerial decision-making of the past. Collaboration is decentralized; it is more democratic, empowering stakeholders not only to participate in the process, but to help shape policy outcomes. For this reason, successful collaboration is very difficult to achieve and has high transaction costs, particularly for contentious and complicated issues like California water policy. In some cases, the larger, more powerful agencies seek to cut corners on the decision-making process regarding project development and implementation, marginalizing interest groups that may disagree with their policy objectives. Today, these marginalized groups have access to other legal and political actions to prevent or substantially delay project implementation. The same applies to regulatory decision-making when regulators seek to hold onto the centralized decision-making of the past. Decision-makers run the risk of being trapped in adversarial processes for long periods rather than solving the underlying problem.

Another fundamental feature of the collaborative era is that water policy has a more complex set of water supply and environmental objectives that, under California law, should be considered *simultaneously* – neither the water supply nor environmental objectives trump the other. In 2009, the legislature passed the Delta Reform Act that made the concept of “Coequal Goals” the central tenet of California water law. The Delta Reform Act was the result of skillful leadership by Gov. Arnold Schwarzenegger and Darrel Steinberg, then California Senate President Pro Temp, and intense legislative negotiations among state agencies, legislators and their staffs and stakeholders. The Delta Reform Act defines coequal goals as follows: “Coequal Goals means the two goals of providing a more reliable water supply for California and protecting, restoring and enhancing the Delta ecosystem.” The concept of coequal goals is, at the same time, a profound change in water law and the logical outcome of several decades of evolving California water policy. Although it may sound simple, California will most likely struggle for decades figuring out what coequal goals means in terms of day-to-day water and ecological management practices. One thing is certain: the new policy means policy makers must broaden the primary policy objectives of public policy and decision-making processes will have to evolve to consider more complex policy objectives.

Solutions for complex natural resource policy issues under a policy of coequal goals cannot be easily developed through adversarial processes. These solutions are often multidimensional with complex policy tools to address multiple problems that are beyond the capabilities of an adversarial process. Like elsewhere in the nation in the 21st century, California needs to evolve from the centralized decision-making of the past to more democratic, inclusive and transparent collaborative decision-making. This conclusion applies to water supply interests and to state and federal administrative and regulatory agencies. Some might argue that the democratization of water policy decisions will undesirably “politicize” the decision-making process. But, as Schlager and Blomquist point out, in the end governing watersheds requires embracing politics, not running from it. The collective decisions that need to be made through decentralized, democratized decision-making processes are ultimately political decisions, whether we like it or not (Schlager and Blomquist, 2008, ix). It follows, that to understand natural resource policy making in modern times, we need to understand how politics influences policy decisions.

## On Political Markets and Private Markets

Sometimes the political system seems like a black box making key decisions about public policy – that is, who gets what, how and when. But, political institutions, whether a legislative body or an administrative or regulatory agency, are arenas in which sometimes hundreds of diverse stakeholders compete for outcomes that advance or protect their interests. Policy outcomes ultimately reflect the interactions among these stakeholders with each other and with policy decision-makers. Under these circumstances, it is useful to think of public policy making in terms of market dynamics. To understand public policy formation, the policy analyst needs to consider both the political marketplace where policy decisions are made and the private marketplace where the impacts of these decisions are ultimately felt (Quinn, 1983).

In both instances, decentralized market participants compete to maximize their objectives subject to resource constraints and the rules of the respective marketplace. In the private market, at least in classical economic theory, decentralized firms and consumers compete to produce and buy goods and services guided by Adam Smith’s “invisible hand” to maximize aggregate social wealth (Smith, 1776). In the political market, decentralized stakeholders compete in centralized public bodies to develop policy decisions that define “the rules of the game.” If a stakeholder group seeks a change that will benefit it, it will expend resources to advance policies responsive to its interests. If a stakeholder group believes that a policy will result in harm or otherwise threaten its interest, it will expend resources to oppose or amend the policy. Ultimately, a public policy decision reflects the balance between supporters and opponents until one side prevails or the parties negotiate a compromise that works for both and can get the votes needed in a legislature or a decision by an executive agency.

One key difference between private and political markets is the role of collaboration. In classic economic theory, collaboration is typically undesirable because it risks restraint of trade and reduces aggregate wealth. In political markets, collaboration is not only desirable, but essential. Political competition occurs as stakeholders form coalitions to support their various positions on legislation or administrative decisions. When it’s all over, a public policy emerges that defines a new political equilibrium. Ultimately, the public policy analyst needs to consider a joint equilibrium in both the political and private markets, not just one. If a new public policy has the support of a broad coalition with little opposition, it can define a new durable equilibrium. If the support base is narrow and other stakeholders are threatened or harmed by the policy, opposition to the implementation of the policy, or its reversal, is more likely and the new equilibrium may not be durable.

## Coalition Building is the Essence of Political Competition

In the political marketplace, competition on complex and controversial policy issues almost always takes the form of coalition building. You build coalitions to help count votes in a legislature and to influence decisions in administrative and regulatory agencies. In the private market, shifts in demand and supply drive market outcomes. In the political market, shifts in coalitions drive market outcomes. For example, one of the biggest and most controversial changes in California water policy over the past several decades was the passage of the Central Valley Project Improvement Act (CVPIA) in 1992. The CVPIA transformed the Central Valley Project (CVP) by adding environmental restoration and protection as a central purpose of the CVP along-side its traditional water supply purposes. The Act had been envisioned by its authors, Congressman George Miller of California and Senator Bill Bradley of New Jersey and by the California environmental community for at least a decade. It passed in 1992 in large part because of changes in the coalitions active in water policy formation.

During the development era, the dominant political coalition in California water policy was a longstanding alliance between Central Valley agricultural interests and urban interests primarily from Southern California<sup>3</sup>. This partnership was focused on building new infrastructure to expand supply for a growing California economy and to provide flood protection and hydroelectric power. However, by the late 1980s, it was apparent that the development era in California water had run its course and that future policy would focus more on environmental values. One key water leader who understood this was Carl Boronkay, then the General Manager of the Metropolitan Water District of Southern California. Before the introduction of the CVPIA, Boronkay and his team at MWD were building relations with Northern California Bay Area urban agencies and environmental non-governmental organizations (NGOs), something that had not been done before. Ultimately, CVPIA was passed by a coalition that included environmentalists and Northern and Southern California urban water agencies, a sharp break from past coalitions<sup>4</sup>. The agricultural community fiercely opposed CVPIA and California Gov. Pete Wilson sought unsuccessfully to have President George H.W. Bush veto the omnibus bill that included it<sup>5</sup>. CVPIA has been controversial since it passed nearly 30 years ago, but the coalition of support was sufficiently strong to introduce a new long-term policy equilibrium.

## ‘Warrior’ Coalitions and ‘Collaborative’ Coalitions

Coalition building is universal in the political marketplace. Stakeholder groups build coalitions to increase the chances that public policy decisions will reflect their interests. In some cases, elected representatives and other government officials may attempt to build coalitions around policies that they seek to advance. But not all coalitions are alike; coalitions come in two varieties: “Warrior Coalitions” and “Collaborative Coalitions.” The two types of coalitions are compared in Table 2. Warrior coalitions tend to arise within policy silos – defined here as collections of likeminded stakeholders with similar policy interests. In a warrior coalition, the goal is to grow the silo coalition as large as possible to defeat the other silos engaged on a policy issue. Warrior coalitions tend to be favored by “pugilists” – that is, stakeholders who prefer to fight rather than compromise. Warrior coalitions tend to view policy making as a “zero-sum” game. Accordingly, they try to resolve issues in winner-take-all adversarial arenas, such as the courts, legislatures or regulatory agencies.<sup>6</sup> When warrior coalitions clash, there will be winners and losers in an adversarial process.

---

3 Sometimes called the “hydraulic brotherhood” by its critics.

4 Boronkay was a prized witness at Congressional hearings on the bill because he represented urban Southern California in this new coalition in support of a dramatic change in policy.

5 Another key factor in the passage of the CVPIA was the coalition strategy of the bill’s authors within the Congress. Congressman George Miller had stymied every western state water project since becoming chair of the House Natural Resources Committee. He held those projects in abeyance until CVPIA was ready and then Miller and Bradley put all of the projects in an omnibus bill, which was broadly supported by western Republicans with the exception of Gov. Pete Wilson in California. With this kind of support among the western states, the governor had little chance of winning a veto from the President.

6 Each of these arenas are places where collaborative coalition building can happen as well.

The goal is to advance your interests without (or with minimal) compromise. Impacts on other interests are externalized. Warrior coalitions have little regard for costs incurred on “the other side” so there are no incentives to minimize the overall costs of moving a policy forward. Warrior coalitions tend to be closed, confidential and exclusive. You don’t share information with your adversaries unless it is a legal imperative. Because the decision-making process is adversarial, warrior coalition solutions tend to be limited to the issues in dispute. Significantly, warrior coalitions when seemingly successful, tend to lead to policy solutions that may not be durable. The new equilibrium will be under attack from the losers of the process and benefits for the victors may be short lived.

Collaborative coalitions occur when stakeholders break down the silo barriers and attempt to develop positive working relationships across silo boundaries. These coalitions tend to be favored by “pragmatists” – stakeholders who believe that compromise is the best path to accomplish their policy goals. The strategy of the participants in a collaborative coalition is to compromise, seeking a solution in which benefits are shared to allow the process to get to an agreement. Impacts on other interests are internalized – they are, after all, sitting across the table from each other. For this reason, collaborative coalitions have strong incentives to reduce costs on other interests to facilitate agreement. Collaborative coalitions tend to produce more comprehensive solution sets simply because the coalition members will be more diverse and have collectively a broader range of policy objectives. It will take a more expansive solution set to hold the coalition together. Finally, collaborative coalitions tend to be more durable because they maximize the support base for policy implementation and minimize opposition to the policy moving forward. A new equilibrium established through collaboration will be inherently more stable.

**Table 2: Warrior Coalitions and Collaborative Coalitions**

<b>Attribute</b>	<b>Collaborative Coalitions</b>	<b>Warrior Coalitions</b>
Favored By	Pragmatists	Pugilists
Stakes	Shared Benefits through “Growing the Pie”	Winners and Losers; Tend to View Policy as a “Zero-Sum” Game
Impacts on Others	Internalized	Externalized
Process	Open/Transparent/Inclusive	Closed/Confidential/Exclusive
Range of Management Tools	Comprehensive Solutions Favored	Limited by Nature of the Dispute
Durability	More Durable	Vulnerable to Counterattack by Losers

Warrior coalitions are common during the development and regulatory eras. The centralized decision-making processes of these eras are less conducive to compromise. In the development era, project proponents often faced opposition, but the political system did not provide for a meaningful role in decision-making for project opponents. That changed as laws were passed in reaction to the negative impacts of the development era. NEPA and CEQA expressly require public involvement in policymaking. NEPA and CEQA reflect the adversarial era in which they arose. These laws go primarily to the process of decision-making. They were passed to force adversaries to communicate with each other and not to promote truly collaborative decision-making. Other laws like the Endangered Species Acts (ESA), the Clean Water Act (CWA) and the Safe Drinking Water Act (SDWA) go beyond process and provide project opponents today far greater ability to challenge a policy that they oppose on legal grounds.

Today, far greater access by stakeholders to decision-making processes and the ability for dissidents to challenge policy decisions make collaborative decision-making processes far more attractive – maybe even imperative. That said, collaboration is exceptionally difficult to achieve, especially in complex, contentious issues like California water with a long history of antagonism among the various stakeholders<sup>7</sup>. Despite the enormous challenges and transactions costs of crafting a successful collaborative coalition, it may be the only way to make lasting progress on some of the most difficult issues facing resource managers in the 21st century.

## The Role of the Policy Entrepreneur

The often-complicated political marketplace and the coalition building that occurs within it creates significant opportunities for policy entrepreneurs.<sup>8</sup> Entrepreneurs can arise inside or outside government and entrepreneurship may come from stakeholders, researchers, facilitators or government agencies.<sup>9</sup> To be a successful policy entrepreneur it not only requires policy acumen, but good people skills as well. The policy entrepreneur's job is not to dictate policy outcomes, but to suggest alternative approaches to problem solving and work with others in the decision-making process to build stakeholder support around those ideas. Many of the successes in California water in recent decades illustrate policy entrepreneurship. Examples include switching to integrated resource plans in the 1980s, using market forces to manage drought in 1991, the concept of “coequal goals” in the Delta Reform Act of 2009 and the combination in the Sustainable Groundwater Management Act (SGMA) of local discretion, a strong state backstop and a well-thought out definition of sustainability to provide accountability. In the collaborative era, success will often depend upon reimagining and recombining policy portfolios – and analyzing the tradeoffs among them – to find a comprehensive policy that can define a new durable policy equilibrium acceptable to a broad range of interests.

---

7 During the author's career as a collaborationist, he would often tell his staff: “War is easy. Collaboration is hell.” The reason is that inside a warrior coalition everyone always says the same things and discounts the arguments of their adversaries. You rarely accomplish great things, but your job is safe. Collaborative coalitions require policy entrepreneurs to leave their silo, get others to do the same, and seek compromises that are often not well received by the hardliners in any of the silos. Ironically, warriors are often rewarded even in defeat by the hardliners in their silo; successful collaborationists may have to move on.

8 As used here, policy entrepreneurs are individuals or groups of individuals who invest time and effort to develop new ideas that promote collaborative coalition building (Quinn, 1983).

9 Kingdon (2011, 122). John Kingdon was one of the first to elevate the importance of entrepreneurship in the political arena. Kingdon uses the metaphor of three streams (problem streams, policy or solution streams and political streams) to analyze public policy development. The job of the entrepreneur is to intersect these streams to formulate policy solutions to policy problems that are acceptable to political decisionmakers.

# III. CRITERIA FOR SUCCESSFUL COLLABORATIVE COALITIONS

Ansell and Gash (2007, 544) define collaborative governance as:

“A governing arrangement where one or more public agencies directly engage non-state stakeholders in a collective decision-making process that is formal, consensus-oriented, and deliberative and that aims to make or implement public policy or manage public programs or assets.”

This definition has several important implications for a successful collaborative effort. Collaboration entails the participation of representatives of both public agencies and stakeholders. Significantly, stakeholders should “engage directly in decision-making and are not merely ‘consulted’ by public agencies” (Ansell and Gash, 2007, 545). The term “consensus-oriented” indicates that consensus (or unanimous consent) is a goal but may not be achieved in practice.<sup>10</sup> The state must be prepared to make decisions even if there is dissent. Further, collaboration requires “governing styles in which boundaries between and within public and private sectors have become blurred” (Stoker, 1998, 17; Ansell and Gash, 2007, 545). In other words, successful collaboration requires knocking down the barriers between silos.

