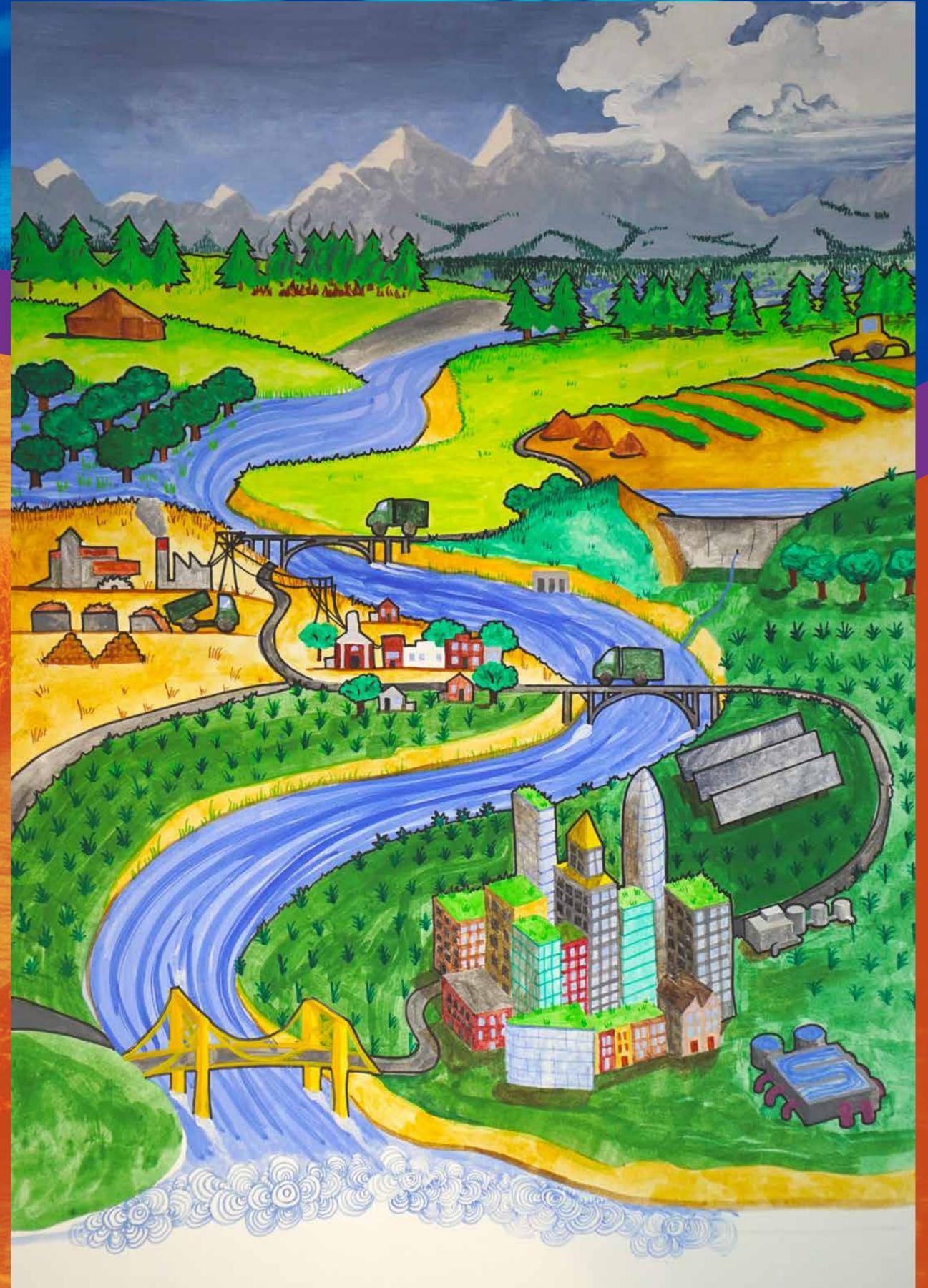
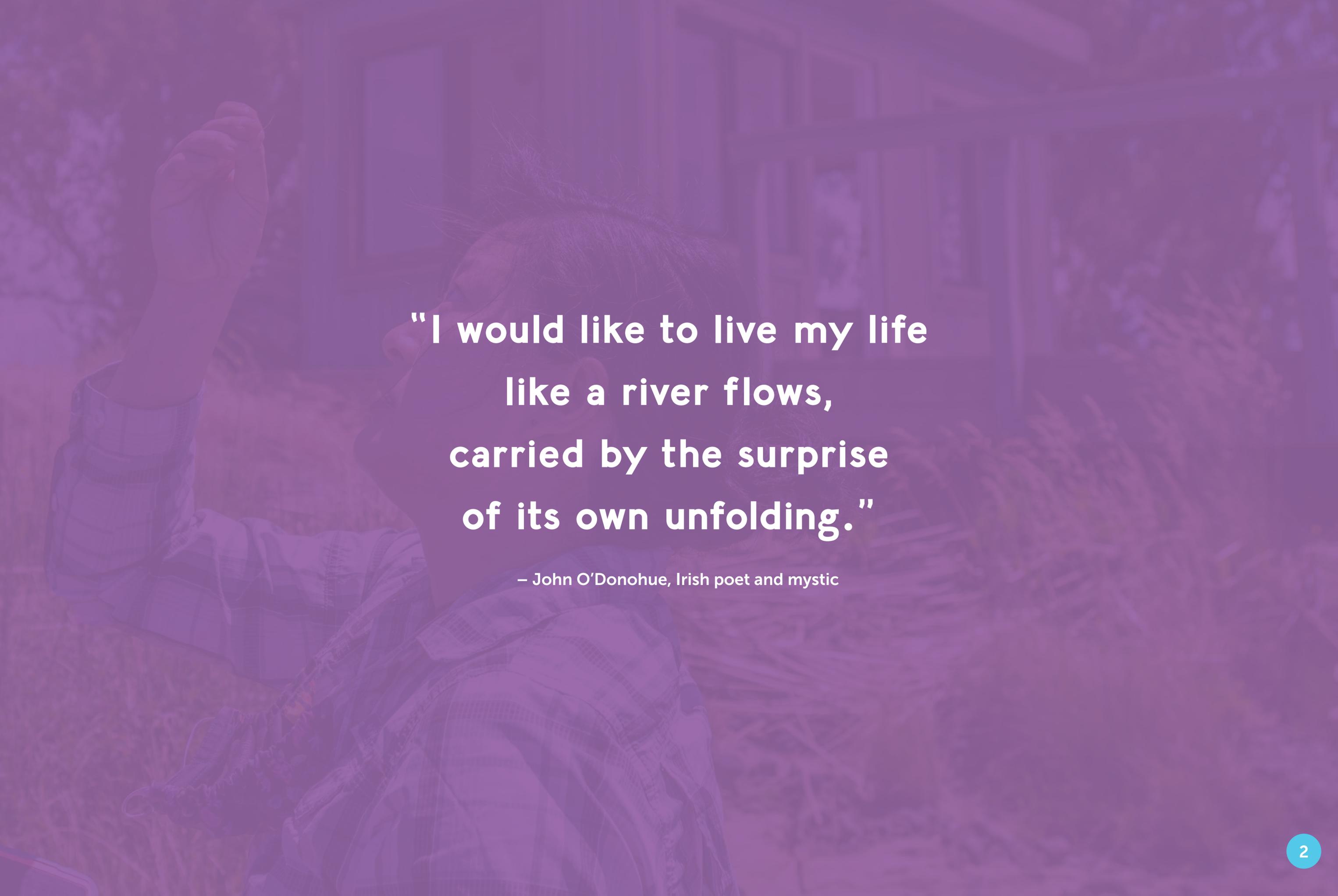


Water  
Solutions  
Network

# WSN Watershed Framework

Watershed drawings by Adrian Covert



A person wearing a plaid shirt is shown from the chest up, looking upwards and to the left. Their right hand is raised near their face. The background is a field of tall grass. The entire image has a semi-transparent purple overlay. Centered over the image is a quote in white text.

**“I would like to live my life  
like a river flows,  
carried by the surprise  
of its own unfolding.”**

– John O’Donohue, Irish poet and mystic

One hundred and thirty years of organizational and physical infrastructure later, we face a climate catastrophe the magnitude of which challenges every assumption we've made about how humans live on this planet.

## From WSN's Managing Director

If Congress had not summarily dismissed John Wesley Powell's vision of watersheds in the American West in the late 1890s, we would not find ourselves trying to retrace our steps to that pivotal moment. One stroke of a pen unleashed generations of silos that continue to allow for the exploitation of our most precious natural resources and the perpetuation of both embedded and overt inequities. The elegance of Powell's watersheds was in the revolutionary concept of integrating land and water, something unheard of in his era. Connecting the two would not have been a silver bullet, but it would have made it much harder to justify siloing naturally interdependent systems.

