



WATER FORUM AGREEMENT 2050

September 2025 Final Draft

*The Next Generation of Water Management in
the Sacramento Region*

Signed Month XX, 2025

Water Forum Agreement 2050

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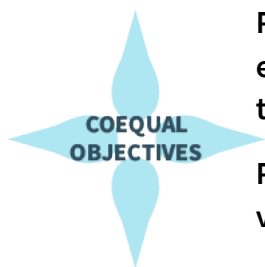


Introduction

The Water Forum: Protecting the River and Regional Water Supply

The lower American River (LAR) is one of the Sacramento region's greatest treasures. Generations of Sacramento-area residents have grown up on the river and along the parkway, enjoying its rich ecosystem of plants and wildlife, as well as numerous recreational activities. Throughout history, the river has sustained the lives and livelihoods of local residents by providing them with drinking water. But the river doesn't just *provide* for the region; it also needs active stewardship.

In 2000, 40 different agencies, organizations, citizen groups, and businesses came together to sign the landmark Water Forum Agreement, a visionary long-term plan created to balance two coequal objectives:



Provide a reliable and safe water supply for the region's economic health and planned development through to the year 2030; and

Preserve the fishery, wildlife, recreational, and aesthetic values of the lower American River.


The Water Forum Agreement (WFA) was a bold experiment. People with vastly different views on the best uses of water agreed to work together toward mutual goals. Water agencies, environmental

The lower American River is an essential part of life in the Sacramento region. It provides drinking water to nearly 2 million people and is home to 43 species of fish, including the endangered Central Valley steelhead and fall-run Chinook salmon. The river also and offers invaluable recreational and aesthetic values for the region and attracts nearly eight million visitors per year.

The river corridor also helps protect Sacramento-area communities from floods and plays an important role in supplying water to the Sacramento-San Joaquin Delta, which ultimately serves drinking water for many Californians and provides water for the state's agriculture.

organizations, business groups, and other interested parties negotiated a 30-year plan for how the American River basin's water would be managed and protected. The aim was to reduce the persistent conflicts over water resources that had historically plagued the region.

Before the Water Forum, the Sacramento area had seen its share of lawsuits, demonstrations, and political battles over planned water projects. Water providers and business interests were concerned that opposition to water development would hinder their ability to serve customers with a reliable water supply. At the same time, environmental advocates were alarmed by the ongoing decline of water-based ecosystems.



The Water Forum brings together a diverse group of businesses, citizen groups, environmentalists, water managers, and local governments in Sacramento, Placer, and El Dorado counties.

The agreement, reached after seven years of intense negotiations, included financial and operational commitments from water providers, as well as a promise from environmental organizations to support water providers based on the terms of the agreement. The first WFA included seven key **elements** that represented the strategies members¹ used to meet the coequal objectives of water supply reliability and environmental stewardship. Over the past 25 years, these strategies have shaped water management in the Sacramento region, addressing both immediate needs and long-term sustainability.

The original Water Forum **elements** were:

1. Detailed plans for **increased surface water supplies** from rivers during average to wet years to support Sacramento's anticipated population and economic growth through 2030.
2. Water providers' commitment to **actions during dry years** to reduce surface water diversions to protect fish, wildlife, aesthetic, and recreational value of the river.
3. Plans to establish a **new flow standard** for the LAR that would improve water releases to better support fish.
4. A **Habitat Management Element (HME)** dedicating purveyor and federal resources toward preserving the fishery, wildlife, recreational, and aesthetic values of the LAR.
5. Comprehensive **water conservation** plans to meet regional water needs while reducing reliance on both groundwater and surface water.
6. Establishment of local agencies for **groundwater management**, to monitor groundwater use and implement a conjunctive use program.
7. Ongoing implementation and adaptation of the WFA through 2030 via the **Water Forum Successor Effort (WFSE)**.

¹ The term member in this document is intended to refer to an organization that is a signatory to the Water Forum. Member and signatory can be used interchangeably.

These original Water Forum elements and the members' progress in each are detailed in **Appendix 1: Advancing the Seven Elements of the First Water Forum Agreement.**

Now, after more than two decades, the Water Forum is widely regarded as a success and is often recognized as a model for similar initiatives. It has not only led to tangible accomplishments in water management and river health enhancement but has also built strong, collaborative relationships that have helped the region navigate severe droughts. These collaborations have enabled the region to invest in river restoration projects and major infrastructure projects without opposition or lawsuits, a testament to the trust and transparency that have been cultivated over the years.

The success of this partnership has earned the Sacramento area a statewide reputation as an innovative steward of regional water resources, providing a solid foundation for negotiating a new agreement necessary to tackle the challenges ahead. The challenges ahead are significant for maintaining a reliable water supply, and especially for a healthy ecosystem that relies on cold water.

HONORS AND AWARDS

1999 – Achievement Award from California Water Policy Conference

2000 – Association of California Water Agencies Clair A. Hill Water Agency Award

2000 – U.S. Environmental Protection Agency Region 9 Outstanding Environmental Achievement Award

2001 – League of California Cities Helen Putnam Award for Excellence

2001 – Governor's Environmental and Economic Leadership Award for outstanding contributions in Environmental-Economic Partnerships

2004 – Harvard University Kennedy School of Government "Top 50" Programs in the Innovations in American Government competition

2015 – American Water Resources Association, Csallany Institutional Award for Exemplary contributions to Water Resources Management

2015 – Governor's Environmental and Economic Leadership Award

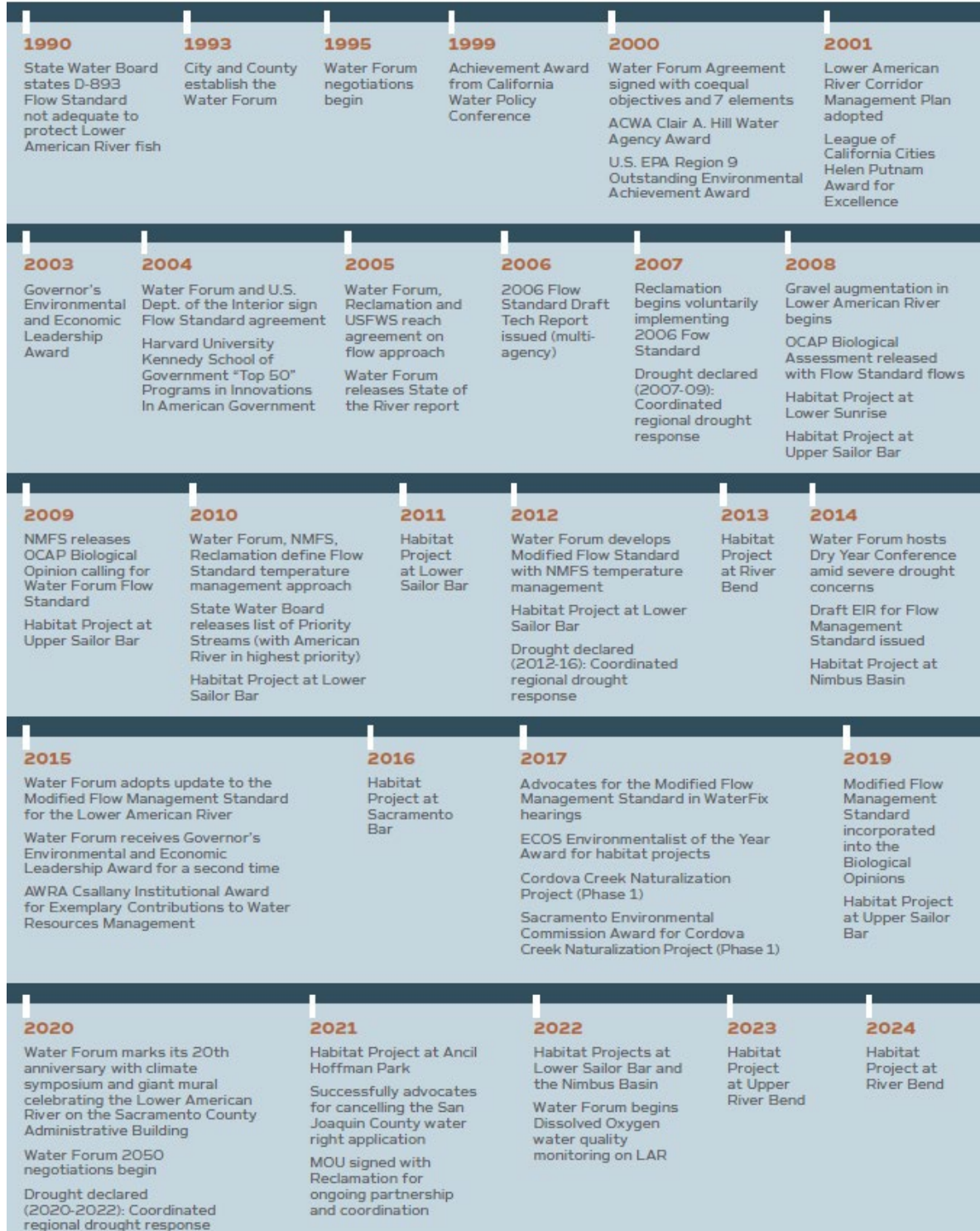
2017 – Environmental Council of Sacramento Environmentalist of the Year Award

The Water Forum was honored in both 2001 and 2015 with the **Governor's Environmental and Economic Leadership Award** — the state's top award for environmental stewardship — in recognition of its work to improve the lower American River riparian habitat and parkway, and to protect the Sacramento region's water supply.

KEY MILESTONES IN THE WATER FORUM'S HISTORY

Figure 1. Water Forum Timeline, 1990–2024

WATER FORUM Timeline 1990 - 2024



COMMITMENT TO THE WATER FORUM WAY

The **Water Forum Way** is an explicit set of mutual obligations that has guided Water Forum members' engagement with one another since its inception. Members demonstrate adherence to the Water Forum Way through the following practices:

- Mutual gains approach and collaborative effort to seek consensus and build trust
- Participating with an open-minded, respectful, and interest-based approach to all discussions
- Working through challenges, search for and find balance across the Water Forum's coequal objectives
- Understanding Water Forum processes and interested parties
- Emphasize transparency through a group disclosure process
- Surfacing and seeking to understand and accommodate differences and interests among Water Forum members
- Working with diverse groups to enable voices to be heard and to have an opportunity to have a seat at the table

All members of the Water Forum, including staff and consultants, commit to adhering to the Water Forum Way and hold one another accountable for reinforcing this practice.

Water Forum 2050: The Next Generation

As the Water Forum looks to the next twenty-five years, it faces a different set of challenges and a new regulatory landscape, including the impacts of climate change, increasingly challenged environmental conditions, increased regulations, and economic pressures. Given the magnitude and timing of the expected challenges, the negotiations for the new Water Forum Agreement were initiated in 2020 to prepare the region to better respond to changes as they materialize.

- **Shifting hydrology:** Climate change presents the single most significant threat to achieving the Water Forum’s coequal goals of water supply reliability and environmental stewardship of the LAR. While the first WFA focused primarily on mitigating the effects of dry years, the region is now experiencing a complex mix of hotter and drier periods, coupled with more intense bursts of rainfall and a diminishing snowpack. This pattern will challenge water storage infrastructure, particularly Folsom Reservoir, which must balance flood control needs with storing water for drought periods—challenges that were not anticipated in the first WFA.
- **Environmental Challenges and Fisheries:** Salmon and steelhead populations in the LAR face significant threats due to suboptimal flow and temperature conditions. Additionally, climate change impacts and other factors, including ocean and Delta conditions, have contributed to reduced fish populations. Continuing habitat enhancements and fostering continued collaboration with agencies, including the U.S. Bureau of Reclamation (Reclamation), for suitable flows and temperatures will be crucial for mitigating these challenges.
- **Operational Challenges:** Folsom Reservoir is owned and operated by the Bureau of Reclamation (Reclamation) as part of the broader Central Valley Project (CVP), a statewide water delivery system. As such, Reclamation must consider and balance the needs for water beyond the American River watershed within its operations. There are times when out-of-basin demands of the CVP may seem at odds with the needs of the LAR and the American River region. As the impacts of climate change further constrain water supplies, those times of competing demands are likely to increase and intensify. Ongoing coordination and engagement with Reclamation will be crucial for the continued success of the coequal objectives, and ensuring that American River interests are fully considered within the broader context of CVP operations.
- **Water Supply Reliability:** The threat of a reduced snowpack and critically low storage conditions at Folsom Reservoir (i.e., "dead pool"), when water levels are too low to meet supply needs, represents a severe risk to both water supply and river health. Multi-year droughts have previously brought the reservoir to critical levels, impacting water reliability for over a million residents.

The Water Forum's Flow Management Standard, which includes minimum flows, temperature management protocols, and storage target provisions, offers one strategy for mitigating this risk. However, further actions will be needed to adapt to climate-driven extremes in hydrology, including support for more diversified supply portfolios, such as enhanced conjunctive use, alternative or expanded diversion points, and the capture and underground storage of unstorable surface water, to enable regional water providers to reduce their reliance on American River supplies during drought conditions.

- **Groundwater Management:** The Sustainable Groundwater Management Act (SGMA) of 2014 expanded groundwater regulatory requirements, requiring local agencies to form Groundwater Sustainability Agencies (GSAs) and create long-term Groundwater Sustainability Plans (GSPs). SGMA and the GSAs now guide groundwater management across California, superseding many features of the first WFA's groundwater element.
- **Rising Regulatory Pressures:** Since 2000, state regulations related to water have undergone significant expansion, introducing mandates that have raised compliance costs and created new challenges for water purveyors. Increased regulation now affects every aspect of water management, from groundwater sustainability and surface water flows to conservation requirements and long-term planning. For example, the State's role in water conservation has expanded, gradually surpassing the framework set by the first WFA. The most recent example is the Making Conservation a California Way of Life regulation, adopted by the State Water Board in August 2024, which solidified conservation as a permanent state mandate.
- **Water Affordability:** The costs of providing water are increasing, driven by rising expenses for regulatory compliance, infrastructure maintenance, and essential supplies, including energy and chemicals. At the same time, revenues are impacted as conservation measures reduce demand and customers resist rate increases. This financial strain on local water providers highlights the need for cost-effective, transparent management strategies that align with public expectations.

CHALLENGE OF CLIMATE CHANGE

Water Forum members have identified climate change as *the most significant challenge* to the Water Forum's coequal objectives of balancing reliable water supplies while protecting the health of the LAR environment. To assess the impacts of climate change and population growth on water supply reliability and river health through 2050, the Water Forum conducted a technical analysis that compared projected conditions to historical data.

This analysis, Water Forum 2.0 – Ad Hoc Technical Team (AHTT) Study Plan Analysis Report, was led by a team of experts from the water, business, public agency, and environmental sectors. It built upon Reclamation's 2022 American River Basin Study, applying its data to a focused examination of the LAR.

Key findings included:

- **Hydrology:** Runoff is projected to peak earlier due to declining snowpack conditions, while the frequency and severity of multi-year droughts are expected to increase. Multi-year droughts similar to the 2014-16 event are likely to shift from occurring once every 100 years to once every 10 years under moderate climate change assumptions. As a result, the region is expected to find itself in drought-response mode more frequently, with extreme drought events becoming increasingly common. Current regional operations may also prove less effective due to shifts in the timing and volume of runoff.
- **Water Supply Reliability:** Future conditions indicate a decline in surface water reliability, which will result in an increased reliance on groundwater. This reduced availability of surface water will necessitate greater flexibility in water management strategies. Additionally, the frequency of critically low storage levels at Folsom Reservoir is expected to rise, presenting challenges for existing operations. As a result, proactive groundwater management in wet years will become essential for the region's water supply reliability.
- **River Health and Fisheries:** Temperatures will continue to be a limiting factor for resident salmonids on the LAR. Climate change is likely to significantly increase the number of days when river temperatures reach levels that are unsuitable for the survival of salmonids. This rise in unsuitable conditions will pose challenges for fish survival², highlighting the need for actions that effectively balance the beneficial uses of available surface water to support both fisheries and water supply needs.

Overall, the study provided a technical foundation for collaborative solutions and informed the Water Forum by identifying gaps in water supply and river corridor health under future conditions. It also set the foundation for a regional dialogue on potential adaptation tools, projects, and measures to address these critical issues.

A POSITIVE VISION FOR THE FUTURE

The challenges facing water management today present an opportunity to **strengthen and modernize** the WFA for its continued relevance in the evolving landscape.

As with the first WFA, the **Water Forum 2050 Agreement (WF2050)** is a commitment to working together towards coequal objectives, this time to overcome a different set of challenges. The intent is that cooperation leads to increased support and drives investments in resiliency programs, enhancing the region's reputation and improving competitiveness for water management and ecosystem enhancement grants. Growing support from interested parties will

² Studies have shown that summer river temperatures above species-specific tolerances can cause direct adult mortality and reduce egg and juvenile survival. In addition, barrier-limited or low-elevation populations can't access cold-water refugia, increasing their climate vulnerability.

stretch local investments further, leading to more efficient and effective water management programs.

While the challenges are significant, interested parties at the Water Forum share a positive vision for the future. This vision is built on the principles of mutual benefit, with a renewed WFA serving as the foundation. In this future, regional ecosystems and the economy remain resilient and sustainable, and citizens enjoy reliable, sufficient, and safe water supplies. Communities can weather multi-year droughts without compromising the health of their landscapes or water-based ecosystems.

As conditions continue to evolve, WF2050 provides a framework to address current and emerging water management challenges while safeguarding the environmental health of the region for future generations.

Structure of the Water Forum 2050 Agreement

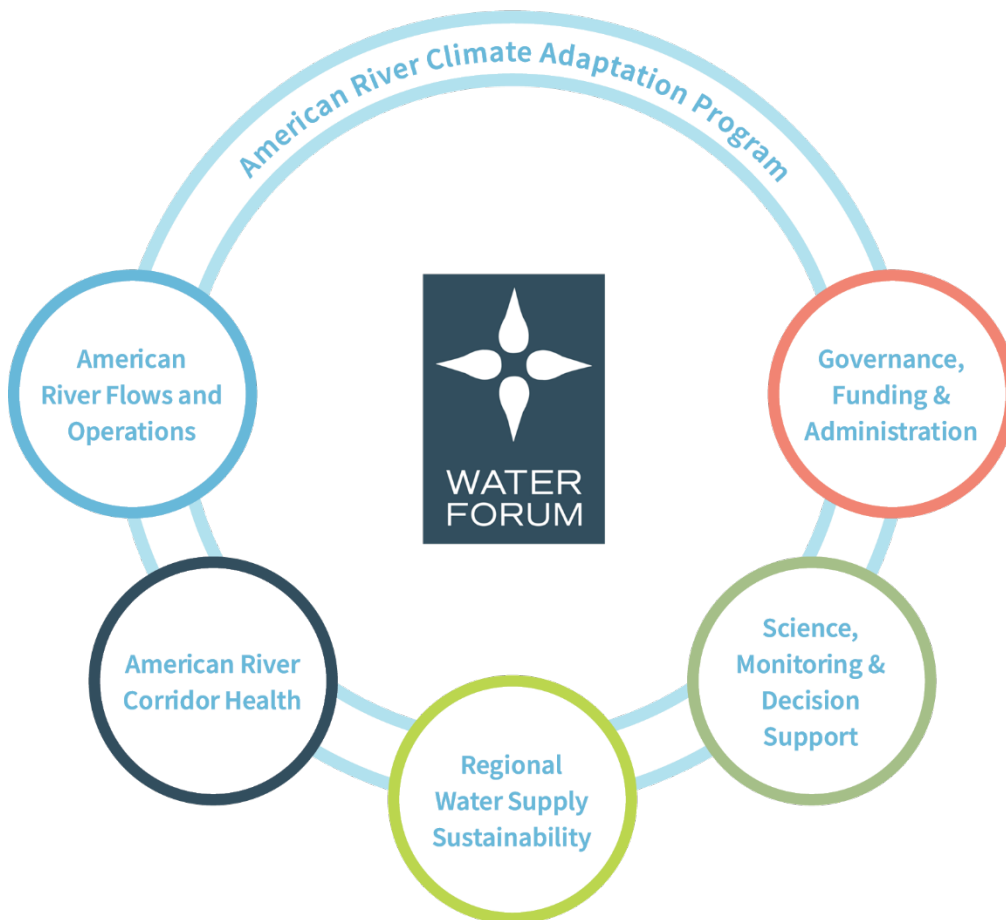
The WF2050 restructures the seven elements from the first WFA into five **Program Areas**:

1. American River Flows and Operations
2. American River Corridor Health
3. Regional Water Supply Sustainability
4. Science, Monitoring, and Decision Support
5. Governance, Funding, and Administration

Each Program Area is designed to support the coequal objectives by outlining specific principles, actions, and activities directed to the relevant area of focus. Recognizing that climate change presents the most significant threat to achieving the coequal objectives, the **American River Climate Adaptation Program (ARCAP)** is a cross-cutting program designed to accelerate progress in all five Program Areas by developing and targeting additional volumes of water to directly support the coequal objectives. ARCAP aims to better manage water in the face of climate change by voluntarily linking agencies, infrastructure, and policies—creating a truly regional water system where water is managed by agencies to be available when and where it's needed, and cold water is preserved in the American River for fish and future supply is protected.

