



CRWFS

CALIFORNIA ROUNDTABLE ON
WATER & FOOD SUPPLY

CALIFORNIA WATER ACTION PLAN

Analysis & Findings by the California Roundtable on Water & Food Supply

August 2016



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INTRODUCTION

The [California Water Action Plan \(WAP\)](#) is a five-year roadmap for the state’s journey toward long-term, sustainable water management. It was prepared by Governor Brown’s Administration in January 2014, and [updated in 2016](#), in response to the worst drought in memory.¹² This executive mandate represents the first succinct, comprehensive, and action-oriented agenda in California’s history, featuring three broad, long-term objectives:

1. “more reliable water supplies,
2. the restoration of important species and habitat, and
3. a more resilient, sustainably managed water resources system (water supply, water quality, flood protection, and environment) that can better withstand inevitable and unforeseen pressures in the coming decades.”

Holistic and collaborative in its approach and aspirations, the WAP’s development and implementation is led by a unique multiple-Cabinet collaboration including the California Natural Resources Agency (CNRA), the California Environmental Protection Agency (CalEPA), and the California Department of Food and Agriculture (CDFA). It calls for better cross-sector “collaboration between state, federal and local governments, regional agencies, tribal governments, and the public and the private sectors.” The WAP’s innovative focus on collaborative solutions is what drew the California Roundtable on Water and Food Supply (CRWFS) to study and provide recommendations for effective implementation of the WAP based on our [Connectivity Approach](#) to natural resources management.³

Founded in 2010, the California Roundtable on Water and Food Supply (CRWFS) is a distinctive think-tank and social innovation laboratory committed to the long-term, systemic view on California’s water challenges. It develops the approaches and thinking needed to ensure a resilient, adaptive and healthy water system for the benefit of California’s agriculture, environment and people. Its members are leaders with a wide variety of perspectives and expertise who act in the public’s highest interest.⁴ Moreover, members share a strong dedication to the state’s goals of water reliability for societal needs and ecological sustainability. Since its inception, the CRWFS has examined and made [recommendations on agricultural water stewardship](#), storing water using a [retention framework](#), the development of the [Connectivity Approach](#), which provides a whole-systems framework to guide water management decisions, and its application to [improving groundwater management in California](#).⁵⁶⁷⁸

The CRWFS developed the [Connectivity Approach](#) drawing on more than five years of research, case analysis, and dialogue. It offers a way of focusing on the linkages which connect the parts of any given system to form a whole, and recognizes that action in one component within a system, impact other components of that system and other linked systems. For example, farming practices in California can impact regional air quality and watershed health, as well as global supply chains. **The goal of the Connectivity Approach and its guiding principles (see figure 1) is to help policymakers, resource managers, and land use planners design for, and achieve, benefits for agricultural, urban, and environmental interests.** It is a systems thinking framework that can be used in planning, analysis, decision-making, and implementation of natural resource management policies and activities to assess the viability and benefits of integrated management efforts. The CRWFS also developed a tool for integrated planning, the [Mapping Pathways to Success for WAP Actions](#) worksheet. Based on the Connectivity Approach, this worksheet is designed to support policymakers and anyone interested in WAP implementation in considering key enablers and barriers of successful implementation of any given WAP action.

Each year, the CRWFS has selected a pressing topic at the intersection of California water and food production to explore from a whole-systems perspective. In 2015, with the support of staff from the three WAP authoring agencies, the CRWFS chose to use the lens of the Connectivity Approach to examine the strengths of the WAP. Opportunities were identified for expanded, integrated, implementation and long-term endurance of the WAP. What follows are their key findings and recommendations, and a summary of their methodology. This helpful

information is intended to support the current and future administrations’ ability to prioritize leverage points for resourcing the long-term collaborative capacities required to meet the goals of this groundbreaking and ambitious plan. The CRWFS also wishes to advance the alignment of the agencies’ goals and actions to increase the efficiency and effectiveness of implementation actions.