One hundred and thirty years of organizational and physical infrastructure later, we face a climate catastrophe the magnitude of which challenges every assumption we've made about how humans live on this planet. The Water Solutions Network Watershed Framework is an opportunity to recover what was lost when Manifest Destiny, political jurisdictions, and greed prevailed over the health of our watersheds. The Watershed Framework is designed to reintegrate humans into the ecosystems of which we are, sometimes, a reluctant part. At its essence, it is a pathway toward realizing and embracing our interconnectedness with each other and the natural systems that give us life.

The Framework is an invitation to leap into an uncertain future. It asks us to accept the discomfort of not having all the answers but also to embrace the commitment to acting and learning together. We look forward to learning with others who have and are developing processes and capacity that brings people together to accomplish more than they could on their own. We invite opportunities and partnerships to test-drive the WSN Watershed Framework in willing watersheds. We applaud everyone working toward this end, especially Tribal leaders who are willing to share the expertise they carry from thousands of years of living in this place. Nothing less than human survival depends on our shared efforts.

Thank you to everyone who contributed and participated in developing the WSN Watershed Framework. This work would not have been possible without the generous support of the Water Foundation. The report that follows is a reflection of the wisdom and insight that every participant brought to the conversation. We are grateful for the time and support offered by so many.

Onward,



**Debbie Franco**



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*When you read the term “watershed health,” please keep the watershed drawing in mind and interpret it to mean sustainable, equitable, and climate-resilient watersheds that support healthy ecosystems and healthy humans (who are part of those ecosystems), including public health and safety and economies that provide sufficient resources for human survival and comfort.*

## Executive Summary

California has slipped over the edge of the climate precipice. Our built and human organizational infrastructures are not adapting quickly enough to the changes in our natural systems. We are experiencing “worst ever” events with increasing frequency, and our methodical approach to change cannot keep pace.

Our capacity to change is not limited by ideas. We have numerous plans and projects that never come to fruition. We blamed limited funding for our limited progress, but with the billions of dollars coming through state and federal sources along with ongoing local and regional investments, we can no longer afford to assume that funding will solve all our challenges. We must return to the more complex gap that has plagued California for decades—the siloing of naturally interrelated and interdependent systems and the inequities embedded in those silos.

Realigning human systems with natural systems starts with building relationships and developing the capacity for systems thinking and action. California’s long-standing efforts to integrate at a regional and/or watershed scale reflects the importance and value of aligning human activity with natural systems. Multiple state programs were (and are) designed to incentivize watershed and/or regional scale collaboration, and we have many examples of strong collaborations that cross sectors and jurisdictions. Despite the incentives and efforts, full-scale watershed collaborations across jurisdictions and sectors have remained largely elusive. This framework reflects the participants’ commitment to finding an **expedient path to cross-jurisdictional, cross-sector watershed scale coordination of management scale actions that builds on and connects the promising work already in progress.**

The Watershed Framework (“Framework”) is designed to provide a pathway for quickly expanding, durable, and cross-generational networks that center equity and spur broad-scale coordination and collaboration across jurisdictions and sectors. The Framework pathway is not intended to be linear. The only sequential activity is preparation. Actors should choose the activities that meet them where they are and be prepared to double-back on activities as needed. Developing a common understanding of the watershed system, including vulnerabilities and vulnerable communities, for example, will be a work in progress as watersheds learn and fill information gaps. Regardless of where a watershed begins, building on common values across the watershed, the Framework urges broader collaborative action underpinned by a commitment to equity, sustainability, transparency, and shared learning.

This is, admittedly, a high-level theory that requires testing and ground-truthing. With some fine-tuning, this approach offers the following potential:

- On-going and trusting relationships will support expanded flexibility to act nimbly while still maintaining and expanding transparency, accountability, and equity.
- The values framework will serve several functions, including:
  - As a cross-check that holds the watershed accountable (both in practice and outcome) by maintaining equity as a value and providing a venue to understand injustice and vulnerability;
  - As a touchpoint that informs tradeoffs, not project by project, but with a longer-term lens that is focused on maintaining systemwide balance and resilience while upholding values;
  - As a tool to avoid and/or manage conflict within the watershed that is collaboratively articulated and informed by local values and priorities.
- Ground-up integration across land and water will create opportunities to leverage cross-sector funding (e.g., fire, water, climate, energy, ag, local government, etc.), producing more efficient impact and reducing the local burden that is created when deploying dollars in silos.
- Successful implementation will solidify watershed-scale relationships that support a pathway for local dollars to flow toward watershed-wide investments that improve system function, benefiting everyone in the watershed without the need to calculate proportionate benefits.

- Building cross-sector and cross-jurisdictional networks of actors who know and trust each other across a watershed will create greater watershed resilience as unexpected and extreme conditions occur.
- A common, watershed-wide understanding of system function and climate vulnerability—and a commitment to real-time monitoring—will create a learning environment with a higher risk threshold and more flexibility for creativity and experimentation.

**In short, the Framework provides a roadmap that builds on existing and prior efforts and seeks four important shifts:**

- **Centering equity from the beginning, both in process and outcomes.**
- **Structuring the process to engage cross-sector and watershed-wide convenors to assure persistent and diverse participation across sectors and across the watershed.**
- **Gathering, learning, and coordinating at full watershed scale—headwaters to groundwater to outflow, including engineered system elements—and connecting ongoing and emerging manageable scale efforts across the watershed.**
- **Cultivating systems thinking to eliminate redundancies and amplify the impact of cross-sector, cross-jurisdictional collaborative action.**

We invite watersheds to test and refine the theory by sharing their learning with other watersheds. We also invite others who are engaged in similar efforts to align and form learning communities. We look forward to exploring how this Framework complements the closely aligned Water Plan Update process and other similar efforts underway across sectors.

The following recommendations emerged from the Watershed Framework.



# Recommendations

## **Test-drive the Framework in at least two willing watersheds.**

The Framework is a high-level theory that requires testing and application to refine and ground truth. As with everything in California, the diversity of the state demands tailored approaches that reflect the specific needs of each region.

## **Establish a learning network to expand cross-jurisdictional, cross-sector collaboration at watershed scale.**

We cannot afford to leave any watersheds behind. Some watersheds will require capacity and network development to lay the necessary groundwork, and as a result, numerous state and federal programs emphasize the importance of capacity building. To achieve cross-sector and cross-jurisdictional outcomes, organizations should strive to align existing programs and leverage multiple funding sources to bring the diversity of people together necessary to break down the silos. It will be essential to provide ongoing support for the human infrastructure that is necessary to maintain and expand coordination and collaboration.

## **Create block grants across state funding programs that incentivize regional collaboratives to integrate from the ground up.**

California's state organizational infrastructure perpetuates the siloing of activities. Generations of ingrained agency culture will need to shift, and that will take time. As an initial, more efficient step, state funding programs should coordinate and facilitate cross-department and cross-agency grant-making that incentivizes, rewards, and builds capacity for ground-up, cross-sector, cross-jurisdictional action. The state might also consider creating watershed-specific teams made up of agency staff who can focus on a specific watershed and engage in watershed framework activities. This will help both state agencies and watershed organizations develop a deep understanding of each other's roles, responsibilities, and authorities, as well as identify (and act upon) opportunities to better align their activities with watershed efforts.

## **Deploy block grants to improve equity in practice and outcomes.**

Tribes, communities, and/or organizations in a watershed should be eligible for direct block grants that support capacity-building as well as equitable access and participation in watershed activities. These block grants should be deployed expeditiously and independently from watershed block grants to address existing capacity needs and vulnerabilities, such as lack of access to safe drinking water.

## **Expand access to block grant funding across state and federal programs as watershed-scale leadership emerges.**

State programs are already seeing positive results from block grants. These grants, which are focused on outcomes as opposed to processes, allow grantees greater flexibility to make strategic investments, course correct as needed, allow for serendipity, and expand capacity in the watershed. It will be important to assure that there is common alignment in a watershed around the appropriate block grant recipient(s) and that block grant recipient(s) are structured in a democratic, transparent manner to reflect equity in both processes and outcomes. It is also important to assure that the recipients are accountable and that measures are in place to support watershed tracking over time.

## **Support and incentivize quick implementation and adaptation.**

Flexibility is essential as we experience less predictability and more extremes. Localizing and regionalizing manageable scale action in a meaningful manner requires embracing a higher risk threshold. By manageable scale, we mean the largest scale that can be reasonably managed and/or coordinated to produce results that are larger than the sum of their parts. We must acknowledge that innovation and adaptation happen best when we accept that some actions will produce unexpected results. Every action is an opportunity to learn and refine so long as clear boundaries are defined that avoid catastrophic outcomes.

**Elevate lessons learned (narrative, stories, etc.) in a way that is broadly accessible and understood by diverse constituencies.**

Although each watershed is unique, there are likely to be overlapping actions and opportunities that are shared across watersheds. This knowledge-sharing can be leveraged to increase the speed of implementation.