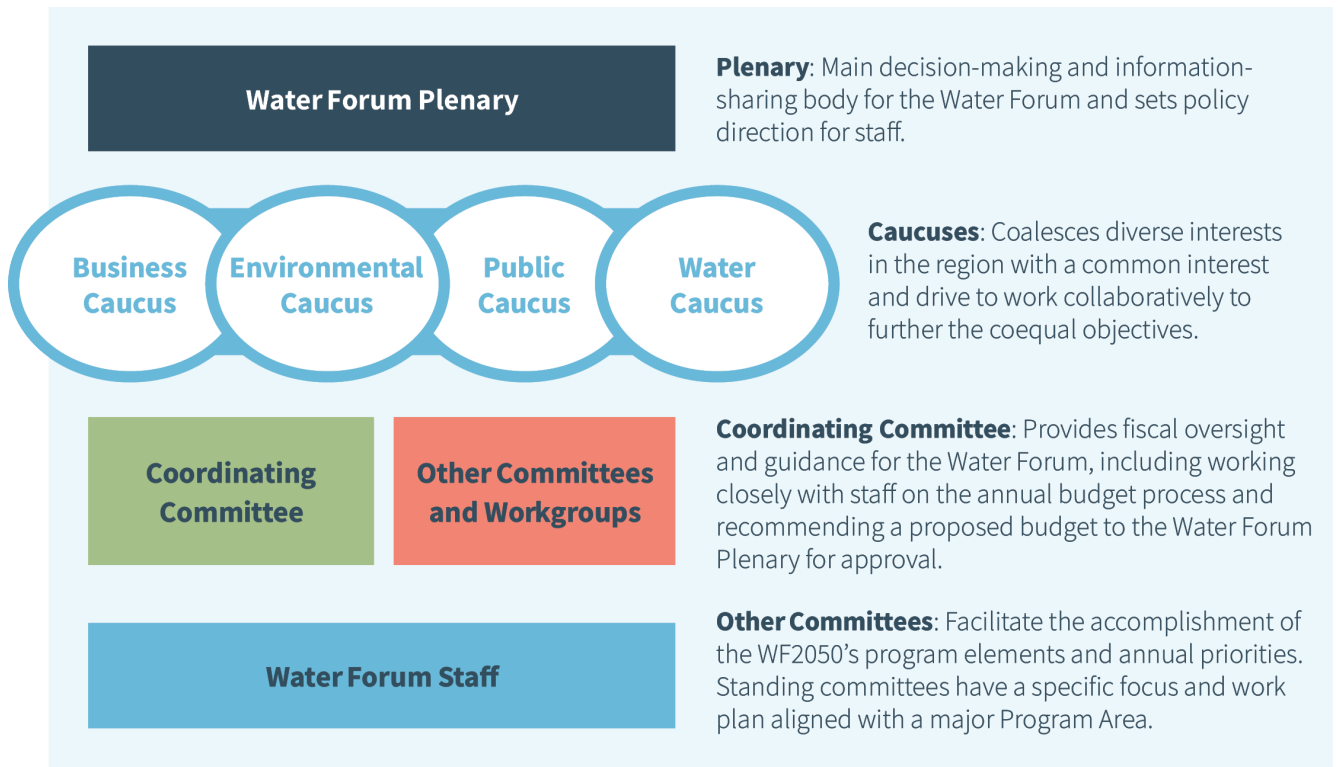
The WF2050 agreement is a voluntary agreement between signatories that functions through mutual commitments made to support the coequal objectives, implement the guiding principles, and uphold specific commitments relevant thereto.

Figure 2. Structure of WF2050



The WF2050 Program Areas (Figure 2) incorporate many of the elements from the first WFA, adapted to meet the region's evolving needs over the next 25 years. For example, the **American River Corridor Health** Program Area includes the Habitat Management element, and **American River Flows and Operations** integrates the Water Forum's Flow Management Standard. Additionally, **Governance, Funding, and Administration** introduces a new pathway for the Water Forum while maintaining the major components of the Water Forum governance structure (Figure 3).

Figure 3. Water Forum Governance Structure



The WF2050 includes:

Coequal Objectives: Reaffirmation of the long-standing mission and vision of the Water Forum, emphasizing a dual commitment to water supply reliability and environmental stewardship.

Guiding Principles: Foundational guidelines to drive the actions of the Water Forum and its members, helping to ensure that Water Forum efforts remain aligned with the core values and objectives.

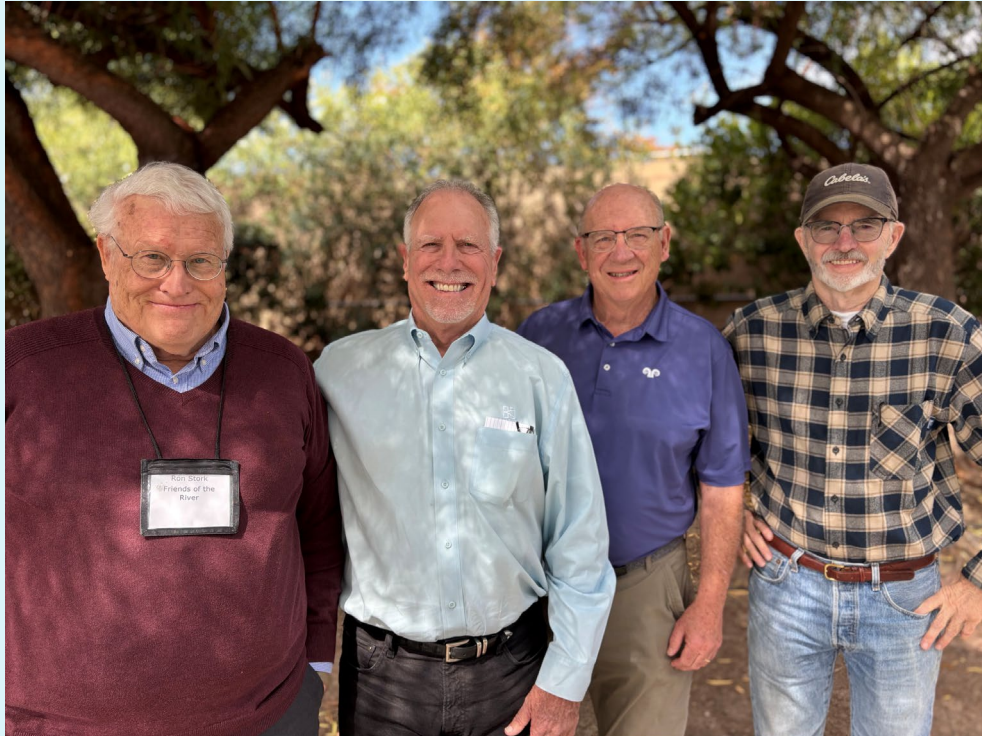
Program Elements: Core elements of the Water Forum's work, defining roles and responsibilities in the areas of American River Corridor Health; American River Flows and Operations; Regional Water Supply Sustainability; Science, Monitoring, and Decision Support; and Governance, Funding, and Administration – supported and accelerated by the American River Climate Adaptation Program.

Metrics: Data and information for monitoring and assessment to provide a framework for evaluation, helping to ensure that initiatives are effective and impactful.

Supported Projects: A list of regional initiatives and projects broadly supported by the Water Forum, highlighting collective efforts to enhance water supply and environmental health.

Acknowledgments

The success of WF2050 builds on the foundation established by those who brought the first WFA to life. Many individuals and organizations have contributed their time, expertise, and resources throughout the negotiation and development process. Their commitment to addressing the region's water supply and environmental challenges has been essential in shaping a comprehensive framework for the next 25 years.



The foundation of the WF2050 reflects the vision and commitment of those who shaped the Water Forum. Special recognition goes to original Water Forum members who have continued to participate: Ron Stork of Friends of the River, Clyde Macdonald of Save the American River Association, Jim Ray of the North State Building Industry Association/MacKay & Soms, and Brian Holloway of Sacramento Association of Realtors, whose leadership was essential to the success of both negotiations.

WF2050 PARTICIPATING ORGANIZATIONS

Thank you to the organizations and their representatives who devoted countless hours to participating in “Water Forum 2.0” (WF2050) negotiations. The Water Forum would not be possible without the dedication of its members.

Business Caucus

AKT Development*
Associated General Contractors*
North State Building Industry Association*
Sacramento Association of Realtors*
Sacramento Metropolitan Chamber of Commerce*
Sacramento Regional Builders Exchange
Green Acres Nursery & Supply

Environmental Caucus

Environmental Council of Sacramento*
Friends of the River*
Save the American River Association*
Sierra Club Mother Lode Chapter*

Public Caucus

American River Flood Control District
American River Parkway Foundation
City of Rancho Cordova
City of Sacramento Planning Department*
League of Women Voters, Sacramento County *
Placer County
Sacramento Area Council of Governments
Sacramento Area Flood Control Agency
Sacramento County*
Sacramento Regional Parks
Sacramento Valley Conservancy
Sacramento Municipal Utilities District *

Water Caucus

California American Water*
Carmichael Water District*
Citrus Heights Water District*
City of Folsom*
City of Roseville*
City of Sacramento*
East Bay Municipal Utility District
El Dorado Irrigation District*
El Dorado Water Agency*
Fair Oaks Water District*
Golden State Water Company/Arden-Cordova Water District*
Orange Vale Water Company*
Placer County Water Agency*
Regional Water Authority*
Sacramento Suburban Water District*
Sacramento County Water Agency*
San Juan Water District*

* Denotes an organization that was a Signatory to the 2000 agreement.

Memorandum of Understanding for Water Forum 2050

The stakeholder representatives have concluded that the best mechanism to implement Water Forum 2050 is a Memorandum of Understanding (MOU) among all signatories to the WF2050 Agreement. By memorializing the substance of the WF2050 Agreement, this MOU creates the overall commitment to Water Forum 2050.

All signatories agree that by signing the MOU, they agree to carry out all the actions specified for them in the WF2050 Agreement.

Preamble

A diverse group of business leaders, environmentalists, citizen groups, water managers, and local government representatives has carefully reviewed the region's water future and the anticipated impacts of climate change. They found that unless we act now, our region risks a future marked by water shortages, environmental degradation, contamination, threats to groundwater reliability, and limitations to economic prosperity.

Joining together as the Water Forum, these community leaders from El Dorado, Sacramento, and Placer counties have spent thousands of hours analyzing the environmental and water supply needs of the region, focusing on the Lower American River, agreeing on principles to guide development of regional solutions, and negotiating the Water Forum 2050 Agreement.

This diverse group agrees that the optimal approach is a comprehensive package of interconnected actions that will achieve two coequal objectives:

Provide a reliable and safe water supply for the region's economic health and planned development through to the year 2050

and

Preserve the fishery, wildlife, recreational, and aesthetic values of the lower American River

Recitals

1. *Whereas*, a reliable water supply is needed by current and future residents, businesses, and agriculture; and
2. *Whereas*, the lower American River is recognized as an important natural resource which should be protected and preserved for future generations by all Water Forum interested parties; and

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3. *Whereas*, the Sacramento region’s groundwater resources are being successfully managed through Groundwater Sustainability Plans that have been approved by the State Department of Water Resources, and the Water Forum serves as a place to exchange information, concerns, and ideas regarding the management of this resource; and
4. *Whereas*, water purveyors and others have for years sought to develop additional safe, reliable water supplies; and
5. *Whereas*, the environmental community and others in the region have for years sought to restore the fishery, wildlife, recreational, and aesthetic values of the lower American River, protect and preserve the American River Watershed, and the region's groundwater supplies, including the environmental resources they support; and
6. *Whereas*, all signatories continue to recognize the potential benefits of mutually supporting each other’s goals and working together, as well as the collective risk of pursuing independent objectives in isolation; and
7. *Whereas*, the framework of an interest-based negotiation process cannot provide exactly equivalent benefits for all, but in most cases does make it possible for stakeholders to obtain what they need in a *Water Forum 2050 Agreement*.

Now, Therefore Be It Resolved That:

1. All signatories to this Memorandum of Understanding (MOU) agree that participation in *Water Forum 2050* is in the best interest of water consumers and the region as a whole.

All signatories will endorse and, where indicated, participate in implementing the attached *Water Forum 2050 Agreement*, in accordance with the five Program Areas, and subject to relevant caveats and assurances:

- American River Flows and Operations
 - American River Corridor Health
 - Regional Water Supply Sustainability
 - Governance, Funding, and Administration
 - Science, Monitoring, and Decision Support
2. Individual Purveyor Specific Agreements (PSAs) were negotiated as part of the Water Forum 2050 Agreement and are incorporated therein.
 3. All signatories will have equal standing in the Water Forum, regardless of whether they belong to the Public, Water, Business, or Environmental caucus.

Term of the Memorandum of Understanding

This MOU shall remain in force and effect until December 31, 2050.

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Legal Authority

Nothing in this MOU or the attached *Water Forum 2050 Agreement* is intended to give any signatory, agency, entity, or organization expansion of any existing authority.

Non-Contractual Agreement

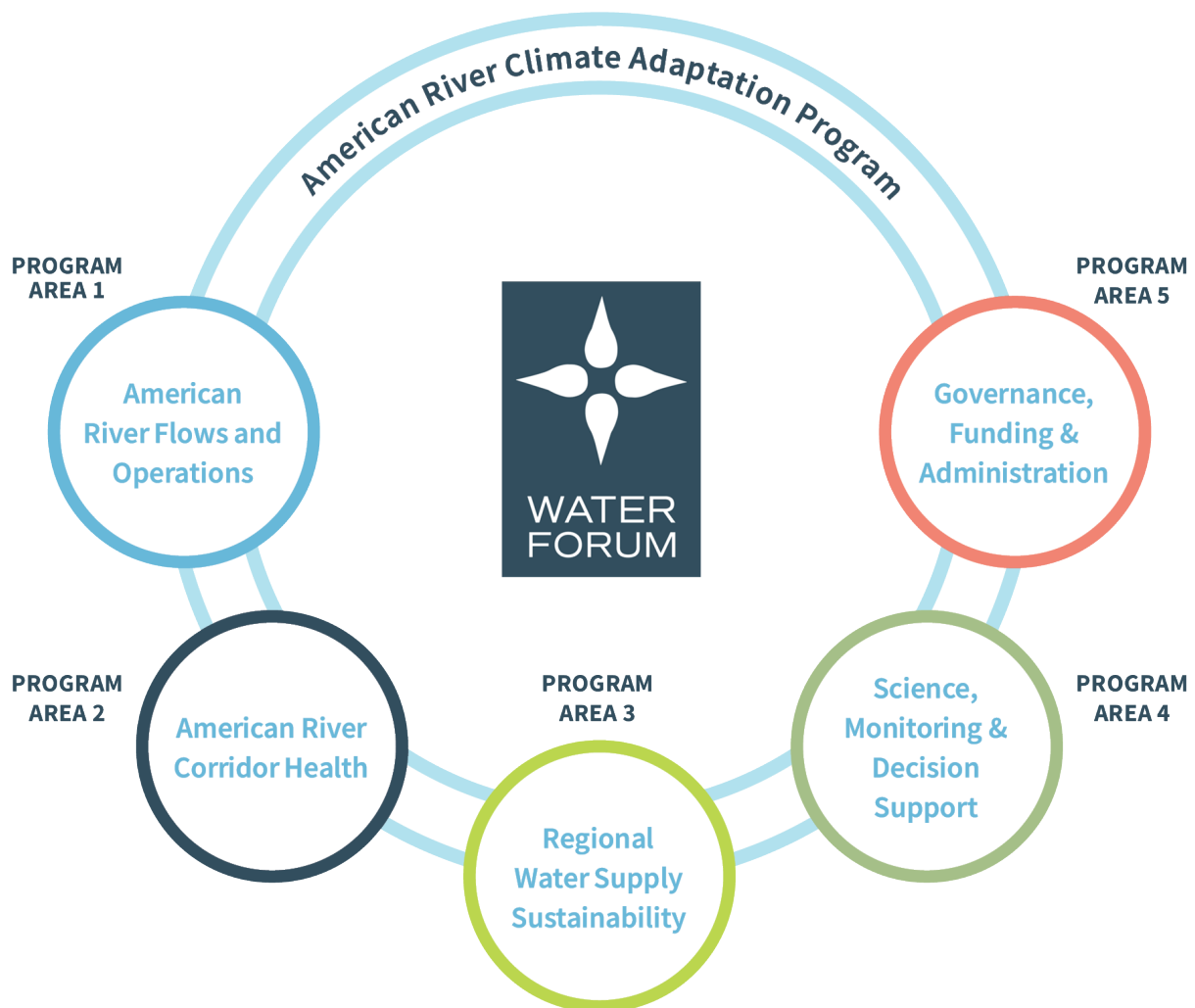
This MOU and the attached *Water Forum 2050 Agreement* are intended to embody general principles agreed upon between and among the signatories. Still, they are not intended to, and do not, create contractual relationships, rights, obligations, duties, or remedies enforceable in a court of law by, between, or among the signatories or any third parties.

In witness thereof, the undersigned parties have executed this MOU this XX day of XX, 2025.

Water Forum 2050 Program Areas

Water Forum 2050 (WF2050) comprises five key **Program Areas** (Figure 4), crafted to support the coequal objectives and shape and focus the work of the Water Forum over the next 25 years. The five Program Areas are supplemented by the American River Climate Adaptation Program (ARCAP), a cross-cutting program designed to focus and accelerate progress in all areas by seeking to develop and target additional volumes of water to support the coequal objectives.

Figure 4. WF2050 Program Areas



Common Themes Among Water Forum 2050 Program Areas

Spanning all WF2050 Program Areas are common themes that are foundational to the Water Forum 2050 Agreement. Collaboration and partnership, adaptive management, and advocacy will be central to the work of the Water Forum over the next 25 years, supporting the coequal objectives in the unique context of the challenges the region will face due to climate change.

COLLABORATION AND PARTNERSHIP

At its core, the Water Forum is a venue for effective collaboration and partnership. In addition to the Water Forum's diverse group of member organizations, external partners also inform and influence the work of the Water Forum and/or support the coequal objectives through shared goals. The diversity of member organizations and partners offers valuable opportunities for the sharing of information and resources in support of the coequal objectives, in a manner that is focused and includes a regional perspective that can otherwise be lost when operating in isolation. Within all the Water Forum 2050 Program Areas, opportunities for collaboration and partnership are identified as they relate to the activities and principles of the specific program.

ADAPTIVE MANAGEMENT

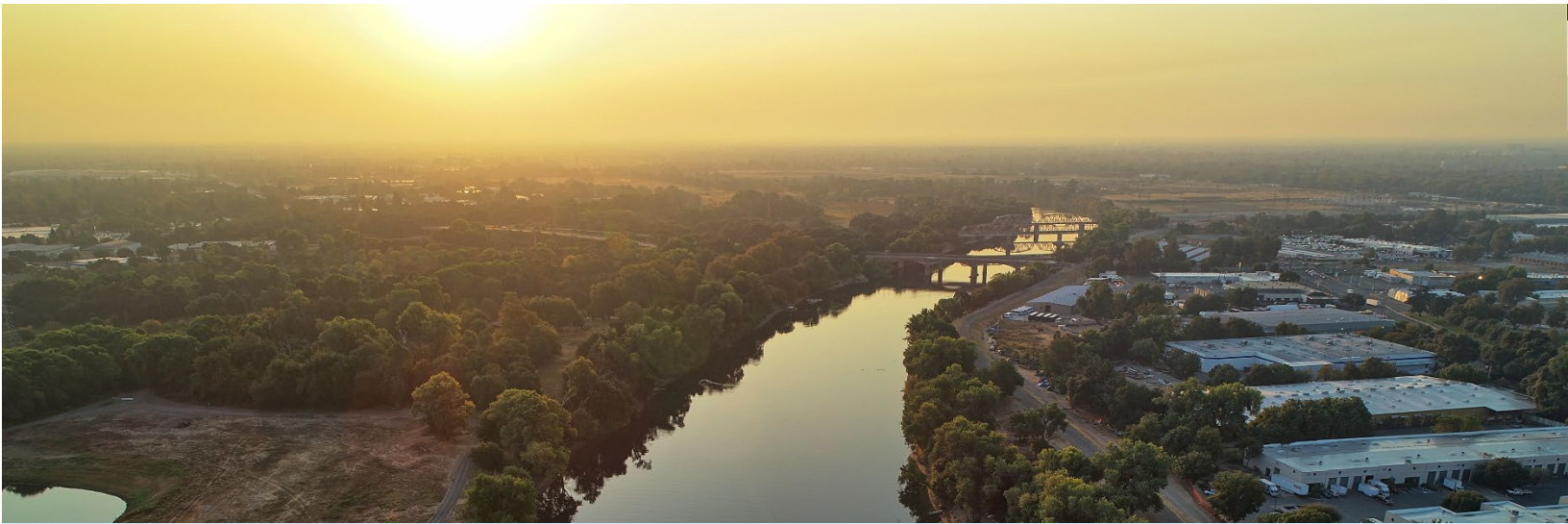
Continuously evaluating regional conditions relative to the coequal objectives and the effectiveness of the Water Forum's work is a cornerstone of the 2050 agreement. There is a shared understanding that climate change poses the greatest challenge to the coequal objectives over the next 25 years. However, there is uncertainty regarding the potential severity and timing of realized impacts on the region. Low storage at Folsom Reservoir, increased river temperatures, and more intense wet and dry cycles are expected; however, it is not possible to predict with precision what these will mean for the region or what the most effective responses will be. Each of the Water Forum 2050 Program Areas acknowledges this uncertainty and includes elements to evaluate and adjust priorities and activities as an understanding of regional conditions and needs evolves over the life of the agreement. The Water Forum 2050 agreement also includes a robust *Metrics and Reporting* section that specifies metrics to track the implementation of the agreement and the viability of the coequal objectives, and outlines when and how those metrics will be reviewed and considered.

EXTERNAL ENGAGEMENT

One of the greatest strengths of the Water Forum is the ability to garner and leverage regional support for projects, programs, and activities focused on the coequal objectives. Ultimately, the challenges the region will face over the next 25 years will require action on a scale that exceeds the members' ability to implement. Solutions will require investments from state and federal

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partners. Water Forum support and external engagement significantly enhance the likelihood that funding will be allocated to the region. The Water Forum 2050 Program Areas identify where external engagement is expected to be key to the success of the work.



American River Climate Adaptation Program (ARCAP)

Water Forum members recognize that climate change presents the most significant threat to achieving the coequal objectives of water supply reliability and environmental stewardship of the LAR. Climate change has the potential to adversely impact the region in many ways, including those listed below:

- Accelerated decline of salmonids, recreation, and water quality due to decreased flows and increased river temperatures in the LAR.³
- Decreased reliability of the region's urban water supply due to changes in hydrology, and increased strain on statewide water project operations.³
- Increased threat of external claims for American River water due to water-shortage pressure elsewhere in the state.
- Increased drying of soils and plants due to higher temperatures.
- Increased need for overall regional water resilience due to evolving regulatory requirements.

These extreme threats demand the timely and substantial watershed resilience measures contemplated as part of the American River Climate Adaptation Program (ARCAP), **a multi-caucus problem-solving program seeking to develop and target additional volumes of water toward Water Forum coequal objectives**. ARCAP offers a better way for the region to manage water as

³ The Water Forum Ad Hoc Technical Team report of 2022 highlighted significant challenges that will result from climate change, including:

- The region will experience more frequent and more severe droughts and flood events. This pattern will challenge the capability of water storage infrastructure, particularly Folsom Reservoir's ability to provide flood protection and reliable water supplies.
- Salmon and steelhead populations in the lower American River will face significant threats due to suboptimal flows and temperature conditions and poor genetic diversity.
- Folsom storage is projected to be at critically-low levels more often due to climate change, creating a substantial risk to regional water supply reliability.

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climate conditions become more extreme. It enhances the five Program Areas by voluntarily linking agencies, infrastructure, and policies—creating a truly regional water system where water is managed by agencies to be available when and where it's needed, and cold water is preserved in the American River for fish and future supply is protected.