Ansell and Gash also note that “collaborative governance is a time-consuming process. . . . Consensus building, in particular, requires time and cannot be rushed” (Ansell and Gash, 2007, 563). A successful collaboration invariably takes a great deal of time, hard work and patience. However, that “up-front investment in effective collaboration can sometimes save considerable time and energy in downstream implementation” (Ansell and Gash, 2007, 563). Put more bluntly, in a complex and controversial policy arena like California water, you need to go through the gauntlet of difficult challenges in a collaborative process to improve the chance of a new policy equilibrium that actually solves the problem and garners widespread support for a durable policy outcome. As difficult and time consuming as collaboration is, it will often be the fastest path to success for the proponents of a new project or policy. What criteria determine the success of a collaborative coalition building initiative? The rest of this section presents common sense criteria for the success of a collaborative process in dealing with complex policy issues.

## Facilitative Leadership

At the top of the criteria list is facilitative leadership (Ansell and Gash, 2007, 554). All successful collaborative processes have a strong leader or groups of leaders. Indeed, it is not unusual to have critical leadership concurrently from state and federal agencies and from stakeholder groups.<sup>11</sup> The leaders need to be committed to the *success of the process and should avoid having pre-determined ideas about outcomes*. To be effective, leadership in the collaborative era must be very different than during the development and regulatory eras. Leadership in those earlier eras is “top-down” – iconic leaders like William Mulholland (Los Angeles), Michael O’Shaughnessy

10 In the early 2000s, when then Secretary of the California Natural Resources Agency Mary Nichols, was testifying before a U.S. Senate Subcommittee on the CALFED Record of Decision (ROD), she was asked whether the policy outcome was a “consensus product.” Secretary Nichols responded that the CALFED ROD was a “consensus product, but not the product of consensus.” The implication was that the diverse stakeholders engaged in the process had not formally endorsed the policy in the ROD (and some might not have been willing to do so), but the state had gone through an open and transparent process and crafted a policy that merited wide spread support.

11 Rieke, 1996 provides an excellent example.

(San Francisco), and Arthur Powell Davis (Oakland and East San Francisco Bay) had bold visions about water supply projects and a decision-making process that allowed them to push through to success. Success in the collaborative era requires leaders who can master “bottom-up” decision-making – a rare skill in a society that still tends to think of leaders in top-down terms. A collaborative leader may have considerable authority – a governor or agency head, for example, may have the final say on a policy or project. However, that authority is better used encouraging others in the process to be creative and cooperative than by attempting to dictate outcomes. Finally, leadership is distinct from entrepreneurship. A facilitative leader may be an entrepreneur (although suggestions coming from the very top have a way of seeming more like dictates than ideas). That said, a successful collaborative era leader needs the skill to recognize a gifted policy entrepreneur, give them access to the process and the support to assure that their ideas are heard.

## Stakeholder Commitment to the Process

No less important is keeping all the stakeholders engaged. It is important to recognize that the pull of a winner-take-all adversarial process may be strong for some stakeholders. All negotiations are driven by default outcomes – what happens to the stakeholder interest if the negotiations fail. Often the default is to resort to an adversarial process where some stakeholders may believe that they can achieve more in a winner-take-all arena than through compromise. Leadership can loom large in dealing with this problem. Effective leadership may require creating incentives for the stakeholders to stay engaged and penalties if they choose the adversarial route. Strong leadership can also make default outcomes less desirable and harder to achieve. Essentially, a leader needs to keep all the cats in the room to make it easier to herd them to a workable and durable policy solution.

## Institutional Design

To be successful, a collaborative process absolutely must be open, transparent and inclusive. This is easier said than done. In many cases, stakeholders may be characterized by a large imbalance of power going into the negotiation. Stronger stakeholders with substantial resources may often try to limit the role of weaker stakeholders that have limited resources. Previously marginalized stakeholders may be distrustful. The effective leader should work to level the playing field by making sure that all stakeholders feel that they can influence the policy outcome. One way this can be accomplished is by providing resources to stakeholder groups that need assistance to participate effectively in the collaboration.<sup>12</sup> Another consideration is time. The leaders need to allow enough time for a complex negotiation to work. While that may require a lengthy process, toward the end of the negotiation there is nothing like a looming deadline combined with an adverse default outcome to stimulate negotiators to be creative and finish the job.

Another important institutional question is who gets to participate – or what the author has called “the sizing of the tent” problem and Schlager and Blomquist (2008) refer to as defining “boundaries.” A successful collaborative process almost always needs a big tent, bigger than many stronger stakeholders might like. Leadership is important here again. The project proponents and relevant state and federal agencies need to be constructively engaged. A successful collaboration also should encourage participation by other groups that may benefit from or be threatened by implementation of likely policy outcomes. Another consideration: include stakeholder groups that have the capability to sue or otherwise challenge implementation. As a practical matter, this means including environmental NGOs and other public interest organizations in the process. These interests played a key role in many of the initiatives that will be discussed in Section IV, including the 3-Way Process, Urban Water Conservation Best Management Practices, the Bay-Delta Accord and the passage of the 2009 Delta Reform Act and the 2014 Sustainable Groundwater Management Act. Ansell and Gash (2007, 557) argue for the inclusion of even “troublesome” stakeholders. This may be wise even if the leaders think a stakeholder group is likely to dissent from the final decision. It may be better to have such interests on the inside of the tent rather than outside to better protect the new policy equilibrium that emerges from the negotiation.

---

<sup>12</sup> In California, private foundations often provide funds for environmental NGOs and other public interest groups to participate effectively in public decision-making processes.



The Bay-Delta Independent Science Board at work. Photo credit: Delta Stewardship Council.

Successful collaboration often requires a formal process, although the level of formality may vary from case to case. There should be regular face-to-face meetings and efforts to build trust when necessary. Often, a professional facilitator can smooth the road to a successful complex negotiation. There may be cause for limiting the number of actual negotiators, although all relevant stakeholder groups should be represented at the negotiating table. The stakeholder groups, in turn, should create effective caucus mechanisms so that all stakeholders are kept apprised of progress (or lack thereof) and be able to communicate their ideas into the negotiating process. The goal should be consensus, but collaborative leaders need to be prepared to make a decision that holds together as much of the coalition as possible to move a policy forward even over the objections of recalcitrant stakeholder groups. Ultimately, if the leaders don't have a sufficiently broad-based coalition to protect the emerging policy equilibrium, then they still have some work to do.

## Sound, Shared Science

Often, warrior coalitions engage in “combat” science, each agency or group preferring interpretations of the science that favor their policy positions and rejecting science that they perceive undercuts their policy positions. A collaborative process cannot succeed without a commitment to shared science and adopting a process that builds trust in the science among the stakeholders and public agencies involved. Where there are disagreements regarding science, collaborative leaders must develop an open, transparent process to resolve those differences. In California today, the Independent Science Board within the Delta Stewardship Council exists to try and seek agreement on the major scientific issues affecting the Delta. In a famous meeting in Monterey, California in December 1994, Betsy Rieke, the head of the federal team that was negotiating the Bay-Delta Accord with state and stakeholder interests, convened a public meeting of the scientists, stakeholders and state and federal agencies to assess the state of Delta-related science at the time. Although there were sharp differences expressed that day, understanding those differences was essential for Rieke as she eventually led the federal agencies to support the Bay-Delta Accord (Rieke, 1996).

## Comprehensive Solution Sets

Because a collaborative process has more parties that can directly influence (or prevent) decisions, policy solution sets in the collaborative era will generally be larger, more comprehensive, more integrated, and more complex than was the case during the development and regulatory eras. The principle reason for this is that to hold the collaborative coalition together, you need to solve more problems than just the policy or project proposal that initiated the process. Moreover, a more diverse solution set makes it easier to identify tradeoffs that make it easier to get stakeholders to agree to a package. If one element in the solution set is viewed as a loss by a stakeholder, other elements can provide benefits that more than offset the losses. In the discussion of California water initiatives in Section IV, the Monterey Amendments illustrate this criterion in practice.

## Financing

Obviously, effective implementation of the package of actions agreed to in a collaborative process requires adequate financing for both capital and operating expenses. Some of the benefits of solution elements, such as improvements in water supply or water quality, may have well identified beneficiaries that can be expected to pay for these benefits. However, because participation is broadened to include public interest groups, many elements of a collaborative solution set may provide public benefits that lack well identified beneficiaries. In these cases, state or federal funds can sometimes bridge the funding gap to help finance a collaborative solution set. Another potential role for funding is that the prospect of state or federal funds to help pay for projects in the solution set may help keep stakeholders at the table. In California, voters have approved seven general obligation water bonds since 1990. These bonds provided billions of dollars to help finance collaborative Integrated Resources Management Plans and other collaborative agreements, as well as subsidizing new technologies that broadened the state's water supply portfolio.

## Adaptive Implementation

Finally, a successful collaboration should provide a broadly accepted process for adaptive implementation. Implementation of a complex, comprehensive, integrated plan is not easy. Something will go wrong and a process will be needed to make mid-course corrections from time to time. The adaptive implementation mechanism will require care in its design regarding institutional structure, who participates in adaptive decision-making and how information is managed. Often, stakeholders may have reservations about supporting the product of a collaborative coalition because they fear that their interest will be compromised in implementation. The various stakeholders will need to have confidence in the adaptive mechanism. The adaptive process itself should be open and transparent and it may make sense to make stakeholders active participants in the implementation process.



Sacramento Valley farmland is managed for rice production and wildfowl habitat. Photo credit: Steve Beckley.

## IV. CALIFORNIA WATER POLICY INITIATIVES 1985-2019: THE COLLABORATIVE CRITERIA AT WORK

It would be hard to overstate the degree to which California water management and policy has changed since the end of the California water development era in the 1980s. These changes did not happen all at once; nor were they the subject of a master plan by a few state, federal or local leaders. Rather change happened opportunistically, occurring in spurts when opportunities for change arose, often in response to crisis.<sup>13</sup> It is safe to say that the state, federal and stakeholder leaders engaged in the seven policy initiatives in this section were not thinking along the lines of the criteria outlined in Section III at the time of these initiatives. Nevertheless, the criteria outlined help explain why some of these initiatives were highly successful and others were less so. The initiatives also illustrate how each of the criteria contribute to a collaborative success. In what follows, seven California water policy initiatives from the past 30 years are briefly outlined in chronological order with an emphasis on how the criteria in Section III apply.<sup>14</sup>

Table 3 offers an overview of the initiatives discussed below and why they were chosen to illustrate the application of the principles of political competition in Section II and the collaborative criteria in Section III. The so-called 3-Way Process in the late 1980s and early 1990s illustrates how stakeholder relationships and political coalitions were shifting at that time, laying the foundation for powerful policy changes over the next three decades. The urban conservation Best Management Practices Agreement in 1991 illustrates how an inclusive, collaborative process can displace an adversarial process to make significant progress on an important element of water policy. The passage of the Central Valley Project Improvement Act illustrates that even amidst a bitterly adversarial political process, changing political coalitions can dramatically affect the direction of water policy. The Bay-Delta Accord of 1994 is the best application of the collaborative criteria in Section III and was a major breakthrough at the time. The Monterey Agreement demonstrates how the threat of an adversarial process can, by design, trigger a collaborative process and how “growing the problem” can be essential to collaborative success. Finally, the passage of the Sustainable Groundwater Management Act in 2014 shows how an open, transparent and inclusive legislative process can result in a historic, durable policy equilibrium, despite some political opposition.

---

13 See Baumgartner and Jones (2009, xvii). They argue that policy change “is not gradual and incremental, but rather is disjoint and episodic. Long periods of stability are interrupted by bursts of frenetic policy activity.”

14 These seven case studies are hardly exhaustive. They are selected here because of their particular features and because the author was a participant in each. Blomquist (1992) offers a thorough discussion of collaborative successes in eight Southern California Groundwater basins. Schlager and Blomquist (2008) present other collaborative successes in watershed management across the United States. Other success stories can be found in Margerum (2011). For an insightful study of collaborative decision-making on the lower Colorado River, see Fleck (2016).

Table 3: Water Policy Initiative Takeaways

Initiative	Chief Takeaway
<b>3-Way Process</b>	Building relationships and realigning stakeholder coalitions are key to policy change
<b>Urban Conservation BMP Agreement</b>	Collaboration displaces adversarialism to make progress on demand management
<b>1991 Drought Water Bank</b>	Entrepreneurship leads to innovative drought policy and avoids harsh conflict
<b>Central Valley Project Improvement Act</b>	Shifting political coalitions profoundly change the direction of water policy, even when an issue remains sharply adversarial
<b>Bay-Delta Accord</b>	Best example in California water policy of the power of a fully collaborative process
<b>Monterey Agreement</b>	Adversarial threat triggers collaborative process; “growing the problem” can be essential to collaborative success
<b>Sustainable Groundwater Management Act</b>	Open, transparent, inclusive legislative process produces new durable policy equilibrium, despite limited opposition

## The 3-Way Process and Realigning Stakeholder Coalitions

Changes in the direction of natural resource policy are manifest in the changing relations among stakeholders and how they rearrange political coalitions to compete in the political marketplace. That was certainly the case toward the end of the last century. As the development era in California water was winding down in the 1980s, all stakeholder groups were in an undesirable situation and each was seeking change. For urban and agricultural water agencies, water supply reliability was a serious concern because the projects upon which their reliability plans were based were either incomplete or not performing as planned. As for environmentalists, they were learning that having successfully ended the development era was not by itself going to lead to environmental protection and restoration. They needed an affirmative ecosystem action plan that might take decades to develop.