**Invest in monitoring, relationships, and learning.**

Public funding is balanced largely toward funding projects over process. While we should not lose sight of the importance of action, high-impact landscape-scale projects require a larger investment in building durable, cross-generational, cross-sector relationships and support for monitoring and learning in real-time.

**State and federal agency staff should engage in watershed coordination and manageable scale collaboration as equal partners.**

State and federal agency staff should participate in watershed gatherings (described in more detail below) and bring their best information and ideas. They should join the discussion as information sharers, learners, and strategic partners, particularly where they are also land and/or water stewards. Those in regulatory roles should emphasize outcomes over processes and remember that regulations are meant to prevent bad things and can, sometimes, get in the way of good things. The Framework is designed to make good things happen.

**State, federal, local, and philanthropic dollars should be aligned with building local and regional capacity.**

There is a risk that the billions of dollars coming to local and regional efforts will overwhelm capacity and, instead, will bolster old ways and old thinking that will set us farther behind the rate of climate change. Climate-resilient investment requires an upfront and sustainable investment in human capital and relationships that—by nature of the diverse voices in the “room”—prompt systems thinking and innovation. How the dollars go out the door, who receives them, and how flexibly they can be used are critical questions that need further discussion and refinement to drive silo reintegration. If done well, we will reduce redundancies and find more efficient and effective pathways to achieve the outcomes with broad regional and state support.





**Urban Farming**

# The Water Solutions Network Watershed Framework

# FRAMEWORK VISION

The climate is changing too fast for centralized command-and-control models to keep up. Our best hope is an “all hands on deck” approach with disciplined alignment around a common vision that allows for maximum flexibility to act quickly at local and regionally manageable scales. The vision described below is a high-level approach that aligns with the feedback from participants in the WSN process. This vision will guide willing watersheds who agree to test-drive the approach, and it will serve as a foundation for a watershed-specific values framework that will be articulated in the words of watershed participants themselves. The specifics will be designed according to the diverse needs of each watershed.

## Vision

Watersheds—including an equitable, diverse, and inclusive cross-sector and cross-jurisdictional array of participants—should **coordinate at watershed scale and act at manageable scale** to restore, manage, and maintain the following conditions:

1. Equity and justice in access, process, and outcomes
2. Public health and safety (e.g., fire resilience, access to water for human needs, etc.)
3. Healthy watershed ecosystems that sustain life, especially those species (including humans) that are most vulnerable
4. Economic vitality (aligned with the three prior conditions) to support healthy and vibrant communities with equitable and affordable access to shelter, food, and water



## Watershed Vision Drawing

This drawing represents a hypothetical vision of an interconnected, interdependent, and healthy watershed. It intentionally depicts solutions, synergies, and opportunities for collaboration across water and land, natural and built environments, centralized and decentralized activities, and humans and animals. It is meant to inspire specific watersheds to create their own visions that are reflective of their particular geographies and conditions. The rest of this document articulates a process to develop this vision—and, most importantly, to spur action.

*When we have nowhere else to go,  
our real journey has begun.*

*And when we have nothing left to do,  
we have begun our real work.*

*The mind that is not baffled is not  
employed.*

*The impeded stream is the one that sings.*

– **Wendell Berry, American farmer,  
writer, poet and activist**

Watershed drawings by Adrian Covert





# FRAMEWORK PRINCIPLES

The Framework is a function of the following principles. It is expected that these principles will be honored and/or refined as willing watersheds test the Framework.

- Time is of the essence as less predictable and more extreme climate conditions continue to rapidly increase. Nimble, flexible, adaptable, timely action is paramount with a commitment to building trust, connectivity, and learning as we go.
- Interconnected and coordinated action across a watershed can produce more powerful human interventions with amplified impact on watershed health and climate resilience.
- Trust is a necessary and foundational condition to support coordination and collaboration across sectors.
- Equity is an essential California value and reconnecting communities across a watershed creates new opportunities to share responsibility and opportunity.
- Water should be affordable to everyone to support basic human needs.
- Coordination and collaboration provide opportunities to reduce cross-jurisdictional and cross-sector redundancies and conflict as well as leverage synergies and sustained impact.
- By coordinating at watershed scale, actors can collaboratively shift the model from our current focus on preventing bad things to a model of cultivating and catalyzing good things.
- Transparency and accountability are necessary to support trust-building and to create an environment that supports shifting our model toward catalyzing good things.
- Everyone is a land and water steward.



FRAMEWORK ACTIVITIES

# PREPARE

*The following pathway is a bare-bones set of activities. Watersheds are encouraged to consider other activities together as appropriate to their watershed. The activities do not need to be done sequentially, except for the preparation. Watersheds are encouraged to leap ahead to actual projects as soon as opportunities present themselves and project actors are willing. Sometimes demonstrating the practical potential in parallel with the group process can energize and inspire expanded collaboration. Watersheds may also need to repeatedly engage in various activities over time. For instance, it may be necessary to undertake the “gather” step multiple times as the watershed learns and expands its network.*

## FRAMEWORK ACTIVITIES

### Prepare

Readiness is an important criterion to consider before embarking upon the Framework journey. Those interested in following the Framework will be best served by having informal conversations with leaders across sectors and jurisdictions throughout the watershed with the following goals:

- Identifying the network of individuals in the watershed who should be engaged with special focus on communities that may otherwise be overlooked, such as environmental justice communities and Tribes
- Working to identify a critical mass of influential, cross-sector, cross-jurisdictional, equity-informed leaders and organizations that are willing to collaborate on the gathering step and to be co-convenors

- An initial assessment of the watershed to understand the physical and political dynamics (this may include smaller gatherings to build understanding)
- Development of resources and capacity to assure equitable access and participation

It is worth taking the time to achieve each of the above goals before proceeding.



# GATHER

## Gather

Gather land and water stewards across the entire watershed—from headwaters to groundwater to outflow, including engineered outflows. Participants will include relevant state and federal officials who can participate, share information, and learn. The convening entities should be self-conscious about where their networks are strong and where they may have gaps. Identifying key partnerships that bring cross-sector and cross-jurisdictional networks together will be key to setting a reflective and diverse watershed “table.”

The convening entities may wish to consider the following when identifying partners and invitees:

1. Review a map of the entire watershed, including engineered elements.
2. Identify the leaders across land and water in the watershed. Begin talking with people across the watershed, especially those you may not interact with often. Ask who else they would suggest for an invitation.
3. Make a focused effort to identify equity gaps in the watershed and assure you are building an invitation list that includes those who are most vulnerable in the watershed.
4. Identify influential actors across the following categories and invite them to be part of an outreach team:
  - a. Existing collaborators in the watershed
  - b. Local and regional water jurisdictions (e.g., public water systems, water wholesalers, flood, reclamation, etc.)
  - c. Local and regional land jurisdictions (e.g., local governments, large landowners, large land managers like USFS, BLM, etc.)

- d. Tribes
- e. Community-based organizations that reflect the ethnic diversity in the watershed
- f. NGOs working on land and/or water stewardship in the watershed
- g. NGOs working on justice issues in the watershed
- h. Private enterprise that has a large influence on land and water management or use, including but not limited to Tribal leaders, farmers, ranchers, developers and other private and sovereign parties
- i. Academics whose research includes the watershed
- j. Other actors relevant to the watershed

It is useful to develop a network map of the region that is a living and updated tool to help newcomers interested in joining the watershed group find an accessible way to enter. The network map should include nodes of leadership by sector and jurisdiction—for instance, one county interested in engaging might be directed to another county that is already involved in the Framework process.

A web page, an email list, and contact information are also helpful for creating access and transparency right out of the gate. Assure that you have the capacity to keep the web page or another openly accessible communications tool (Google, Miro, Mural, etc.) updated consistently with information. Provide the opportunity for people to comment and engage virtually even if you also hold in-person meetings.

# UNDERSTAND

While this is the first step, gathering interested actors should be a continuous practice at watershed scale and also at manageable scale. Not everyone needs to participate at every scale, but there should be fluid participation across the scales (local, regional/ manageable, watershed-wide).

## Understand

Invite a cross-sector, cross-jurisdictional team to explore the watershed together. This team can share stories, data, and information about how climate and other relevant conditions have already changed the physical and engineered watershed, as well as projections on how the watershed may change in the future. (The presentation should be developed in a pre-meeting among those with data and information.) The presentation can include sharing of best available information about specific vulnerabilities in the watershed, ongoing activities that contribute to watershed resilience, and any other cross-jurisdictional, cross-sector opportunities. Assure that Tribes and communities are engaged in this step in a respectful manner that accrues equal value to their knowledge and expertise. Identify gaps in knowledge and understanding and take collaborative action to fill those gaps. (State and federal agencies willing to integrate their information may be good partners in filling gaps). The watershed should be prepared to revisit this conversation repeatedly as they learn together.