The ARCAP intends to make measurable quantities of water available to provide demonstrable benefits to both of the Water Forum's coequal objectives. Collectively, these water quantities will be referred to as *ARCAP Water* and can be thought of as an insurance policy against the challenges described above. *ARCAP Water* may include contractual or set-aside supply, or stored water that is managed by one or more entities. *ARCAP Water* could be provided from multiple sources, including:

- **Regional conjunctive use operations** – water stored in the groundwater basin through in-lieu or other recharge and recovery methods. The Water Forum, in collaboration with key partners, will examine the nexus between these activities and the planned Sacramento Regional Water Bank.
- **RiverArc** – relocating the source of water supply from an American River diversion to a Sacramento River diversion for some agencies.
- **Reservoir reoperation** – potential operational changes to provide *ARCAP Water* and enhance coldwater pool conditions in Folsom Reservoir and seek benefits from Forecast Informed Reservoir Operations (FIRO), or potentially through other CVP operational changes.
- **Capture, storage, and use of un-storable water** – may include recharge of excess water during flood operations when releases are well above optimal riverine ecological levels.
- **Vineyard Treatment Plant expansion** – potential additional capacity in the Freeport diversion on the Sacramento River if the Vineyard Treatment Plant were expanded.
- **Sacramento Water Treatment Plant expansion** – The City of Sacramento may increase the capacity of this plant, making additional Sacramento River water available.
- **Water conservation actions** – actions expected to reduce water demand and diversions, potentially making water available for ARCAP.
- **Other sources** may be identified.

ARCAP Water could offer the following benefits for the American River region:

- Additional supplies for water agencies serving communities in the Sacramento Region that are facing significant water shortages during droughts or other conditions.
- Augmented storage in Folsom Reservoir to enhance the coldwater pool and reduce river temperatures to benefit fish.

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- Augmented flows in the LAR to benefit fish.
- Increased operational flexibility to benefit CVP operations.
- Increased capture, use, and storage of un-storable and excess flood waters.
- Increased groundwater storage regionally to enhance conjunctive use and support Groundwater Dependent Ecosystems.
- Demonstration of our region’s commitment to proactively addressing climate issues and maintaining a sustainable American River watershed.
- Demonstration to Reclamation of our region’s commitment towards Folsom Reservoir storage during dry and critical times.

The ARCAP is ambitious, and several important issues must be addressed before this program becomes operational. Because many outstanding questions will be unanswered during the WF2050 negotiations, the ARCAP includes elements focused on technical analysis and resolution of important issues. These technical and interested-party processes will rely on the technical coordination and cooperation of the Regional Water Authority (RWA) (see Program Elements) and consultation with Groundwater Sustainability Agencies (GSAs).

There is a precedent for such an ambitious initiative by the Water Forum. The Flow Management Standard (FMS), for example, has become a major focus of the Water Forum’s activities and deliberations over the last two decades, ultimately leading to changes in CVP operations on the LAR. Like the ARCAP, the process for developing and implementing the FMS was not fully defined until after the original WFA was signed.

Guiding Principles

The ARCAP activities will support the Water Forum’s coequal objectives by aligning with the guiding principles below:

1. ARCAP Water will provide water supply and ecosystem benefits, and will strive to provide multiple benefits whenever possible.
2. ARCAP Water will be created by using existing or planned regional water sources.
3. Program design and implementation will be conducted openly with all caucuses.
4. Developing and implementing the ARCAP will be a long-term endeavor, but it will progress incrementally to build confidence and support with early implementation, resulting in collective successes.
5. The role of the Water Forum staff in ARCAP development and implementation will focus on coordination with Water Forum members, conducting analyses, advocating for programs and funding, and tracking progress.
6. ARCAP analyses and coordination will be covered in partnership with RWA and the Water Forum.

7. ARCAP questions and issues related to conjunctive use (and possibly the Sacramento Regional Water Bank) will be addressed through a partnership between the Water Forum and RWA, involving water purveyor members and regional GSAs.
8. The ARCAP will work in concert with the FMS and other Water Forum elements to support the coequal objectives.
9. ARCAP Water will not be used to meet the minimum regulatory requirements as defined by the FMS or SGMA (as those are expected to be met per existing regulations and legislation).
10. The use of the Water Forum members' facilities and water supplies for the ARCAP should provide a benefit to those organizations.

Program Elements

To implement the ARCAP Guiding Principles listed above, the Water Forum will commit to the programs, actions, and activities below. These actions are designed to support the Water Forum's coequal objectives through the implementation of the ARCAP and are subject to the relevant caveats and assurances.

1. Technical, Operational, Regulatory, and Legal Issues

Several issues must be resolved before the ARCAP can come to fruition. These issues include:

1. What will be the target volume (if any) of ARCAP Water?
2. What are the sources of water for the ARCAP?
3. Who will own and manage ARCAP Water?
4. How, where, and when will ARCAP Water be stored?
5. Where and when will ARCAP Water be used?
6. How will the Water Forum and members track the sources and destinations of ARCAP water?
7. How will the ARCAP perform under various climate scenarios, including multi-year droughts, critically low storage (aka deadpool), and water supply curtailments?
8. What additional infrastructure will be needed to implement the ARCAP?
9. What will be the technical and physical limitations of the ARCAP?
10. What is the potential maximum volume of water that could be developed through the ARCAP?
11. How much groundwater recharge and recovery is possible in the region?
12. How much groundwater recharge and recovery is needed in the region?
13. Could the modified timing of released ARCAP Water enhance LAR temperature conditions?
14. How can changes in the point of diversion (e.g., from Folsom Reservoir or the LAR to Freeport) provide additional water storage or flow for the LAR?
15. What is the expected increase in un-storable water in the American River system, and what would be necessary to capture and store that water under the ARCAP?

16. Could FIRO increase ARCAP Water supplies, and if so, how much?
17. What opportunities exist to create and track *ARCAP Water* within regional demand management and conservation actions (including climate-ready landscapes and other emerging areas of research)?
18. How will inter-agency commitments to ARCAP be recognized, and how will their operations be counted?

ARCAP will consider the integrated interactions of demand (including demand management actions), supply, source waters, and conjunctive use that may impact the potential benefits of *ARCAP Water*, among other considerations. **Appendix 2** outlines the first two years of technical, operational, regulatory, and legal analyses necessary to begin answering these questions and indicates the roles and responsibilities of the Water Forum and key partners (RWA, GSAs, etc.) in completing the various analyses.

2. External Engagement Strategy

The ARCAP will require partners beyond the signatories to WF2050 to be successful. Sustained efforts to communicate with potential partners will maximize the probability of success. Some of the entities identified for outreach include:

Reclamation – Changes in CVP operations may be sought to help establish or store ARCAP Water. This will require a strategy for ongoing engagement with Reclamation that is consistent among members and flexible in approach. The Water Forum will strive to communicate to Reclamation that ARCAP actions help support their goals of delivering water with minimal shortages and maintaining operational flexibility.

Regional GSAs – Active coordination with the GSAs will be implemented as part of ARCAP and will include the sharing of relevant analyses and data, as well as general information sharing to raise awareness and explore opportunities for collaboration.

California Department of Water Resources (DWR) – The DWR has a regional watershed planning initiative (which RWA is piloting for this region) and is likely to continue serving as a source of funding for water infrastructure and climate resiliency actions. As such, DWR should be kept informed of the ARCAP effort and successes.

State Water Resources Control Board (SWRCB) – The SWRCB would be involved in any transfers of water supplies that utilize water rights established after 1914 or modifications of existing water rights to add new points of diversion.

Fisheries agencies, including the National Marine Fisheries Service, California Department of Fish and Wildlife, and the Federal Fish and Wildlife Service, are likely to have valuable information on employing ARCAP Water to benefit the aquatic ecosystem.

Other entities, such as the California Legislature and Congress, will likely have a keen interest in the ARCAP efforts, and the Water Forum should strive to provide them with regular progress updates.

3. Coordination, Management, and Implementation of *ARCAP Water*

The implementation and management of *ARCAP Water* will be coordinated with regional and external partners. It is expected that the Water Forum will partner with RWA and others on technical analyses to inform the development and deployment of *ARCAP Water*, will coordinate among members as ARCAP is implemented, and will track development. Additionally, the Water Forum will advocate for programs and funding as needed.

4. Program Review and Refinement

It will be necessary to periodically evaluate and refine the ARCAP, given its scope and complexity. A work group composed of Water Forum and RWA members/staff will be established to oversee and guide the ongoing work for ARCAP. A work plan for the ARCAP, including a budget and scope of work, is included in **Appendix 2**. The ARCAP workplan will be reviewed and updated annually.

The annual ARCAP review will analyze the program's successes, challenges, and barriers. A summary of the ARCAP review will be included in the Water Forum's Five-year Status Report (or other periodic Water Forum publication) and will include specific, agreed-upon reporting metrics.

The ARCAP review will, as appropriate, guide changes to the program to ensure long-term success.

Caveats and Assurances

The following list of assurances is intended to ensure that the Water Forum develops and implements the ARCAP through a concerted and good-faith effort that supports the coequal objectives and embodies the Water Forum's Values.

- 1. The ARCAP will be developed and implemented, with opportunities for open cross-caucus discussions and guidance, utilizing the Water Forum's decision-making processes. This applies to both technical processes and member deliberations.*
- 2. The Water Forum will work jointly with RWA and the GSAs to resolve technical issues during ARCAP development and implementation. Staff from RWA and the Water Forum will work together in a collaborative relationship to support this program and will engage with the regional GSAs.*
- 3. The ARCAP approach will strive to add value and avoid creating added costs, duplicative processes, and bureaucracy.*
- 4. The ability of Water Forum members to identify and employ ARCAP Water does not imply that the American River is in excess conditions.*
- 5. ARCAP implementation will complement and support other Water Forum programs (e.g., FMS).*

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6. *The Water Forum will review the successes and challenges of the ARCAP and refine the program as needed, with adjustments agreed upon by all caucuses.*
7. *ARCAP assets (e.g., water rights and contracts, wells, diversion works) will remain under the control of the owning agencies.*
8. *The role of the Water Forum (including its staff and members) will be to coordinate ARCAP actions, complete agreed-upon technical analyses and studies, advocate for programs and funding, and track and review the status of these programs.*
9. *The Water Forum and RWA will respect the operational authority and third-party agreements of their members, which are necessary for their contributions to ARCAP Water.*
10. *No part of the ARCAP will abridge the authorities, entitlements, or agreements of Water Forum members without the express consent of the relevant parties.*



Program Area 1: American River Flows and Operations

The American River Flows and Operations (ARFO) Program Area includes three areas of focus for Water Forum activities and commitments:

- Flow Management Standard
- Flood Operations
- Temperature Management and other Water Management Infrastructure

FLOW MANAGEMENT STANDARD

The Flow Management Standard (FMS) for the LAR was envisioned and prescribed under the original WFA, and the first iteration was completed in 2006. As new data, tools, and technology have become available, the FMS has been updated and refined to support the Water Forum's coequal objectives⁴. The features of the FMS (i.e., minimum reservoir releases, storage targets, and temperature management protocols) provide guidelines for the operation of Folsom Dam and the LAR to help protect river health and preserve water supply reliability, particularly during droughts when water supplies are reduced and competing demands arise.

The degree to which the FMS features are included in the operations and planning of Folsom Reservoir depends greatly on engagement with Reclamation and advocacy for regional interests within CVP operations. The flows and river temperatures on the LAR are directly related to the operations of Folsom Dam, which Reclamation owns and operates as part of the broader CVP. The CVP is an extensive, multi-purpose network of dams, reservoirs, canals, hydroelectric power plants, and other facilities that span 400 miles of inland California, providing water supplies to municipal (including Sacramento area purveyors), industrial, refuge, and agricultural water users. Additional authorized purposes of the CVP include flood protection, recreation, navigation, flow

⁴ In late 2024 the most recent iteration of the FMS was referred to as the Modified Flow Management Standard (MFMS) and was referenced as such in the 2019 Biological Opinion.

augmentation, fish and wildlife enhancement, fish and wildlife mitigation, power generation, and water quality enhancement (particularly in the Delta). Proportionally, both the demand on CVP water within the American River region and the storage capacity of Folsom Reservoir are relatively small parts of the broader CVP demands and storage capacities, respectively. However, the proximity of Folsom Reservoir to the Sacramento-San Joaquin Delta (Delta) in comparison to other CVP storage facilities makes it one of the first facilities called upon when Delta water quality improvements are needed. This action is further fueled by Folsom Reservoir's small storage capacity relative to historical runoff volumes⁵ and an underlying perspective by Reclamation and other CVP contractors that Folsom Reservoir is more likely to refill each year as compared to other CVP reservoirs.

Historically, Water Forum members have engaged with Reclamation and other federal and state agencies to advocate for changes in operations and infrastructure that could support the coequal objectives⁶. In seeking implementation of the FMS and to reduce potential resistance, the Water Forum strived to balance the features of the FMS such that the impacts to out-of-basin uses were minimized. However, LAR conditions, particularly river temperatures, have been severely challenged over the last several decades, and CVP operations for broader system-wide objectives, including the magnitude of deliveries and the contractual priority of out-of-basin water users, can be at odds with the needs of the LAR. For example, Folsom Reservoir releases are frequently at their peak during the summer months to support CVP deliveries outside of the basin and to maintain water quality in the Delta. However, these increased releases in the summer months can challenge temperature management on the river, particularly for the fall spawning season.

River temperatures on the LAR have long been understood to be the primary limiting factor for salmonid species in the river. Current temperature targets for salmonid species, as stated in various regulatory requirements, are frequently exceeded, and detrimental temperature conditions are particularly prevalent and extreme in drought years due to lower storage (and therefore less cold water) within Folsom Reservoir and lower flows below Nimbus Dam. Additionally, the releases from Folsom Reservoir into Lake Natoma create further challenges for temperature management due to the warming that can occur before the water is released into the LAR. Over the last 15 years, the temperatures known to be optimal for the resident salmonids' key life stages have rarely been met on LAR and have trended towards upper tolerable in the best of years. Droughts have become increasingly frequent over the last 20 years and are projected to become more severe and frequent in the future. Temperature models indicate that under climate change, river temperatures are expected to routinely be markedly above the suitable ranges for

⁵ Folsom Reservoir storage capacity is just under 1 million-acre-feet (MAF) and the historical annual Folsom Reservoir inflow between 1976 and 2024 was just over 2.7 MAF. In approximately two-thirds of the years between 1988 and 2024, a portion of inflow could not be stored due to Folsom Reservoir's flood management responsibilities.

⁶ Water Forum and Reclamation signed a Memorandum of Understanding (MOU) in 2021 to formalize information sharing and communication on LAR conditions, operations, and forecasts.

resident salmonids for nearly half of the year, creating unhealthy or even lethal conditions for the fish. Extreme climate change scenarios indicate that the survival of the salmonids in the LAR could be severely threatened.

Temperature management improvements, including both operational and physical enhancements, will be crucial under future conditions to enhance the health of the river and support the Water Forum's coequal objectives. Therefore, FMS Program Elements include opportunities for strategic partnerships and engagement related to the Water Forum's operational temperature management activities through the maintenance and updating of the FMS. Improvements to temperature management *infrastructure* are discussed in other sections of this program area, along with specific challenges and opportunities related to managing the cold-water resources on the LAR system.

As the region enters a new era of water management and shifting hydrology due to climate change, the Water Forum aims to maintain the integrity of the FMS through appropriate adjustments, ensuring it remains effective and relevant.

Guiding Principles

The FMS will:

1. Be designed to help protect the health and productivity of the LAR resident salmonids (steelhead and chinook) while balancing regional water supply needs and the recreational and esthetic values of the LAR.
2. Provide the following *functions* for the LAR⁷:

Primary Functions

- a. Support physical habitat availability and favorable water temperatures for the spawning life-cycle stage of chinook and steelhead.
- b. Support favorable water temperatures for the rearing life cycle stage of chinook and steelhead.
- c. Provide storage protections to minimize the frequency of low storage at Folsom Reservoir, for both water supply and cold-water resources.

Secondary Functions

- d. Support physical habitat availability for the rearing life cycle stage of chinook and steelhead.
3. Avoid causing unreasonable impacts to water uses outside of the American River Basin.

⁷ Updates to the stated FMS functions can be made with confirmation from the Plenary.

4. Will not be inconsistent with the applicable flood control objectives and operational guidelines for protecting the Sacramento region downstream of the Folsom and Nimbus dams.
5. Include mechanisms to update and refine FMS features and functions based on changing conditions and the availability of new data and tools.
6. Align with other Water Forum commitments in the driest conditions to ensure that both in-stream and consumptive users share the burden of reduced supplies.

Program Elements

1. Ongoing Monitoring, Tracking, and Reporting

Metrics and indicators for the effectiveness of the FMS will be monitored and tracked for the duration of the agreement (as described in the *Science, Monitoring, Decision Support, and Reporting Program Area*). Thresholds, or triggers, for actions related to the FMS will be established based on the metrics identified in the Metrics and Reporting section. Performance towards the identified metrics will be reported consistently.

2. Cross-Caucus and Internal Coordination

The Water Forum will schedule regular internal meetings with an inter-caucus group of representatives with knowledge and interest in the real-time flows and operations on the LAR (Cross-Caucus). The frequency of the Cross-Caucus meetings will depend on the needs of the given water year and could range from monthly to weekly (drought years will likely require heightened levels of coordination as compared to wetter years). The purpose of the Cross-Caucus meetings will be for caucus members to coordinate with Water Forum staff to develop a recommended approach to current and forecasted reservoir operations and strategize for regional advocacy. The approach will be informed by the best available and current data, including forecasts, reservoir operations, and flows on the LAR. In their meetings with Reclamation and other regulatory agencies, Water Forum staff will advocate for the position developed by the caucus representatives. An emphasis of the Cross-Caucus will be on guiding implementation of the FMS within the relevant regulatory framework. Regular updates from the Cross-Caucus meetings will be provided at the caucuses, highlighting key issues and strategies identified as relevant to the success of the FMS.

3. External Engagement for Implementation

Reclamation is the principal implementing agency for key features of the FMS (reservoir releases, Folsom storage, temperature management); state and federal resource agencies also have critical roles in the oversight and regulation of Folsom operations. Active relationships with external partners will be necessary for the FMS to be implemented over time. Key partnerships and relationships are outlined below.

Reclamation. The Water Forum will continue to work with managers and operators on seasonal and real-time implementation of the FMS, including participation in regular

meetings regarding current conditions and forecasts, and engagement in the American River Group (ARG) monthly meetings (see below for more information). Water Forum discussions with Reclamation related to seasonal and real-time planning and operations may consider implications of broader CVP operations on LAR targets and conditions. In addition, when regulatory processes regarding operations on the LAR relevant to the FMS are initiated, the Water Forum will engage to support the inclusion of FMS features and to ensure that American River interests are fully considered by Reclamation within the broader context of regulatory processes governing CVP operations. For example, the current FMS is referenced (in part) in the 2019 Biological Opinion on Long-term Operation of the CVP and the State Water Project (BiOp) issued by National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries) and governs Reclamation's operations, affecting implementation of FMS flows, storage, and temperature management protocols. Future efforts will be made to ensure that references to the FMS are continued in regulatory frameworks and that the information referenced reflects current understanding. In other words, as relevant regulatory processes and documents are updated, the Water Forum will work to facilitate the inclusion of references to the most recent FMS documentation and ensure shared understanding.

In 2021, the Water Forum and Reclamation signed an MOU to identify and implement communication and information sharing activities related to Reclamation's operations on the LAR. Specifically, the MOU focuses on the implementation of key elements of the FMS (end-of-December storage, minimum reservoir releases, temperature management, etc.). Since the signing of the MOU, Water Forum staff and members have been meeting with Reclamation at regular intervals to share and discuss information related to the latest forecasts, conditions, and operations decisions.⁸

Additional details related to the Water Forum's expected engagement with Reclamation are provided in **Appendix 3**.

NOAA Fisheries: NOAA Fisheries is the primary federal regulatory agency responsible for protecting federally listed threatened and endangered anadromous species on the LAR. The Water Forum will actively maintain working relationships with NOAA Fisheries representatives working on the American River operations to facilitate their understanding of FMS features and functions.

U.S. Fish and Wildlife Service (USFWS): The USFWS's work on the LAR focuses on protecting federally listed species, including guiding research, developing conservation

⁸ As of January 2024, aspects of that MOU have expired, and updates will need to be explored and pursued. Specifically, the 300 TAF end-of-December planning minimum for Folsom Reservoir storage was established for a pilot period for calendar years 2020-2022. Current efforts are underway to include a similar planning minimum in a forthcoming updated BiOp, but pending the outcome of those efforts, continued engagement with Reclamation will focus on the implementation of FMS features as needed.

actions, and partnering to restore habitats and recover species. The Water Forum will actively maintain working relationships with USFWS representatives working on the American River operations to facilitate their understanding of FMS features and functions.

California Department of Fish and Wildlife (CDFW): CDFW operates the Nimbus Fish Hatchery on the LAR and leads many of the surveys and data collection efforts focused on the health and status of fish in the LAR. The Water Forum will continue to coordinate and partner with CDFW on activities related to implementing the FMS.

State Water Resources Control Board (SWRCB): The SWRCB is responsible for administering water rights in California and thus oversees the water rights permits and licenses held by Reclamation and other diverters on the American River. In addition, the SWRCB regulates water quality in the Delta. Some SWRCB actions impacting conditions on the LAR can include (but are not limited to) issuing temporary urgent change petitions (TUCPs) for Delta water quality (impacting CVP operations) and water right curtailment during drought emergencies, adopting flow standards for river systems, updates to the Bay Delta Water Quality Control Plan⁹, and otherwise regulating flows on the LAR.

It is the intent of the signatories to the WF2050 that the FMS will be permanently implemented, recognizing that over time the FMS will be refined to reflect updated understanding of the needs of the river. One way this can be implemented will be an updated SWRCB flow standard for the LAR. It is also the intent that there be flexibility (adaptive management) in the implementation of the FMS to reflect real-time ecological considerations.

The Water Forum will continue to be an active member of the American River Group (ARG), which offers a monthly opportunity for LAR interested parties to convene and share the latest information related to reservoir inflows, reservoir and hatchery operations, river conditions, and fisheries status. Reclamation established the ARG as a working group to coordinate fishery and operational requirements for the LAR in 1996. Reclamation is the lead coordinator, bringing together those who have either a legislated or resources-specific interest in the operation of Folsom Dam and Reservoir and the LAR. The formal members include Reclamation, the Water Forum, and agencies with public trust responsibilities for fisheries resources in the LAR, which include USFWS, NOAA Fisheries, and CDFW. Members of the public and other agencies are welcome to attend ARG meetings and provide comments on matters under consideration by the ARG. Reclamation considers the information provided at ARG when making operational and management decisions regarding temperatures and flows necessary to sustain fish resources in the LAR.

4. Periodic Updates and Refinements to the FMS

The status of the FMS (effectiveness and level of implementation) will be reviewed on a regular basis within the broader Metrics and Reporting efforts of the Water Forum and the FMS will be

⁹ Also known as the Health Rivers and Landscapes Program.

updated and refined when new data or tools, or new approaches that may have merit, indicate that revisions would improve contributions of the FMS to supporting the coequal objectives, and/or when processes to update relevant regulatory requirements are pursued.