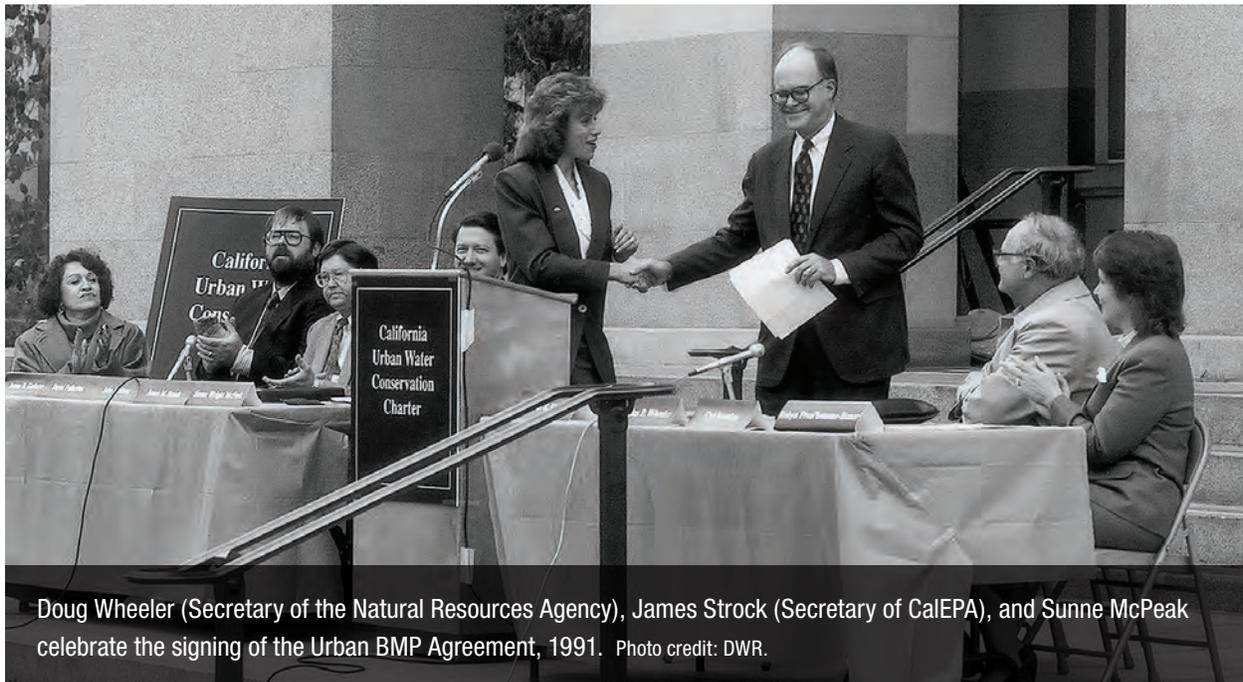
There was one other commonality among these stakeholder groups – they were dismayed at the lack of action to meet their needs by state and federal agencies in changing times. For these reasons, the stakeholders started to reach out to each other informally. In the late 1980s, a group of urban, agricultural and environmental leaders agreed to formalize the relationship in an attempt to find common ground. This became known as the 3-Way Process. This section starts with the 3-Way Process not because it produced significant policy advances – it didn’t. Rather, the 3 Way Process is notable because it was the first time the urban, agricultural and environmental stakeholder groups in California actually sat down in the same room and talked to each other. Leadership within the 3-Way Process was diffuse. By intent, no one was in charge. Rather, each group identified six negotiators who would meet face-to-face regularly and attempt to produce a white paper about the future of California water management to which they all could agree. Each group, in turn, formed a caucus mechanism to keep their cohorts informed and take ideas back into the negotiating process. Ultimately, the process did produce a product,<sup>15</sup> but the process was not important so much for what the paper said as it was for the relationships that were forged and would be put to the test later.

15 See “Principles for the 3-Way Water Agreement Process” (July 19, 1991).

In addition to the 3-Way process, other significant changes in water policy coalitions were occurring in California water during the late 1980s and early 1990s. On the agricultural side, the Northern California Water Association (NCWA) was created as a coalition mechanism for agricultural water users in the Sacramento Valley. The San Luis Delta Mendota Water Authority (SLDMWA) was created to operate the Delta-Mendota Canal and to coordinate policy-making and political activities of the authority members, which included CVP service contractors on the west side of the San Joaquin Valley, refuge operators and the so-called “Exchange Contractors” with senior water rights. At the same time, the environmentalists created the Environmental Water Caucus to coordinate the activities of environmental organizations primarily in the San Francisco Bay area.

Perhaps the most important changes in water policy coalitions were happening among urban water supply agencies. To create a more cohesive north-south urban coalition, the 11 largest urban water supply agencies in the state created the California Urban Water Agencies (CUWA) in 1990 under the leadership of Carl Boronkay in Southern California and Jerry Gilbert, General Manager of the East Bay Municipal Utility District headquartered in Oakland. The governing bodies of the CUWA member agencies, especially in Northern California, were all leery of aligning politically with former foes and CUWA developed as a technical association. CUWA is governed by a board of directors with each of the 11 member agencies having a vote. The chair of the board rotates north and south and the board operates by unanimous consent. To act collectively on political matters, in the early 1990s a subset of the urban agencies created a separate, less formal political group called the Bay Delta Urban Coalition and pooled funds to hire a common consultant in Washington, D.C., primarily to align their interests in the battle over the Central Valley Project Improvement Act discussed below. Not long after, urban water managers representing major urban water agencies throughout the western states created the Western Urban Water Coalition (WUWC), which coordinated activities among these agencies during CVPIA and later with respect to implementation of ESA and other environmental laws. Like CUWA, the WUWC hired a professional Executive Director, its board had a seat for each member agency, board leadership rotated amongst the member agencies and the board operated on a rule of unanimous consent. Unlike CUWA, the WUWC was expressly designed to give urban water agencies a stronger political voice in Washington, D.C.

By the early 1990s, the California water policy silos were realigned and pretty well defined. It remained to be seen whether they would interact with each other as warrior or collaborative coalitions. It turns out they would do both.



Doug Wheeler (Secretary of the Natural Resources Agency), James Strock (Secretary of CalEPA), and Sunne McPeak celebrate the signing of the Urban BMP Agreement, 1991. Photo credit: DWR.

## The Best Management Practices Agreement

The Best Management Practices (BMP) Agreement of 1991 set the stage for increased investment in urban water conservation in California for nearly two decades. The agreement was the product of strong leadership responding to a crisis created by a state regulatory proposal for mandatory urban water conservation. By the late 1980s, urban water agencies across California were coming to grips with the reality that the large-scale water supply projects to import water from afar were a thing of the past. In response, urban water agencies were turning to integrated resource plans to diversify their water supply portfolios, increasing reliance on local resources and reducing reliance on imported water. They would eventually spend more than \$20 billion collectively implementing local water resource projects, including conservation, water reuse, groundwater remediation, storm water recovery, desalination and local and regional storage projects.

In Southern California, MWD under the leadership of Carl Boronkay was developing a Regional Integrated Resources Plan (IRP) that placed heavy reliance on local resources projects, especially conservation and water reuse, that were more expensive in many cases than buying MWD's imported water. This meant that MWD needed to convince its 27 direct customers<sup>16</sup> and the hundreds of retail agencies that received water from them to change their water supply investment strategies. Each of these member agencies and sub-agencies was governed by a board of directors either elected directly by the citizens in their service area or appointed by elected officials. This turn towards local resources required a change in the coalition relationships among MWD and other water agencies in Southern California, who were no longer merely customers purchasing imported water, but rather were partners in regional water supply development.<sup>17</sup>

At the outset, MWD recognized that the best way to accomplish this major change in policy direction was through positive incentives. MWD created two financial incentive programs, the Conservation Credits Program to subsidize conservation investments and the Local Resources Program to subsidize water reuse projects. The IRP itself was developed through an extensive series of participative meetings with Southern California water agencies, state agencies and environmental NGOs from Southern and Northern California. The regional IRP was being developed in a very open and transparent process.

Against this backdrop of developing urban conservation programs through a positive, incentive-based approach, the State Water Resources Control Board (State Board) released a draft Bay-Delta Water Quality Control Plan that relied solely on what, from a local agency perspective, were draconian, mandatory water conservation measures dictated by the state. The reaction was immediate and intense, with protest letters sent to the State Board and governor by hundreds of urban water supply agencies. In the terms of Section II, the state was relying on a heavy-handed managerial approach that threatened to upend the urban water conservation coalition building efforts underway throughout California. Urban water managers met with the State Board staff to express their concerns that the state was turning conservation from a positive to a negative with a regulatory "sticks only" approach and to argue that a statewide voluntary approach would produce more conservation, sooner. The State Board staff agreed, and the BMP Agreement was the eventual result.

---

<sup>16</sup> MWD's customers are called member agencies and today there are 26 of them.

<sup>17</sup> This does not mean that local agencies during the development era were idle. They had significant responsibilities for managing local water resources, especially groundwater. For an excellent source on decades-long creative and collaborative approaches to groundwater and watershed management in Southern California, see Blomquist (1992).

The BMP Agreement was a large-scale collaborative coalition process involving urban water agencies and environmental NGOs in the north and south. Leadership emerged from two elected officials, Sunne McPeak, then a member of the Contra Costa County Board of Supervisors and previously a strong opponent of the Peripheral Canal,<sup>18</sup> and John Flynn, a member of the Ventura County Board of Supervisors and Chair of the Southern California Water Committee. The BMP Agreement was signed in 1991, amidst another historic drought, by urban water supply agencies and environmental organizations after a lengthy, open and transparent process with give and take on both sides. The agreement laid out 16 conservation BMPs that all urban signatories pledged to implement. By 1999, there were 354 signatories, including 199 urban water supply agencies, 38 environmental organizations and public advocacy groups and 124 other interested groups (CUWCC, 1999). To provide accountability, the agreement created and funded the California Urban Water Conservation Council (CUWCC) with a professional Executive Director and a Board of Directors with urban water conservation leaders and environmentalists, both groups having equal voting weight. The agreement also created an amendment process requiring consensus of the water supply and environmental signatories and was, in fact, amended seven times between 1991 and 1999 (CUWCC, 1999). As Ansell and Gash (2007, 552) point out, sometimes effective collaboration can be triggered by “the shadow of the state.”

## The 1991 Drought Water Bank

The 1991 Drought Water Bank (Bank) is an example of innovative policy arising from entrepreneurship and a collaborative coalition that was able to move rapidly in response to crisis. The Bank was made possible by a strong partnership among buyers, sellers and state agencies. The entrepreneurship came from local agencies, particularly the State Water Contractors<sup>19</sup> and the leadership came from the state.

From 1987 to 1992, California experienced yet another major, extended drought. Early in the drought, water project operators kept the spigots of their storage facilities open to meet contractor demands. But, by the late 1980s, the reservoirs were depleted. In 1990 and 1991, the agricultural contractors of the State Water Project (SWP) received a zero allocation of water under the terms of their contracts. In 1991, the urban contractors were limited to a 35 percent allocation and most had to resort to mandatory rationing on their customers. The situation was dire: after only five months into the water year<sup>20</sup> 1991 was shaping up to be the driest year ever in California. The stage was set for bitter conflict under highly stressful conditions.

---

18 The Peripheral Canal was a highly controversial project to relocate the intake of the State Water Project (SWP) north to the Sacramento River and move SWP water around the Delta through a “Peripheral Canal” rather than through existing Delta channels. The project was championed by Gov. Jerry Brown in his first two-term tour as governor. After a bitter clash of warrior coalitions, a divided California legislature in 1980 narrowly passed legislation authorizing the project. Environmentalists in the Bay Area successfully circulated a petition for a referendum to reverse the legislature’s decision. They were joined in an odd-bedfellows coalition with campaign financing from two disgruntled farmers in Kern County who thought that the legislation was too focused on the environment and not enough on water supply. The referendum was passed overwhelmingly by the voters in 1982.

19 The State Water Contractors include 29 local and regional public agencies that entered into contracts with the State of California in the 1960s to pay for and receive water from the State Water Project. The largest contractor is MWD, which delivers SWP water to urban agencies throughout coastal Southern California. The second largest contractor is the Kern County Water Agency, which supplies water to agricultural water supply agencies in Kern County.

20 The California water year starts on October 1 and runs through September 30 of the following year.

In December 1990, a group of State Water Contractors got together around a lunch table in a hotel in Oakland and laid out the essence of a drought water bank on a napkin. The contractors proposed that the governor create a drought water bank under his emergency powers; that water purchased by the Bank would be available to any public water agency willing to pay for an emergency supply, whether the agency was a State Water Contractor or not; and that all of the purchased water would be pooled and made available to the participating buyers in proportion to their financial commitments. It was a bold idea at the time – use the marketplace to combat drought and get public agencies under duress to work together instead of fight each other.<sup>21</sup> The contractors presented the idea to the Department of Water Resources (DWR) Director, David Kennedy, who then convinced newly elected California Gov. Pete Wilson to make the Bank the centerpiece of his drought policy.

DWR took control of the Bank, working closely with water agency representatives seeking to purchase water. A Water Purchase Committee (WPC) was created chaired by DWR Chief Deputy Director Robert Potter. Membership on the WPC was open to any agency prepared to help finance the purchase of water. It operated by consensus, although DWR made it clear that it was prepared to make executive decisions in the absence of unanimous consent (in the end, DWR didn't have to do so). The process was open to observers and some environmental organizations participated in WPC meetings. The WPC agreed to create negotiating teams organized according to watersheds with potential sellers. The WPC negotiators included representatives of DWR and the purchasing agencies. A price was set at \$125/acre foot for sellers (a significant sum at the time)<sup>22</sup>. All purchased water would be pooled, and buyers could purchase available Bank supplies in proportion to their financial commitment to the Bank. In February 1991, the MWD board of directors jump-started the Bank by approving \$32 million for water purchases. Despite predictions that little or no water would be available for sale during a serious drought, the Bank was able to purchase more than 800,000 acre-feet of water in less than 3 months.<sup>23</sup>

The Bank was far from perfect, given its spontaneous inception and the rapid nature in which it had to be implemented.<sup>24</sup> But, it was a powerful statement of the power of entrepreneurship, collaboration and the marketplace in shaping water policy.

- 
- 21 Water marketing was not a new idea. It had been promoted as a key water management tool in a study by the RAND Corporation in 1978 (Phelps et al., 1978). Carl Boronkay had been a major champion of water markets since the early 1980s. One of Boronkay's highest priorities at MWD in those years was creating a voluntary water market in California. But the concept was widely opposed in agricultural California, which viewed the market as a threat to its water rights and supplies. With a couple of exceptions, the concept of water marketing had not gotten off the ground prior to 1991. The Drought Water Bank would change that.
- 22 This price was the amount paid to the sellers upstream of the Delta pumping plants. After accounting for Delta losses, the buyers paid \$175/AF at the SWP's pumping plant near Tracy, California. All buyers paid the same price. Dixon, et al (1993).
- 23 An acre-foot is the amount of water required to cover an acre to a depth of one foot, about 326,000 gallons. These emergency drought supplies came primarily from 3 sources: reservoir reoperations by the Yuba County Water Agency, groundwater substitution primarily by agricultural water agencies in the Feather River watershed, and crop fallowing primarily in the Delta. Subsequent research found that some of the purchased water was "paper" water that did not actually augment flows into the Delta to make water available for buyers. For example, when rice growers released surface supplies in nearby rivers to the Bank and replaced that surface supply with groundwater (groundwater substitution), subsequent research indicated that the groundwater pumping was drawing water underground from the river, resulting in no net increase in flows to the Delta. The rules for water trading were subsequently modified to address this problem. For an assessment of the 1991 Drought Water Bank, see Dixon, et al (1993).
- 24 Urban water agencies had to meet a "Critical Needs Criteria" that required urban agencies to be rationing at 25% before they could qualify to purchase Bank water. Agricultural purchasers had no such requirement. This reflected DWR's view that it was easier for urban agencies to reduce demands without economic harm than it was for agricultural agencies. The Critical Needs Criteria also kept demands down and let the Bank purchase water at a lower price more affordable for agricultural buyers. In addition, the Bank did not require binding financial commitments from non-SWP buyers. The so-called "March Miracle" in 1991 improved water supply for most agencies suffering from the drought and most non-SWP buyers backed out of their commitments to the Bank. As a result, the State Water Contractors wound up paying for far more water than the amount to which they had initially committed. This water was merged into SWP supplies and paid for by all SWP contractors in proportion to their contract amounts.