It is important to remember the proverbial saying that all models are wrong, but some are useful. This has never been truer than it is now under less predictable and more extreme conditions. The object of this step is to collect available information, compare models (particularly land, atmospheric, and

hydrologic models), develop a range of scenarios, and consider how to best use this data to triangulate among and connect models, particularly land, atmospheric, and hydrologic models.

## Important questions to consider

1. What assumptions are embedded in the model? These often appear as static data points or ranges, or as excluded data points that may be described as having de minimis impacts.
2. What historic data was used to validate the model? Pay particular attention to the time frame. It may be worth asking modelers to compare data from the last 20 years and/or the last 10 years if they haven't already. You can't make a model on short time frames, but you can consider how the model performs in those time frames to detect pattern departures.
3. What is the scale being modeled? How closely can the model relate to manageable scale information that could be considered when designing actions?

Models are often site-specific. Each watershed will need to collect the models that were developed for their watershed.



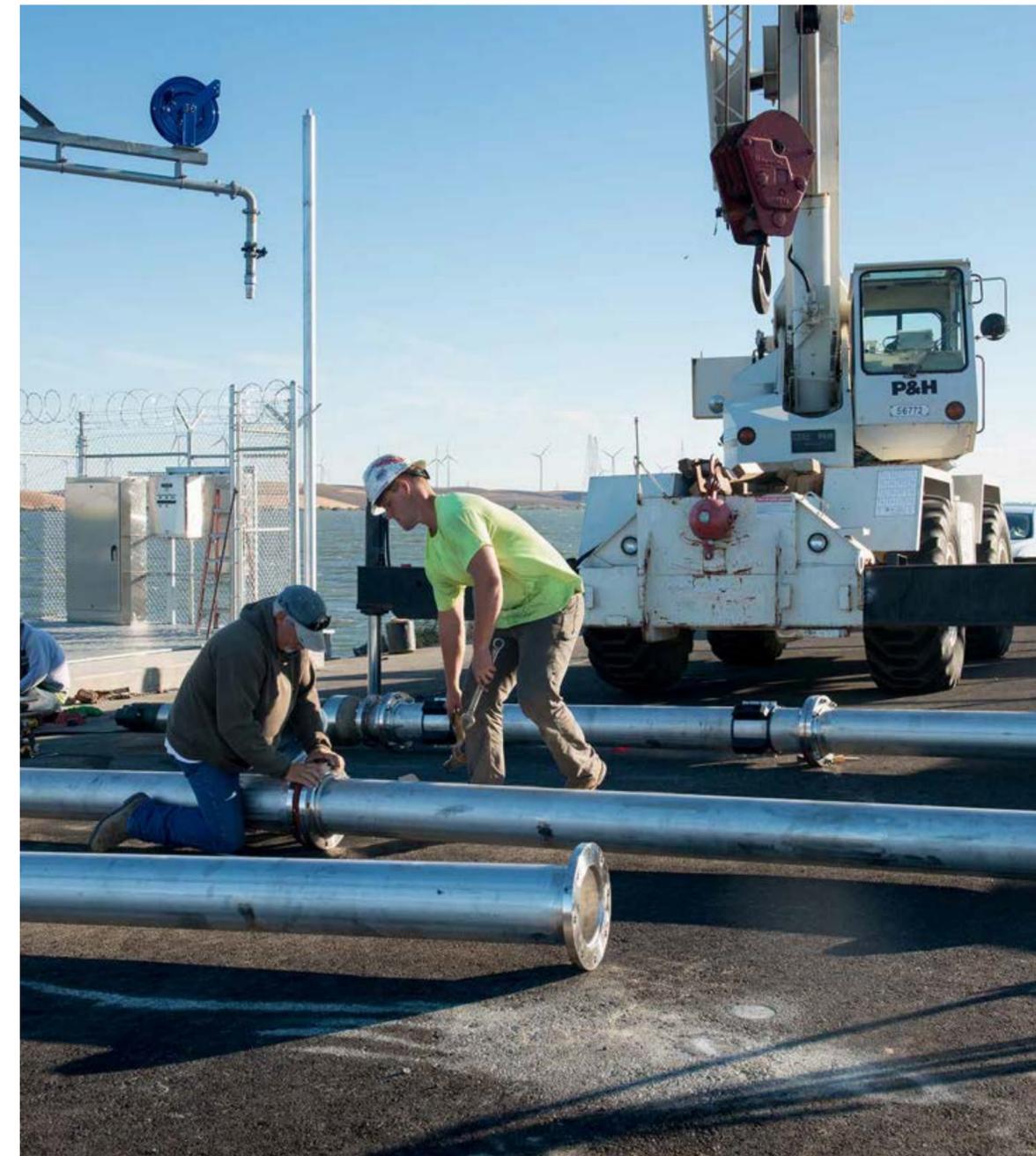
# EXPAND

## Expand

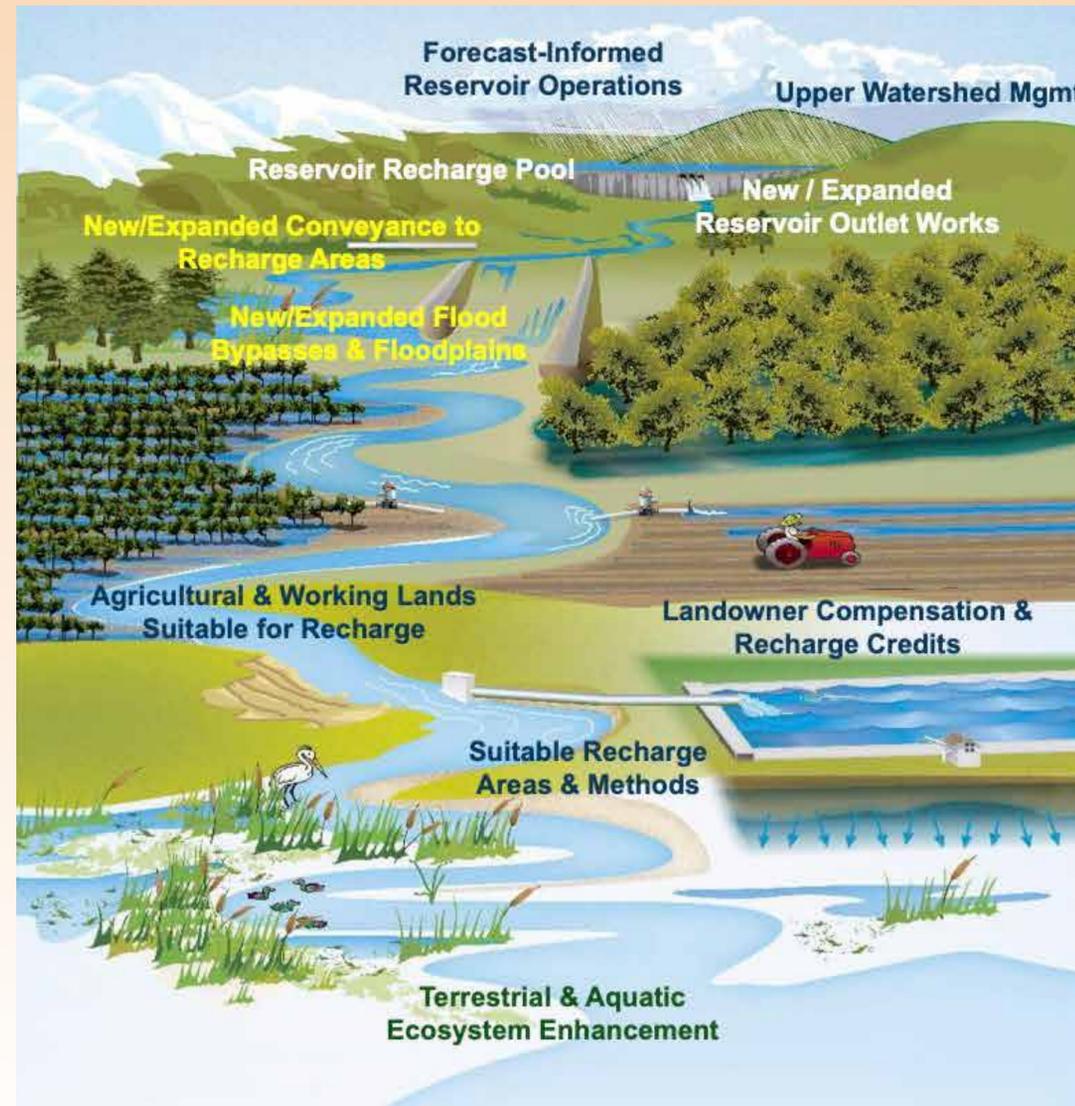
While developing a common understanding of conditions, it is also important to include opportunities and activities designed to expand trust and the necessary skill sets to support systems thinking, collaboration, and problem-solving throughout the process.