Caveats and Assurances

1. *Signatories acknowledge that, while minimum reservoir releases are a key feature of the FMS, flows above the specified minimum releases can provide important benefits for wildlife, recreational, and aesthetic values of the LAR.*
2. *Signatories acknowledge that low Dissolved Oxygen (DO) levels have a significant impact on the health of salmonids, thereby negatively affecting the benefits of the FMS. Consequently, Folsom Reservoir complex management actions must take this factor into account to avoid unhealthy DO levels.*
3. *Signatories acknowledge that Folsom Reservoir storage levels in the spring are critical to the volume of cold-water pool available for the effective implementation of the FMS during the rest of the year, and that management actions should be taken to preserve as much reservoir storage as feasible during this timeframe.*
4. *All signatories agree to recommend to the SWRCB an updated American River Flow Management Standard, developed by the Water Forum, that protects the fishery, wildlife, recreational, and aesthetic values of the lower American River. The recommendation will include requirements for Reclamation releases to the LAR.*
5. *The Water Forum will develop recommendations to inform transfer activity in the region, subject to agencies' determinations of operational, regulatory, and contractual feasibility, to be as consistent with the FMS as possible and maximize the value of the transfer water for the health of the LAR.*
 - a. *Note: Current regulations include a commitment to implement certain aspects of the FMS, and water moved through a transfer agreement has the potential to offer additional flows and/or temperature benefits to the LAR, pending operational constraints such as, but not limited to, timing of deliveries, infrastructure capacity, regulatory or discretionary actions by Reclamation.*
 - b. *Note: When transfers are arranged with Reclamation, purveyors can make requests or suggestions regarding how and when water is moved through the system; however, operational decisions are ultimately at the discretion of Reclamation and are subject to regulatory requirements.*

FLOOD OPERATIONS

As the American River watershed experiences climate change, the characteristics of flood events are expected to change from those historically observed. In response to the changing hydrology, modifications to flood operations may be necessary not only to continue to provide the Sacramento region with needed flood protection but also to avoid compromising the Water

Forum’s coequal objectives. Specifically, changes in precipitation patterns, shifting increasingly from snow to rain under climate change, are expected to result in a reduced snowpack and shifts in the timing and magnitude of flows into Folsom Reservoir. Consequently, if Folsom flood operations are not changed accordingly, lower reservoir storage at key times in the year could lead to reduced regional water supply reliability and increased river temperatures.

Current climate models consistently indicate that global temperatures are increasing and will continue to increase for years and decades to come (the summer months of 2023 and 2024 were both record-breaking years for heat). Regionally, warmer temperatures in the upper watershed will result in more precipitation occurring as rain instead of snow, leading to more intense and extreme conditions for both storms and droughts. These changes in precipitation patterns and temperatures are likely to result in inflows to Folsom Reservoir arriving earlier in the season than observed historically, and potentially at higher flow rates—particularly during severe storm events—stressing the existing flood operations and infrastructure at Folsom Dam and on the LAR. High volumes of water arriving quickly at Folsom Reservoir with the rainstorm events, rather than slowly over the spring and summer as snowmelt, will make it harder to capture and store the runoff for use in the drier months due to the relatively small size of Folsom Reservoir.

Enhanced operational flexibility for flood operations at Folsom Reservoir could help to mitigate the impacts of climate change on regional water supply and river temperatures by creating opportunities to store and capture increased amounts of reservoir inflows during flood seasons. Operational flexibility refers to the ability to adapt and adjust the management of a reservoir to changing conditions and forecasts. It often involves real-time monitoring, forecasting, and communication with relevant authorities to make timely and informed decisions to protect downstream communities and infrastructure from flooding.

The goal of operational flexibility is to retain water in the reservoir for various purposes, such as water supply, hydropower generation, and ecosystem benefits, while maintaining the ability to manage the reservoir to regulate the anticipated inflow in a controlled and safe manner, thereby reducing the risk of flood-related damage. Operational flexibility involves making decisions about when to release water from the reservoir, how much water to release, and at what rate to make the releases, while considering factors such as weather forecasts, upstream inflows, downstream conditions, and the potential for flood-related damage. Future considerations for operational flexibility may need to include innovative approaches to reservoir management in order to address the challenges posed by climate change¹⁰.

¹⁰ For example, a study at the time of signing the WF2050 agreement indicated benefits to reservoir storage by managing reservoirs based on hydrologic cycles rather than years (i.e., a new cycle starts when all the reservoirs in a system are full, not when a new water year begins).

Guiding Principle

1. Support and advocate for enhanced operational flexibility within the American River watershed through improvements in infrastructure and procedures to increase flood protection for the Sacramento region and contribute to the coequal objectives.

Program Elements

Reclamation operations of Folsom Reservoir for flood control are subject to the conditions of the Water Control Manual issued by the U.S. Army Corps of Engineers (USACE), which is the primary regulatory agency for flood operations at Folsom Dam¹¹. These two agencies are the primary implementation agencies, as the flood operation at Folsom Dam is the dominant element for flood management in the Sacramento region. In addition, current Water Forum members, specifically the Sacramento Area Flood Control Agency (SAFCA) and the American River Flood Control District (ARFCD), both have active roles in flood management for corresponding facilities (infrastructure downstream of Folsom Dam) and their associated operation and thus are also implementing agencies related to flood operations.

The Water Forum will support implementing agencies' programs, projects, and activities that are aligned with the WF2050 flood operations guiding principle of increased operational flexibility in the American River watershed, as described below.

1. Support for Projects, Programs, and Activities

The Water Forum will engage and support implementing agencies' projects, programs, and activities as appropriate and feasible in pursuit of the flood operations guiding principle. Support can include (but is not limited to):

- Funding for technical analysis
- Staff and/or consultant participation in project planning
- Providing regional education and awareness

Staff will monitor and track regional efforts that align with the flood operations guiding principle, and, when there is an opportunity to add value through support, staff will develop recommendation(s) for Water Forum contributions for consideration by the Coordinating Committee, the caucuses, and the Plenary. Relevant projects and programs may include enhanced hydrologic forecasting capabilities, new monitoring stations in the upper watershed, flood-managed aquifer recharge projects, enhanced FIRO at Folsom Dam, changes to structures and operations at selected upstream reservoirs, and nature-based solutions, among others.

Signatories support pursuing a Preliminary Viability Assessment of American River Watershed Forecast-Informed Reservoir Operations (Watershed FIRO) in partnership with Reclamation, USACE, National Oceanic and Atmospheric Administration (NOAA), and others, where

¹¹ Water Control Manual will be updated as project to raise the dam to add 3 ft for freeboard is completed.

appropriate and possible. Watershed FIRO offers the potential for improved water supply reliability and temperature management through increased operational flexibility, resulting in increased water storage volumes at Folsom Reservoir by the end of the flood season. In addition, where feasible and with willing partners, Watershed FIRO may include elements of nature-based solutions and upstream reservoir modifications in the upper watershed to enhance the benefits and durability.

Signatories support the identification and implementation of excess flood water recharge when: 1) carried out within the region; 2) designed, constructed, and operated in accordance with appropriate environmental and engineering standards/requirements, and the FMS; and 3) consistent with and supporting the Water Forum's coequal objectives. These concepts and opportunities will be explored and analyzed within the ARCAP.

2. External Advocacy for Improvements

Some opportunities for improving operational flexibility at Folsom Dam will involve addressing layers of jurisdiction and governance at the local, regional, state, and federal levels. The role of advocacy by the Water Forum (as a representative of broad local interests) can play an important part in the success of a given effort. Opportunities for advocacy may include (but are not limited to):

- Communications with federal partners (i.e., Reclamation, USACE)
- Advocacy at the federal level with specific messaging¹²

Staff will maintain awareness of opportunities for improvements to operational flexibility within the American River watershed, and as identified (with support from members and consultants), staff will develop recommendations for Water Forum advocacy for consideration by the Coordinating Committee and the Caucuses, as relevant.

Caveats and Assurances

1. *The Water Forum Signatories support pursuing a Preliminary Viability Assessment of American River Watershed Forecast-Informed Reservoir Operations¹³ (Watershed FIRO) in partnership with Reclamation, USACE, NOAA, and others, where appropriate and possible.*
2. *The Water Forum signatories support the identification and implementation of excess flood water recharge when: 1) carried out within the region; 2) designed, constructed, and operated in accordance with appropriate environmental and engineering*

¹² The Coordinating Committee reviews talking points and briefing materials with the Executive Director to ensure proposed messaging adequately supports the coequal objectives and is representative of the caucuses' interests.

¹³ Definitions of FIRO can vary, but generally includes expanding meteorological, watershed, channel condition, and environmental monitoring; advancing technology to enhance meteorological, watershed, channel condition, and environmental forecasting; and integrating data collection, management, display, and analysis capabilities into decision support systems related to reservoir operations.

standards/requirements, and the FMS; and 3) consistent with and supporting the Water Forum's coequal objectives.

TEMPERATURE AND OTHER WATER MANAGEMENT INFRASTRUCTURE

Temperature management improvements, including both operational and infrastructure improvements, will be critical under future conditions to help protect the health of the river and to support the coequal objectives. Key opportunities for Water Forum engagement related to operational temperature management activities primarily involve maintaining and updating the FMS, which includes setting storage targets at key times of the year, developing strategies for utilizing available tools for river temperature management, and exploring strategic partnerships and opportunities for engagement. Temperature management infrastructure improvements can be a crucial tool for further optimizing and protecting cold-water resources for the LAR.

Currently, the existing infrastructure for temperature management on the LAR includes temperature shutters on the power intakes at Folsom Dam (note that although the lower-level dam outlets are sometimes used to improve temperature conditions as a last resort, temperature management is not the primary purpose of those facilities). The temperature shutters at Folsom Dam enable water to be drawn from varying levels within the water column, offering some flexibility in managing the cold-water resources. However, the existing shutters are decades old, require manual placement within the water column, and without undertaking the cumbersome task of separating (or “de-ganging”) individual panels within the shutters, the flexibility for selective withdrawal is limited. In addition, the shutters are known to leak cold water at lower elevations than intended due to design and structural limitations, which further limits their effectiveness.

Improvements to the existing temperature shutters, as well as other temperature infrastructure projects, were proposed and/or studied in the LAR system over the last couple of decades, including a method to access cold water below Folsom Dam's penstocks. The Water Forum has contributed to studies and discussions of some of these projects in the past and has been integral to advocating for improvements¹⁴. Current plans for updated temperature shutters on the Folsom Penstocks have been authorized by Congress.

The last 20 years of operations on the LAR have illustrated the challenges of maintaining suitable temperatures for resident salmonids even when Reclamation's operation of Folsom Dam is consistent with applicable regulatory mandates. There are established thresholds for optimal fish health, which are specified as targets in various regulatory documents. Within these regulatory frameworks, optimal temperature targets are often coupled with options for exceeding them by varying degrees, based on their relative feasibility within a given year due to hydrologic

¹⁴ Areas of study have also included examination of opportunities to reduce heat gain across Lake Natoma, which presents additional challenges to temperature management on the LAR.

conditions and CVP operations. In recent decades, temperatures have frequently trended towards or exceeded the upper ends of suitable habitat conditions. These challenges are expected to continue and will be exacerbated by increased ambient air temperatures and shifting hydrology predicted by climate change.

In addition to known challenges related to temperatures on the LAR, over the last several years, there has been a growing awareness and concern regarding low dissolved oxygen (DO) levels in Folsom and Nimbus Dam releases, as well as associated DO levels at the Nimbus Fish Hatchery and on the LAR. In the fall of 2023, at a time when Reclamation was releasing water from lower elevations in the water column to access colder water, DO levels were recorded in both Lake Natoma and the LAR below suitable thresholds for salmonid survival. The fish were essentially at risk of suffocating in the water. Over the course of several days, with access to Water Forum DO data collected at key locations on the LAR, Reclamation was able to implement careful and effective infrastructure management actions to raise the DO levels to more suitable levels; namely, implementing the power bypass at Folsom Dam (i.e., releasing water from the lower outlets) and spilling water over the gates at Nimbus Dam (rather than through the penstocks). At this time, it remains unclear whether DO will continue to be a concern on the LAR and what actions will be most appropriate in response. However, infrastructure improvements to manage DO may need to be considered in the future, and options for aeration without bypassing power generation explored.

Given the current and projected temperature and DO challenges on the LAR, as well as the aging existing infrastructure, Water Forum support and advocacy for the continued enhancement of temperature and other water management infrastructure, along with considerations for future improvements, are imperative for contributing to healthier fisheries in the LAR.

Guiding Principle

1. Support and advocate for operational and infrastructure improvements within the American River watershed that contribute to more effective water temperature management and other important water quality attributes on the LAR for anadromous salmonids.

Program Elements

Reclamation and USACE are the principal parties responsible for infrastructure installation and management on both Folsom and Nimbus Dams. In addition, SAFCA has an active role in current efforts to improve the temperature shutters at Folsom Dam¹⁵. Known key areas for future improvement include:

¹⁵ There are efforts underway to design and implement updated, remotely-controlled temperature control shutters at Folsom Dam.

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- Infrastructure at Folsom Dam to improve access to coldwater resources in Folsom Reservoir (i.e., temperature shutters, penstocks, and powerhouse)
- Options to reduce heat gain across Lake Natoma

The Water Forum will support implementing agencies' programs, projects, and activities that align with the WF2050 temperature management infrastructure guiding principle, as described below.

1. Support Projects, Programs, and Activities

The Water Forum will support implementing agencies' projects, programs, and activities (as appropriate and feasible) in pursuit of the temperature and other water management infrastructure guiding principles. Support can include (but is not limited to):

- Funding for technical analysis
- Staff and/or consultant participation in project planning
- Providing regional education and awareness

Staff will monitor and track regional efforts that align with the temperature management infrastructure guiding principle. When there is an opportunity for Water Forum engagement, they will develop a recommendation for Water Forum contributions for consideration by the Coordinating Committee, the caucuses, and the Plenary. A current list of temperature management projects and programs is included in **Appendix 4**.

Signatories support the current efforts to redesign and improve the temperature control shutters at Folsom Dam and will consider opportunities for Water Forum support and advocacy. Until improvements are made, signatories support the implementation of a power bypass at Folsom Dam in all years as necessary to provide suitable fall spawning temperatures for LAR resident salmonids, unless September temperature modeling indicates that 56°F or lower can be achieved at Watt Avenue on or before November 1st without the bypass.

2. External Advocacy for Improvements

Opportunities for improvements to temperature and other water management infrastructure will involve layers of jurisdiction and governance at the regional, state, and federal levels. The role of advocacy by the Water Forum (as a representative of broad local interests) can play a valuable and important part in the success of a given effort. Opportunities for advocacy may include (but are not limited to):

- Communications with federal partners (i.e., Reclamation, USACE)
- Advocacy at the federal level with specific messaging

Staff will maintain awareness of opportunities for improvements to water management infrastructure at Folsom and Nimbus Dams, and as identified (with support from members and

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consultants), staff will develop recommendations for Water Forum advocacy for consideration by the Coordinating Committee¹⁶ and the Caucuses, as relevant.

Caveats and Assurances

- 1. Signatories support the current efforts to redesign and improve the temperature control shutters at Folsom Dam and will consider opportunities for Water Forum support and advocacy. Until improvements are made, signatories support the implementation of a power bypass at Folsom Dam in all years as necessary to provide suitable fall spawning temperatures for LAR resident salmonids, unless September temperature modeling indicates that 56°F or lower can be achieved at Watt Avenue on or before November 1st without the bypass.*

¹⁶ The Coordinating Committee reviews talking points and briefing materials with the Executive Director to ensure proposed messaging adequately supports the coequal objectives and is representative of the caucuses' interests (see Program Area 5: Governance, Funding, and Administration).



Program Area 2: American River Corridor Health

The American River Corridor Health (ARCH) Program Area includes one area of focus for Water Forum activities and commitments:

- American River Corridor Health Program

AMERICAN RIVER CORRIDOR HEALTH PROGRAM

The Water Forum commits to sustaining the American River Corridor Health (ARCH) Program to further improve, recover, enhance, and maintain the resources of the LAR corridor in service of the coequal objectives.

The ARCH Program builds on the success of the existing Water Forum Habitat Management Element (HME) program, as described in the first WFA. The ARCH Program is designed to take a multifaceted approach to support the coequal objectives by leading habitat and science efforts for the LAR, as well as collaborating with partners to achieve a thriving river corridor and region. Although many projects directly implemented under the ARCH Program focus on habitat, education, science, and decision-support activities, actions that support a robust and healthy river corridor also contribute to water supply reliability and economic vitality for our region.

Guiding Principles

1. Maintain a focus on the health of the LAR consistent with the coequal objectives.

All activities covered under the ARCH Core Program are in direct support of the Water Forum's coequal objectives.

These Core Program activities comprise most actions and projects under ARCH and meet specific criteria to:

- Continue improvement, recovery, enhancement, and maintenance of LAR corridor natural resources¹⁷ by leveraging Water Forum funding to maximize available local, state, and federal grant funding.
- Lead implementation of native salmonid habitat and multi-benefit¹⁸ natural resource projects within the LAR corridor.
- Support study and implementation of actions that improve flow and temperature conditions, and habitat quantity and quality for native species along the LAR corridor and broader region.
- Support public outreach and education associated with Water Forum efforts on the LAR.
- Advocate at the local, state, and federal level to support Water Forum efforts on the LAR, including efforts of Water Forum signatories and partners to support achieving the coequal objectives.

2. Leverage advocacy and partnerships in pursuit of shared goals.

Advocacy and partnerships contribute to the Water Forum's ability to improve resource conditions in support of its coequal objectives. As opportunities arise and resources permit, the Water Forum participates in regional and potentially broader initiatives and efforts in support of the coequal objectives. Actions and projects supported as part of the non-Core Program would meet specific criteria associated with effectiveness, costs, and benefits, and nexus with the coequal objectives, including:

- Maintaining an awareness of relevant projects and programs (e.g., Regional Parks Natural Resource Management Plan advancement, Central Valley Project Improvement Act Science Integration Team (CVPIA SIT) strategy development, etc.)
- Strengthening collaboration with American River Parkway and watershed partners (e.g., CDFW, Reclamation, NMFS, Regional Parks, Soil Born Farms, etc.)
- Leveraging Water Forum funding where appropriate (e.g., cost-sharing grant-funded activities, such as temperature modeling, for mutual gains and decision support)
- Identifying areas of advocacy and support for mutual gains to benefit the region (e.g., participating in advisory groups for partner projects, data sharing, outreach, etc.)

¹⁷ Consistent with applicable policies, goals, plans, guidance, and laws governing the resources, lands, and funding sources associated with ARCH Program work (including but not limited to the American River Parkway Plan and Natural Resource Management Plan (NRMP), CVPIA Anadromous Fish Restoration Program guidelines, etc.).

¹⁸ Multi-benefit projects are defined as those that do not focus on a single corridor resource, and intentionally include elements to serve multiple needs, including recreation, education, multiple species, etc.

3. Continue a commitment to adaptive management of Program activities.

Consistent with current practice, the ARCH Program will continue to incorporate “adaptive management” actions into its Program and project planning, not only to maintain the status quo but also to continually improve outcomes associated with the work of the ARCH Program.

Adaptive management and assessments of “lessons learned” will continue to occur at different intervals appropriate to the action being evaluated (i.e., salmonid project design assumptions are revisited on an annual basis based on fishery, hydraulic, and geomorphic data collection and analyses, whereas adaptive management associated with hydrologic changes influenced by climate change would be evaluated on a longer timescale).

Current best practices of adaptive management for the ARCH Program include, but are not limited to, the following:

- Monitoring and evaluation of the corridor health project effectiveness
- Review of existing assumptions and new data and analysis of hydrologic conditions in the watershed and region, and hydraulic conditions in the river corridor
- Synthesis of information gleaned from Water Forum-led and collaborative partnerships regarding fishery and other resource conditions
- Continuous coordination with state and federal agencies to ensure programs and planned activities are responsive to changing resource conditions associated with growth and climate change, updated agency guidance, and maximizing funding opportunities, etc.

Adaptive management activities support flexibility in addressing emerging issues and responding nimbly to changing conditions as additional scientific information and funding become available, as well as accommodating climate change and resource needs within the region. A continued robust program of coordination, advocacy, and funding for science, monitoring, and decision support activities is needed to support the coequal objectives through adaptive management.

Adaptive management is currently associated with ongoing WF2050 program areas, specific projects, and responses to emerging needs (i.e., implementation of the DO pilot study or review of the FMS during the ongoing BiOp Reconsultation process). However, the scale of adaptive management is expected to expand or contract over the term of WF2050 and can be easily scaled to accommodate potential new program areas or activities necessary to support improved outcomes, improved understanding associated with changing resource conditions over time, and adaptations needed to align with principles of the broader WF2050.

4. Ensure resource protection in compliance with applicable regulations.

Consistent with the original WFA and standard practice since its signing, individual projects undertaken by Water Forum members or the Water Forum itself will conduct all necessary

project- or program-specific environmental compliance documentation and consultation, as well as any required project-specific mitigation, in compliance with applicable laws and regulations.

5. Work in a manner that acknowledges changes in the nature and magnitude of human and societal effects on the natural resources of the LAR.

The Water Forum does not work in a vacuum. While our work can be highly technical and often focused on implementation, there are practical realities of working on an urban river corridor that is also designated as a federal and state Wild and Scenic River. Acknowledging the tension that exists between the river’s ecological importance as a habitat for corridor species and human use of the Parkway as a recreational amenity and for other purposes is important.

The Water Forum is aware of and will continue to work to understand what challenges our members and partners face in addressing broader issues related to illegal camping¹⁹, fire risk, waste management, safety, pollution, and other human dimensions of resource management on the Parkway, within the policy guidance and framework of the County of Sacramento, as landowner and manager of the Parkway.

Program Elements

The ARCH Program has grown in scope and size since the signing of the first WFA, new entities are involved in WF2050, and resource discussions and planning are more complex due to continued growth, changes in the nature and magnitude of human usage of the Parkway, and pressure exerted by the accelerated effects of climate change on resources addressed by our coequal objectives. Thus, additional implementation considerations and processes will be considered for the term of WF2050, as described below.

1. Water Forum ARCH Program Planning Matrix (Appendix 5)

The Water Forum’s work in support of a healthy river corridor is ongoing and can be easily scaled to accommodate available funding sources, the capacity for work on the Parkway and within the region, and to meet existing and emerging decision-support needs for river operations.

Maintaining a list of ongoing and potential projects and broader potential program areas that may address emerging issues, that are at varying levels of feasibility (ranging from concepts/ideas for the future to shovel-ready designs), allows the organization to seize funding and coordination opportunities as they arise and respond to changing resource conditions and guidance.

Building on past experience and success, a robust program of developing and conveying information to inform river operations decision support and planning, analysis, design, implementation, and monitoring of projects will support continued improvements, maintenance, scientific understanding, and coproduction of data associated with the health of the river

¹⁹Lack of affordable housing and legal shelter space both contribute to illegal camping on the parkway, along with other factors.

corridor and its resources. Outreach and education associated with habitat, decision support, and science and monitoring activities will also continue to be an important element of the ARCH Program.