## The Central Valley Project Improvement Act

Sometimes, warrior coalitions are necessary to achieve fundamental changes in policy. The rules for water project operations in the development era strongly favored water supply with little regard for environmental impacts. The primary purpose of the CVP under its enabling legislation was the development and delivery of water supply with 90 percent of that supply going to agricultural agencies in the Central Valley. Environmentalists knew that in addition to bringing the development era to a halt, they needed to change how the development era projects were operated. For at least a decade, California environmentalists and their champions in Congress had envisioned a law that would, first, add environmental protection and restoration as a stated purpose of the CVP and, second, provide management tools and financing to implement these changes. The CVP agricultural contractors were heavily vested in the status quo and determined to protect their interests as strongly as possible.<sup>25</sup>

CVPIA was a product of the legislative process in the Congress and shifting political coalitions among the California stakeholders. The bill benefited from strong leadership. In the Congress, Congressman George Miller (Democrat, California), Chair of the House Natural Resources Committee, and Senator Bill Bradley (Democrat, New Jersey) pursued a brilliant political strategy by bundling a wide range of western states water projects with CVPIA in an omnibus bill (see the discussion in Section II). Tom Graff of the California Office of the Environmental Defense Fund (EDF), kept the environmentalists in alignment and worked effectively with democratic Congressional staff that leaned heavily toward passage of the bill. Carl Boronkay at MWD had been working for years to build relationships with Northern California urban water agencies and environmental NGOs (including EDF). Ultimately, Boronkay led a north-south urban coalition in support of CVPIA. CVP agricultural interests participated in forums regarding provisions of the bill, for example on language related to water supply for wildlife refuges. However, in the end, the agricultural strategy centered on obtaining a Presidential veto that never occurred. Toward the end of the process, the George H.W. Bush administration ordered the United States Bureau of Reclamation (USBR) to withhold its experts from the legislative process. As a result, the ultimate bill had flaws that might have been avoided if the process had been more collaborative. On October 31, 1992, President Bush signed the omnibus legislation containing CVPIA into law, after rebuffing a plea by California Gov. Pete Wilson to veto the legislation.

The CVPIA transformed the CVP and California water policy. The act added environmental protection and restoration as a stated purpose of the CVP, authorized 800,000 acre-feet of water dedicated to the environment, provided for priority water deliveries to federal wildlife refuges, established fees on CVP water for environmental restoration, allowed water to be voluntarily sold by water users to non-CVP entities and authorized numerous habitat restoration projects in the Bay-Delta watershed. These changes were the result of a clash of warriors, but the Act passed in large part because of profound changes in the coalitions engaged in California water policy with an unprecedented, diverse urban and environmental coalition seeking a more progressive water policy.

## The Bay-Delta Accord

The Bay-Delta Accord (Accord) was the high-water mark of collaborative decision-making in the history of California water.<sup>26</sup> The Accord was the result of high-level leadership among the federal, state and stakeholder participants and an unprecedented willingness to negotiate rather than fight. Just as the CVPIA demonstrated that the CVP needed to be operated for both economic and environmental values, by the mid-1990s it was clear that the same approach needed to prevail in the management of the Bay-Delta watershed.

---

25 In early 1992, the author had a conversation with Jerry Butchert, then the General Manager of the Westlands Water District, and tried to convince him that it would be better to go through a collaborative process with environmentalists in California than deal with a fiercely adversarial process in the Congress. In response, Mr. Butchert said that from the perspective of the Westlands Board of Directors: "Some things can be negotiated away and some things have to be taken away." A clash of warrior coalitions was inevitable.

26 For a summary of the Bay-Delta Accord process, see Rieke (1996).

The Delta is the heart of the California water supply system and a place of considerable importance to ecosystem management for the numerous delta-dependent aquatic species in California. It lies east of the San Francisco Bay area at the confluence of California's two largest rivers, the Sacramento River flowing from the north and the San Joaquin River flowing from the south. Millions of acre feet of water are conveyed either through or around the Delta to urban water agencies in the Bay-Area and Central and Southern California, providing all or a part of the water supply for 25 million Californians. More than 3 million acres of California farmland relies on Delta-conveyed supplies for irrigation water. The Delta is also critical for the well-being of numerous resident and migratory fish species, including species listed as threatened or endangered under state and federal endangered species acts.

Despite its importance (or perhaps because of it), the Delta remains California's most important unresolved water policy issue. It has been the subject of numerous policy proposals over the years, usually involving ideas about how to convey water around, through or under the Delta in Delta conveyance facilities. In the 1960's, a peripheral canal was first proposed primarily by state fishery biologists who believed that it was the best way to move water from upstream of the Delta to downstream contractors and minimize adverse impacts on Delta fisheries. No Delta conveyance facility was built at the time largely to save money in the construction of the SWP. In the late 1970s, the Peripheral Canal was proposed by the Gov. Jerry Brown administration. While legislation was narrowly passed to authorize the project, it was soundly defeated in a voter referendum in 1982. This was followed in the mid-1980s by the proposed "Duke's Ditch" by Gov. George (Duke) Deukmejian's administration. Duke's Ditch sank in a political quagmire of warrior coalitions. In 2006, the Schwarzenegger administration initiated the Bay Delta Conservation Plan (BDCP), which sought to combine new Delta conveyance infrastructure with a major habitat restoration program. Gov. Jerry Brown picked up the BDCP where Gov. Schwarzenegger had left off but had to abandon it in favor of WaterFix and EcoRestore when environmental regulators declined to issue permits for the BDCP. All these initiatives became battlefields for warrior coalitions, generally with Southern California and San Joaquin Valley water agencies on one side and Delta farmers and Bay Area environmentalists on the other side. All these initiatives failed. The reader may well be asking: If we keep failing on Delta policy for the past half century, why don't we just drop it? The answer is because it is so important.

Only during the mid-1990s did California experiment with a truly collaborative approach to develop a workable Delta policy. This was primarily due to strong leadership and an unusual willingness of federal and state agencies and stakeholders to compromise. The impetus for the Accord was a crisis triggered by a harsh regulatory proposal, this time from the U.S. Environmental Protection Agency (EPA) using its Clean Water Act authority. In 1993, EPA proposed sweeping flow requirements in the Bay-Delta watershed to improve water quality conditions for Delta fisheries.<sup>27</sup> Estimates at the time indicated that the EPA proposal would cost water users millions of acre-feet of water and impose an extraordinarily high burden on the California economy. In addition, the U.S. Fish and Wildlife Service (USFWS) and National Marine Fishery Service (NMFS) were adding ESA-based operational restrictions on SWP and CVP in the Delta. California was facing a major water crisis in the Delta as a result of these federal actions. The California urban, agricultural and environmental water warrior coalitions were amassing.

But then an unprecedented thing happened, largely because of the leadership at the time. Federal, state and stakeholder leaders all committed to a collaborative process to resolve their differences. Perhaps the most important leadership came from the federal government. Secretary of the Interior Bruce Babbitt was building a reputation in the West as a leader who believed in collaboration as the best means to deal with complex, controversial natural resource issues<sup>28</sup>. Babbitt's lieutenant, Assistant Secretary for Water and Science Betsy Rieke, proved to be a remarkable leader who at least for a few years held the federal agencies together and got them to speak with one voice. On the state side, the same thing was happening with Gov. Pete Wilson and Secretary of the Natural Resources Agency Doug Wheeler. Both the state and federal agencies entered into agreements among their respective agencies to enhance coordination within and between the state and federal agencies (Rieke, 1996, 359-60).

---

27 This federal proposal came only after the state had withdrawn a regulatory proposal of its own to protect the Delta environment. (Rieke, 1996, 346).

28 Secretary Babbitt was also accused by western Republicans of declaring "War on the West", largely because of policies on grazing and mining (Rieke, 1996, 360).

Among the stakeholders, leadership emerged from all sectors, many veterans of the 3-Way Process. Negotiations were open to all and the urban, agricultural and environmental participants knew that they were having a direct impact on policy and would have to be accountable.<sup>29</sup> The three stakeholder groups all developed caucus mechanisms and selected negotiators. There were numerous face-to-face meetings among the stakeholder and state and federal negotiators.

All of the stakeholder groups took a different approach than previously, at least in part due to the relationships built during the previous decade. The urban agencies no longer resisted any regulatory proposal that could cost them water and committed to let the science shape their policy positions. Acting through CUWA, the north-south urban coalition amassed more than \$1 million to fund independent scientists who could advise them during the process. The environmentalists did not dig in their heels and insist on the initial EPA proposal. Everyone knew that the high water supply costs of the EPA proposal would lead to prolonged years of warrior coalition litigation. Among agricultural interests, Daniel Nelson, Executive Director of the newly formed San Luis Delta Mendota Water Authority, had the courage to venture outside his silo and made it clear that agricultural agencies were prepared for good faith collaborative negotiations.<sup>30</sup>

Much of the negotiations were driven by technical and scientific considerations. The Accord represented a challenge of efficiency – how to accomplish science-based benefits for fisheries in a manner that minimizes the costs borne by water users and the state economy. For its part, EPA under the leadership of Region 9 Administrator, Felicia Marcus, made it clear that EPA was willing to search for such efficiencies.<sup>31</sup> Collaboration tends to spark creativity, whereas adversarialism tends to stifle it. In the case of the collaborative effort working on the Accord, the north-south urban coalition eventually developed an approach to Delta outflows that they believed met the scientific requirements to benefit the environment at a much lower water cost. At a dinner meeting in San Francisco between the urban and agricultural leaders during the Fall of 1994, the urban proposal became the agricultural and urban water users' proposal. The estimated water cost of providing fishery improvements was 400,000 AF annually on average and more than 1 million AF during critically dry water years, a substantial amount but far less than the water costs of the original EPA proposal (Rieke, 1996, 348). With refinements, the water users' proposal provided the basis for the Bay-Delta Accord.<sup>32</sup>

---

29 The business community was involved as well. In a letter to President Clinton and Gov. Wilson dated June 30, 1994, top-tier business leaders in California urged action on the Delta. The letter was signed by, among others, the CEOs of BankAmerica, Wells Fargo, the Federal Reserve Bank of San Francisco, TransAmerica Corporation, Southern California Edison, Pacific Gas and Electric Company and San Diego Gas and Electric Company (Rieke, 1996, 364).

30 In 1995, the California Council for Economic and Environmental Balance awarded its annual Edmund G. "Pat" Brown award to one representative of each stakeholder caucus: Dan Nelson for agriculture leadership, the author for urban leadership, and John Krautkraemer of EDF for environmental leadership. Tragically, Krautkraemer was killed in a skiing accident about a month after the Accord was signed, a sad loss for California water policy.

31 This feature of collaborative decision-making, being accountable for impacts on other parties involved in the negotiation, is the main reason that collaborative processes are inherently more efficient than adversarial processes. In the Bay-Delta Accord, the negotiations benefitted from a clear scientific rationale for providing fishery flows. The concept, developed in part by scientists at Stanford University, was dubbed X-2, which posited that Delta smelt would be healthier in Delta waters with good habitat and salinity concentrations of 2,000 parts per million. The CUWA science team, led by Dr. Greg Gartrell of the Contra Costa Water District, innovated ways to meet the scientific requirements of X-2 with reservoir releases when necessary at a greatly reduced water cost compared to the original EPA proposal. An important breakthrough resulting from the CUWA science-based approach was that the CUWA science team gained the trust of the environmental and state and federal negotiators, helping to facilitate forthright and honest discussions.

32 As noted in Section III, there still was considerable controversy regarding the science, particularly (and predictably) between scientists in the regulatory agencies and those working for the water supply stakeholders. At a critical public meeting in Monterey, CA in December 1994, Assistant Secretary Rieke convened the scientists from both sides with the policy leaders engaged in the negotiation. After reviewing the science from both groups of scientists, Rieke led the federal agencies in supporting the Accord based largely on the stakeholder science.

The Bay-Delta Accord was celebrated and signed on December 15, 1994. The agreement included four categories: (1) restrictions on pumping operations by the CVP and SWP in the Delta; (2) reinstatement of the State's Delta water quality standard setting process;<sup>33</sup> (3) a habitat restoration program called the Category 3 Program and funded by MWD;<sup>34</sup> and (4) development of a state-federal long-term, comprehensive strategy for better management of the Delta, which became known as the CALFED Process (Rieke 1996, 362).



Media briefing for Bay-Delta Accord, December 15, 1994. Left to right: John Krautkraemer (EDF), Doug Wheeler (Secretary, California Natural Resources Agency), James Lecky (NOAA Fisheries), Dan Nelson (SLDMWA), Bruce Babbitt (Secretary of the Interior), Gov. Pete Wilson, Dave Schuster (State Water Contractors), Steve Hall (ACWA), Bonnie Herman (Valley Industry and Commerce Association), Carol Browner (Administrator, USEPA), Gary Bobker (San Francisco Bay Institute), John “Woody” Wodraska (MWD) and James Strock (Administrator, CalEPA). Photo credit: ACWA.

The Bay-Delta Accord stabilized the water politics of the Delta to a substantial degree for more than a decade. As Rieke (1996, 366) notes, the Bay-Delta Accord experience demonstrates “that open, inclusive, and collaborative processes are critical to making decisions that will have a reasonable shelf life.” Water users did not lose any additional water for ESA purposes until a federal court decision on ESA implementation in 2007.<sup>35</sup> Over the following decade, numerous Category 3 projects were implemented in some cases with spectacular results.<sup>36</sup> The Agreement did not “fix” the Delta, especially for Delta fisheries, but it was not expected to. The CALFED process unfolded over the next six years with stakeholders and state and federal agencies meeting face-to-face often. CALFED was formalized with an executive director and an active stakeholder advisory committee. The process completed a comprehensive strategy for the Delta that was laid out in a Record of Decision signed by Gov. Gray Davis in 2000.