There are many existing and developing toolkits for systems thinking and other skill sets necessary to cultivate network relationships that spur action. A few key skill sets worth practicing include:

- *Personal Skills* - Mindfulness, self-awareness, identifying and challenging your own assumptions
- *Interpersonal/Group Skills* - Valuing diverse views while still moving to action (e.g., voting, consensus, etc.), setting meeting and group expectations (e.g., group agreements, responsibilities, etc.), active listening, how to have difficult conversations
- *Diversity, Equity, and Inclusion (DEI)* - Building DEI competency among participants. Address DEI both from a societal perspective and from a resource management-specific perspective. Consider soliciting appropriate assistance.
- *Collaboration Skills* - Building common understanding and vocabulary, establishing shared values, balancing interests
- *Systems and/or Design Thinking* - Connecting dots and understanding system process and function, challenging assumptions, developing empathy



# SPOTLIGHT



## Flood-MAR Taking a Headwater to Groundwater Approach

~~~~~  
**Requires Big Collaboration,  
Agency Alignment &  
Sector Co-Management**

~~~~~  
**Example  
Strategies & Projects**

8

## Merced Watershed Study: Flood Managed Aquifer Recharge

Presented by: Kamyar Guivetchi

A dive into today's vulnerabilities from climate change and other stressors led to a presentation about DWR's San Joaquin Valley watershed studies (Watershed Study Factsheet(Feb2022).pdf). The studies explore adaptation strategies like Flood Managed Aquifer Recharge (Flood-MAR) and Forecast Informed Reservoir Operations (FIRO) to improve watershed resilience. Flood-MAR and FIRO adaptation strategies require multi-sector headwater-to-groundwater-to-outflow analysis, planning, and management—a great example of how watershed-scale action can be implemented. The watershed studies also address the need for robust climate vulnerability analysis and planning to understand and better predict peak flows. The results demonstrate that we can concurrently replenish aquifers, reduce flood risk, and improve ecosystems in the San Joaquin Valley. The presentation led to a fruitful group discussion about the climate impacts and changes participants are seeing in their own watersheds today.

# GROUND

## Ground

In this step, watershed participants agree upon a high-level values framework in their own words that will ground their work together. The group may wish to check their Framework for alignment with state values reflected in state policy and grant guidelines. They should also be encouraged to consider things like the following:

- Human right to water
- Land and water stewardship to sustain life in the watershed, especially vulnerable and keystone species
- Land and water resources stewarded to support economic opportunity, especially for otherwise disadvantaged communities
- Honoring and engaging Tribal relationships to acknowledge land and water in their places and protection of their cultural resources

Timing will be important for establishing a values framework. You will want to assure that you have the right array of watershed-wide participation across sectors and jurisdictions. Before you begin the process, ask yourself if you have a broad diversity of viewpoints represented? Are any voices missing?

You may wish to introduce the high-level values above and share any values that have already been generated within the watershed, particularly if they have already been adopted by a cross-sector alignment of individuals or organizations. Invite participants to add their own ideas and group any that are similar. Then allow participants to vote for up to three that reflect their most strongly held values. Identify a diverse sub-group of volunteers to take the top vote-getters and articulate the value set in watershed-relevant words. The values statements should then be vetted with the larger group and officially adopted by the group.



# BUDGET

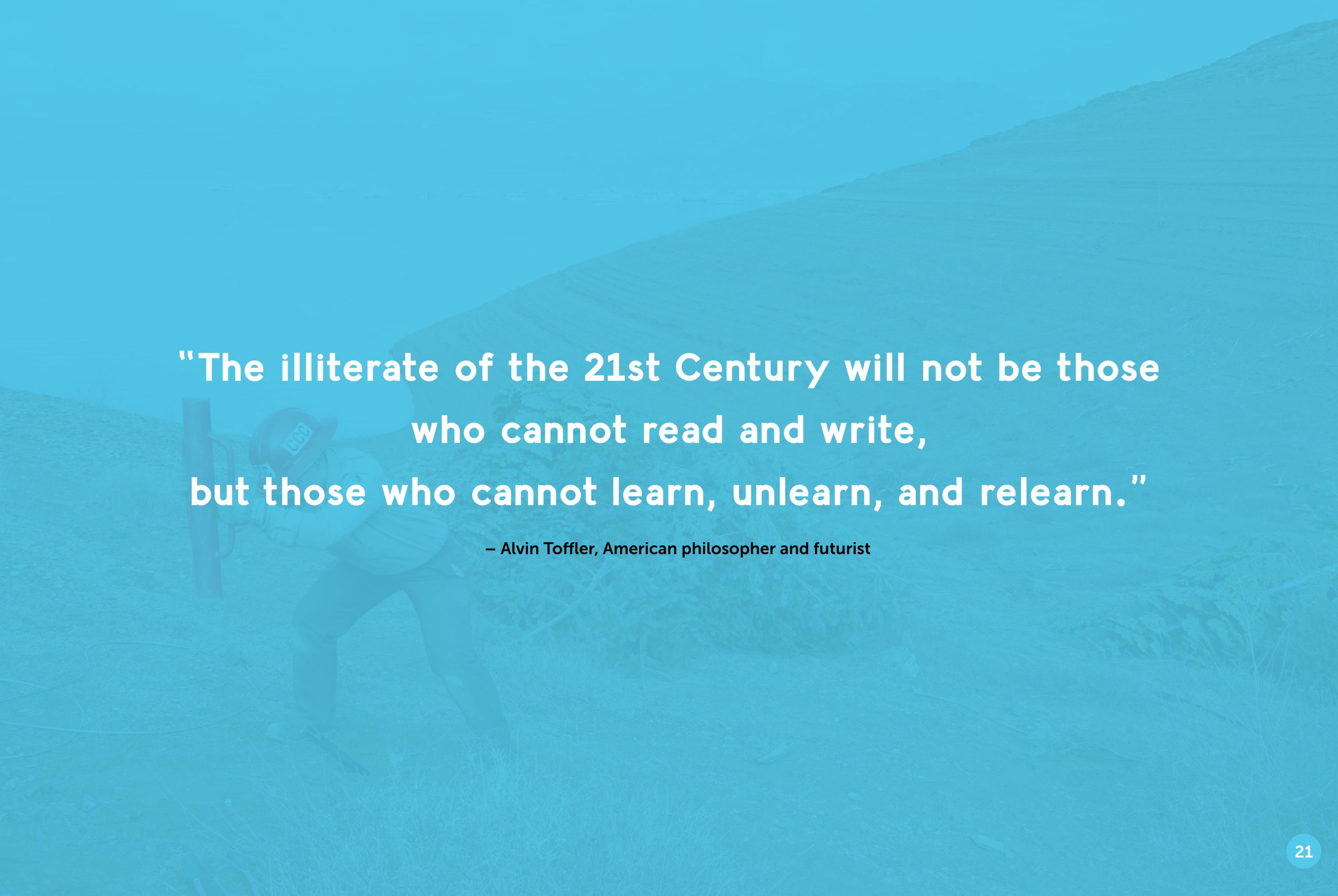
## Budget

Invite watershed participants to share available information and develop, as much as possible, a watershed-scale water budget. Include credible guesses and estimates in the first run of the budget and discuss. Based upon the vision and values, prioritize data collection to resolve gaps. Ideally the watershed will commit to improving the quality, consistency, and accuracy of the budget over time. Developing meaningful connectivity and consistency between the watershed-scale water budget and the water budgets of actors acting within the watershed will achieve maximum impact. There are several guidance documents available to guide development of a watershed water budget, including:

- [DWR Draft Handbook for Watershed Budget Development](#)
- [DWR SGMA Water Budget BMPs](#)
- [USGS Water Budgets](#)

There is great opportunity for watersheds to develop their own approaches and share learning across watersheds.



A person wearing a hard hat and safety vest is using a surveying instrument in a field. The background shows a grassy field with a large mound of earth or a hillside in the distance. The entire image is overlaid with a semi-transparent blue filter.

**“The illiterate of the 21st Century will not be those  
who cannot read and write,  
but those who cannot learn, unlearn, and relearn.”**

– Alvin Toffler, American philosopher and futurist



# PRIORITIZE

## Prioritize

Consider cross-sector, cross-jurisdictional, landscape-scale opportunities to act to improve watershed health and map them with special consideration for racial, economic, ecosystem, and regional equity as well as the potential to improve system function. Landscape scale should embrace local and decentralized actions that are coordinated to amplify landscape-scale impact. Watersheds should consider how integrating decentralized activities with centralized infrastructure works in their watershed and whether there are opportunities to leverage both to enhance climate resilience.