Figure 1: Using the Connectivity Approach in Planning: Guiding Principles

Connected Thinking	Socioeconomic and Institutional Linkages	Public and Stakeholder Engagement
<ol style="list-style-type: none"> 1. Understanding natural systems: Integrated thinking and science-based solutions 2. Recognize that water, farmland, and habitat are finite resources that depend on each other 3. Emphasize connected-benefit projects 4. Recognize that food is water 5. Avoid unintended negative consequences of past and emerging approaches 	<ol style="list-style-type: none"> 1. Move beyond institutional goals and entrenchment 2. Address conflicting policies and regulations 3. Manage political and economic drivers 4. Shift from one-size-fits-all solutions to collaborative, regionally-appropriate, whole systems strategies 5. Assess and manage unintended consequences 6. Design and implement approaches to manage the transition from existing to new practices 	<ol style="list-style-type: none"> 1. Communicate with the public 2. Increase awareness of educational programs 3. Encourage active participation, not just passive information consumption 4. Promote and support public actions that emerge from the ground up

STRENGTHS & OPPORTUNITIES

We analyzed the California Water Action Plan (WAP) using the whole-systems framework of the Connectivity Approach. Through this process we identified three major strengths and opportunities for implementing the WAP in a more integrated, adaptive, and collaborative manner for this Administration and beyond. This is not an exhaustive analysis of the strengths and opportunities, but highlights some important areas where immediate attention could lead to major improvements in the management of California's water resources to benefit the people, farms, and environment it serves.

Strength: A Big Step Toward Integrated, Adaptive & Collaborative Management

Our ability to resolve challenges in water management in California has not kept pace with the increasing scope and complexity. The WAP calls for improving coordination and collaboration across multi-levels of governments and sectors of society as a necessary step towards discovering more robust solutions. We applaud the WAP for its focus on developing regionally-appropriate and collaborative solutions rather than taking a 'one-size-fits-all', top-down approach. It recognizes integrated management approaches that can lead to connectivity between different parts of the water resources system (such as forest health and downstream water supply). It also calls for improved data sharing, and engagement of diverse partners. This kind of multi-discipline thinking and cooperation, shared priorities, and transparent information sharing are essential ingredients for building a more interconnected and resilient water management system in the state.

Opportunity: Sustaining the WAP Beyond the Brown Administration

The CRWFS supports a statewide strategic water action-planning methodology, such as the WAP, to move beyond individual institutional goals and bureaucratic entrenchment. It demonstrates a key shift from a 'shotgun' solution, hoping something works, to collectively working together. However, the WAP is an initiative of the current Administration and is not based in legislative statute. The challenge is how to sustain the best aspects of WAP beyond this Administration and build on its lessons and successes.

One option is to tie its update process to that of the [California Water Plan \(CWP\)](#).⁹ The CWP, established through legislative action, is comprehensive and focuses on long-term goals. It does not contain an implementation or finance plan, nor is it linked to regulatory actions. On the other hand, the WAP is a five-year action plan guiding programmatic and funding decisions. These two plans fulfill different but interrelated goals. The upcoming 2018 update of the CWP has already been positively influenced by WAP through its inclusion of several elements which tie the two planning processes together. These include: specific outcomes and metrics to track water management performance, tools to inform policy and decision-making, prioritized near-term investment needs, and recommended options for sustainable financing. This is a good start, but these two planning processes can be more strongly integrated. The CWP, as required by statute, is updated every five years using a robust and transparent stakeholder engagement process that involves all levels of government, diverse interest groups, and the general public. The preparation of its update also involves substantial interaction between the State's executive and legislative branches. By linking the WAP with the CWP, the benefits would include a legislative requirement to establish it as a living and accepted document along with timely updates using a process similar to the CWP.