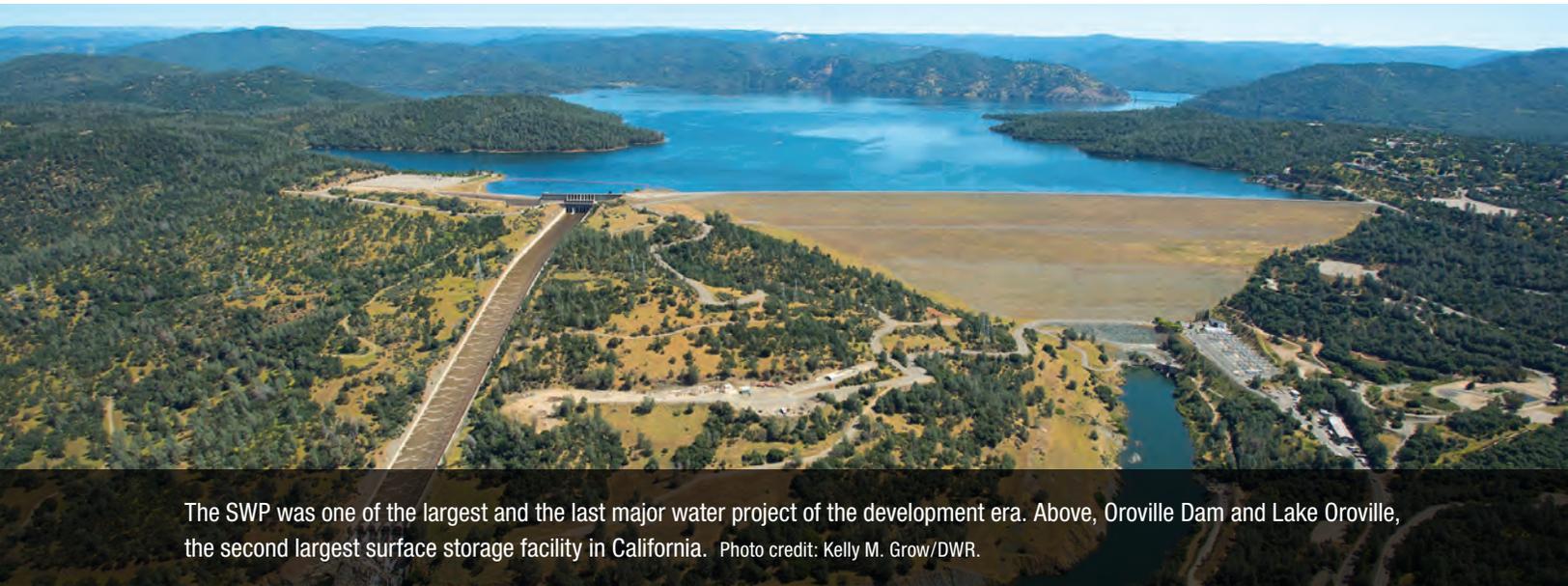
33 Gov. Wilson had halted the State Board process in 1993, an action that led to EPA putting its own plan on the table (Rieke 1996, 346).

34 Late in the negotiation process, two outstanding issues threatened to unravel the deal: water users wanted assurances that if they agreed to reallocate more than 1 million AF annually of water to the environment, then the remaining supply would be reliable; environmentalists wanted assurances of financing for the Category 3 non-flow measures. In a phone call engineered by Rieke between Secretary Babbitt and MWD General Manager Woody Wodraska, Babbitt agreed that the Department of Interior would be responsible for any additional water required for ESA purposes for the term of the agreement and Wodraska committed \$30 million of MWD funds with no strings attached to fund Category 3 projects.

35 The CVP did lose additional water as a result of actions to implement provisions of CVPIA that dedicated water to the environment. While the Accord provided that any water lost in its implementation by CVP contractors must be fully credited to their obligations under CVPIA, it left on-going implementation of CVPIA to the discretion of the U.S. Fish and Wildlife Service. In subsequent years, the CVP contractors argued that the USFWS used its discretion in implementing CVPIA in a manner that was inconsistent at least with the spirit of the Accord.

36 Examples include ecosystem restoration projects on Butte Creek, Battle Creek and Clear Creek in the Sacramento River watershed and the Tuolumne River in the San Joaquin River watershed.

More than any of the other initiatives discussed here, the Bay-Delta Accord incorporated the criteria for a successful collaboration described in Section III. Even so, the Accord – and the open, transparent and collaborative process that it adhered to – did not last. The main reason was the loss of leadership. Assistant Secretary Rieke left the Department of the Interior in 1995. With the Presidential election of 2000, Secretary Babbitt left his position and the incoming George W. Bush administration had little interest in a cumbersome, collaborative process to determine water policy in California. In California, the Gray Davis Administration also retreated to a more managerial mind-set for decision-making. Moreover, in the absence of the kind of leadership the state and federal governments had in the 1990s, the stakeholders began slipping back into warrior coalitions and managerialism to try and push through Delta solutions over the objections of others. Nonetheless, the Bay-Delta Accord demonstrated the power of a collaborative, science-based, comprehensive decision-making process in the complex and contentious California water policy arena.



The SWP was one of the largest and the last major water project of the development era. Above, Oroville Dam and Lake Oroville, the second largest surface storage facility in California. Photo credit: Kelly M. Grow/DWR.

## The Monterey Amendments

While the Bay-Delta Accord was under development, the State Water Contractors were embroiled in a legal dispute regarding the provisions in the SWP contracts that allocated water. The result was the Monterey Amendments to the State Water Contracts (Monterey Agreement), which were finalized in Monterey, California on December 1, 1994, just two weeks before the signing of the Accord (CADWR, 1994). The Monterey negotiating process adhered substantially to the success criteria in Section III with one important exception discussed below.

Like many successful collaborations, the Monterey Agreement arose from a crisis, in this case triggered by a threatened lawsuit regarding the water allocation provisions of the State Water Contracts (Contracts). Under the original Contracts, signed in 1960 in the heart of the development era, the agricultural contractors agreed to take the first cuts in SWP water deliveries when shortages occurred. It was presumed that the agricultural contractors would turn to groundwater to replace the lost supplies. Accordingly, the Contracts also gave agricultural contractors a preference on the delivery of wet period surplus water to replenish their groundwater basins. The problem was that SWP supply facilities which were anticipated when the Contracts were signed in 1960 – planned reservoirs on North Coast rivers subsequently declared wild and scenic – had not been built and never would be. Because of the lack of adequate supply facilities, the SWP was entering an era in the 1980s and 1990s when it would be chronically short – a fact that was driven home during the prolonged 1987-1992 drought.

The agricultural contractors, under the leadership of Tom Clark, General Manager of the Kern County Water Agency (KCWA), threatened to file a lawsuit because they believed that the agricultural-first cutbacks in the Contracts would force them into shortage conditions much more often than originally intended<sup>37</sup>. Among the urban contractors there was the usual warrior coalition bravado that the threatened lawsuit had no merit. However, some urban contractor leaders, particularly at MWD, thought that the agricultural lawsuit, if filed, posed a serious threat and favored settlement negotiations. The leaders at DWR, KCWA, MWD and the other contractors all committed to settlement negotiations in lieu of a prolonged fight in the courts. DWR and the contractors acquired the services of a prominent mediator, James Waldo from Tacoma, Washington and set a deadline of December 1, 1994 to complete the settlement agreement.<sup>38</sup>

The first thing that Waldo did was to “grow the problem” – that is to expand the negotiation beyond the single water allocation issue under dispute and address a broader set of issues related to the development era contracts, which simply no longer met the requirements of the water management world in the late 20th century. This is another critical difference between adversarial and collaborative decision making. In an adversarial process, decision making is limited to the issues in dispute, which is why adversarial “solutions” inevitably create winners and losers. Waldo recognized that if the Monterey negotiations were limited to the issue under dispute – the water allocation provisions of the SWP contracts – it would be extremely difficult to reach agreement. As a result, the negotiations were expanded to include, among other measures, voluntary water transfers among contractors, provisions to enhance contractors’ abilities to implement local and regional storage projects and certain financial modifications to the contracts.

The more comprehensive approach worked. The intense negotiations were highly organized and lasted about four months. The parties were the State (DWR and the Office of the California Attorney General<sup>39</sup>), the agricultural contractors and the urban contractors. Each party identified negotiators and developed an effective caucus mechanism. Every contractor was engaged. Each knew that they had a voice because the agreement would produce amendments to the contracts that their boards of directors would have to approve. An agreement without virtual unanimity in contractor approval would be very difficult to implement.



37 A lawsuit was drafted by the agricultural contractors and shared with DWR and the urban contractors, but it was never filed. Ultimately, it was clear that Clark didn’t want to go to court; he wanted to negotiate.

38 Waldo is a partner in the law firm Gordon, Thomas and Honeywell. Working with Waldo demonstrated the value of a strong facilitator in complex negotiations. In 2019, Waldo received a lifetime achievement award from Forterra, a prominent conservation and sustainability organization, for his decades of facilitating conservation agreements among environmental, tribal and economic interests in the Pacific Northwest.

39 The Attorney General’s Office was involved because the negotiations were about contracts with the state of California.

The final agreement essentially modernized the contracts by resolving the dispute over the provisions allocating SWP water and providing the contractors management tools appropriate to the new era of water management. The final agreement eliminated both the urban and agricultural allocation preferences for water deliveries, relying on a simpler approach in which each contractor would receive water in all years in proportion to their contract amount.<sup>40</sup> Under the agreement, KCWA agreed to relinquish permanently 175,000 AF of contract rights, a concession still unprecedented today. Of this amount, 130,000 AF was to be transferred from KCWA subcontractors to urban contractors pursuant to voluntary water marketing agreements at negotiated prices.<sup>41</sup> Another 45,000 AF of contract rights was surrendered to the project to be allocated among all contractors in proportion to their contract amounts with no compensation to KCWA. At the time, the capital value of this water was estimated to be about \$45 million. The agreement also paved the way for the contractors to successfully build and operate local and regional storage projects – a critical issue because the state had been unable to develop new storage capacity. The agreement provided assurances that urban contractors could implement groundwater storage partnerships with agricultural partners in the San Joaquin Valley.<sup>42</sup> Partly in exchange for KCWA's agreement to surrender contract water with no compensation, the agreement transferred the title to lands in Kern County to KCWA that enabled the development of the locally controlled Kern Water Bank.<sup>43</sup> The Kern Water Bank became a highly successful, locally managed agricultural water supply and environmental restoration project. Finally, the agreement transferred certain funds from DWR back to the contractors. These funds had been written into the 1960 contracts so that DWR would always have financial resources to study the next storage project on the North Coast. Since those projects had become a development era anachronism, it made sense to return these funds to the contractors who could use them to help finance local resource (or other) projects.

One significant drawback to the Monterey Agreement process was how the parties addressed what Schlager and Blomquist (2008) call the “boundary” issue – that is, who gets to participate in the process. DWR and the contractors defined the boundary of the negotiation to include only themselves and the Office of the Attorney General. Environmental NGOs and other outside interests, of course, would have input through the CEQA/NEPA process. But those laws enacted in the 1970s reflected the adversarial nature of stakeholder relationships at the time. Outsiders could comment on the draft environmental documents, but the negotiating process itself was closed to their participation, even as observers. This decision to exclude outsiders was made because the amount of water delivered by the SWP from the Delta would not be affected by the contract amendments. Those supplies were determined by rules established by the ESA agencies and the State Board and none of those rules would be changed by the Monterey Agreement. The agreement affected only how SWP water was allocated and paid for among the contractors when it was delivered. So, the boundaries were set to include only the agencies that would be impacted by the changes negotiated. This logic seemed to make sense at the time, but it was an important omission of one of the keys to success described in Section III.

When the draft Environmental Impact Report was released for public review, there was an outcry from the environmental community

---

40 As it turned out, changing the water allocation provisions of the contracts was an improvement for both agricultural and urban contractors. The agricultural contractors obviously benefited from the elimination of agricultural-first cutbacks. From the perspective of the urban contractors, the state had been unable to develop the supply assets to deliver dry year water, so the agricultural-first provision was of limited value. Moreover, many contractors were interested in developing local storage projects and elimination of the agricultural preference for surplus water provided urban contractors with better access to wet year water for their storage programs.

41 Several KCWA subcontractors had wanted to sell water out of the county to willing urban buyers for years, but KCWA had consistently blocked these efforts.

42 MWD had been trying to develop such storage partnerships in Kern County for nearly a decade but had been consistently blocked by DWR and KCWA. Today, such south-of-Delta storage agreements are an integral part of SWP water management.

43 This was one of the most controversial aspects of the Agreement. These lands were originally purchased by DWR to develop a state groundwater bank, but the project never gelled. Under the Monterey Agreement, those lands were eventually transferred to KCWA subcontractors who agreed to walk away collectively from 45,000 AF of their contract rights. These public agencies were located on the western side of Kern County and all were property qualified water districts, which means that their governance is based on votes by landowners in proportion to the value of their land receiving water from the district. The most prominent of the landowners was Paramount Farms (now the Wonderful Company). Some environmentalists have protested this action as the “privatization” of a public asset. It is important to note that Paramount was not directly involved in the 1994 negotiation. They came on the scene only later when Tom Clark was seeking subcontractors who would agree to relinquish SWP contract rights with no compensation. The westside agencies stepped forward and made the Kern Water Bank highly successful (Kern Water Bank Authority, 2015).

and eventually a group of environmentalists filed a CEQA lawsuit. Perhaps more important, the closed process created a small, intense group of environmentalists fiercely opposed to the project even today, 25 years after the negotiations concluded. The plaintiffs prevailed on appeal on a limited set of issues related to the CEQA document. DWR was required to conduct another CEQA review, although the SWP could continue operations under the Monterey Agreement (and still does today). The CEQA lawsuit led to another round of settlement negotiations with the plaintiffs and, among other things, DWR and the contractors agreed that henceforth all SWP contract negotiations would be conducted in public.

The Monterey Agreement advanced modern water management tools for the SWP contractors – water marketing, downsizing agricultural water entitlements, south-of-Delta water storage and promotion of local resources – all of which are supported by many environmental organizations. The agreement once again affirmed the ability of a collaborative process to establish good policy and illustrated the principle that, in Waldo’s words, “sometimes to solve a problem you have to grow it.” But the lawsuit and the acrimony triggered by the Monterey Agreement might have been avoided (or at least attenuated) had DWR and the contractors employed a more inclusive process.

## The Sustainable Groundwater Management Act

While a legislature can be an arena for conflict between warrior coalitions, it also can foster sound public policy through collaborative coalition building. This was certainly the case with the passage of the Delta Reform Act through a complex, but open and transparent legislative process in 2009 (see the discussion in Section II). The Sustainable Groundwater Management Act (SGMA) was similarly the product of such a collaborative effort and was equally important.<sup>44</sup> SGMA was the product of a decades-long evolution of public policy with progress being made one step at a time – a process of what might be called “guided incrementalism.” Each step reflected politics as the art of the possible, but the end goal of effective groundwater management in all California groundwater basins that needed it was the driving force for leaders in water agencies (even in the Central Valley), environmental organizations and state government. Over time, the coalitions involved in the issue shifted positions, most notably the Association of California Water Agencies (ACWA) which represents approximately 450 urban and agricultural public water supply agencies throughout California. SGMA also illustrates the principle that if the proponents of policy change can’t reach unanimity, they must build a broad enough coalition in support to protect the new policy equilibrium. In the development of SGMA, this was accomplished, in large part, by reaching out to those who would be impacted and incorporating their concerns in the final legislation, even if their organizations ultimately oppose the law.