See **Appendix 5: ARCH Program Planning Matrix** for a “living” list of habitat, science/monitoring, decision support, outreach, and ongoing educational activities, or under consideration, in support of the coequal objectives during the WF2050 term. The Matrix is utilized for annual and long-term work planning and is current at the time of WF2050 signing; however, it is expected to be a living document.

2. Engagement, External Communications, and Advocacy

To support continued advocacy and member engagement after WF2050 is signed, a framework or process will be developed to provide members with the necessary information regarding the ARCH Program (i.e., upcoming projects, priority partnerships) for use in external communications and advocacy. This could include program- or project-level talking points or briefings planned on a seasonal or annual basis for Water Forum-led initiatives. There are a range of venues available for Water Forum collaboration with local, state, and federal partners.

Program Area 3: Regional Water Supply Sustainability

The Regional Water Supply Sustainability (WSS) Program Area includes five areas of focus for Water Forum activities and commitments:

- Surface Water Management
- Groundwater Management
- Demand Management
- Dry-Time Actions
- Land Use Decisions

Additionally, the WSS Program Area includes a description of regional projects designed to support the coequal objectives and advance the principles of the Program Area.

SURFACE WATER MANAGEMENT

Regional demands for surface water are expected to increase under future conditions due to projected regional growth and the availability of ample regional surface water entitlements. However, the uncertainty in surface water availability due to climate change and the associated changes in hydrology must be carefully weighed when planning to support the Water Forum's coequal objectives under future conditions.

Folsom Reservoir is projected to be at critically low levels more frequently due to the loss of snowpack and earlier inflows to the reservoir, as well as the challenges these conditions will present for current operational practices. These changes will threaten the regional municipal and industrial (M&I) intakes and produce lower flows on the lower American River. Analyses of climate change impacts on river temperatures relative to the needs of fish show that, without action, the survival of salmonid populations will be severely threatened. The region will need to examine new approaches related to surface water management on the American River to protect regional water supply reliability and to maintain a salmonid population under climate change.

Conditions on the LAR are largely governed by the operations of Folsom Reservoir, managed by Reclamation, as it responds to demands within the broader CVP. Over the past 10 years (2014-2023), regional M&I diversions from the American River have accounted for an average of approximately 11% of the annual unimpaired inflow to Folsom Reservoir. This ratio can vary significantly depending on the hydrology of the given year; in wet years, regional demands are relatively less significant compared to the total runoff, and in dry years, they account for a greater proportion.

There is considerable diversity among the regional water purveyors in terms of supply portfolios, locations of diversions, types of entitlements, and amount of growth projected, as summarized in **Table 1**. This diversity presents a variety of opportunities to support the coequal objectives through surface water management. Additionally, each purveyor has unique constraints that may limit their flexibility regarding surface water diversions.

Table 1. Water Forum Purveyor Water Production (2014-23)

Purveyor	Water Production ¹ 2014-23 Average (AFY)		
	SW	GW	Total
El Dorado Irrigation District	31,930	0	31,930
Placer County Water Agency	26,680	80	26,760
City of Folsom	18,200 ²	0	18,200
City of Roseville	28,000	220	28,220
San Juan Water District- Consotrium ³	32,960	4,240	37,200
<i>San Juan Water District - Retail</i>	<i>11,460</i>	<i>0</i>	<i>11,460</i>
<i>Citrus Heights Water District</i>	<i>9,720</i>	<i>1,720</i>	<i>11,440</i>
<i>Fair Oaks Water District</i>	<i>6,900</i>	<i>2,520</i>	<i>9,420</i>
<i>Folsom (Ashland)</i>	<i>1,100</i>	<i>0</i>	<i>1,100</i>
<i>Orange Vale Water Company</i>	<i>3,780</i>	<i>0</i>	<i>3,780</i>
Golden State Water Company	5,470	5,050	10,520
Carmichael Water District	4,780	3,470	8,250
City of Sacramento	68,460	21,200	89,660
Sacramento Suburban Water District	8,020	22,530	30,550
California-American Water Company	2,610	24,580	27,190
Sacramento County Water Agency	15,080	22,470	37,550
Totals	242,190	103,840	346,030
<ol style="list-style-type: none"> 1. Production data as collected and distributed by the Regional Water Authority includes treated retail water used within each respective service area. 2. Includes non-potable water deliveries to Willow Hill Reservoir. 3. Includes areas served by the San Juan Water District, which provides retail and wholesale supplies. Values shown reflect the sum volumes for San Juan retail, Citrus Heights, Fair Oaks, Ashland (Folsom), and Orange Vale. 			

WF2050 establishes principles for surface water management implemented through the elements of the agreement, including commitments contained in Purveyor Specific Agreements (PSAs).

Guiding Principles

Water Forum activities related to surface water management will support Water Forum’s coequal objectives by aligning with the guiding principles below. Notably, there are other principles specific to certain agreement topics (e.g., demand management) that are relevant to surface water diversions but are stated within their respective areas of focus. In addition, it is acknowledged that there is an inherent tension between the coequal objectives, and when considered in isolation, they can be interpreted as being in conflict. The Water Forum aims to prioritize its objectives equally, recognizing the need to manage our water resources holistically.

1. Prioritize alternative supplies to supplement surface water from the American River system during dry conditions, providing flow and water quality²⁰ benefits for the LAR.
 - a. Pursue opportunities for increased groundwater pumping to allow surface water to remain in the LAR.
 - b. Pursue opportunities for increased diversions from the Sacramento River as an alternative to surface water from the American River system.
2. Ensure that surface water commitments are balanced with regional efforts to achieve groundwater sustainability.
 - a. Prioritize surface water diversions in wet conditions to allow groundwater recharge.

Program Elements

1. Purveyor Specific Agreements

Within water Purveyor Specific Agreements (PSAs), individual commitments are articulated based on the Unimpaired Inflow to Folsom Reservoir (UIFR) as an annual metric of hydrologic conditions within the American River watershed. A UIFR of 400 thousand acre feet (TAF) or lower will define the driest conditions. A UIFR between 950 and 400 TAF will define the drier conditions. A UIFR between 950 TAF and 1,600 TAF will be considered normal conditions. And, a UIFR of 1,600 TAF or greater will be considered to reflect wet conditions. While 1,600 TAF is not considered a formal definition of what constitutes a “wet year” or “wet conditions” on the American River, it was utilized in the original Water Forum agreement as a basis for surface water commitments. It is expected that additional analysis and discussions will be conducted as part of ARCAP to explore and define other potential criteria that could guide regional operations in wet conditions.

Purveyor commitments were developed based on the surface water guiding principles and the unique opportunities for each purveyor. An important feature of the commitments, particularly for diverters of American River water, includes the establishment of the projected future level of

diversions that would be expected to occur in normal conditions. This projected future level of diversion forms the basis for commitments in drier-than-normal hydrologic conditions.

2. Engagement with Reclamation

The influences of Reclamation's operations on the coequal objectives are much greater than the influences of regional surface water diversions, particularly related to the health of the river. The Water Forum will continue to engage with Reclamation to support the coequal objectives. Details related to the Water Forum's strategy for engagement with Reclamation are included in **Appendix 3**.

3. Regional Projects and Programs

Regional projects and programs described below have been identified as aligning with the coequal objectives and supporting the WF2050 surface water principles and elements. These projects have conceptual endorsement from the Water Forum (see Governance, Funding, and Administration, page 114), and are at varying levels of development and analysis. It is expected that these projects will continue to be discussed and assessed within the Water Forum to better understand the potential benefits and impacts.

RiverArc

The RiverArc project emerged from the 2000 Water Forum Agreement negotiations and was envisioned as a means to protect the river, its flows, and habitat from growing threats while also supporting water supply needs for planned regional development. Planning for the RiverArc Project has continued to evolve over the last 25-years but the concept has remained the same: to strategically shift existing water supply diversions from the American River to the much larger Sacramento River without adversely affecting other water users. RiverArc is seen as an adaptive management strategy that provides a foundational, regional approach to addressing the growing impacts of climate change in the American River watershed and supports the coequal objectives.

RiverArc design includes construction of water treatment and transmission facilities to deliver Sacramento River water supplies to the region upon implementation. The facilities are planned to include the utilization of an existing raw water intake on the Sacramento River that is fitted with state-of-the-art screens to protect fish, a raw water booster pump station, a pipeline to deliver raw water for treatment, a water treatment plant, and two treated water delivery pipelines, one to western Placer County and one to northern Sacramento County.

The RiverArc Partners, which currently include Placer County Water Agency, the City of Sacramento, the City of Roseville, and Sacramento County Water Agency, are currently working through the environmental analysis and technical studies required for the preparation of an Environmental Impact Report and Environmental Impact Statement. The RiverArc Partners anticipate presenting a public draft Environmental Impact Report in 2026. This planning work has been funded by a \$5.1 million California Wildlife Conservation Board Streamflow Enhancement grant, demonstrating the importance of RiverArc's anticipated benefits to California.

Sacramento Regional Water Bank:

The Sacramento Regional Water Bank (Water Bank) is a project being developed by approximately 20 local water purveyors through the Regional Water Authority (RWA). The goal of the Water Bank is to expand conjunctive use, thereby increasing water banking operations throughout the region to: (1) Improve long-term regional reliability and provide statewide water supply opportunities when possible; and (2) Support healthy ecosystem function on the lower American River.

The Water Bank objectives are to:

- Increase groundwater recharge during wet conditions using available surface and recycled water supplies.
- Reduce reliance on surface water during dry conditions by using previously banked groundwater.
- Contribute to healthy ecosystem function, including on the lower American River
- Contribute to water reliability of water agencies in the region with no or limited access to groundwater.
- Maintain the quality of surface water and groundwater.
- Contribute to CVP operational flexibility by reducing reliance on Folsom Reservoir during dry conditions.
- Consider and advance mutually beneficial opportunities to partner with entities outside the region on operational collaboration and/or investment in the Water Bank.
- Generate revenue for investment in infrastructure and other projects/programs to improve regional water supply reliability, resiliency, and affordability for participating agencies.
- Generate revenue (through water transfers and exchanges) to reduce financial barriers to conjunctive use for participating agencies.

The Water Bank consists of a system of groundwater wells, pumps and pipelines that allow local water agencies to fill and then pump out water reserves stored underground to primarily serve local water needs. It is anticipated that up to 65,000 acre-feet per year of water can be recharged (or stored) by local water agencies during wet periods of and up to 55,000 acre-feet per year of water can be extracted by the same agencies during dry periods. Environmental documentation for the Water Bank is anticipated to be completed by the end of 2026, and the project will be implemented at that time.

Ongoing conversations within the Water Forum are expected to include details related to groundwater recharge during wet conditions and reduced reliance on surface water during dry conditions. These conversations are likely to occur within the ARCAP working group.

Caveats and Assurances

1. *The ability for any individual purveyor to implement the surface water diversions principles will depend on their respective opportunities and constraints.*
2. *On a five-year cycle, purveyor signatories will coordinate with the Water Forum staff to provide data and assumptions to be reported in their Urban Water Management Plans (UWMPs), including demand projections, current and planned supplies, and drought planning scenarios. Water Forum staff will compile regional data and assumptions for presentation to the Water Forum membership for review and discussion.*
3. *Nothing in the agreement is intended to call for the reduction or forfeiture of existing surface water entitlements. Signatories to the agreement will honor this principle in state and federal entitlement proceedings directly related to WF2050. It is recognized that there may be broader state and federal entitlement proceedings where signatories may have different interests, such as the SWRCB water rights proceeding for the Bay-Delta. Signatories agree to work in good faith through the Water Forum with the objective of developing a consensus recommendation for how state and federal entitlement proceedings should affect those agencies that store and divert American River water. All signatories will make good faith efforts to ensure that recommendations are consistent with both coequal objectives.
 - a. *The LAR is considered to be fully appropriated by way of the existing declarations of full appropriations, the responsibilities of the California Wild & Scenic Rivers Act, and the realities of the National Wild & Scenic Rivers Act. For more detailed information, see Appendix 6. The Water Forum will not be pursuing amendments to the existing declaration of full appropriation.**
4. *Recognizing that the majority of LAR surface water supply originates in the Upper American River Watershed, signatories support efforts above Folsom Reservoir to enhance and restore watershed health, creating a resilient headwater for water supply and ecosystem benefits on the American River.*
5. *The Water Forum did not evaluate new reservoirs in the analyses used to inform the WF2050 negotiations. Notwithstanding any provision of this agreement, any proposal for the Water Forum to support or oppose a new reservoir shall be approved by the Plenary, with at least 30-day notice to each Water Forum representative.*
6. *Signatories acknowledge that the parties to the Healthy Rivers and Landscape (HR&L) Proposal will be obligated to meet tributary program requirements for the American River, if approved by State Water Resources Control Board along with associated agreements. In addition, there are Water Forum members who have also made flow commitments*

pursuant the American River Terms for Ecosystem Support and Infrastructure Assistance Needs (ARTESIAN) Agreement²¹.

7. *Signatories are encouraged when invited to support (where possible) purveyors' rates and fees necessary to implement projects and programs insofar as they are consistent with the WF2050 guiding principles and in support of the coequal objectives. The Water Forum will provide learning and engagement opportunities on water affordability and related best practices, and signatories will work to better understand associated challenges and opportunities (see Governance Program Element– Community Outreach and Engagement for more information).*

GROUNDWATER MANAGEMENT

The region's water providers are expected to continue expanding their reliance on groundwater due to climate change, the potential for groundwater to serve as a backup supply during increasingly dry conditions, and projected regional growth and economic considerations. Water providers and groundwater management agencies have made significant investments in protecting the quality and quantity of groundwater to protect the viability of this local water supply and to comply with State regulations. Local water providers have expended intense effort to demonstrate that local groundwater subbasins will comply with SGMA. SGMA will continue to require local management actions and reporting.

Historically, most local water systems were either supplied by surface or groundwater, but not both. Over time, some of the previously surface-water-fed systems have added groundwater to their supply mixes to increase resilience. Many of the traditionally groundwater-supplied systems have added surface water supplies to either replace contaminated groundwater or to replenish their groundwater aquifer through in-lieu recharge. The use of direct groundwater recharge (also known as injection) is a relatively recent addition to local management actions and is relatively rare in the region. "Conjunctive use," "groundwater banking," and "aquifer storage and recovery" are terms used to describe efforts to manage both surface and groundwater supplies in a manner that complements each other. **Table 1** (presented above in the Surface Water Management Section) lists local water providers and their recent mix of surface and groundwater supplies.

WF2050 intends to establish agreed-upon principles to leverage and enhance the collective resources of its signatories to support the coequal objectives and groundwater sustainability while avoiding duplication of effort.

²¹ The ARTESIAN Agreement contains commitments for certain RWA members to obtain funding to complete groundwater infrastructure projects and provide contributions to environmental outflow with or without adoption of the HR&L. The ARTESIAN Agreement governs the rights and obligations with respect to the administration of state funding provided for in the Funding Agreement Between the State of California (Department of Water Resources) and the Regional Water Authority - Voluntary Agreement Early Implementation for the American River, executed on July 21, 2023.

Guiding Principles

Water Forum activities related to groundwater management will support the coequal objectives by aligning with the guiding principles below.

1. Recognizing that the regional GSAs have primary responsibility for managing regional subbasins, the Water Forum will facilitate coordination and collaboration while avoiding duplicative efforts.
 - a. Facilitate dialogue and the exchange of information between Water Forum signatories and groundwater managers to increase the understanding of groundwater conditions and trends, support inter-basin coordination, and promote effective regional groundwater management.
 - b. Promote and facilitate the application of the latest scientific and data-driven insights in groundwater evaluations and planning.
2. Support conjunctive management of regional groundwater basins with surface water supplies to enhance water supply reliability and provide flow and water quality²² benefits to the LAR.
 - a. Prioritize groundwater use in dry conditions to allow surface water to remain in the LAR.
 - b. Facilitate increased surface water diversions during wet periods to support groundwater recharge, in a manner that protects the river system.

Program Elements

1. Regional Coordination and Information Sharing

The Water Forum will work cooperatively with regional groundwater management organizations²³ to inform Water Forum members about groundwater conditions and trends, including GSP implementation and Sacramento Regional Water Bank operations. Activities and products to include:

1. An annual meeting on groundwater conditions and GSP implementation status.
2. Key groundwater indicators and data are synthesized and displayed on the Water Forum webpage for quick access to current conditions and project status. This feature will provide a comprehensive overview of regional groundwater conditions, incorporating information from the regional groundwater subbasins and the Sacramento Regional Water Bank. This information has value not only to Water Forum members but also to the public, including regional decision makers, land-use agencies, and policy analysts.
Information to include:

²² Including temperature, DO, and other characteristics.

²³ GSA, water banking participants, and other organizations who use groundwater .

- a. Subbasin groundwater condition mapping with water quality and water level monitoring information.
- b. A list of groundwater management actions planned by GSAs and their respective status.
- c. Annual volumes of water stored, extracted, and transferred as reported by the Sacramento Regional Water Bank.

The Water Forum will coordinate with regional groundwater organizations to facilitate collaboration on efforts when there is alignment in planning and implementation activities.

Water Forum activities will include:

1. Sharing data and information (climate change, water demand, or otherwise) with regional groundwater management organizations when there is alignment in planning and implementation needs.
2. Maintaining open dialogues between Water Forum staff and consultants and groundwater management organizations to seek opportunities to provide ecosystem benefits through groundwater management actions.

2. Support Actions: Technical, Facilitation, and Public Engagement

The Water Forum has a long history of successfully helping local groundwater managers²⁴. Upon request from groundwater management organizations and with the approval of the Water Forum Plenary, the Water Forum will assist local groundwater management organizations. Examples of possible Water Forum support actions are listed and described below.

Technical: Gathering or interpreting data or conducting analyses (e.g., performing CALSIM runs to validate GSP modeling).

Facilitation: Structuring and holding conversations within and between GSAs and other interested parties. For example, in 2020, the Water Forum convened negotiations with the Sacramento Central Groundwater Authority and other local entities to determine the structure and funding of the South American Subbasin GSP.

Public Engagement: Sharing the status of our region's groundwater management efforts with key audiences (e.g., tailored communications for Water Forum signatories who desire a region-wide perspective; public support to groundwater managers for grant requests).

3. Purveyor Specific Agreements

Within the PSAs and the conditions outlined within the surface water management program element, each of the purveyors has outlined opportunities to implement the groundwater

²⁴ One of the most recent examples was Water Forum staff and consultant technical and facilitation support for the Cosumnes Subbasin during the preparation of their GSP in 2018.

management guiding principles. These opportunities include descriptions of in-lieu recharge activities and direct recharge, among other opportunities.

Caveats and Assurance

- 1. The Water Forum will work to understand better and communicate the opportunities for, and impacts of, increased surface water diversions in wet conditions.*
- 2. Signatories acknowledge the importance of continued data collection and analysis to improve understanding of Groundwater Dependent Ecosystems (GDEs) and surface water–groundwater interactions and commit to ongoing dialogue within the Water Forum as these topics are explored in the context of SGMA requirements and ARCAP analyses (as relevant).*

DEMAND MANAGEMENT

Demand management refers to a range of actions aimed at managing the consumptive use of water, including improvements in water use efficiency and efforts to ensure that demand does not exceed available supplies. These actions can be deployed at the regional, purveyor, and household levels. As the region prepares for continued growth and the impacts of climate change, demand management is a valuable tool in our regional toolbox to reduce surface water diversions from the American River (which has the potential to improve reservoir storage, cold water pool, and river flows) and to reduce demands (which improves regional water supply reliability, including groundwater sustainability and climate resilience).

Climate change in the American River watershed is expected to cause greater volatility in surface water availability between hydrologic year types. To partially address this increasing uncertainty in the availability of surface water supplies, particularly in dry and critical conditions, reduced surface water reliability will be offset (in part) by increased groundwater production and demand management. Demand management can contribute to improved water supply reliability while leaving more water to support the health of the river. Moreover, reuse, grey water, and water recycling can reduce the need for surface water diversions. Such measures have already been implemented at varying scales within the region, with expected expansion in the future.

Continued engagement and coordination with Reclamation (as the owner and operator of Folsom Dam) will be critical to increase the likelihood that regional demand management and other related actions will result in targeted improvements to the health of the LAR.

It is important to note that water providers in California have more stringent state requirements for water conservation than existed 20 years ago, which bring greater operational and financial obligations. The new regulatory framework adopted by the SWRCB in 2024 (Making Conservation a California Way of Life) establishes agency-specific water use objectives for urban water purveyors in California, which will have varying impacts on regional purveyors. WF2050 incorporates these new requirements.

Guiding Principles

Water Forum activities related to demand management will support the Water Forum’s coequal objectives by aligning with the guiding principles below:

1. Support appropriate and reasonable demand management actions that help purveyors meet their regulated water use objectives, including actions that can improve water supply reliability and provide ecosystem benefits in the LAR, while also supporting regional groundwater sustainability.
2. Facilitate dialogue and the exchange of information between Water Forum signatories to promote awareness and understanding of regional water use trends and standards.
3. Seek ongoing opportunities for engagement, coordination, and agreements to promote the use of conserved water to support the coequal objectives.
4. Support actions that contribute to tree canopy health and avoid actions that exacerbate urban heat island effects.
5. Promote access to water necessary to support living landscapes across all socio-economic conditions and encourage low-water use and the use of native vegetation.

Program Elements

To implement the Demand Management principles listed above in support of the coequal objectives, the Water Forum will commit to the programs, actions, and activities below.

1. Regional Coordination and Information Sharing

Water Forum members commit to ongoing communication and collaboration on the implementation of demand management. The various mechanisms and venues where this communication and collaboration will occur are provided below.

Water Forum staff will obtain information regarding regional demand management that Water Caucus members have annually reported to the State and will synthesize the data to provide a regional overview of the status of implementation and water use trends. This information will be shared with Water Forum members in various venues and formats, as described below. Water use information shared with the Water Forum members will be built on existing reporting requirements.

- Water Forum will convene an annual meeting for Water Forum members focused on demand management and regional water use trends. Topics include regional water use trends (based on purveyor production data), the status of implementing demand management actions identified in agency PSAs and reported to the SWRCB, and the hydrologic outlook for the current year, with implications for regional water supplies and river needs. Optionally convene an additional meeting, as needed.
- Post progress towards meeting state-mandated water use objectives on the Water Forum webpage for quick access. Provide a “one-stop shop” for regional demand management progress, incorporating information from purveyors, DWR, and SWRCB.