The process of generating and selecting ideas to pursue should be transparent and well-documented. Consideration should be given to assure that there is no inequity in who has access to develop, propose, or implement ideas. The following includes various types of cross-sector and cross-jurisdictional activities that may offer new and expanded opportunities to improve watershed health and climate resilience:

- *Improve soil health* - For every 1% increase in organic matter, soil can hold an additional 20,000 gallons of water per acre (USDA-NRCS). This works everywhere in the watershed.
- *Improve landscape function* - Healthy land systems have appropriate vegetation and slow, spread, and sink water across the landscape, support healthy life systems (including humans), and are resilient to changing conditions (including climate change).
- *Coordinate physical and natural infrastructure* – This coordination can occur across the watershed, including managed aquifer recharge, high mountain meadow, and wetland restoration to slow and store water for use later in the season. It can also include upstream restoration projects that have the potential to improve downstream water quality, etc.





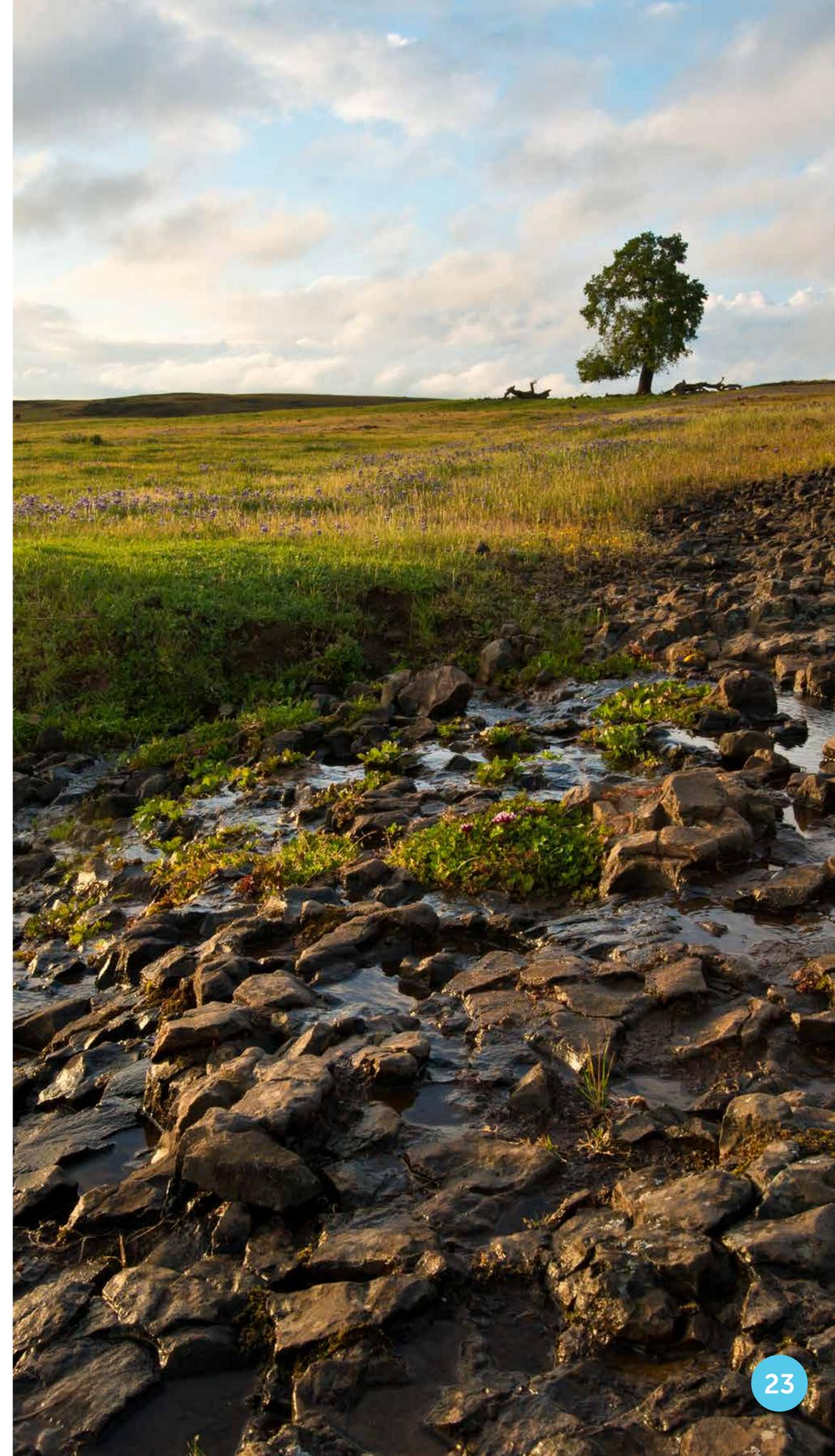
# SCALE

## Scale

Where landscape scale is not manageable, priority actions will need to be broken up into manageable scale components and specific actors will need to be identified who can collaborate and coordinate to accomplish their shared component of the larger action. Without taking this as a formal step, the watershed risks siloing at the project scale. Projects undertaken as part of the Watershed Framework should reflect cross-jurisdictional and cross-sector collaboration and coordination and be proactively identified and monitored at watershed scale. Everyone in the watershed should assist in identifying funding and resources to support manageable scale actions; concurrently, the “actors” should update and consult with watershed scale leaders as the project unfolds. Actors should regularly share what they are learning as they implement and monitor manageable scale projects.

In this phase, actors might ask themselves:

1. What is surprising about how the action is coming together? What might those surprises suggest when contemplating the next priority action?
2. Were any new relationships needed to take action? Who needs to be included? What shifts in thinking need to be made to include them?
3. How is the action impacting the watershed function? Specifically consider how the action is impacting the values that the watershed holds in common.



# SPOTLIGHT



This work provides an opportunity to see what a framework and toolkit looks like at the applied level. This presentation particularly emphasized spurring and accounting for decentralized actions to achieve landscape-scale change. An in-depth example of a local toolkit showed the vision, physical and programmatic tools, and action steps for on-the-ground implementation. With graphics to accompany most phases of this framework, it offered a new way to tell the story of watershed-scale coordination and action.

## Ventura Watershed Flow Enhancement and Water Resiliency Framework

Presented by: Regina Hirsch



# COORDINATE

## Coordinate

Coordinate at watershed scale by sharing information, monitoring together, learning together, and structuring manageable scale action together. Sub-watersheds or other meaningful cross-jurisdiction, multi-sector and scale groups may need to meet separately to focus on issues and opportunities to act together. If necessary, they can propose any shifts in priorities to the larger watershed.





# LEARN

## Learn

California enjoys diverse landscapes and watersheds, and this Framework is designed to honor that diversity. However, there are many things that our watersheds hold in common, and a learning network would provide opportunities for watersheds to learn from and leapfrog each other. The learning network may also provide a statewide network that is poised to consider the cross-watershed challenges we all share.





# Watershed Framework Process Description

The Framework discussion, convened by the Water Solutions Network with support from the Water Foundation, engaged a diverse group of leaders from local, state, federal, Tribal, NGO, legislative, agricultural, and philanthropic organizations. Additional outreach was conducted among individuals who could not participate in the meetings. The Framework discussion built upon an earlier discussion in 2019.

The process included three workshops that started with the development of a vision of watershed-scale opportunities and ended with this turnkey Framework, which is ready to be deployed in willing watersheds. During these workshops, participants discussed a variety of topics, including challenges

brought by climate change, priority actions to achieve healthy watersheds, non-negotiables in a framework, and ideas for framework deployment. In between these workshops, smaller feedback sessions were conducted with additional participants (listed below) to ensure voices from all sectors and jurisdictions were included in the making of this Framework.

To get an inside look at the engagement and discussion across each workshop, view the [Watershed Framework Discussion Miro Board](#), which acted as a living document and tool across this entire process.