California has a long history of wrestling with groundwater management challenges (Leahy, (2015)). Although parts of California, particularly in Southern California had highly advanced groundwater management (Blomquist, 1992), the state was often chided as the last to require groundwater management on a statewide basis. By the early 21st century, the groundwater situation in the Central Valley of California had reached crisis proportions fueled by recurring drought and, in some areas, increasingly stringent environmental regulations that reduced the availability of surface water to replenish groundwater basins. Historically, local water management agencies represented by ACWA opposed legislation calling for state mandates to manage local groundwater basins, but that was changing. In 2007, the ACWA leadership met with key groundwater experts and all agreed that groundwater management should be a high policy priority for ACWA. In 2009, the ACWA Board of Directors approved its first policy statement regarding groundwater, a two-page statement of the statewide importance of the issue (ACWA, 2009). In 2011, the ACWA groundwater committee developed and the Board approved a far more detailed policy paper entitled *Sustainability from the Ground Up: Groundwater Management in California* (ACWA, 2011). This paper clearly stated that ACWA policy was to manage groundwater for sustainability and that this should be accomplished through local control, with the implication that local agencies could lose control if they did not manage the resource sustainably.

---

44 For a review and analysis of SGMA and the decades-long struggle to develop legislation for sustainable groundwater management, see Leahy (2015).

In 2014, ACWA raised the stakes and created a Board Task Force on groundwater management led by ACWA Vice President, Randy Record. The driving force of the task force was its Vice Chair, David Orth, a long-time member of the ACWA Board of Directors and General Manager of the Kings River Conservation District in the heart of the San Joaquin Valley where SGMA would have its greatest impacts. In April 2014, the task force released its report, *Recommendations for Achieving Groundwater Sustainability* (ACWA, 2014). This policy paper was expressly intended as a guide for what should be included in statewide groundwater management legislation. It called for a clear definition of sustainability, argued that local agencies should be empowered to structure their own local sustainability programs and be granted the tools needed for implementation and, significantly, provided that the legislation should include a strong backstop with the state stepping in if the local agencies don't do the job.

These ACWA work groups and task force included diverse representatives from numerous ACWA member agencies and other interests. In particular, water managers and attorneys from Central Valley agricultural water agencies were encouraged to participate and did so. Even if their organizations ultimately opposed the legislation, it was important to tap into their expertise in shaping the policy. At the same time, the California Water Foundation<sup>45</sup> (CWF), headed by Lester Snow, former DWR Director and Secretary of the California Natural Resources Agency, was convening a similar diverse advisory group at the request of the Brown Administration.<sup>46</sup> Both the ACWA and CWF policy documents (ACWA,2014; CWF, 2014) called for a definition of sustainability, local control and a strong state backstop if the local agencies did not get the job done.<sup>47</sup>



Gov. Brown signs SGMA on September 16, 2014. Photo Credit: State of California

45 Now the Water Foundation.

46 Some water experts, including David Orth, participated in both the ACWA and CWF processes.

47 The final SGMA legislation was highly consistent with both the ACWA and CWF policy statements.

Even before these events were unfolding, private meetings throughout the Central Valley with local water managers and their attorneys made it clear that these local leaders knew they were facing a groundwater crisis. That's why they constructively engaged in the ACWA and CWF processes. In the past, when local water managers in the Central Valley raised the issue of managing groundwater resources sustainably, they were quickly faced with strong opposition from landowners and growers, who frankly had much more local political clout. It was clear that many local agricultural water managers would welcome access to more effective groundwater management tools and the ability to overcome local resistance to sustainable management.

During the previous two decades, the legislature took limited steps to encourage sustainable groundwater management.<sup>48</sup> By 2014, the stage was set for comprehensive, statewide groundwater management legislation. The leadership in the saga of SGMA was widespread and diverse. Gov. Jerry Brown made sustainable groundwater management a priority in his 2014 *California Water Action Plan*. In the Senate, Fran Pavley, chair of the Natural Resources Committee, introduced a bill proposing statewide sustainable groundwater management (SB 1168). In the Assembly, Roger Dickinson and Anthony Rendon, Chair of the Assembly Water, Parks, and Wildlife Committee, introduced companion legislation (AB 1739). Passage of SGMA was the highest legislative priority at the time for CWF and ACWA. Cindy Tuck, ACWA Deputy Executive Director for Government Relations, and her team led an impressive coalition effort to assure that the legislation was consistent with the ACWA policy principles and tirelessly worked with a small army of ACWA member agencies to round up votes for the legislation. On September 16, 2014, Gov. Brown signed 3 bills into law that collectively created SGMA.<sup>49</sup> It was arguably the most important legislation in a century, since the 1913 passage of the Water Commission Act, which authorized the state to regulate surface water.<sup>50</sup>

SGMA is an excellent example of the principle that even if you go through a “big tent,” open, transparent and inclusive process, you still may face opposition (Leahy, 2015, 38). SGMA did not receive a single yes vote from Central Valley legislators, where its impacts would be greatest. The California Farm Bureau Federation (CFBF), often an ACWA ally, and many other production agricultural organizations fiercely opposed the legislation. At the same time, a very broad and diverse coalition supported the legislation. Moreover, precisely because SGMA was the outcome of an open, transparent process that reached out even to likely opponents, the legislation created a sound, comprehensive approach to sustainable groundwater management. Today, five years after passage, there is no movement in the Central Valley to repeal SGMA.<sup>51</sup> This does not mean that SGMA implementation is not controversial. Policy changes as important and complex as SGMA are bound to give rise to controversy. Under SGMA, Groundwater Sustainability Plans (GSPs) are required by 2020 for critically overdrafted basins and by 2022 for other basins. As GSPs are implemented, lawsuits will likely be filed, GSP provisions may be challenged, and it is possible that the state backstop will be deployed in some groundwater basins. However, because of the participative process that forged the legislation, SGMA will chart the course of effective groundwater management in California for decades to come.

## Common Themes

The initiatives examined in this section were all success stories to one degree or another. As illustrated in Table 3, each policy initiative had unique characteristics and lessons for future water policy. While all the Section III criteria are important, three common themes of these initiatives warrant discussion here: 1) the overriding importance of leadership; 2) the fact that all these initiatives were “big tent” exercises; and 3) the role that looming crises play in sparking a collaborative process.

---

48 Leahy (2015). In 1992, the legislature passed AB 3030 (Costa) which authorized local agencies to voluntarily create Groundwater Management Plans (GMPs). SB 1938 (Machado) in 2002 provided that agencies seeking state bond funds for groundwater projects had to first adopt a GMP.

49 The bills were SB 1168 (Pavley), AB 1739 (Dickinson, Rendon), and SB 1319 (Pavley). SB 1168 and AB 1739 were the primary bills. SB 1319 was a cleanup bill in response to last minute requests from agricultural interests. Leahy (2015, 39).

50 For a detailed description of SGMA, see Leahy (2015, 34-39)

51 CFBF is a case in point. Notably, CFBF attorneys had constructively participated in ACWA working groups on SGMA. On the day that SGMA passed, CFBF leadership indicated that they would seek to overturn the law. Within two months, the CFBF policy had changed and the organization was determined to help its members implement the law effectively.

All the initiatives had strong leaders who were willing to take risks and foster entrepreneurship. Significantly, each initiative was characterized by facilitative leadership, not by managerial leadership. While the leaders of the initiatives knew what problems they were trying to solve, the specific policy solutions were not preconceived. Sunne McPeak and John Flynn had no idea at the outset of the BMP conservation initiative what the final solution would look like. Betsy Rieke did not imagine in early 1993 that she was leading an effort that would result in an accord with four categories of agreement. She openly encouraged innovative thinking among the urban agencies and other participants in the process. In the negotiation of the Monterey Agreement, David Kennedy and the leaders among the State Water Contractors initially thought that they would limit settlement discussions to the allocation provisions of their contracts. Senator Fran Pavley and Assemblyman Roger Dickinson, the legislative leaders of SGMA, couldn't have predicted at the outset how the roles of local and state government would merge in the final SGMA legislation. Policy solutions emerged from the process where different interests listened to each other, were held accountable for impacts on others and worked together through a collaborative process to shape a workable solution for all.

The role of the leaders was to trust the process and protect it. The stakeholders stayed on board partly because they believed that they could advance their interests further in a collaborative process than run the risk of a winner-take-all adversarial process. In each case, the stakeholders at the table were empowered; they knew that they were leaving their fingerprints on the final product. They also knew that the collaborative leaders whom they were working with day-to-day had support at the very top. David Kennedy enjoyed the confidence of Gov. Pete Wilson and DWR was able to do things that had never been done before with the Drought Water Bank and the Monterey Agreement. Betsy Rieke had unflinching support from Secretary Babbitt and the White House and all the stakeholders working on the Bay-Delta Accord knew it. SGMA succeeded because the governor and legislative leaders did not consider failure an option and gave the negotiators room to maneuver.

A second critical common theme is that these collaborative efforts were “big tent” exercises benefiting from a wide range of views and objectives among the participants. Across California, hundreds of urban water agencies, environmental organizations, public advocacy organizations and other interest groups engaged in the conservation BMP process. One of the key decisions that made the 1991 Drought Water Bank successful was that the process would be open to all public water supply agencies, not just the State Water Contractors. The Bay-Delta Accord brought the major water interests and numerous environmentalists to the table. In addition to federal and state agencies, the stakeholder participants included representatives of environmental organizations, export water users and other water interests, and various business organizations. The Monterey negotiations included all 29 State Water Contractors, many with numerous member and sub-member agencies so that hundreds of local agencies engaged one way or the other in the process. In each of these initiatives, stakeholders formed effective caucus mechanisms to keep their interest group informed and carry new ideas into the negotiations. In most cases, support for the final agreement was not unanimous. For example, the Bay-Delta Accord, Monterey Agreements and SGMA each faced some opposition. But the support base for each had enough political weight to protect the new policy equilibrium. These processes were inclusive, not exclusive. In the one arguable exception, the Monterey Agreement, project proponents paid the price for nearly two decades in the courts for not inviting interested parties into the process.

Finally, almost all these initiatives were in response to crisis conditions. Severe drought was a stimulus for the Drought Water Bank, Monterey Agreement and SGMA. Perhaps more important, the threat of proposed regulations or adverse legal action were critical motivators for the BMPs, Bay-Delta Accord and Monterey Agreement. In each of these cases, the threat of an adversarial process triggered a collaborative process. In some cases, this was probably not accidental. Tom Clark, the General Manager of the Kern County Water Agency, didn't want to go to court; he wanted to negotiate. Interior Assistant Secretary Betsy Rieke and USEPA Region 9 Director Felicia Marcus made it clear early in the Bay-Delta Accord process that they didn't want to hold onto their regulatory proposals; they wanted to negotiate. Does this mean that we must always wait for a crisis to jumpstart a successful collaboration? The answer is unclear. As noted in Section II, California's water policy arena has yet to fully enter the collaborative era. Collaboration is not always the first thought of managerial leaders in the regulatory era when confronted with an emerging policy problem. In the initiatives examined here, water policy leaders seized on a crisis to force solutions to pressing problems. As California fully evolves into a water policy collaborative era, perhaps it will be in the DNA of our political leaders not to wait for a crisis to strike, but rather to anticipate solutions-to-crises with a collaborative process.

# V. THE DELTA CONUNDRUM: RECOMMENDATIONS FOR MOVING FORWARD

Too often policy debates about California water focus principally on preconceived outcomes – what government agencies and stakeholders would like to see happen. Guess what? They rarely agree, especially when it comes to policies related to the Sacramento-San Joaquin Delta. The new administration under Gov. Gavin Newsom has already initiated its water policy with an April 2019 Executive Order to create the California Water Resilience Portfolio Initiative. To be successful in the Delta, the administration needs to provide leadership to drive California water policy into a collaborative era and make the stakeholders partners in shaping a durable Delta policy.

## Why Have the 21st Century Delta Initiatives Failed?

In the world of California water policy, the Delta has always been different. Of all the Delta-related initiatives mentioned in Section IV, only the Bay-Delta Accord was founded on collaborative decision-making. As successful as the Accord was, it did not result in a stable, long-term equilibrium. Over the past two decades, at a time when California needed to continue developing collaborative solutions to our water policy challenges, the state has instead drifted away from collaboration, at least as far as the Bay-Delta watershed is concerned. One reason for this is the change in state and federal leadership occurring around the turn of the century. In 1999, the Wilson administration gave way to the administration of Gov. Gray Davis. Two years later, the administration of President Bill Clinton was replaced by the administration of President George W. Bush. For whatever reason, neither the new state nor federal leaders had the same commitment to collaborative decision-making as did their predecessors.

In California, there was an effort to respond to these leadership changes by creating new institutions. In 2003, the California Bay-Delta Authority (CBDA) was created to integrate the decisions of state and federal agencies in the Delta and presumably continue the progress of the 1990s. However, in no small part because the existing state agencies were leery of a new agency that could overrule their decisions, the legislation creating CBDA gave it little authority and few resources. The federal agencies never participated in CBDA. It was abolished in 2009 and replaced by the Delta Stewardship Council (DSC), which was also envisioned as an integrating, coordinating body among state and federal agencies and stakeholders. But instead of facilitating bottom-up decisions to help agencies and stakeholders agree on policy, leadership took the DSC in the direction of developing new top-down regulatory powers, which undermined the ability of the council to perform its integration and coordination functions.

Another key factor weakening the resolve to pursue collaborative solutions has been how stakeholders respond to changes in power. Since the mid-1980s, California water managers have dealt with six state and six federal administrations. The best way to deal with political transition is to build and maintain a strong stakeholder coalition around sound policy to get a political leg up with a new administration. But this is far from easy because often changes in administrations empower certain stakeholders reducing the attractiveness of compromise. When George W. Bush was elected, many agricultural interests felt empowered. This sense of empowerment was even stronger with the election of President Donald Trump in 2016. In the intervening years, environmental organizations felt empowered with the rise of the administration of President Barack Obama. Why would an interest group compromise when it believes that its relationship with new leaders will achieve more for its interests than compromise? The short answer to this question is that it doesn't do an interest group much good to have power in a decision-making process that is incapable of producing a new durable policy. These considerations underscore that governance and institutional structure are key elements in reforming California water policy. And while California might not be there yet, the state has been and should continue to address this challenge.