- Provide updates on purveyors' approaches to meeting state-mandated objectives²⁵, including information on the relative effectiveness of various actions and programs (as available).
 - Purveyors and Water Forum staff will collaborate to consider opportunities for quantifying and tracking water conserved through ARCAP or other mechanisms.
- Purveyors intend to provide Water Forum members with a 30-day review period for their respective Draft UWMPs before the plans are adopted. This 30-day review period is expected to be built into the other required public review cycles and is not intended to be additive.
- Maintain open dialogues between Water Forum staff, members, and RWA to seek opportunities to support LAR health through demand management actions.²⁶
- Host a semi-annual meeting with interested Water Forum members, RWA staff, and agency water conservation staff to review and discuss current and planned regional efforts related to demand management. Water Forum members will have the opportunity to provide input on regional strategies and messaging for consideration by the agency's water conservation staff.

2. Implementation of Priority Demand Management Actions

Each Water Forum purveyor has developed and will continue to refine its portfolio of demand management actions to meet regulatory requirements. In choosing the timing and level of effort for potential actions, purveyors consider their opportunities and constraints to weigh potential effectiveness.

The Water Forum has compiled a non-exhaustive list of demand management actions that have the potential to benefit LAR health and support water supply reliability, and these actions are summarized in **Appendix 8**. Implementation of the actions will help support the coequal objectives.

- Water purveyors will consider implementing the demand management actions listed in **Appendix 8**.²⁷

²⁵ State mandated objectives (including outdoor water use) broadly become more restrictive over time and relevant updates and information will be presented across the urban water use categories.

²⁶ RWA implements their Water Efficiency Program (WEP) as a regional program which was created to help water providers in the greater Sacramento region work together to help their customers use water efficiently and meet relevant water use efficiency regulations and requirements. WEP activities have included public outreach campaigns, rebate programs, school education and research studies. In addition, RWA's WEP has been highly effective in attracting grant funding to increase water efficiency in the region and has secured \$15 million in funding since the start of the program in 2003.

²⁷ As noted in Element 1 (Regional Coordination and Information Sharing), Water Forum's annual reporting on demand management information will include a summary of actions and measures implemented within the region, along with progress towards meeting mandated water use objectives.

- The Water Forum, through its decision process, may modify the list of demand management actions as information on their effectiveness becomes available.

3. Purveyor Specific Agreements

All purveyors are committed to adhering to the relevant conservation and water use efficiency regulations. At the time of signing, key requirements are associated with the 2024 “Making Conservation a California Way of Life” regulations, Assembly Bill (AB) 1572 related to irrigation of non-functional turf with potable water, and the Model Water Efficient Landscape Ordinance (MWELO) which encourages low-water use and native landscaping for new development.

Within each PSA, purveyors will outline their anticipated approach to comply with water conservation regulations, including opportunities to improve landscape irrigation, install native and low-water-use vegetation, or take other actions that are identified as meeting agencies’ specific needs. The descriptions include current programs as well as the approach to future conservation. These projections will be understood by signatories to be preliminary in nature and subject to change and are included to provide a reference point as water use trends and practices evolve over the life of WF2050.

4. Engagement with Reclamation

Water Forum strategies and mechanisms for coordination with Reclamation are expected to shift over time as circumstances and opportunities evolve and climate change alters our regional hydrology, presenting new and potentially unforeseen challenges.

Demand management actions have the potential to increase the flexibility of the CVP system if they result in reduced diversions, particularly during drier periods. Reclamation has acknowledged this potential connection and the value of demand reduction during these times. As part of its ongoing work with Reclamation²⁸, the Water Forum will promote the benefits of regional demand management actions to influence operations and agreements that are favorable to the coequal objectives.

Over time, this coordination could seek potential agreements with Reclamation that acknowledge the quantities of conserved water and provide stronger dry-year protections than currently exist with the end-of-year planning minimum. Future agreements should also include provisions to protect purveyor water rights and to emphasize the role the Water Forum has played in decisions concerning Folsom Reservoir storage and releases.

²⁸ The Water Forum’s ongoing work with Reclamation is expected to include implementing and improving the Flow Management Standard; developing various agreements with Reclamation; and providing real-time operational guidance.

Caveats and Assurances

1. *All signatories acknowledge that the requirements related to water purveyors' water use efficiency and demand management have become increasingly stringent since the signing of the original WFA and are continuing to evolve.*
2. *All signatories acknowledge that the purveyors must consider the costs and benefits of demand management actions (monetary, ecosystem, quality of life, etc.).*
3. *All signatories acknowledge that water rates have impacts on affordability and equity.*
4. *All signatories recognize that conserving water provides multiple benefits (if properly targeted, implemented, and managed) and commit to implementing demand management actions in a manner that strives to support both coequal objectives, with considerations for improvements to landscape irrigation efficiency and installation of native and low-water-use vegetation.*

DRY-TIME ACTIONS

Balancing the coequal objectives has proven challenging in all years on the LAR, particularly in relation to river temperatures, for which seasonal targets are exceeded in nearly all years. During dry conditions, these challenges become exacerbated, as providing a reliable regional water supply and protecting the health of the LAR may come into conflict, particularly when water supplies become more constrained. The frequency and severity of dry conditions are expected to increase in the future, multi-year droughts are expected to occur more frequently, and dry years are expected to be drier. Careful planning in anticipation of, and diligent coordination and strategy during, dry conditions will be required to ensure that both coequal objectives are supported. “Dry-Time Actions” are the actions provided below that are designed to be taken during dry conditions. Planning and preparation for dry conditions, as well as opportunities to build resilience in wetter times, are also important and are discussed in other sections of this document.

It is essential to acknowledge that Reclamation, as the owner of Folsom Dam and Reservoir, which it operates as part of the statewide CVP, plays a crucial role in the ability of any regional actions to reliably support the Water Forum’s coequal objectives. As such, the Water Forum’s ongoing engagement with Reclamation is always important, but crucial in dry times.

Other topics related to dry times discussed by the working groups have included specific principles and elements related to regional commitments in dry conditions (surface water, groundwater, and demand management). The guiding principles and elements below include additional language that is helpful for commitments specific to dry times.

Guiding Principles

1. Prioritize alternative supplies²⁹ to surface water from the American River system in dry conditions to support LAR health.
2. Work collaboratively to develop consistent messages and strategies for engagement with Reclamation and the State in dry conditions.
3. Strive for consistent regional messaging to the public on water conservation and best practices during dry conditions.
4. Convene interested parties to conference about balancing coequal objectives during defined dry times.

Program Elements

1. Purveyor Commitments for Managing Surface Water Diversions

The PSAs include an important program element for implementing Dry Time Actions, which is shared with the Surface Water Management area of focus. As stated in the Surface Water Management program element, the PSAs include specific commitments based on the UIFR (summarized below in Table 2).

Table 2. Summary of Purveyor Specific Agreements (Placeholder)

Agency	Normal Year Diversions	Drier Year Diversions	Driest Year Diversions
El Dorado Irrigation District			
Placer County Water District			
City of Folsom			
City of Roseville			
San Juan Water Districts			
Golden State Water Company			
Carmichael Water District			
City of Sacramento			
Sacramento Suburban Water District			
California-American Water Company			
Sacramento County Water Agency			
Sacramento Municipal Utility District			

Pending Ongoing Discussions

²⁹ Alternative supplies to the American River surface water could include groundwater, Sacramento River water, as well as reservoir reoperation transfers that would release water from storage upstream of Folsom Reservoir, and other supplies that would make additional water available to support conditions on the LAR.

2. Cross-Caucus and Internal Coordination

Cross-Caucus and Internal Coordination is a key program element within the American River Flows and Operations (ARFO) Program Area. The description of the topics and activities focuses on the implementation of the FMS. To ensure common understanding and general awareness of the hydrologic outlook, as well as the implications for related WF2050 commitments, updates on the current UIFR projections will be included in the Cross-Caucus meetings.

3. Engagement with Reclamation

Engagement with Reclamation is understood to be critical to the success of the WF2050 agreement and is described in several areas of focus (as it relates to the specific activities). A broader description is provided in **Appendix 3**.

In dry conditions, Water Forum members will enhance internal coordination to develop specific and consistent messages for engagement with Reclamation to: ensure implementation of the FMS, promote the benefits of the Water Forum dry-time actions, and the value of leveraging Water Forum commitments to support the coequal objectives.

4. Regional Conferences in Dry Times

Water Forum signatories acknowledge that during certain dry times, there may be insufficient water to support Water Forum's coequal objectives, and special provisions will be necessary for water management.

During dry time Regional Conferences, all signatories agree to:

- Meet regularly to confer on managing available water supplies to best serve the coequal objectives.
- Consider actions and strategies (beyond managing water supplies) to address the specific challenges posed by these conditions.
- Develop consistent messaging related to the need for water conservation, encompassing both the coequal objectives (not just individual available supplies). Agreed-upon messaging will be utilized region-wide to promote consistent understanding and awareness of the current situation³⁰.

Regional Conferences can be triggered under the following conditions and circumstances:

- The March-November UIFR is less than 750 TAF in any given month, based on the most recent Bulletin-120 (released February-May).
- Folsom Reservoir storage is projected to drop below 200 TAF at any time in the future, according to the 50% forecast.
 - The projection could be either:

³⁰ Agencies will still develop individual messaging for their specific situations and requirements, as necessary.

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- Provided by Reclamation
- Made by Water Forum staff or consultants over any future time frame (note: the ability to forecast will dictate the time frame; in other words, with a valid forecast that shows future storage <200 TAF, then Regional Conferences would be triggered)

Other circumstances may also warrant Regional Conferences and are described below. Either of the circumstances described below requires confirmation from the Plenary³¹ before a Regional Conference may be called.

- The Water Forum Cross-Caucus identifies that current dry conditions warrant a Regional Conference.
 - Cross-Caucus discussions on the potential for Regional Conferences will consider real-time conditions, including reservoir storage, river flows, river temperatures, forecasted operations, regional water supplies and infrastructure, state or federal declarations, etc.
- The Water Forum Executive Director, in consultation with the Coordinating Committee, identifies that current dry conditions warrant a Regional Conference.

Caveats and Assurances

1. *Water is essential for public health and sanitation, as well as for economic stability and quality of life. Water agencies have a fundamental responsibility to provide all customers with reliable access to safe, clean drinking water. This fundamental responsibility may constrain the breadth of Water Forum related actions purveyors are able to take during extreme drought.*
2. *Water agencies in California manage water shortages in accordance with their individual Water Shortage Contingency Plans (WSCPs), which are developed and updated every five years as part of their UWMPs, in compliance with California Water Code requirements.*
3. *Signatories acknowledge that dry times present exceptional challenges for the health of the LAR, and actions should be pursued to protect the fish that rely on river flows and temperature.*

LAND USE DECISIONS

Water Forum signatories include several entities with land use planning responsibilities and water purveyors with water planning responsibilities. Water Forum signatories recognize the benefit of coordination between water resources planning and land use decision-making.

³¹ Plenary confirmation for Conferencing can be conducted via a special session, to be scheduled outside the regularly schedule meetings, as needed.

While coordination between water planning agencies and land use decisions is required by State law and regulation, and land use decisions rest solely within the purview of the local authorities, the Water Forum can organize and disseminate regional data that informs the nexus between water supply and land use. To that end, WF2050 aims to outline the Water Forum’s role in promoting awareness of the coequal objectives as they relate to land use.

Guiding Principles

The core principles below shape the Water Forum’s approach to fostering a regional understanding of water supply-land use considerations, particularly as it relates to supporting the Water Forum’s coequal objectives.

1. The Water Forum has a regional vantage point on water use and supply and a connection to the coequal objectives that is not highlighted through existing mechanisms or requirements.
2. Land use authority rests solely within the purview of the appropriate government jurisdiction, and the Water Forum can play an important role by keeping members and others informed of water supply trends by synthesizing data on regional water use and supply. This data is not intended to suggest Water Forum advocacy (for or against) any land-use decisions.
3. The Water Forum recognizes the challenges in any projections given the uncertain and shifting nature of future land use, water supply, and water use trends, and is committed to clearly articulating such limitations.

Approach

Existing California state laws and local procedures are in place to link land-use decisions and water supply. These include:

- Senate Bills (SB) 221 and 610, adopted in 2001 and in place as of January 1, 2002 (e.g., water supply assessments)
- Water supply information requirements are outlined in Chapter 881 of the California Water Code
- California Environmental Quality Act (CEQA) process
- UWMPs (the source for water supply projections)
- GSPs
- “Can and will serve” letters from water purveyors and related requirements that include analyses of impacts of single-year and multiple-year droughts, intended to foster a rigorous and comprehensive analysis of water supply and reliability
- MWELO

The Water Forum recognizes that collating and synthesizing existing data at a regional scale (drawn from the above sources) can contribute to the understanding of the region's cumulative water supply and demand picture among members and others. The WF will rely on UWMPs, Annual Water Supply and Demand Assessments, and GSPs in the region, as well as dry-time actions included in member PSAs and other relevant water supply planning documents, to shape its synthesis of water supply and demand trends. These data sources will include demand and supply projections for the proceeding 20- to 25-year period, to be updated on a five-year cycle.

Additionally, the Water Forum will track longer-term water supply trends to account for changing climate change projections and trends; significant shifts in water or land use; changes in water supply opportunities, etc. This will be done through the ARCAP Framework and work plan (see Appendix 2).

As noted above, the approach is not intended to suggest that the Water Forum will take positions on, or imply support or opposition to, any land use developments. Instead, it is intended to provide members and others with an ongoing understanding of regional trends in both water supply and demand, consistent with the coequal objectives.

Program Elements

1. Region-Wide Supply and Demand Forecast

- The Water Forum will draw on existing data (UWMPs, GSPs, dry-time actions from PSAs, etc.) to compile an ongoing region-wide synthesis of actual and projected water demands and sources (initially through 2050). This timeframe is intended to be consistent with the UWMP planning horizon and not project so far into the future as to be overly speculative. Opportunities for Water Forum review and discussion of draft UWMPs prior to adoption are described in the Demand Management program elements.
- This region-wide synthesis of projected supplies and demands is to be updated on a five-year basis (with a rolling 25-year time horizon) and will highlight differences between actual versus previously projected water demand forecasts. Annual updates would occur when data is available and relevant.
- This region-wide examination will make explicit the underlying assumptions shaping the different data sources, highlighting both common and divergent assumptions, as well as any noteworthy information gaps.
- This region-wide overview is to be shared in an accessible manner (i.e., on the Water Forum website) and included in the 5-year Status Report to inform Water Forum members and others about regional trends in water demand and supply.
- As needed, the Water Forum will provide analyses regarding longer-term (beyond 25 years) water supply trends to inform its understanding of possible longer-term trends and

consequences for the coequal objectives. This work will be done within ARCAP as the program endeavors to understand and prepare for the impacts of climate change.

- The work will be coordinated with and built on efforts and information from other Water Forum processes as relevant (e.g., ARCAP, demand management, etc.) to avoid duplication of effort.
- Following the adoption of WF2050, the Water Forum will convene a working group³² comprising members of all four caucuses to develop an agreed-upon approach (e.g., data sources, format) for reflecting and updating actual and projected water demands and sources throughout the life of WF2050.
 - The working group will identify information needs and sources, as well as the timeframe for projections (e.g., a rolling 25-year time horizon). Additionally, it will determine a method for displaying the information (format, dashboard, etc.) and integrate, as appropriate, the data with Water Forum metrics and other Water Forum processes.
 - The working group will meet periodically to review and confirm its process for developing a regional perspective on water demands and supply, and recommend any necessary changes in approach.

Water Forum staff are expected to collate and synthesize data. Any additional research or analytical needs identified by the working group would need to be discussed and confirmed with both the applicable water and planning agency staff, as well as Water Forum members, to ensure that staff burden and overall costs are considered and consistent with the Water Forum's budget development and review process.

2. Education and Information-sharing

The Water Forum plays a valuable role in educating its members and others in the region about the coequal objectives. There are aspects in ARCH, for example, that speak to public outreach and education, and other areas within Section 5 that underscore the importance of learning and community engagement. This information-sharing is expected to be centered at plenaries, in the Water Forum's 5-year Status Report, through an online dashboard, and via other outreach mechanisms described elsewhere in this document.

While the Water Forum as an entity does not have a role (formal or informal) in education related to specific land use projects, it can provide a useful venue for dialogue among its members. To that end, and consistent with the Water Forum Way, signatories are encouraged to use Water Forum processes to apprise other members of major land use projects, lawsuits, and other

³² This working group could be combined with the ARCAP working group or a separate group could be formed. After the Water Forum 2050 Agreement is adopted, the caucuses will decide if two groups would be more focused or if one will be more efficient.

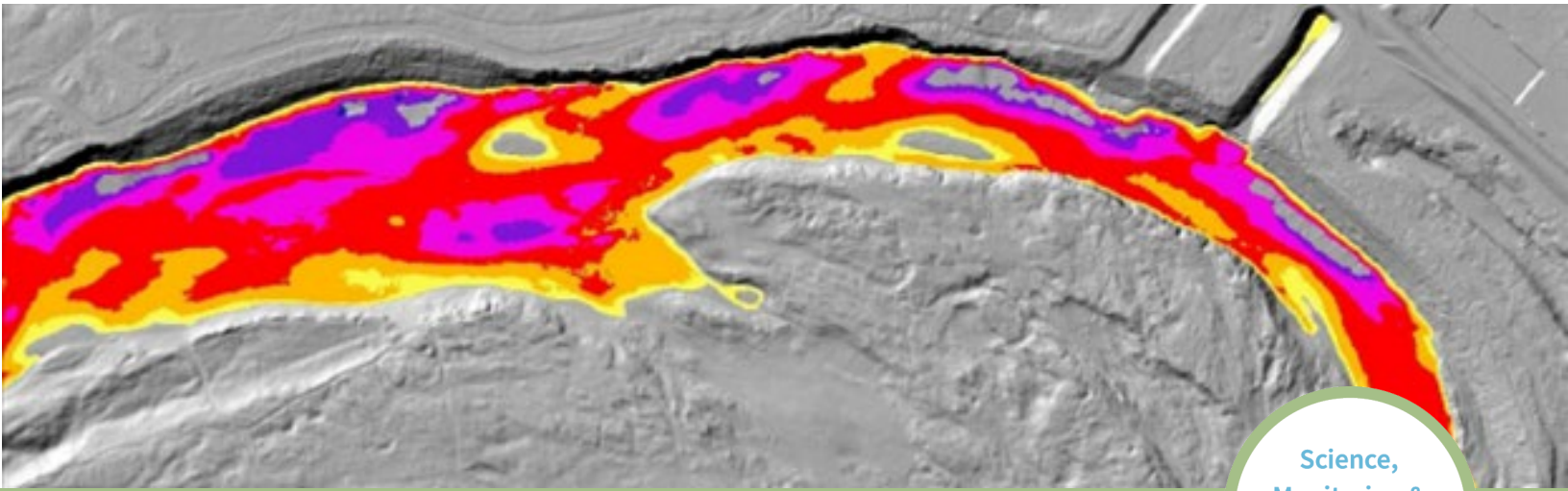
activities relevant to the coequal objectives and the work of the Water Forum. These disclosures create an opportunity for Water Forum members to engage in further discussions.

Additionally, individual Water Forum members are encouraged to keep their respective partners, decision-makers, and the public apprised of Water Forum priorities, coequal objectives, activities, and interests by utilizing fact sheets and other materials developed by Water Forum staff.

3. Water Forum Members' Right to Take Individual Positions on Proposed Land-Use Projects

All parties retain the right to support or oppose proposed land-use projects occurring within Sacramento, Placer, and El Dorado counties, and nothing in this agreement is intended to limit that right.

However, consistent with the Water Forum Way, members are encouraged to use the Water Forum process early on to disclose, discuss, clarify, and, as possible, resolve issues related to land use that may be seen as having the potential to impact the Water Forum's coequal objectives.



Program Area 4: Science, Monitoring, and Decision Support

The Water Forum commits to continuing to develop and sustain a robust science, monitoring, and decision support program to further study, monitor, adaptively manage, co-produce, report and share relevant data, advocate for scientific rigor, and inform and provide effective decision support for the ARFO, ARCH, WSS, and ARCAP program areas in service of the coequal objectives.

Guiding Principles

1. Continue the production and coproduction of scientific information to support effective river corridor and watershed adaptive management.

The Water Forum has a reputation for producing reliable, credible, and rigorous technical information. The Water Forum will continue to co-produce and contribute information regarding corridor health and watershed conditions (through project-related data collection and analysis, as well as other ad hoc or emerging needs) to inform flow and operational discussions with ARG and Reclamation, and support decision-making on the LAR (through the analysis and implementation of the FMS).

The Water Forum will continue to review and advocate for the most appropriate data collection, metric tracking, analyses, and tools to inform adaptive management, thereby improving conditions in the river and supporting the coequal objectives. Building relationships and acquiring data that meets Best Available Science criteria from other entities to assist with science, monitoring, and decision support activities (such as Folsom temperature profiles or CDFW carcass surveys) allows the Water Forum to leverage operating and grant funding to produce actionable information, act as a liaison between interested party and state and federal managing agencies, and support decision-making and understanding of corridor resources and conditions at public venues such as the ARG and Lower American River Task Force (LARTF), and inform regional planning efforts and regulatory processes such as the Reconsultation on the Long Term Operations of the CVP, and the Healthy Rivers and Landscapes Program (HR&LP).

2. Monitor program and project activities according to appropriate scientific standards and intervals to continue informing adaptive management.

The Water Forum's various programs and associated project work will continue to meet the highest standards for scientific data collection, tracking, analysis, and reporting. Standardized, peer-reviewed information and protocols will be utilized and incorporated where applicable. ARFO and ARCH work on the river and within the watershed will continue to be monitored and documented, with the aim of collecting actionable data to inform adaptive management, metrics reporting, and decision support. The Water Forum frequently develops specific information for ongoing work on the LAR, particularly when other information is not available or supplied by other entities, and this will continue for project-specific actions. A description of the Water Forum's current integration into broader regional and statewide adaptive management strategies, which include peer review, is provided below.

3. Communicate effectively regarding project outcomes, public data, and information access associated with Water Forum programs.

The Water Forum conducts a substantial amount of project monitoring and special studies, developing information that supports planning and decision-making in the region, from technical memoranda to peer-reviewed publications. Sharing well-organized information through open data initiatives and clearinghouses, as well as the Water Forum website, conferences, and special events, will support the Water Forum's reputation for producing reliable, credible, and rigorous technical information that can be shared publicly.

Providing easily accessible and interactive information related to the Water Forum's work for its members, the public, and educational programs is a key focus of this guiding principle. A detailed description of the role of website updates, data visualization, and a timeline for information sharing and updates associated with this principle can be found in the Metrics and Reporting section.

Program Elements

1. External Processes and Constraints That Directly Inform WF2050 Program Areas

External entities and processes influence the work of the Water Forum, particularly for the activities of the ARCH and ARFO Program Areas. The Water Forum's nexus with the oversight, reporting, guidance, and restrictions associated with various ARFO and ARCH-related regulatory processes and groups is detailed below.

Additionally, grant-funded efforts for any Water Forum Program would include actions and schedules that are informed and constrained by funding agency priorities and cost-benefit criteria, approved grant scopes, and outside science and review processes that prohibit flexibility for changes in scope or priorities prior to or during the grant term.