It is also worth considering separate legislation to sustain the WAP. This could involve creating a legislative mandate for the plan itself (i.e., stand alone) in order to encourage ongoing broad stakeholder engagement and avoid the stalemates and laborious delays associated with the CWP process. We acknowledge the political and resource constraints, however, we cannot ignore the fundamental changes and the constructive path the WAP sets toward water reliability, restoration and resilience in California. This alone, justifies it becoming an established feature of water resources management.

Opportunity: Engaging Public & Private Actors In Implementation

“All Californians have a stake in our water future,” is a proclamation in the WAP. The WAP is ambitious and will require an effective and inclusive strategy for engaging and collaborating with the public and private actors to achieve maximum implementation success. Recognizing this fact, the following recommendations are presented to further the WAP’s influence and significance in order to galvanize all Californians to endorse and value it:

- Clarify opportunities for community input and active participation. Consider the following, many of which are in play as part of the CWP revision process:
 - Develop a social media outreach campaign to get the word out to diverse stakeholders from farmers to the general public, about why they should care about the WAP and support its implementation. This may be incorporated into ongoing activities to heightened awareness of drought and water stewardship across the state.
 - Convene community meetings to share the WAP and collect ideas for meaningful ways the public can participate in its implementation. Hold these meetings when community members can conveniently attend. Actively listen to the community input and impart to them, the assurance that their voices will inform decisions, actions, or other outcomes.
 - Support and participate in new public-private and public-NGO partnerships, and include local, regional, federal, and Tribal governments in these partnerships. Organizations outside of state government have their own spheres of influence, interests, networks and resources which can contribute to a more effective and comprehensive implementation.
- Consider connecting the WAP initiatives to broader national and international efforts, such as the Human Right to Water campaign and the UN Global Compact’s CEO Water Mandate initiative.

Strength: A Consistent Framework Focused on Action & Accountability

In the context of California’s drought emergency and a trend toward more drought, the WAP wisely focused on a portfolio of actions, rather than more analyses and reporting. Governor Brown is holding members of his Administration accountable for water-related activities according to the WAP’s actions and sub-actions. The actions, which build on and align recent legislation, Proposition 1, Water Bond (2014), and other programs, provide a strategic and comprehensive framework to accelerate and scale integrated water management and the funding necessary to do so. A core value of the WAP is that it builds government efficiency, aligns agency priorities and actions, streamlines budget decisions, and proactively engages the legislature than has ever been the norm. For instance, the WAP provided the foundation for the 2014 water bond, Prop 1, and set forth the administration’s legislative agenda and WAP implementation.

We are seeing the impacts of this bold approach around California in different sectors. The WAP framework has influenced the thinking of the California Water Action Collaborative (CWAC). The CWAC has recently brought together leaders in the national and international food and beverage industry and nonprofit sector to collaboratively explore and support water stewardship efforts in the state. A range of leaders and practitioners from the forest and water management sectors convened at the 2016 Sierra Nevada Watershed Improvement Program Summit. A major theme of discussion was about ways to collaborate for effective WAP implementation beyond the current administration. These engagements are an indicator that the straightforward, action-focused framework is inspiring collaborative action across the state.

Opportunity: Refining the Framework & Metrics of Success

The WAP has been invaluable in catalyzing an integrated emergency drought response and helping to structure Proposition 1. As we move into the hard work of implementation, the WAP would benefit from more refined metrics of success for the high-level actions, and a clearer framework and timeline at the sub-action level. Our systems mapping exercises illuminated the fact that there are many ways to organize the fifty-plus WAP sub-actions. For instance, outcomes could reveal different strengths and weaknesses if sub-actions were organized by

their place on a watershed or the hydrologic cycle, versus according to institutional linkages. We also learned that there are beneficial linkages to be made across related sub-actions that could be lost without wise attention and alignment from the implementing agencies.