Despite these setbacks to collaborative decision-making in recent years, the Bay-Delta Accord did demonstrate that collaboration can work for Delta decision-making. Readers may have their doubts and not without justification. The Delta is ridiculously complicated, physically, politically and institutionally. Delta “islands” are subsided holes with farming occurring below sea level and contributing to further subsidence. The rivers and channels of the Delta, under the influence of upstream diversions and the CVP and SWP Delta pumps, run in the wrong direction from a fishery management perspective. There are so many issues and conflicting agendas, so many players and so many decades of ill will and outright hostility. Maybe, collaboration cannot succeed in the Delta. But then we must realize that it is precisely in such challenging circumstances that collaboration, difficult as it may be to achieve, is the only process capable of producing a stable, long-term equilibrium that can meet the promise of a policy of coequal goals. The Delta is the kind of complicated, difficult and contentious issue that Rittel and Webber (1973) call “wicked problems”. As Margerum (2011, 6) points out, it is the wicked problems that collaboration is better suited to address than other decision-making processes. As stated earlier, collaboration works. Conflict doesn’t. It’s time to try collaboration again in the Bay-Delta watershed. After all, how has California been doing with managerialism, adversarialism and clashing warrior coalitions?



The Edmund G. “Pat” Brown California Aqueduct and the Delta Mendota Canal run side-by-side along I-5 and carry water from the Delta to 25 million Californians and more than 3 million acres of farmland. Photo credit: Paul Hames/DWR.

The three 21st century initiatives in the Delta – BDCP, WaterFix and the State Board’s proposed “unimpaired flow” policy – have all been characterized by strong leadership. Gov. Jerry Brown, and Gov. Arnold Schwarzenegger before him, were strong leaders on water policy and both were dedicated to solving the problems in the Delta. Former State Board Chair Felicia Marcus is universally viewed as a strong water policy leader. But in each of the 21st century Delta initiatives the leadership was more managerial than facilitative. BDCP and WaterFix were, by design, managerial enterprises with decisions made by the insiders, the state agencies and export contractors. With a few exceptions,<sup>52</sup> the project proponents planned to deal with outsiders through the environmental documentation process. Similarly, the State Board’s process to implement a regime of unimpaired flows came straight out of the past in a managerial decision-making process driven by insiders. These strategies may have been good enough in the development and regulatory eras, but they will not work in the collaborative era that California needs to shape today.

52 For example, the Contra Costa Water District successfully negotiated a settlement agreement with the state that involved mitigation of any water quality impacts on its supply.

None of this is to discount the decade-plus of hard work that has gone into these initiatives. DWR and the contractors spent millions of hours and more than \$300 million on studies and environmental documents. They went through the CEQA/NEPA process in good faith, changing the project substantially in response to public comments. For example, the decision to move from a large surface canal to underground tunnels was driven in part by a desire to reduce the land surface footprint of the project. Similarly, the project eliminated two of the five originally planned intakes on the Sacramento River, converted the remaining three to gravity rather than pumped intakes, downsized the tunnels, and made numerous other changes based on what they were learning from the public process. But, CEQA and NEPA were not designed for coalition building. They created a mechanism that allowed adversaries to communicate with one another, but only after project managers had decided what they wanted to do.

Similarly, the State Board can point to years of science behind their staff unimpaired flow proposal. But that science is subject to substantial disagreement (as was the science for the Accord) and was developed in a silo that focused only on flow as a policy tool and did not consider the implications of a broader, integrated ecosystem management approach. The only path to real improvement for fisheries and the ecosystem in California is through an ecosystem integrated resources plan that incorporates all available management tools to deal with the entire life cycle of at-risk fisheries. Environmental flows will be an important element in an ecosystem IRP, but decisions regarding flows should be integrated into the package in an efficient manner – just as in the Bay-Delta Accord. This outcome is only possible through a process of collaborative coalition building. The response of Gov. Brown to the outcry over the State Board staff unimpaired flow proposal in 2018 was to initiate a negotiating process dubbed the Voluntary Settlement Agreements, which has brought water users from all over the Bay-Delta watershed and some environmentalists to the table. This was a huge step in the right direction and the Newsom administration has raised the stakes to assure the success of these negotiations. Recently, the State Board engaged the negotiating process, rather than remaining aloof from it as in the past, another good sign that California may be headed towards a more collaborative future.

The fundamental problem with Delta policy in the 21st century has been that we are using decision-making processes from earlier eras to solve problems that can only be resolved through collaboration. The closed decision-making process for BDCP was evident early on. Early in the BDCP process a stakeholder advisory committee was created with representatives of the water supply and environmental NGO communities. The advisory committee was chaired by Karen Scarborough, a Deputy Secretary of the Natural Resources Agency in the Schwarzenegger Administration. Scarborough was a veteran in the development of habitat conservation plans to implement ESA actions who understood that stakeholders must have a meaningful voice for the plan to succeed.<sup>53</sup> However, the project proponents decided that the advisory committee would be strictly advisory with no real impact on decisions. Eventually, the committee was disbanded.

A successful 21st century Bay-Delta policy will require considerable effort to build a broad-based statewide coalition to shape a workable policy and assure that new policies establish a long-term stable policy equilibrium. By the end of 2018, there was no broad-based coalition supporting WaterFix and EcoRestore. At best, the Brown Administration's policy was supported by export contractors who believed they would benefit from the project. Although many environmental organizations recognize that the Delta needs fundamental structural and policy change, not a single environmental NGO was publicly in support of the policy. Many environmental organizations, Delta landowners, and others were staunchly opposed and prepared to defend their positions in the courts. Water agencies outside the export contractors were standing on the sidelines or filing protests before the State Board. The CVP water service contractors in the San Joaquin Valley who would benefit from the project had made it clear they would not help pay for it. In the end, after 15 years of dedicated gubernatorial leadership to develop and implement solutions in the California Delta, one of the first actions of Gov. Gavin Newsom was to unplug the Brown Administration's proposal by withdrawing its permit application before the State Board.

---

53 Under the federal ESA, actions can be implemented under either Section 7 or Section 10 of the Act. Section 7 implementation reserves all decision-making authority for the implementing regulatory agency. Decisions are top-down and limited in scope by the statutory authority of the agency. Section 10 authorizes the agency to make decisions in a Habitat Conservation Plan (HCP) that is more collaborative in nature and can employ a wider range of policy tools for ecosystem management. The state equivalent is called a Natural Communities Conservation Plan (NCCP). Both an HCP and NCCP give greater voice to applicants and stakeholders to obtain financial and other resources for a more comprehensive ecosystem management plan. The goal of the BDCP was to implement an HCP-NCCP. Ultimately, the ESA regulatory agencies rejected the application for a Section 10 permit, citing concerns over the uncertainty that would accompany a long-term permit.

## Early Action by the Newsom Administration

In early 2019, Gov. Newsom rejected the Brown Administration's "Twin Tunnel" Delta policy. At the same time, the governor made it clear that the Delta is critical to the success of a statewide water plan and that he would establish a process for his administration to deal with the Delta policy conundrum. And the governor called for that policy to include a single tunnel to route water under the Delta, not the two tunnels proposed in WaterFix. In April 2019, the governor issued an Executive Order directing the Secretaries of the Natural Resources Agency, California Environmental Protection Agency (CalEPA), and California Department of Food and Agriculture to develop a California Water Resilience Portfolio Initiative (CWRI).

The Executive Order is reminiscent of a "portfolio" proposal suggested by a group of environmental NGOs and water agencies in 2013.<sup>54</sup> The 2013 Portfolio included a wide range of investments, including a single Sacramento River intake and tunnel (3,000 cubic feet per second capacity), substantial investments in alternative supplies to reduce pressure on the Delta, south-of-Delta surface and groundwater storage capacity to promote wet year diversions and reduce dry year diversions, and improvements in levees, flood plains and tidal marshes. At the time, it appeared to some that this proposal, in which environmental NGOs were supporting major infrastructure investments for the first time, could be a breakthrough and provide a framework for negotiations leading to broad based support for a Delta solution. However, the 2013 proposal was quickly and emphatically rejected by the Brown Administration and export contractors who were engaged in a managerial process that did not consider such an approach in its range of alternatives. If the CWRI is a signal that the Newsom Administration seeks to broaden the interests at the negotiating table, this is a very good sign.

The April 2019 Executive Order directs the CWRI to prioritize multiple benefit approaches that meet multiple needs at once, include natural infrastructure such as forest and flood plains, encourage collaboration in watersheds, integrate programs across state agencies and strengthen partnerships with stakeholders. According to a fact sheet on the CWRI:

"The portfolio will integrate and build on programs, policies and investments already in place to build a climate-resilient water system. While specifics will be defined over the coming months, likely elements include making the most of every drop through recycling and conservation, expanding stormwater capture and groundwater recharge to their full potential, modernizing water infrastructure – including in the Delta – to withstand climate pressures, and advancing multi-benefit projects such as floodplains that improve flood protection, enhance habitat and recharge groundwater basins. The Governor's executive order emphasizes the need for innovation and new technologies, strengthened partnerships and regional approaches."

To coordinate among the state cabinet level agencies involved, the Executive Order creates a new position within the California Natural Resources Agency, the Director of the Governor's Water Portfolio Program. The CWRI conducted numerous public meetings throughout California to gather public comment and input.<sup>55</sup>

54 The environmental NGOs were the Natural Resources Defense Council, Contra Costa Council, Environmental Entrepreneurs, Planning and Conservation League, Defenders of Wildlife and The Bay Institute. The urban water agencies, endorsing the proposal in a separate letter, included Alameda County Water District, Contra Costa Water District, East Bay Municipal Utility District, San Francisco Water, Power, and Sewer, San Diego County Water Authority, Otay Water District and the City of San Diego.

55 At the time of this writing, a draft of the California Water Resiliency Portfolio is forthcoming.

This is a good start but raises at least two concerns. First, it is imperative that the leadership model be facilitative and not managerial. Second, a key criterion for the success of a collaborative effort is that stakeholders “engage directly in decision making and are not merely ‘consulted’ by public agencies,” (Ansell and Gash, 2007, 544). It is unlikely that decisions made inside state agencies, even with extensive public comment, will result in a stable new policy equilibrium for the Delta. A collaborative process pulls in the stakeholders and encourages accountability. Unanimous support among all stakeholders is not realistic, but a collaborative coalition is the best chance to build a broad enough support base to protect the new policy from its opponents, just as occurred in the formation of SGMA. The administration needs to take the next step and establish a collaborative coalition building process to synthesize what it is learning in the development of the CWRI and to develop and implement a broadly supported statewide action plan to implement its policy. How can this be done? The advice in this paper for moving beyond managerialism and public comment to true collaboration comes straight from the criteria in Section III for successful collaborative decision-making. So, here are some specific suggestions for an effective collaborative coalition building process for consideration by the Newsom Administration as it moves forward with CWRI.

## Recommendations for Initiating a Collaborative Coalition in Support of a Durable Delta Policy

**Facilitative Leadership:** It is clear that Gov. Newsom is committed to developing a workable, durable Delta policy and that he has put in place highly capable people in his administration to carry out this mandate. Secretary of the Natural Resources Agency Wade Crowfoot, DWR Director Karla Nemeth, Secretary of CalEPA Jared Blumenfeld and Chair of the State Board Joaquin Esquivel are all well suited for the change in leadership style that will be required for success. The leaders of the administration and future administrations should practice facilitative leadership and avoid predetermined solutions.<sup>56</sup> Let the process work. The administration should also consider strategies to gain the trust with and among the stakeholder groups who engage, using strategies less formal than large public comment meetings.

**Stakeholder Commitment:** The administration should make it clear that it expects all stakeholders to engage constructively in the collaborative process. The involved stakeholders need to know that they have an active role in shaping policy and are not merely providing comments on decisions made inside the state bureaucracy. If a stakeholder group seeks to abandon the collaborative process in favor of an adversarial process, there should be consequences. The administration should work with environmental NGOs and other public interest groups to assure that they have adequate resources to participate effectively. Hold all stakeholders accountable; let them know that when the policy is officially announced, the governor expects them to be on that stage, as they were in 1994, to express their support.

**Institutional Design:** Institutional design of the collaborative process raises the most challenging issues. Here are some concepts worth considering:

- Only a “big tent” will work for Delta policy; the process is going to be unwieldy and will require time and energy to manage.
- The process absolutely has to be open, transparent and inclusive.
- Identify a workable number of representative negotiators for each stakeholder group; not everyone inside the tent can or should be a negotiator.
- Help stakeholder groups establish functional caucus mechanisms to keep everyone informed – SGMA, the Monterey Agreement and the Bay-Delta Accord provide examples.

---

<sup>56</sup> One predetermined outcome is that there will be only a single tunnel and not two as in WaterFix. Even this should be subject to discussion. It may turn out that a well-structured collaborative process based on sound science will discover that you can get more “coequal goals” with two tunnels than with just one. The reason is that a larger “isolated” conveyance facility will allow more separation of the water to be managed for the ecosystem from water to be managed for the economy. See Lund, et al. (2007).

- Conduct frequent face-to-face meetings among the negotiators, work to help them establish good working relationships and establish a timetable for developing the policy.
- Strive to reach consensus decisions, but be prepared to act without unanimous consent. As with SGMA, unanimous agreement is almost certainly unachievable, but the administration should build a large enough collaborative coalition in support to assure that the new policy equilibrium can withstand attacks by splinter groups.
- Continue to plan on outreach meetings for public comment before, during and after the negotiating process. This is important for outreach to the “public,” defined as those who have an interest in the process but are not negotiators or caucus participants. Also, provide regular publicly available progress reports on the negotiations that are generally agreed to by the negotiators.
- Hire a highly accomplished professional facilitator, or better yet, a team of facilitators and make sure that they have adequate resources.
- Enlist organizations outside of state government to assist, such as ACWA and the Water Foundation – this was a critical element of success in the passage of SGMA.
- Practice patience and remember that “war is easy, collaboration is hell.”

**Sound, Shared Science:** There will be disputes regarding the science as state agencies and stakeholders try to strengthen their negotiating positions. Use the Independent Science Board at the Delta Stewardship Council for the purpose it was designed. Take a page out of Betsy Rieke’s Bay-Delta Accord playbook and, at strategic times, require a public vetting of the scientific differences of opinion with policy makers actively involved. These sessions should include a summary and comparison of all perspectives on the science presented in language for a lay audience.