EXTERNAL SCIENTIFIC AND PLANNING OVERSIGHT FOR ARFO and ARCH PROGRAMS

ARCH - Central Valley Program Improvement Act, Science Integration Team (CVPIA SIT): Structured Decision-making and Near-Term Restoration Strategy Guidance and

Requirements: Reclamation and USFWS established the Science Integration Team (SIT) to use the Structured Decision Making (SDM) process as a science-based framework to identify priorities for Chinook salmon, steelhead, and green and white sturgeon. Water Forum staff and technical consultants participate in the SIT and provide information that supports an understanding of LAR habitat and science efforts and operations, to inform decision-support through continued evolution of the SIT SDM based on best available science and lessons learned. Water Forum staff oversees planning and monitoring of habitat measures and special studies associated with CVPIA grant funds.

ARFO and ARCH - HR&LP: Planning, Design Review, Monitoring, Science Plan Oversight, and Habitat and Flow Accounting Processes:

The HR&LP process includes several required venues and processes that are being put in place to ensure best available science is used to plan, implement, evaluate function, and monitor effectiveness of habitat constructed to fulfill Voluntary Agreement (VA) commitments, and test VA Science plan hypotheses. Flow and habitat measures must meet strict criteria regarding timing, suitability, and effectiveness for entities to receive “credit” for the actions. All habitat actions must also go through a third-party design review process prior to implementation and a review of As-Built Conditions. These processes represent a “feedback loop” to strive for best outcomes where best available scientific information is vetted and informed by the HR&LP process, and information developed by tributaries in the process of this work feeds back into the process. Water Forum staff sit on the HR&LP Science Committee and are heavily involved in Science Committee efforts associated with multi-tributary coordination, design review, habitat accounting, tributary monitoring, and reporting/tracking, as well as overseeing planning, implementation, and monitoring of habitat measures associated with HR&LP commitments, and ARFO activities associated with HR&LP flow commitments and accounting are occurring in close coordination with RWA staff as the American River regional representative organization under the HR&LP process.

2. Support, Evaluate, and Integrate with Appropriate Scientific Partnerships and Efforts

The need to build and maintain data-sharing channels and supportive relationships on the American River Parkway and within the watershed requires the Water Forum to carefully consider data collection and analysis activities in relation to the mandated roles and needs of other agencies. The extent to which the Water Forum relies on other entities to conduct science activities effectively supports or constrains progress towards its coequal objectives.

The Water Forum will assess the level of commitment to and investment in science-related activities that support decision-making, including an evaluation of how the Water Forum's efforts and roles compare to those of other entities conducting data collection or science activities on the LAR (e.g., Regional Parks NRMP, ARPF, CDFW, etc.). Additionally, it will be important to consider how current Water Forum efforts compare to other regional and partner efforts, the

usability and value of existing monitoring and data analyses, including its application to State and Federal agency decision-making, future use of peer-review or science advisory panels, level of certainty of future funding, nexus with upcoming programs and efforts, and consider the need for a long-term, robust monitoring framework/program, decision support, and data management within the context of climate change on the LAR.

Due to various agency mandates such as those related to operations, river and fishery management, water supply, and groundwater planning, etc., for certain information, the Water Forum is often dependent on the actions of other agencies to collect the scientifically defensible data needed for decision-making. Data collected and used to monitor progress toward coequal objectives and guiding principles are described in the next section.

3. Metrics and Reporting

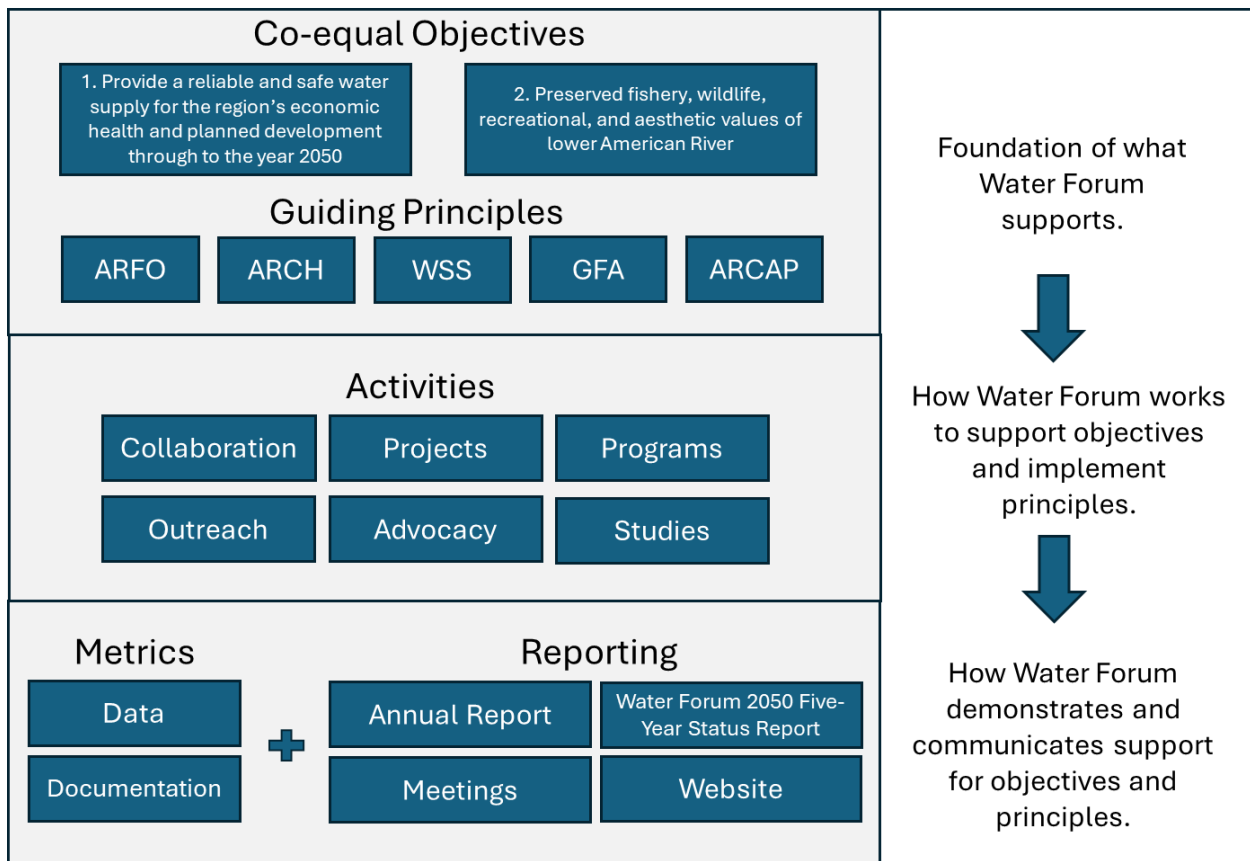
The metrics and reporting program element identifies appropriate information, data and metrics related to the work of the Water Forum, and details how the Water Forum will track and communicate progress on efforts that support the coequal objectives and encompasses a range of activities covered under the ARCH, ARFO, WSS, GFA, and ARCAP guiding principles. This section provides the foundation and framework for ongoing analysis and synthesis to support monitoring and reporting for Water Forum’s activities and the success of WF2050.

Metrics will be utilized to track and provide transparency in reporting progress toward both coequal objectives and the agreement’s guiding principles. Metrics will leverage existing publicly available data, as well as information collected from programs, projects, studies, and outreach initiatives led and supported by the Water Forum.

Regular tracking and reporting by the Water Forum will provide an opportunity to share information about the value of the Water Forum’s presence and the organization’s role in the region. Monitoring informs adaptive management and decision-making, while reporting enhances the general understanding of water supply sustainability and river health, and helps build trust with interested parties.

Figure 5 provides an overview of the relationship between the coequal objectives, guiding principles, metrics, and reporting. The coequal objectives and the guiding principles of the agreement establish the foundation of what the Water Forum supports and pursues. Activities that span from collaboration to specific projects, as well as outreach and engagement, support how the Water Forum works to achieve its objectives and implement these principles.

Figure 5. Coequal Objectives and Guiding Principles Relationships with Activities, Metrics, and Reporting



Types of Metrics

There are two types of metrics that are intended to be used in tracking the implementation of the agreement's guiding principles: data-driven metrics and documentation metrics. In addition to these types of metrics, there is contextual data that is informative regarding the status of the coequal objectives but is not necessarily indicative of the success of the Water Forum. A description of the metrics is provided below, and a summary table of the metrics used in the Water Forum metrics and reporting program element, along with their respective categories and relevant program areas, is included in **Appendix 9**.

Data-Driven Metrics: Data-driven metrics encompass quantitative information derived from analyses of habitat availability (e.g., percentage of exceedance flows), river temperatures, changes in groundwater sustainable yield, and trends in hydrologic conditions. Data-driven metrics can also include quantifiable values related to funding, the number of individuals reached or engaged, and the number of participating organizations. Several categories help differentiate the focus of data-driven metrics. These categories include:

- Water Quality (temperature, dissolved oxygen, etc.)

- Habitat
- Storage
- Funding
- Water Supply
- Other

The Other category is used to capture data-driven metrics that do not cleanly fit into a defined category, supporting flexibility in updates made to metrics over time as new information becomes available. A summary of these data-driven metrics is provided in **Appendix 9**.

Documentation Metrics: Documentation metrics are typically more qualitative and descriptive in nature. Several categories help differentiate the focus of documentation-driven metrics. These categories include:

- Accountability
- Benefits
- Partnership
- Process & Structure

Metrics that provide documentation of accountability are typically related to commitments to specific actions, documenting outcomes from meetings and briefings, and efforts to provide clear communication and consistent messaging. Efforts to enhance transparency and clearly communicate roles and responsibilities are also grouped under the category of accountability. The benefits category is related to metrics that document opportunities, improvements, and evaluations of impacts or beneficial results. Partnership metrics document and describe collaborative meetings and engagement sessions as well as partnership opportunities. Process and structure metrics document specific processes and organizational or procedural structures. A summary of these documentation metrics is provided in **Appendix 9**.

Contextual Data and Information: It is important to note that there are other data and information that represent contextual information related to the status or viability of the coequal objectives that are important for tracking and monitoring changes in conditions, understanding long-term trends, or normalizing Water Forum-collected data and analyses, such as: ambient air temperature, snow accumulation, salmon carcass surveys, Delta conditions, salmonid population and growth studies, upstream reservoir storage, and others. However, while these metrics are informative as to the viability of the coequal objectives, they are not necessarily indicative of the effectiveness of the Water Forum's efforts. Relevant contextual data and information will be tracked within the Metrics and Reporting program element as is viable and informative for guiding Water Forum priorities. Data synthesized and communicated in this category will evolve over time based on the direction of the Plenary with the goal of providing a consistent basis of understanding on the conditions and trends related to the coequal objectives.

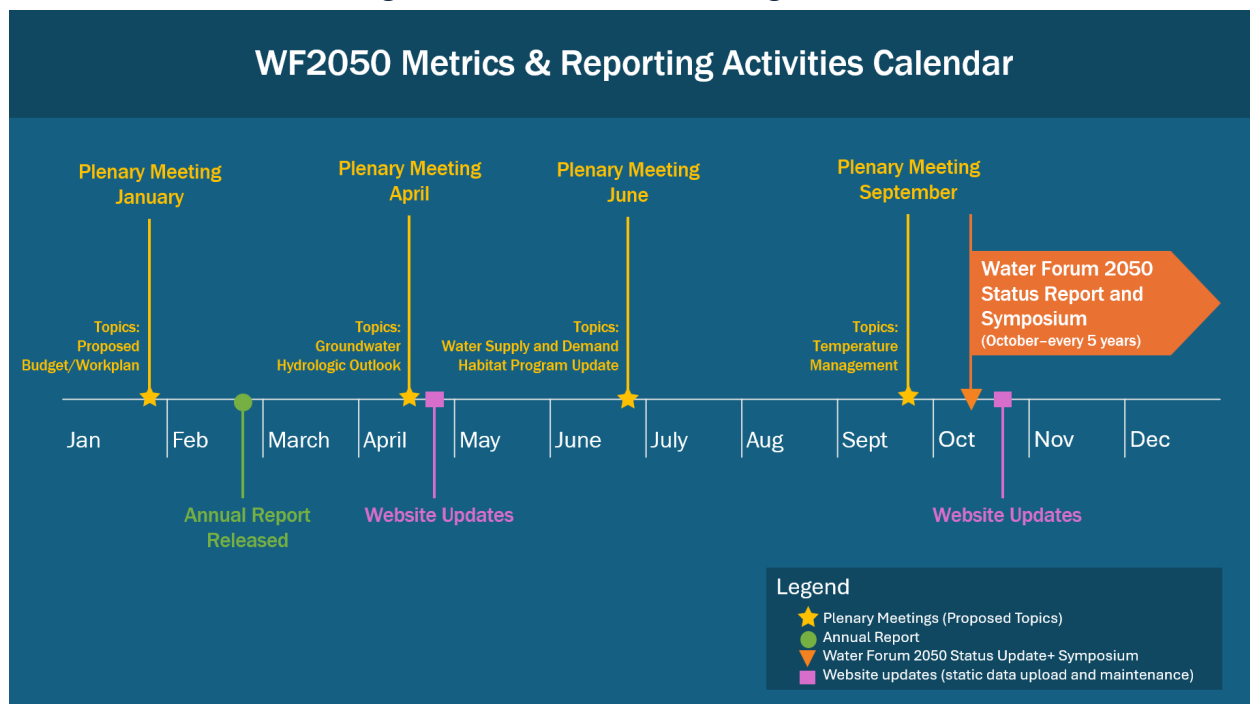
Metrics Reporting and Timeline

Several reporting mechanisms will be used to document and communicate progress on supporting the coequal objectives and WF2050 guiding principles. The reporting mechanisms are listed and described below. Additionally, the metrics identified for inclusion in each respective reporting mechanism are detailed in **Appendix 9**.

- Annual Report
- Water Forum 2050 Five-Year Status Report and Quinquennial Symposium
- Plenary and Caucus meetings (regularly recurring meetings)
- Water Forum website and Conditions/Data Dashboard
- Project-specific reporting (as needed)

The reporting mechanisms listed above will be relied upon throughout the year and follow a general timeline (**Figure 6**). To enhance member engagement and more effectively communicate relevant information, an annual sequence is proposed that is closely tied to the availability of pertinent data and/or information, as well as relevant partner processes, key decision points, and actions throughout the year. Please note that project reporting will occur according to the individual project schedule.

Figure 6. Metrics and Reporting Timeline



Annual Report

Each year, the Water Forum will update and provide an Annual Report that describes the Water Forum's priorities, updates, and progress on Water Forum internal operations and

implementation of the WF2050's guiding principles. Content will include updates and a reflection on the past year based on data-driven metrics, including funding, habitat, river temperature, storage, water supply, etc., as well as documentation metrics for communicating accountability efforts and realized benefits. This report will be released annually in the first quarter and will reflect the activities and progress made by the Water Forum during the previous year. This report may include specific, agreed-upon reporting metrics to document a summary of progress made on ARCAP.

Five-Year Status Report

The Water Forum commits to developing a Water Forum 2050 Five-Year Status Report that will synthesize information related to the status of efforts supporting the coequal objectives and implementation of the guiding principles. The report will describe the progress made regarding the impact of program activities on a sustainable and reliable water supply, as well as their contribution to corridor health. The report will also describe the progress made through metrics that support accountability and document updates to processes and structures. Reporting may also consider and include information solicited from other agencies and entities, where applicable, appropriate, and where best available science considerations can be met³³. This report will provide a valuable opportunity to reflect on trends that are more easily interpreted at a time step greater than one year. This report may include specific, agreed-upon reporting metrics to document a summary of progress made on the ARCAP Guiding Principles.

The Water Forum 2050 Five-Year Status Report will be utilized internally to evaluate progress of the Water Forum's work, but will also be compiled in a format that is easily shareable with and relevant to other interested parties and a wider public audience. The Five-Year Status Report will: (1) comprehensively review progress towards meeting the coequal objectives and guiding principles; (2) highlight climate change impacts or other factors that may be impacting the work of the Water Forum, and (3) suggest any needed revisions or changes to WF2050 priorities and activities, or the annual work plan to address changing conditions. The Five-Year Status Report will be developed in coordination with the members and reviewed and confirmed by the Coordinating Committee. Upon completion, this report will be presented at a Plenary meeting for final approval before being shared publicly.

When developing the report, Water Forum staff will strive to use language, graphics, and learning and engagement sessions that make both the data and any associated ramifications accessible

³³ Although leveraging information from other agencies is advantageous, consideration should be given to using best available science and understanding the limitations associated with reliance on data collected by entities outside the Water Forum, that may have funding/staff limitations and differing management mandates that can affect data quality, format, useability, timeliness, availability, and scientific defensibility.

to an intended audience (Water Forum members and others) with varying degrees of expertise in the different topic areas.

Quinquennial Symposium

Every five years, and following shortly after the release of the Water Forum 2050 Five-Year Status Report, a Water Forum 2050 Quinquennial Symposium will be held to highlight how the work of the Water Forum supports improved water supply reliability, habitat and science, and operational decision-support needs for the LAR, and tracks metrics and adaptively manages activities in service of the coequal objectives. This symposium is meant to foster resource understanding among members and the public and offers an opportunity for strengthening partnerships within the region.

Having the symposium occur on an interval that matches the Water Forum 2050 Five-Year Status Report provides an opportunity to offer an interactive and collaborative opportunity to discuss broader trends identified in the Five-Year Status Report and participate in visioning and development of ideas for adaptive management and next steps to address issues that are directly actionable by the Water Forum (programs/projects/funding) or indirectly actionable through advocacy and new or continued partnerships. Water Forum members will be actively engaged in the development and implementation of the Symposium.

Plenary Meetings

Plenary meetings are conducted on a quarterly basis and are focused on key areas of the Water Forum's activities. Under the proposed schedule, during the first quarter, Plenary meetings will focus on the proposed Annual Budget and Work Plan, as well as the previous year's Annual Report. In the second quarter, these meetings will focus on groundwater and the hydrologic outlook. In the third quarter, the focus shifts to water supply and demand, along with an update on the ARCH Program. The fourth quarter will discuss annual temperature management on the LAR. It is intended that the Plenary meetings will also provide an opportunity to highlight the efforts of Water Forum member organizations and/or invite partners to share relevant information on projects or programs that provide mutual benefits toward the coequal objectives and guiding principles, as well as other topic areas as needed.

Caucus Meetings

Caucus meetings are held monthly, or as beneficial for the respective caucus. These meetings provide a venue to discuss areas of interest related to the Water Forum's work for the respective caucuses: Business, Environmental, Public, and Water. The metrics topics discussed in these meetings will align with and be prepared for in advance of the quarterly Plenary meetings.

Water Forum Website

The Water Forum website will be updated biannually and as needed to provide information synthesized by the Water Forum and illustrating its relevance to the coequal objectives (e.g., regional demand data, information from regional GSPs, REDD and snorkel surveys, peer-reviewed publications, and project-specific reports). Website information will be presented in a manner that is useful, timely, and accessible to those with and without in-depth knowledge of the system and the Water Forum's coequal objectives.

Real-Time Conditions and Data Visualization Dashboard

As funding becomes available, a robust data and information visualization dashboard will be developed and maintained, focused on Water Forum program areas, results, and synthesis of information, in line with Principle 3 of the Science, Monitoring, and Decision-support Program Area.

Leveraging new technologies and emerging platforms for sharing data (such as an interactive conditions and data visualization dashboard, Shiny apps, etc.) where the Water Forum's work may be showcased and where members, the public, and partner agencies may access data, visualize status and trends, and interactively synthesize and interpret information is a focus area for future reporting efforts. As part of this reporting mechanism, there is a commitment to improve, expand, and maintain an online dashboard that provides real-time updates on key indicators and benchmarks of water supply and river health to help inform flow and operation decisions and share the results of the work of the Water Forum in an easily accessible, interactive way for all users.

The dashboard will, as much as practicable, draw on existing data and ongoing data collection mechanisms associated with Water Forum programs, and will include linkages that are updated continuously to reflect real-time conditions from partner entities (such as CDEC), as possible, and other indicators like river flows, Folsom Reservoir storage, and water temperature; as well as habitat conditions or likelihood of presence/absence of salmonids based on lifecycle.

Additionally, the data dashboard will also synthesize physical, biological, hydrologic, and spatial data gleaned from past Water Forum project and program efforts and will allow the user to interact with and visualize river science information, hydrologic data, regional water supplies and demands, and other program data and trends, and will act as an online repository for Water Forum's relevant technical studies, monitoring reports, peer-reviewed publications, and data that has undergone quality assurance/quality control. The dashboard would also link to existing and emerging open data platforms where LAR fisheries and physical data are housed and available for the broader scientific community to utilize. The data dashboard will incorporate information for metrics as described earlier in this section and summarized in **Appendix 9**.

Project-specific Reporting

Reporting of project progress and outcomes will be conducted according to the project-specific schedule. Metrics included in this reporting are anticipated to include funding data-driven metrics, as well as documentation of accountability efforts, project benefits, and processes and structures.

Revisiting Metrics and Adaptive Management Needs

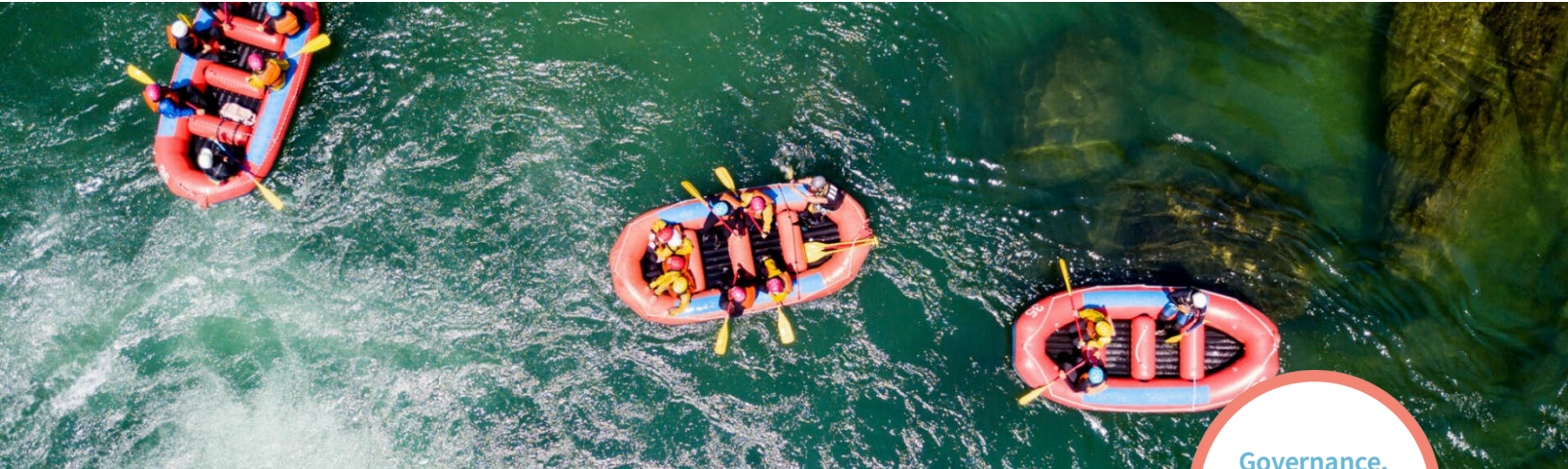
Metrics inform our understanding of the status of the coequal objectives and where future resources may be best directed as conditions change over time. Reporting focuses on the status and trends associated with metrics specific to the coequal objectives and Guiding Principles. This information can be used to identify changed conditions and decision points at which the Water Forum may need to shift its focus or adaptively manage its activities to anticipate and respond more effectively to these changes. Updates to Water Forum activities will be documented in the form of Adaptive Management Actions that will be recommended in the Water Forum 2050 Five-Year Status Report and discussed at the Water Forum 2050 Quinquennial Symposium.