For example, the implementation of Action 4.2: Manage Headwaters for Multiple Benefits would be more successful if connected with Action 8.7: Encourage Flood Projects That Plan for Climate Change and Achieve Multiple Benefits, as well as Action 9.1: Prepare Through Better Technology and Improved Procedures.

Also, thoughtful attention needs to be given to the implementation timeline. Some actions are immediate and “low hanging-fruit,” others are decades-long efforts, and many are contingent on the outcomes in other areas of the WAP.

It may be useful to invest in one or more efforts to convene senior level agency representatives and recognized practitioners from across WAP’s action areas, to regularly explore and coordinate around important and yet poorly understood linkages, to more quickly and effectively achieve the goals of the WAP.

Such collaboration could support a number of important shared action goals, including:

- Collective efforts to understand, refine, and prioritize the framework;
- the discovery of new opportunities for collective problem-solving and coordinated action;
- the strengthening of relationships (social capital) among key players from the water resources system’s institutional landscape for more effective long-range action;
- community involvement and the inclusion of public and private actors in the implementation process;
- the development and refinement of metrics of success; and
- the cultivation of the new kind of “connected” leadership needed to ensure success.

Strength: High-Level & Coordinated State Government Support

As we’ve said before, the WAP is unprecedented in California’s history for outlining and requiring a multi-agency approach to developing a statewide water management strategy. This feature aligns with our connectivity principle of moving beyond institutional goals and entrenchment. The leadership and commitment shown by the Governor’s Office and implementing agencies are a promising step toward a more integrated and aligned statewide water management. They also strike a useful balance between directive top-down outcomes and support, and the flexibility for bottom-up implementation solutions. As groups work together on WAP implementation, there exists a real opportunity to dissolve agency silos and the divisive us-versus-them mindset that impede strategic, connected, and adaptive water management. The high-level vision of our common future, the call for collective action, and win-win funding incentives can begin to ease the tensions between agriculture and urban, the public, and ecosystems. An example of this kind of vision is the State Agency Steering Committee that guided the 2009 and 2013 updates of the California Water Plan.

Opportunity: Fostering “Connected” Leadership

The WAP requires and fosters a new type of leadership and paradigm shift to achieve its goals of reliability, restoration, and resilience. CRWFS believes that “connected,” collaborative and strong leadership across the entirety of the water management system is necessary to achieve success. The WAP invites the leadership of state and federal agencies, local and regional land use planning authorities, irrigation and flood control districts, Native American Tribes, the nonprofit and private sectors, and others to engage in this groundbreaking effort. Leaders entrusted with achieving WAP’s goals will need to commit time and dedication to making change happen. They will need to remain focused and broad-minded to see and serve the long-term needs of the whole system rather than just one’s own interests. For the WAP to be fully successful, leaders will need to expand their interaction with people in other parts of the system to understand and appreciate their views, and to synthesize diverse interests to develop a shared agenda for collaborative action. They must be mindful to invite

underrepresented voices to join the process. They should seek to balance directive and facilitative styles, knowing when to exert authority to keep a process moving, when to nurture autonomy and creative input from other entities, and when to push toward long-term goals rather than short-term outputs.

With rapidly changing technological, socioeconomic, and environmental conditions, California's water system exists within a context of continuous uncertainty. We need to recognize that many situations will require actions in the face of this uncertainty. We tend to not act in face of the unknown so as to avoid risks and a perception of failure to the detriment of all concerned. Leadership in California's water system requires the opposite - timely and bold action, improvisation, diplomacy, and adaptive management skills. It requires a willingness to experiment, assess, and continuously adapt to changing conditions.