## SPOTLIGHT

**Science to Action: CA  
Climate Change  
Assessments**

**Accelerating  
Collective Action:  
State Climate  
Adaptation Strategy**

**Driving an  
Integrated Climate  
Agenda**

**Committing to  
Equitable Adaptation  
Outcomes**

## **Integrated Climate Adaptation and Resiliency Program**

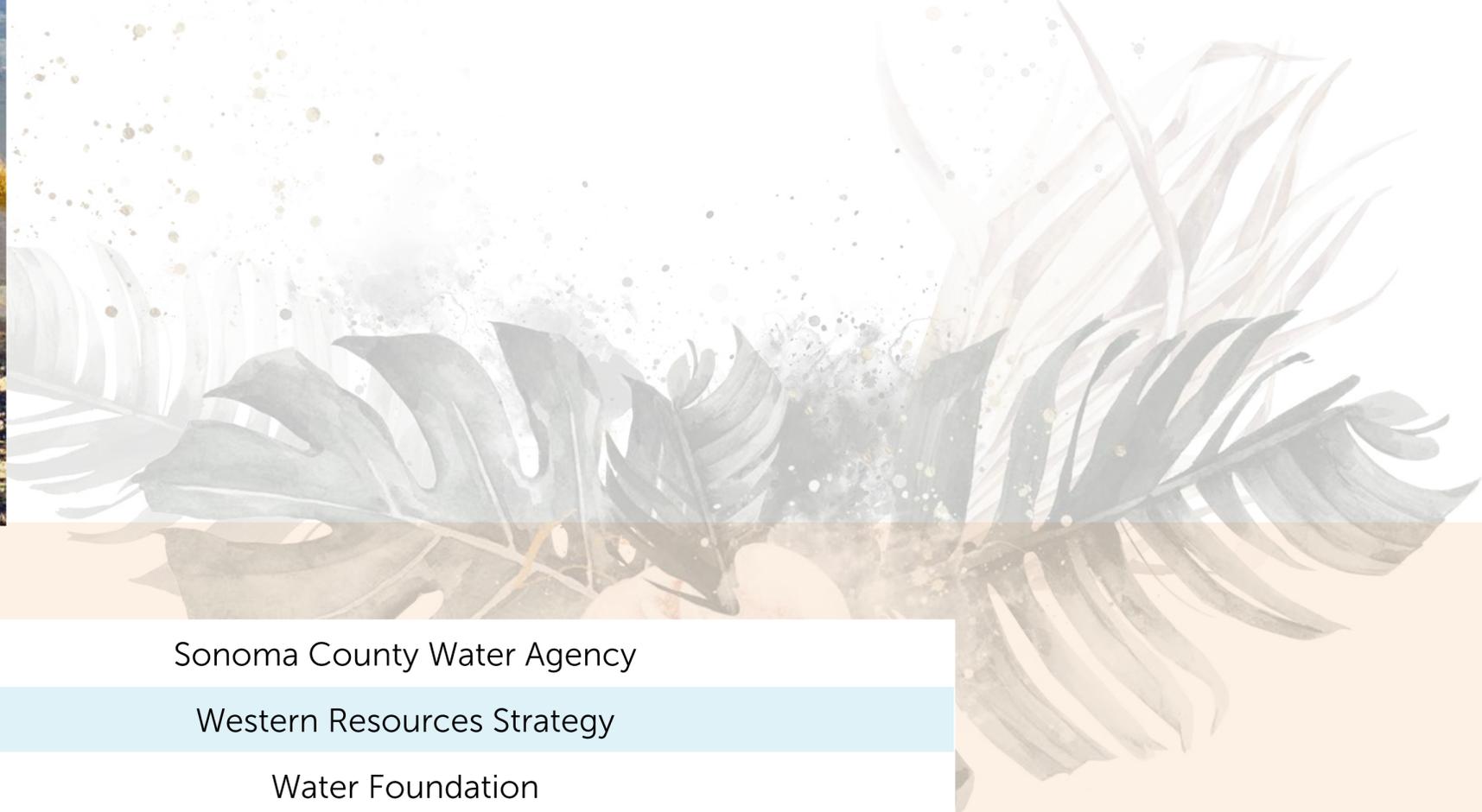
Presented by: Nuin-Tara Key

This overview of a climate adaptation strategy, principles, goals and budget led to a discussion about how we get to cross-sector, cross-jurisdictional networks and actions. There was conversation about what groups are easily left out of science-based metrics, how to effectively scale certain models, and the potential for programs like this to act as a leverage point or throughway for eligibility with other opportunities. As the group looked at how to implement and deploy a watershed framework, discussions focused on removing barriers to funding paths and making it easier to connect certain funding dots.

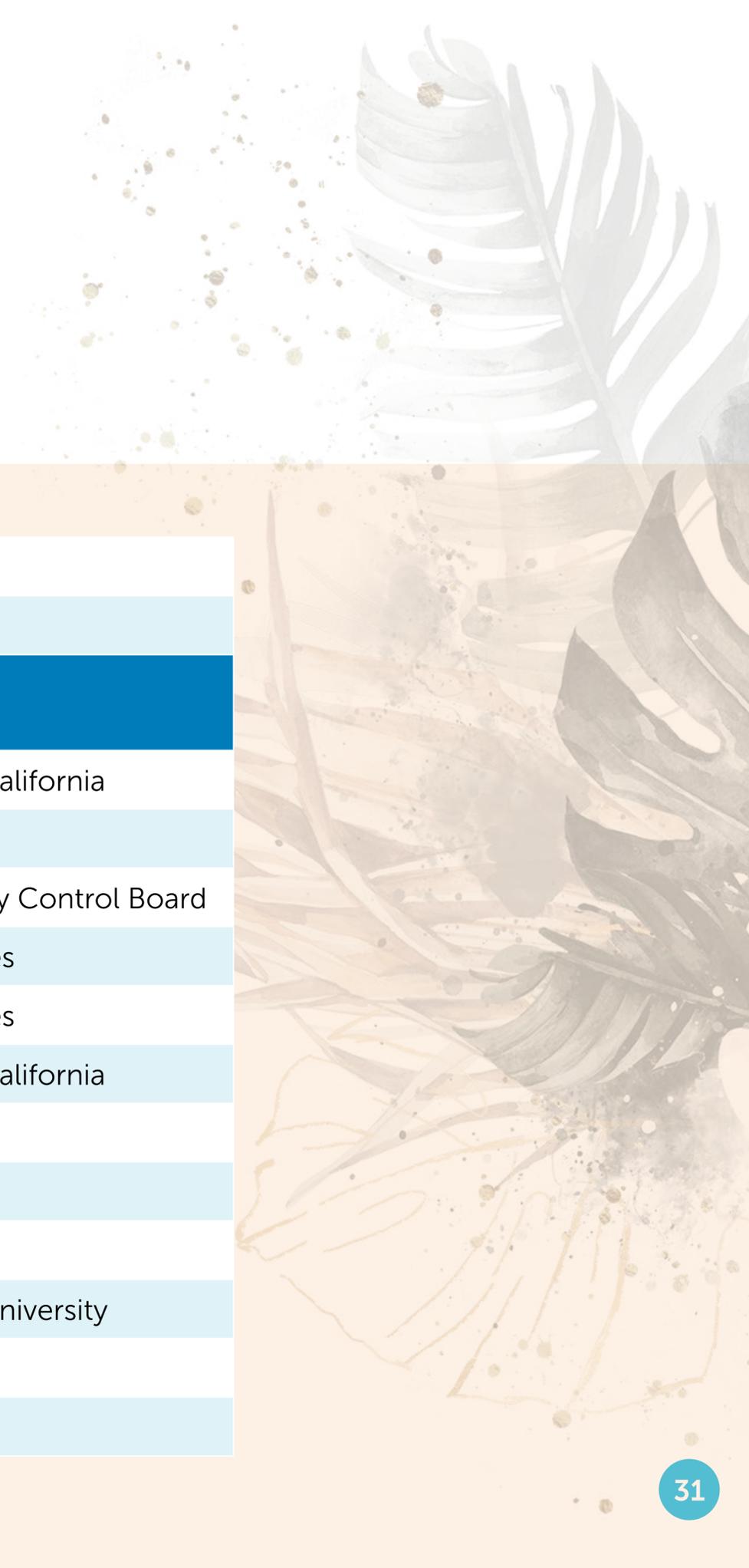
# Participants

The following list of participants and others invited to provide feedback reflect the range of voices that engaged in and informed the Framework discussion. Organizational affiliation is provided for identification purposes only. Participation does not infer endorsement of any specific content in the Framework.