**Comprehensive Solutions:** The importance of moving forward with a comprehensive solution set cannot be overstated. Broad support for a Delta policy is possible only if the Delta policy is nested in a statewide comprehensive program that stakeholders have confidence will move forward as a whole – nobody gets left behind.<sup>57</sup> Here some considerations:

- The Delta “Portfolio” will necessarily be large and complicated, involving numerous actions within and outside the Delta; look for creative ways to combine elements that encourage broader support as occurred in the Monterey negotiations.
- Quantify objectives and results to encourage interest-based as opposed to position bargaining. Measure alternatives against these criteria to encourage entrepreneurship and the development of better portfolios.
- The comprehensive package will likely be too large to implement all at once; it should be implemented in tranches, collections of program elements that collectively have geographically broad benefits so no stakeholder group fears being left behind.
- Encourage entrepreneurship, which was important in almost all the success stories in Section IV. One idea is to encourage negotiators to consider transforming environmental management from a regulatory, managerial model that focuses on limited policy tools to an asset-based, collaborative ecosystem portfolio model with substantial resources for ecosystem managers and active participation by environmental NGOs and others.
- Reach out to objective academic institutions like Stanford University, UC Davis and other UC campuses, The California State University system and the Public Policy Institute of California to help analyze policy portfolio alternatives and suggest ways to improve them.

---

<sup>57</sup> In California water, if the only thing you’re talking about is the Delta, the only result will be an argument. In 2013, it was apparent that ACWA members were badly divided on Delta policy with members upstream of the Delta preparing to bring lawsuits against BDCP. This opposition arose not because of the physical solution in BDCP (and later WaterFix) to relocate the intakes for the CVP and SWP. Although there was some concern regarding specific adverse impacts, the larger concern among Northern Californian water agencies was that BDCP was moving forward as a stand-alone project. In response, ACWA, working with a large and diverse group of its members and with leaders in the Brown Administration, developed the Statewide Water Action Plan (SWAP). See ACWA (2013). The SWAP proposed a statewide suite of actions, including some form of the proposed physical solution in BDCP. The SWAP was developed in a large, open, and transparent process and published in 2013. Within a few months, more than 100 public urban and agricultural water supply agencies from northern and southern California passed resolutions of support (ACWA, 2013). The Brown Administration released its California Water Action Plan in 2014, which contained many of the same elements as SWAP. While the administration had a sound, comprehensive statewide water program, when WaterFix was submitted to the State Board for permits, it was as a stand-alone project element and drew considerable opposition.

- Remember that success is possible only by searching for efficiencies as occurred in the Bay-Delta Accord. State agencies and stakeholders have to be held accountable for impacts on others; no one gets thrown under the bus.

**Finance:** If the process results in a broadly supported statewide program, it will be far easier to finance. As noted, a Delta policy developed through a collaborative process will require a highly diverse and integrated set of projects and policies, which will require a diverse and integrated financial plan. The emerging portfolio will contain varied investments in both public and private assets. Some investments will produce both public and private benefits. Water users should be expected to pay for water supply and water quality benefits, but substantial amounts of public funds also will be required to close the deal. The administration should engage public finance experts early in the process to help sort the financial issues out.

**Adaptive Implementation:** The administration should take considerable care in shaping an adaptive management implementation process. It is important to establish an implementation process that accepts that things will go wrong and need to change. The institutional structure and participants in the adaptive management process should be the subject of open public discussion. Stakeholders should have an active role in the implementation process. If participants in the initial negotiation don't have confidence in the implementation process, they will tend to over-negotiate the deal in a vain attempt to get certainty. No one gets certainty; that's just the reality. But, dealing with uncertainty will be far easier if the stakeholders "own" the final portfolio and have a meaningful role in implementing it.

## VI. CONCLUSION

Governance – the challenge of determining who makes decisions and what process is used to decide who gets what, when – is the missing link of 21st century California water policy. Too often, water policy leaders and stakeholders focus almost exclusively on *what should be done* rather than the *process for making those decisions*. Should Delta conveyance have two tunnels, one tunnel or no tunnels at all? Where should we construct new storage capacity? Should it be above ground, below ground or both? How much more should California invest in demand management? How much additional flow is required to sustain healthy fisheries? These questions have been in dispute for decades. While some progress has been made, there is no broad consensus about the collective answers to these questions. So far in the 21st century, when California seemed to make progress on moving toward collaboration, as with the 2013 water resources portfolio proposed by some environmental organizations and urban water agencies, the California water warriors responded quickly and harshly, and opportunities were lost.

This report has focused on processes of decision-making rather than on the substance of what should be done. The past 40 years have demonstrated that getting the process right is a prerequisite for getting the policy right. Today the forging of a durable public policy is at its core a collaborative coalition-building exercise. California made progress with managerial, top-down decision making in the past when we built water infrastructure during the development era and when we moved to protect and restore the environment in the regulatory era. To make further progress, California needs to break into a collaborative era to deal with the complexities of a policy of “coequal goals.” Indeed, for California’s leaders, the challenge of shaping a truly collaborative era is more important right now than engineering answers to the size of Delta conveyance facilities or the location of new storage capacity or how we can further reduce demands for water from the Delta. Broad support for the answers to these questions can only be developed through a collaborative process in a big tent with stakeholders who know that they are helping to shape future water policy and are held accountable. As Schlager and Blomquist (2008) emphasize, watershed decision making is inescapably political. California’s water leaders need to embrace the grass roots politics of collaboration.

Now is the time to learn lessons from the successes and failures of the past four decades of water policy. It is time to reestablish personal relationships among the occupants of the urban, agricultural and environmental and public interest silos, as occurred in the 3-Way process of the early 1990s. Decision-makers need to practice bottom-up, facilitative leadership – the kind of leadership that was essential for success in the urban conservation BMPs, the Bay-Delta Accord, Monterey Agreement and SGMA. California water leaders need to encourage entrepreneurial ideas and be bold enough to “grow the problem” when it will help build a stronger coalition of support for controversial policies. Decision making needs to become more inclusive with a level playing field for previously marginalized groups, and not reserved primarily for the larger state, federal and local agencies. And California needs to learn not to wait for a crisis to initiate collaboration. In the collaborative era, collaborative coalition-building needs to become our first instinct when addressing the “wicked problems” of California water policy.

# INDEX OF ACRONYMS

ACWA	Association of California Water Agencies
BDCP	Bay-Delta Conservation Plan
Bank	1991 Drought Water Bank
BMP	Urban Water Conservation Best Management Practices
CALFED	State-Federal Process Created by Bay-Delta Accord
CalEPA	California Environmental Protection Agency
CEQA	California Environmental Quality Act
CFBF	California Farm Bureau Federation
CUWA	California Urban Water Agencies
CUWCC	California Urban Water Conservation Council
CWAP	California Water Action Plan
CWF	California Water Foundation (Now Water Foundation)
CVP	Central Valley Project
CVPIA	Central Valley Project Improvement Act
CWA	Clean Water Act
DWR	California Department of Water Resources
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
GSP	Groundwater Sustainability Plan
HCP	Habitat Conservation Plan
KCWA	Kern County Water Agency
MWD	Metropolitan Water District of Southern California
NEPA	National Environmental Policy Act
NCCP	Natural Communities Conservation Plan
NGOs	Non-Governmental Organizations
NCWA	Northern California Water Agencies
ROD	CALFED Record of Decision
SDWA	Safe Drinking Water Act
SLDMWA	San Luis Delta-Mendota Water Authority
State Board	State Water Resources Control Board
SWP	State Water Project
SWAP	Statewide Water Action Plan
SGMA	Sustainable Groundwater Management Act
USBR	United States Bureau of Reclamation
WPC	Water Purchase Committee
WRPI	Water Resilience Portfolio Initiative
WUWC	Western Urban Water Coalition

# INDEX OF CITED WATER POLICY LEADERS

Babbitt, Bruce	Secretary, U.S. Department of the Interior
Blumenfeld, Jared	Secretary, California Environmental Protection Agency
Boronkay, Carl	General Manager, Metropolitan Water District of Southern California
Bradley, Bill	United States Senator, New Jersey
Brown, Jerry	Governor of California
Bush, George H.W.	President of the United States
Bush, George W.	President of the United States
Butchert, Jerry	General Manager, Westlands Water District
Clark, Thomas	General Manager, Kern County Water Agency
Clinton, William	President of the United States
Crowfoot, Wade	Secretary, California Natural Resources Agency
Davis, Arthur Powell	Commissioner, U.S. Bureau of Reclamation General Manager, East Bay Municipal Utility District
Davis, Gray	Governor of California
Deukmajian, George	Governor of California
Dickinson, Roger	Member, California Assembly
Esquivel, Joaquin	Chair, California State Water Resources Control Board
Flynn, John	Supervisor, Ventura County President, Southern California Water Committee
Gartrell, Greg	Assistant General Manager, Contra Costa Water District
Graff, Thomas	Environmental Defense Fund
Gilbert, Jerry	General Manager, East Bay Municipal Utility District
Kennedy, David	Director, California Department of Water Resources
Marcus, Felicia	Director, Region 9, U.S. Environmental Protection Agency Chair, State Water Resources Control Board
McPeak, Sunne	Supervisor, Contra Costa County
Miller, George	Chair, House Committee on Natural Resources
Mulholland, William	General Manager, Los Angeles Department of Water and Power
Nelson, Daniel	Executive Director, San Luis Delta Mendota Water Authority
Nemeth, Karla	Director, California Department of Water Resources

Newsom, Gavin	Governor of California
Nichols, Mary	Secretary, California Natural Resources Agency
Obama, Barack	President of the United States
Orth, David	Member, ACWA Board of Directors General Manager, Kings River Conservation District
O'Shaughnessy, Michael	General Manager, San Francisco Public Utilities Commission
Pavley, Fran	Chair, California Senate Committee on Natural Resources
Potter, Robert	Chief Deputy Director, California Department of Water Resources
Record, Randy	President, Association of California Water Agencies Chair, Metropolitan Water District of Southern California
Rendon, Anthony	Chair, California Assembly Committee on Water, Parks and Wildlife
Rieke, Betsy	Assistant Secretary, Water and Science, U.S. Department of the Interior
Scarborough, Karen	Deputy Secretary, California Natural Resources Agency
Snow, Lester	Director, California Department of Water Resources Secretary, California Natural Resources Agency Executive Director, California Water Foundation
Schwarzenegger, Arnold	Governor of California
Steinberg, Darrell	President Pro Temp, California Senate
Trump, Donald	President of the United States
Tuck, Cindy	Deputy Executive Director for Government Relations, Association of California Water Agencies
Waldo, James	Partner, Gordon, Thomas and Honeywell
Wilson, Pete	Governor of California
Wodraska, John R. "Woody"	General Manager, Metropolitan Water District of Southern California

Note: Titles are those held by individuals at the time of activities discussed in this report.

# REFERENCES

- Ansell, C. and A. Gash. 2007. "Collaborative Governance in Theory and Practice." *Journal of Public Administration: Research and Theory* 18 (4): 543-571.
- Association of California Water Agencies. 2009. *ACWA Policy Principles on Groundwater Management: Groundwater – Invisible No More*.
- Association of California Water Agencies. 2011. *Sustainability from the Ground Up: Groundwater Management in California*.
- Association of California Water Agencies. 2013. *Statewide Water Action Plan*.
- Association of California Water Agencies. 2014. *Recommendations for Achieving Groundwater Sustainability*.
- Baumgartner, F. and B. Jones. 2009. *Agendas and Instability in American Politics*. Second Edition, University of Chicago Press: Chicago, IL.
- Blomquist, W. 1992. *Dividing the Waters: Governing Groundwater in Southern California*. ICS Press: San Francisco, CA.
- California Department of Water Resources. 1994. *The Monterey Amendment – Statement of Principles by the State Water Contractors and the State of California Department of Water Resources and Potential Amendments to the State Water Supply Contracts*.
- California Urban Water Conservation Council. 1999. *Memorandum of Understanding Regarding Urban Water Conservation in California*. As amended September 16, 1999.
- California Water Foundation. 2014. *Recommendations for Sustainable Groundwater Management: Developed Through a Stakeholder Dialogue*.
- Dixon, L.S., N.Y. Moore, and S.W. Schechter. 1993. *California's 1991 Drought Water Bank: Economic Impacts in Selling Regions*. MR-301-CDWR/RC, RAND Corporation.
- Fleck, J., 2016. *Water is for Fighting Over and Other Myths About Water in the West*. Island Press: Washington D.C.
- Kern Water Bank Authority. 2015. *20 Years: Forging a Long-Term Future for People and Wildlife*. Kern Water Bank Authority.
- Kingdon, J. 2011. *Agendas, Alternatives, and Public Policies*, Second Edition, Pearson: Harlow, UK.
- Leahy, T.C. 2015. "Desperate Times Call for Sensible Measures: The Making of the California Groundwater Management Act." *Golden Gate University Environmental Law Journal*, Volume 9.
- Littleworth, A, and E. Garner. 2019. *California Water III*. Solano Press Books: Point Arena, CA.
- Lund, J., E. Hanak, W. Fleenor, R. Howitt, J. Mount, and P. Moyle. 2007. *Envisioning Futures for the Sacramento-San Joaquin Delta*. Public Policy Institute of California.
- Margerum, R.D. 2011. *Beyond Consensus: Improving Collaborative Planning and Management*. The MIT Press: Cambridge, MA.
- Phelps, C.E., N.Y. Moore, and M.H. Graubard. 1978. *Efficient Water Use in California: Water Rights, Water Districts, and Water Transfers*. R-2386-CSA/RF, RAND Corporation.
- Principles for 3-Way Water Agreement Process*. July 19, 1991.
- Quinn, T.H. 1983. *Toward a More General Theory of Environmental Policy with an Application to Evolution of Groundwater Law in California*. Ph.D. Dissertation in Economics, University of California, Los Angeles.
- Quinn, T.H., P.L. Jacobsen, R.M. Sitts. 2001. "Managing Water Supplies for Ecosystem Diversity: The California Experience." Presented at the Managing River Flows for Biodiversity Conference, Colorado State University, Fort Collins, CO, July 30, 2001.
- Rieke, Betsy. 1996. "The Bay-Delta Accord: A Stride Toward Sustainability." *University of Colorado Law Review*, Vol. 67, Issue 2, Spring 1996, Pp. 341-369.
- Rittel, H.W.J. and M.M. Webber. 1973. "Dilemmas in General Theory of Planning." *Policy Sciences*, 4 (2): 155-169.
- Schlager, E. and W. Blomquist. 2008. *Embracing Watershed Politics*. University of Colorado Press: Boulder, CO.
- Smith, A. 1776. *The Wealth of Nations*. W. Strahan and T. Cadell: London, UK.
- Stoker, G. 1998. "Governance as Theory: Five Propositions." *International Social Science Journal*, 50:17-28.



For more information visit:  
[waterinthewest.stanford.edu](http://waterinthewest.stanford.edu)

**Water in the West**

Stanford University  
Jerry Yang & Akiko Yamazaki Environment  
& Energy Building  
473 Via Ortega, MC 4205  
Stanford, CA 94305  
[waterinthewest@stanford.edu](mailto:waterinthewest@stanford.edu)

# Stanford | Water in the West