Cultivating this kind of leadership is difficult within large, insular, and often entrenched institutions. It is possible though, and enabled by the following kinds of institutional support:

- Help build shared vocabulary across disciplines and administrative sectors to serve as a baseline from which innovative solutions can be successfully designed and implemented.
- Support leadership development: provide staff support, mentorship, and resources for training and the development of diverse leadership learning communities across organizations, sectors, and cultures.
- Empower leaders to explore and take certain risks in order to achieve the goals of integrated water management; develop 'accountability' mechanisms that do not stifle creativity.
- Reward collaborative behaviors, including the sharing of data and pooling of resources. Also, leverage existing relationships and coordination of networks to make for more robust collaborations.
- Support mid-level staff with the training, resources, and motivation they need to meaningfully understand and engage in WAP implementation. The directive to undertake actions in accordance with the WAP may not have engaged them or been clearly communicated from senior staff. These mid-level staff will need inspiration, motivation, and leadership opportunities rather than mere task delegation and mandates.

Establishing a single point of state-level leadership charged with coordinating this effort can maximize the success of these approaches. This staff person would liaise across agencies, boards, offices, and departments to assure ongoing focus, motivation, and commitment. Responsibilities could include advancing and overseeing progress toward achieving the goals of WAP and sustaining the state's water future.

APPENDIX A: CRWFS METHODOLOGY

Since 2010, the California Roundtable on Water and Food Supply (CRWFS) has been cultivating a systemic approach to understanding and addressing the complex water and food supply issues in California. The results of this approach can be found in the six completed modules: agricultural water stewardship, water retention in the landscape, improving connectivity in our water management approach, applying the Connectivity Approach to groundwater management in California's Kings Basin, and now applying the Connectivity Approach to the California Water Action Plan (WAP).¹⁰

Underlying this systemic approach, and central to the production of the reports from each module, is the social methodology that CRWFS uses to develop and support the capacity for renewed thinking and leadership among its members. Two critical elements of this methodology are bringing together diverse stakeholders and engaging them in respectful, trusting, and generative dialogue over time. This emphasis on strong relationships across different perspectives and over long time cycles enables a more thoughtful, holistic, and overarching perspective than any one stakeholder could achieve alone. It is within this type of atmosphere that a group of diverse stakeholders are best positioned to understand the needs of the whole system and to develop systemic recommendations, guiding principles, and strategic solutions that can address them. Modules meetings are designed and facilitated by [Ag Innovations](#), a nonprofit specializing in bringing more innovation in our food systems through dynamic leadership collaborations.

The social methodology used for CRWFS is itself an approach for achieving connectivity. Members connect with one another, work together to identify an approach and guiding principles, and in this way generate the kind of connected thinking and connected-benefit solutions we advocate for in this report. Dialogic inquiry, which is an important component of the CRWFS methodology, is used to guide the discovery process to build shared understanding of a topic. A dialogic inquiry is guided by questions that evolve as insights become clear and the focus of a topic sharpens. This is accomplished by suspending judgment in the initial stages and seeking to understand underlying assumptions. Out of this practice mutual understanding and consensus often emerges.

The Connectivity Approach itself was developed through dialogue guided by the following questions:

1. What are the missing, broken, or dysfunctional connections in our water and food supply system? Which are most serious? Are there patterns that cause those systemic failures, and what are they?
2. What new or existing connections would effect the most change at this time, and into the long-term future?
3. How do we best conceptualize a framework for connectivity that will help us think about and identify strategies and principles to build a more connected and resilient water and food supply system?
4. What are the guiding principles for building a more effectively connected water and food supply system, and what current projects may already demonstrate these guiding principles in action? This report captures the critical insights that CRWFS members gained from these dialogues.

For our 2015 assessment of the California Water Action Plan (WAP), we have used the lens of our Connectivity Approach as well as some additional methodologies, rooted in Otto Sharmer's Theory U designed to support deeper understanding, analysis, and innovative thinking on complex challenges (see figure 2).¹¹

The CRWFS focused our meetings on four key explorations:

1. **Understanding What Is:** What is the WAP and how was it developed? With expert input from executive staff, the group began by studying the design of the WAP and learning the history behind its development.
2. **Re-organizing the Data:** What are different ways we might categorize the actions and sub-actions of the WAP? In order to deepen our understanding and reveal strengths, gaps, and new insights about the WAP,

we took time to deconstruct the 10 action areas and their 50+ sub-actions and re-organize them across four different categories: timing of actions, the actions’ role in the hydrological cycle, the geospatial context of the actions, and the institutional actors involved in the actions.