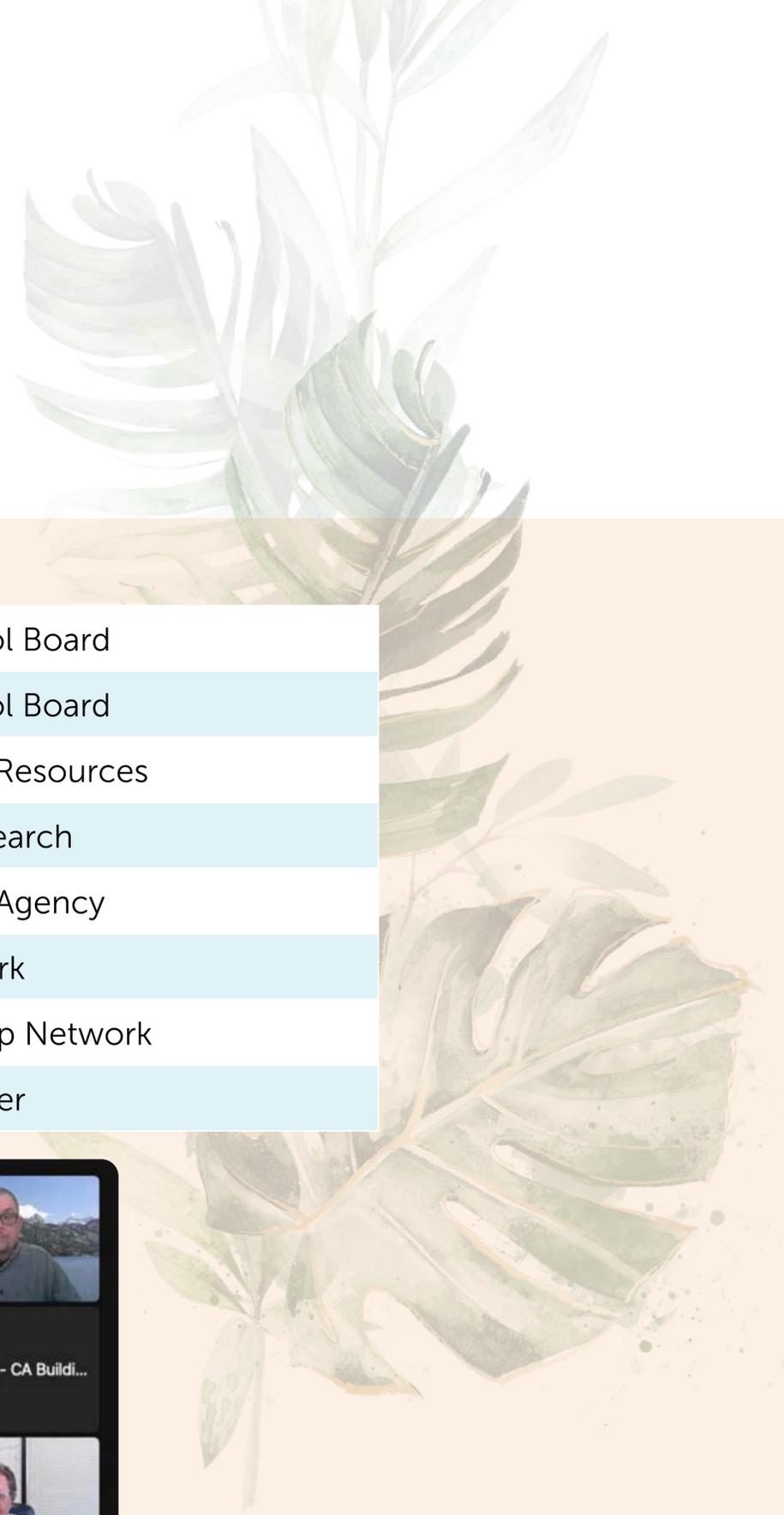
Watershed Framework Meeting Participants	
Name	Organization
A.G. Kawamura	Solutions from the Land
Adrian Covert	Bay Area Council
Ami Gunasekara	California Department of Food and Agriculture
Ann Hayden	Environmental Defense Fund
Ashley Boren	Sustainable Conservation
Cannon Michael	Bowles Farming Company
Catherine Freeman	California State Association of Counties
Dan Dunmoyer	California Building Industry Association
Dave Orth	New Current Water and Land
Dave Runsten	Community Alliance with Family Farmers
David Guy	Northern California Water Association
Debbie Franco	Water Solutions Network
Emmy Cattani	Cattani Farming
Erik Ekdahl	State Water Resources Control Board



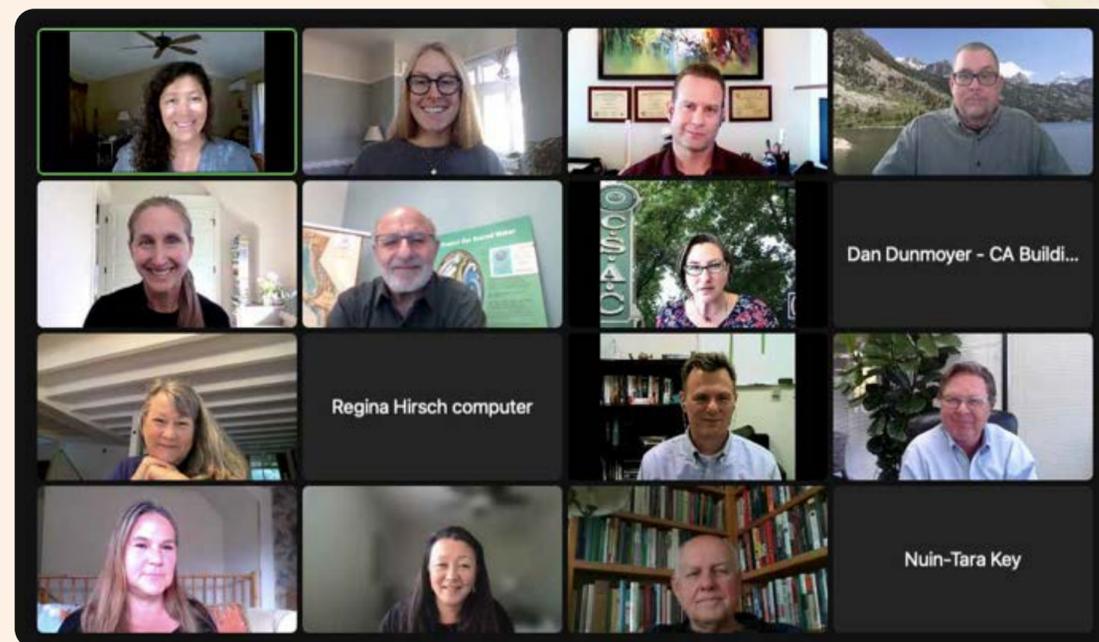
Grant Davis	Sonoma County Water Agency
Jack Rice	Western Resources Strategy
Jen Sokolove	Water Foundation
Jerry Bird	US Forest Service Region 5
Kamyar Guivetchi	California Department of Water Resources
Karen Gaffney	North Coast Resource Partnership
Keali'i Bright	California Department of Conservation
Lance Eckhart	San Geronio Pass Water Agency
Lester Snow	Retired
Lindsay Mattos	Tuolumne County Resource Conservation District
Liz Berger	US Forest Service Region 5
Martha Davis	Retired
Michelle Reimers	Turlock Irrigation District
Nick Goulette	Watershed Research & Training Center
Regina Hirsch	Watershed Progressive
Rob Kostlivey	Stanislaus County Environmental Resources



Sandi Matsumoto	The Nature Conservancy
Trina Cunningham	Mountain Maidu Summit Consortium
<b>The following individuals were briefed and invited to provide feedback on the Watershed Framework</b>	
Adel Hagekhalil	The Metropolitan Water District of Southern California
Angie Avery	Sierra Nevada Conservancy
Celeste Cantu	Retired, Chair of the San Diego Regional Water Quality Control Board
Cindy Tuck	Association of California Water Agencies
Dave Eggerton	Association of California Water Agencies
Deven Upadhyay	The Metropolitan Water District of Southern California
Elizabeth Forsburg	The Nature Conservancy
Eric Oppenheimer	State Water Resources Control Board
Eric Tsai	Department of Water Resources
Felicia Marcus	William C. Landreth Visiting Fellow, Stanford University
Jay Ziegler	The Nature Conservancy
Jessica Morse	California Natural Resources Agency



Joaquin Esquivel	State Water Resources Control Board
Jonathan Bishop	State Water Resources Control Board
Kris Tjernel	California Department of Water Resources
Nuin-Tara Key	Office of Planning and Research
Patrick Wright	California Natural Resources Agency
Sharon Farrell	The Stewardship Network
Shelana DeSilva	California Landscape Stewardship Network
Susana de Anda	Community Water Center



**We'd like to thank everyone who participated in and contributed to the development of the WSN Watershed Framework. We would like to offer a special thank you to the following:**

**The Water Foundation**

for their funding of this process and the initial process that lead to this one.

**Water Solutions Network members**

who workshopped concepts and content.

**Odin Zackman**

for the three beautiful quotes he curated to add color and depth.

**Adrian Covert**

for the magnificent drawing of a healthy watershed that is on the cover.

**Coro Northern California**

for incubating the Water Solutions Network.



[www.watersolutionsnetwork.org](http://www.watersolutionsnetwork.org)

## Appendix

This is a compilation of resources that the participants of this process surfaced throughout. It is not meant to be comprehensive or statewide.

- [Accelerate Resilience LA](#)
- [DWR Watershed Study Factsheet](#)
- [Integrating Land Use and Water Management Report](#)
- [Land Resilience Partnership](#)
- [Merced Watershed Study](#)
- [Model My Watershed](#)
- [NCWA Ridge to River Mouth](#)
- [NCWA Strategic Plan](#)
- [One Tam](#)
- [OPR Integrated Climate Adaptation and Resiliency Program](#)
- [USDA Watershed Condition Framework](#)
- [SACOG RUCS](#)
- [Watershed Progressive Ventura Watershed Resiliency Framework](#)