3. **Exploring Pathways to Successful Implementation:** How might a ‘connectivity’ perspective support more effective implementation of WAP actions? We explored this question over a series of meetings by iteratively refining a connectivity implementation tool, the [Mapping Pathways to Success for WAP Actions](#) worksheet. The tool is intended for policymakers and practitioners to explore what success looks like for a given action, and how that success can be achieved through a systems-thinking orientation.¹²
4. **Defining “Connected” Leadership:** What kind of leadership is needed to support the implementation and long-term endurance of the WAP? As the WAP is a new kind of mandate, a new kind of leadership will be required for successful implementation. We explored this question in depth over a series of meetings. It is our belief that cultivating a new kind of “connected,” collaborative, and courageous leadership is required across all levels of the system to catalyze a more integrated approach to water management.

As part of the assessment process, we discussed the most effective ways of sharing our results with the WAP community. This brief is meant to accompany a letter to Governor Brown and leaders of the three agency administrations involved in WAP implementation as a key first action step. We will share our results at upcoming conferences and policy meetings, and are happy to host webinars for interested parties. We also offer a new tool for integrated planning, the [Mapping Pathways to Success for WAP Actions](#) worksheet. The worksheet, rooted in the Connectivity Approach, is designed to support policymakers and anyone interested in WAP implementation in considering key enablers and barriers of successful implementation of any given WAP action. Ag Innovations staff are available to support groups interested in using this tool.

Figure 2: CRWFS Methodology & Process



END NOTES

- ¹ California Natural Resources Agency, California Environmental Protection Agency, California Department of Food & Agriculture. (January 2014). [California Water Action Plan](#)
- ² California Natural Resources Agency, California Environmental Protection Agency, California Department of Food & Agriculture. (January 2016). [California Water Action Plan 2016 Update](#)
- ³ California Roundtable on Water and Food Supply. (2014). [From Crisis to Connectivity: Renewed Thinking About Managing California's Water & Food Supply](#).
- ⁴ McIntyre, J. (2013, January). Joseph McIntyre [Describing Social Innovation Labs]. Ag Innovations, Sebastopol, California. Social innovations laboratories are the public sphere counterparts to scientific and technical labs. They are a place where new relationships and thinking can develop and be applied to modern complex social problems. They represent the next phase in the evolution of multi-stakeholder collaborations.
- ⁵ California Roundtable on Water and Food Supply. (2011). [Ag Water Stewardship: Recommendations to Optimize Outcomes for Specialty Crop Growers and the Public in California](#).
- ⁶ California Roundtable on Water and Food Supply. (2012). [From Storage to Retention: Expanding California's Options for Meeting Its Water Needs](#).
- ⁷ California Roundtable on Water and Food Supply. (2015). [Applying the Connectivity Approach: Groundwater Management in California's Kings Basin](#).
- ⁸ California Natural Resources Agency, California Environmental Protection Agency, California Department of Food & Agriculture. (January 2014). [California Water Action Plan Implementation Report 2014–2018](#).
- ⁹ California Department of Water Resources. (October 2014.). [California Water Plan Update 2013](#).
- ¹⁰ California Roundtable on Water and Food Supply. (2014). [From Crisis to Connectivity: Renewed Thinking About Managing California's Water & Food Supply](#).
- ¹¹ Scharmer, C. O. (2016). Theory U: Leading from the Future as it Emerges. S.I.: Berrett-Koehler.
- ¹² California Roundtable on Water and Food Supply. (2014). [Mapping a Pathway to Success for California Water Action Plan Outcomes](#).