Anticipated changes can also be influenced by concurrent planning efforts and partner projects and programs, which support the need for continued collaboration as Water Forum metrics are revisited and updated over time. Current (at the time of signing) planning processes relevant to the Water Forum's work that should be considered in tandem with updates to the Water Forum metrics and reporting process include (but are not limited to):

- GSP updates
- UWMP updates
- Reconsultation/LTO
- HR&LP implementation
- CVPIA SIT Near-Term Restoration Strategy updates
- Regional Parks Natural Resource Management Plan and Monitoring Plan efforts

Caveats and Assurances

1. *The level of effort and the scope of Science, Monitoring and Decision Support Program activities will be informed by emerging data needs, and science activities mandated by regional and/or statewide programs that may arise during the WF2050 term (i.e., the Statewide HR&LP Science Plan habitat accounting process, changing hydrology, new water supply regulations, etc.), and other emerging funding sources and requirements, as applicable.*



Program Area 5: Governance, Funding, and Administration

The Water Forum commits to sustaining robust Governance, Funding, and Administration (GFA) for the organization, in service of its coequal objectives.

The structure of the organization builds on the success of the existing Water Forum and is designed to support the programs throughout the 25-year term of WF2050.

Guiding Principles

Guiding Principles are grouped into the following categories:

- General
- Governance
- Funding
- Administration

These guiding principles are crucial to maintaining the long-term integrity and efficacy of the Water Forum as an interest-based organization. These principles serve as both a touchstone to guide our work and a scorecard to measure the extent to which an evolving governance approach is consistent with and likely to further these principles. Collectively, these principles work to instill confidence, both internally and externally, in Water Forum direction, decisions, and actions. Water Forum members (also referred to as signatories or member organizations) support and actively practice the principles outlined below.

General Guiding Principles

1. Commitment to The Water Forum Way

The Water Forum Way is an explicit set of mutual obligations that has guided Water Forum members' engagement with one another since its inception. Members demonstrate adherence to the Water Forum Way through the following practices:

- Mutual gains approach and collaborative effort to seek consensus and build trust;

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- Participating with an open-minded, respectful, and interest-based approach to all discussions;
- Working through challenges, search for and find balance across the Water Forum’s coequal objectives;
- Understanding Water Forum processes and interested parties;
- Surfacing and seeking to understand and accommodate differences and interests among Water Forum members; and
- Working with diverse groups to enable voices to be heard and to have an opportunity to have a seat at the table.
- Demonstrating a commitment to becoming informed on the topics fundamental to engaging in effective Water Forum discussions.

All members of the Water Forum, as well as staff and consultants, commit to adhering to the Water Forum Way and hold one another accountable for reinforcing this practice.

2. Commitment to Bridging Differences in Perspectives, Experiences, and Resources

Natural resource management and policy can be a place of conflicting and competing interests and resources, both within and across regions. An effective Water Forum governance creates a platform for diverse Sacramento-region participants to have the hard conversations necessary to build consensus for the needed actions within the region and to advocate for its interests with others elsewhere. Water Forum members recognize that effective governance is grounded in a process that holds at its core the following:

- Inclusive and active participation
- Governing processes that address potential inequities to achieve a more level playing field and hear all members’ perspectives
- Encourage novel thinking to address the coequal objectives
- Mechanisms that foster timely decision-making (e.g., avoid gridlock or handing any one-party veto power, etc.)
- A “no surprises” policy that puts a premium on member candor and full disclosure on Water Forum-related issues
- Builds and tests for broad buy-in for any agreed-upon actions and decisions

3. Commitment to Open, Transparent Public Processes

The Water Forum is committed to acting in a manner that improves and strengthens public trust. Water Forum members believe that as public agencies and representatives of diverse interests, it is imperative that our actions are open and transparent, and that we work diligently to maintain accountability and build trust in our work.

4. Commitment to Understanding How the Work of the Water Forum Impacts Our Region's Diverse Communities

Consistent with these principles, Water Forum members are committed to a governance approach that incorporates effective and credible mechanisms to understand and consider how the diversity of perspectives and communities in our region intersects with the Water Forum's work and priorities. We recognize that we “don't know what we don't know,” and strive to create a structure that fosters shared learning. To that end, the Water Forum embraces a governance structure and culture that fosters the following:

- Each caucus strives to bring diverse and traditionally underrepresented voices into its caucus and discussions.
- Discussions and learning sessions that help Water Forum members understand how their pursuit of the coequal objectives may have the potential to impact positively or negatively, the full range of individuals and communities within our region, and especially those who may have a nexus with historic and current inequities
- Identify and, as practicable, address barriers to full participation by communities and parties that Water Forum activities may impact. Consider forming partnerships with community groups to increase engagement among underrepresented groups and ensure their interests are represented in Water Forum deliberations.
- Learn from one another and share effective techniques to strengthen outreach and inclusion of communities and people traditionally on the periphery of Water Forum-related discussions. Look to state resources to support these efforts and consult with diverse constituencies to advise on best practices.

The final Governance Program Element, Community Outreach and Engagement, addresses more specific strategies for considering how aspects of the Water Forum may intersect and impact diverse communities and constituencies.

5. Principles Require Practice

The Water Forum regularly applies the principles of our work through tools such as establishing meeting ground rules, addressing gaps in representation, and promoting transparency through disclosures. Consistent with these principles, Water Forum members are committed to a governance approach that builds on effective and credible mechanisms to understand and consider how our region's diversity of perspectives and communities intersect with the Water Forum's work and priorities.

GOVERNANCE

Governance Guiding Principles

1. Governance Scaled to Meet the Mission

The Water Forum’s governance structures (including budget, staffing, programs and representation) are appropriately scaled to the Water Forum’s mission and related tasks (as defined by the coequal objectives); while balancing the need for robust and inclusive learning, discussion, and decision-making with the reality of member resource and capacity constraints.

2. Governance Avoids Duplication of Efforts

Water Forum governance is structured to complement, not replicate, efforts undertaken elsewhere (within and outside the region) that have the potential to further (or impact) its coequal objectives.

3. Governance Supports Learning and Community Engagement

Given its commitment to building a broad coalition for advancing its coequal objectives, the Water Forum will ensure that its governance structure includes ongoing and effective mechanisms and opportunities to learn from one another and to educate and learn from external community groups that may be potentially impacted by Water Forum actions.

4. Clear Roles and Responsibilities for All Facets of the Water Forum

An effective governance structure clearly articulates roles and responsibilities for all facets of the Water Forum, including members, staff, and consultants, as well as written charters for any established committees that describe their purpose, scope, participation, leadership roles, and decision-making protocols. It also incorporates a clear process to identify and learn about recruitment, which improves representation and onboarding and mentoring of new members, as well as ensures that current members understand the updated governance structure.

5. Effective Leadership Fosters Productive Dialogue and Consensus Building

The Water Forum is an organization that relies on the participation of individual member organizations in the Plenary and in interest-based caucuses. This governance structure relies on the active participation of its members and leadership to foster trust within and across caucuses, as well as between and among Water Forum members, staff, and consultants. Any leadership for caucuses or committees is intended to facilitate representative, effective, and efficient communication, not replace the Water Forum’s consensus-based decision-making structure.

Governance Program Elements

Governance Program Elements are grouped into the following categories:

- Governance Structure
- Roles and Responsibilities

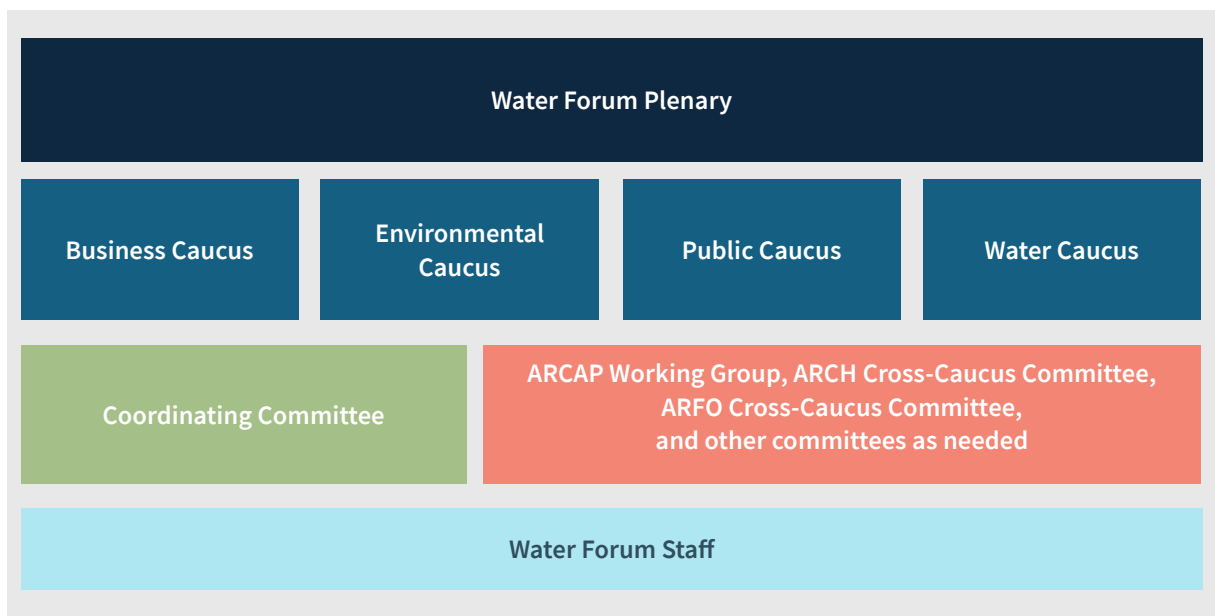
- Water Forum Standing Committees and Working Groups
- Decision-Making
- Representing the Water Forum Externally
- Implementation Partners
- Community Outreach and Engagement

Program Elements–Governance Structure

1. Governance Structure

The Water Forum is a collaborative organization that strives to bring together diverse interests in the Sacramento region and American River watershed to create innovative solutions and, when needed, resolve conflicts to help achieve the coequal objectives. **Figure 7** is an illustration of the Water Forum’s governance structure, outlining the organization’s members, various bodies, and the roles and responsibilities of participants.

Figure 7. Water Forum Governance Structure



2. Water Forum Signatories

WF2050 is a voluntary agreement that organizations signed to carry out actions in support of the coequal objectives. The signatories to WF2050 acknowledge that by signing, they commit to support, advocate for, and carry out all actions specified for them in WF2050, and any related Purveyor Specific Agreements (PSAs), the Interagency Agreement for the Administration and Management of the Water Forum, or any other implementing agreements, subject to the relevant caveats and assurances. All signatories to WF2050 have equal standing in the Water Forum.

3. Membership

All signatory organizations are considered members of the Water Forum. Participation as a member is expected of entities that sign WF2050, including business, agricultural, and environmental organizations, community groups, water purveyors, and local governments. The Water Forum will continue the interest-based Water Forum Way process used successfully in developing and implementing the previous WFA.

Therefore, all Water Forum participants, acting as representatives of their signatory organizations, have the following general responsibilities:

- Commitment to the discipline of interest-based problem solving
- Willingness to invest time and resources to carry out WF2050 responsibilities
- Willingness to work collaboratively with others
- Commitment to an inclusive, fair, and transparent decision-making process
- Commitment to integrating diversity, equity, inclusion, justice, and accessibility considerations as part of Water Forum activities and deliberations

Because the effectiveness of the Water Forum will depend upon cooperation and collaboration among all participants, members will observe the following ground rules:

- Listen carefully and openly discuss issues with others who hold different opinions
- View a disagreement as a problem to be solved, not a battle to be won
- Avoid stereotyping and personal attacks on any other representative
- Avoid questioning or impugning the motivations or intentions of any other representative
- Respect the integrity and values of other representatives
- Honor commitments once made

Each Water Forum signatory organization may have multiple representatives participating in the Water Forum, but may designate only one signatory representative (and an alternate) to participate in formal decision-making actions (see Program Element – Decision Making, below). Signatory organizations are also encouraged to name an alternate to fill in when the designated signatory representative is unavailable. Each signatory will inform the Executive Director in writing of their signatory representative and alternate.

4. Process for Adding New Members

The Water Forum will utilize the steps below to consider requests from organizations seeking to become new members of the Water Forum once WF2050 is adopted and being implemented. New members can be considered at any time.

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- Any potential new member contacts the Water Forum Executive Director, an existing member organization, or caucus to express their interest in becoming a signatory.
- Based on this interest, the Water Forum member or caucus can nominate the new potential member for consideration. This sponsoring member or caucus is responsible for describing the new member organization. The description outlines how and why the proposed member is aligned with and supports the Water Forum's coequal objectives, member participation commitments, and responsibilities. The description is distributed to other signatories for their review and consideration.
- If any existing member(s) raises concerns about the proposed new member, the Executive Director – consistent with the Water Forum Way – will bring those members together with the new proposed member to discuss and attempt to resolve any existing conflict prior to their becoming a new member or identify a pathway to address the concerns constructively through future discussions.
- The new-member sponsor collaborates with the Executive Director to add the item to the agenda of a subsequent Plenary meeting, where the prospective member is present. After a discussion, the Plenary votes to accept the new member organization. If the decision to accept the new member organization is not unanimous, the decision-making process (outlined in Program Area 5: Governance, Funding, and Administration) is used to arrive at a final determination.
- Once approved, the new member organization signs WF2050, and their designee joins the appropriate caucus.

If the Water Forum is updating WF2050, prospective member organizations can join the appropriate caucus to participate in discussions related to the update. The prospective member organization would only formally join the Water Forum once the new WF2050 is put forward for adoption, and they opt to sign on as a signatory.

5. Process for Onboarding New Members

When a new organization joins the Water Forum or a new representative of an existing member organization joins the Plenary, the Executive Director shall implement the Water Forum Mentoring Program. This Program immediately pairs up the new representative(s) with one or more caucus representatives (Caucus Mentors). When possible, Caucus Mentors will have at least four years of experience with the Water Forum. The Executive Director will provide briefings regarding WF2050 and the full range of Water Forum programs, expected time commitments for members, and related issues to ensure new members are prepared to engage effectively. The Caucus Mentors will provide additional information and insight regarding caucus operations and interests. Caucus Mentors will also assist the Executive Director in introducing the new member to other Water Forum members outside of their caucus and join the new members at Plenary

sessions. Caucus Mentors will actively mentor new members for the first year of their involvement as a Water Forum member.

6. Process for Handling Consolidations Among Existing Members

In the event that two or more distinct signatory organizations already in the Water Forum merge into a single entity, the new entity will inform the Water Forum Executive Director of this change, and it will be considered a single signatory entity within the Water Forum. The new entity will identify its designated representative and alternate.

7. Process for Exiting Current Members

When a signatory organization voluntarily leaves the Water Forum, the Executive Director will request an exit interview with the exiting member to understand their reasons for leaving and share those insights, as appropriate, with the Coordinating Committee, caucuses, and the Plenary.

If a member organization is not meeting its stated commitments or its representative(s) are consistently failing to abide by Water Forum participation principles, the issue will first be discussed within the respective caucus. If the issue is not successfully resolved through caucus discussions, a caucus may refer the issue to the Executive Director, who will work with the member and the Coordinating Committee to successfully resolve any concerns to the satisfaction of each caucus. If necessary, the issue will be referred to the Plenary for further action, up to and including removal, in accordance with the decision-making process outlined in the Process for Renegotiation or Amendment Requests (see Administration Program Elements).

Program Elements–Roles and Responsibilities

8. Water Forum Plenary

Purpose: The Water Forum Plenary (Plenary) is the main decision-making and information-sharing body for the Water Forum and sets policy direction for staff. The Plenary approves the annual Water Forum budget, business plan, and Water Forum program directions consistent with the Water Forum Agreement. The Plenary approves the charters of all formed Standing Committees and Technical Advisory Groups. Changes to WF2050 are within the purview of the Plenary unless the Plenary decides they need to be referred to signatory members' boards for formal confirmation (see section on Changed Conditions and Amendments in Administration Program Elements).

Composition: The Plenary consists of representatives from the signatory organizations, and each signatory has equal standing in the decision-making process.

The Water Forum recognizes the benefits of the Plenary as a venue for facilitating information-sharing, coordination, and collaboration across a wide range of audiences. To that end, Plenary meetings are considered open forums for both members and non-members. There may be times, based on issues under discussion or particular situations (e.g., litigation or ongoing

negotiations), where it is appropriate to limit Plenary meeting participation to signatories only. Such a decision will be made by the Executive Director, in consultation with the Coordinating Committee.

Roles and Responsibilities: Roles and Responsibilities of signatory representatives include engaging in Plenary meetings consistent with the principles stated above.

Disclosures: The Water Forum has a long-standing practice of setting aside time in each meeting (e.g., Plenary, caucus, other) for disclosures. Representatives are encouraged to disclose information about their organization's activities related to the coequal objectives that may be of interest to other participating organizations. These disclosures, typically made verbally at the start of Water Forum Plenary or committee meetings, are intended to keep one another apprised of upcoming communications, actions, testimony at hearings, etc. that may be related to or impact Water Forum activities and/or coequal objectives. For time-sensitive issues, members are encouraged to share disclosures in a timely fashion (e.g., by email or phone to the Executive Director and/or members, as appropriate) rather than waiting for the next available Water Forum meeting. The intent of disclosures is to support a “no surprises” policy among signatories, thereby enhancing collaboration, coordination, and trust among Water Forum members.

Schedule: Plenary meetings are expected to be held quarterly throughout the year; exact meeting times will be scheduled sufficiently in advance to facilitate participation by Water Forum members. The Executive Director, the Coordinating Committee, or a Plenary member may propose changes to the Plenary meeting schedule. The decision to change the meeting schedule shall be made by the Executive Director in consultation with the Coordinating Committee. Plenary meetings are open and inclusive, with updates provided by Water Forum staff on projects and programs being implemented to meet the coequal objectives.

Plenary decision-making processes are discussed in the Decision-Making Program Elements. The process for Renegotiation or Amendment Requests can be found in the Administration Program Elements.

9. Water Forum Caucuses

Purpose: The Water Forum has four caucuses – Business, Environmental, Public, and Water – each of which coalesces diverse interests in the region with a common interest and drive to work collaboratively to further the coequal objectives. The purpose of each caucus is to provide a venue that primarily facilitates information sharing and discussion of issues of interest to the caucus, in an open and collegial framework that seeks to find alignment among the participating entities and enhance consensus opinion.

The Public, Business, Environmental, and Water Caucus members have each documented a specific Caucus Interest Statement that serves as a foundation for each caucus's discussions and work in the WF2050 negotiation, in service of the co-equal objectives. The Caucus Interest Statement is used to explain the Caucus's values and goals for recruiting or orienting new

members, as well as working with the other caucuses. The four Caucus Interest Statements are posted on the Water Forum website and are available for review by Water Forum members and the public. The Caucus Interest Statements can be updated or amended with agreement from caucus members. While caucuses make decisions related to their internal functions (e.g., naming representatives to committees, designating any internal caucus leadership, etc.), caucuses are not decision-making bodies related to Water Forum decisions unless the Plenary is unable to reach consensus (as described in the Decision-Making Section).

Composition: The Water Forum is structured into four caucuses, each centered around one of four main interest groups with a stake in the coequal objectives. These caucuses, described below, are tasked with representing the breadth of interests within their caucus, either through direct participation of entities within the caucus or through effective outreach to affected parties affiliated with their caucus. Each caucus is committed to the Water Forum’s coequal objectives, while also contributing a distinct and broader focus through their participation.

- **Business Caucus** – The Business Caucus includes representatives from organizations that have a strong interest in maintaining the Sacramento region’s economic health, growth, and urban competitiveness through the constant supply of reliable and cost-effective water resources. Participants are motivated to support viable solutions for water conservation, a healthy American River Parkway, and conjunctive use of groundwater to / augment supplies and prevent unnecessary constraints on growth.
- **Environmental Caucus** – The Environmental Caucus comprises organizations with a strong interest in protecting regional surface and groundwater Public Trust resources for all beneficial uses and users. The Environmental Caucus advocates for public access to pristine park and recreation spaces, programs that lead to the efficient use of water resources, water-related climate adaptation actions, SMART growth within the Urban Services Boundary, and thriving conditions in and along the LAR and its tributaries for all aquatic and terrestrial species that utilize and live near the river, including water temperature, flows, and dissolved Oxygen levels necessary for the healthy lifecycle of Chinook Salmon, Steelhead Trout, and other sensitive aquatic species in the LAR.
- **Public Caucus** – The Public Caucus comprises organizations that represent current and long-term public interests in water availability and affordability, as well as public access to the LAR and Parkway, and communities that are underserved or underrepresented in current civic engagement. The Public Caucus comprises nonprofits, community organizations, land-use authorities, and general government entities. Within the context of the coequal objectives, the Public Caucus promotes the following:
 - Redress inequities that result in uneven representation and participation in civic processes; the Public Caucus endeavors to fully represent the communities of the Sacramento region and therefore makes special efforts to ensure robust public participation processes in Water Forum work efforts.

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- Balance land planning efforts with the sustained availability of water, given the impact of climate change on water supply.
- Implementation of water conservation, demand management, and nature-based solutions to ensure affordable water rates, preservation of the environment, and adequate water supply.
- **Water Caucus** – The Water Caucus comprises water purveyors serving communities in the American River watershed and region, as well as non-purveyors, including RWA, El Dorado County Water Agency, and others. The Water Caucus members’ mission is to provide a reliable, safe, and long-term water supply for its customers and support for the Water Forum’s coequal objectives.

New Water Forum members will work with the Executive Director and caucus leaders/points of contact to identify the relevant caucus to join based on their entity’s focus and interests. (See Elements 4 and 5 under Governance above for language regarding the process for approving and onboarding new members.)

Roles and Responsibilities: Caucus meetings are designed to facilitate communication within the caucus regarding issues pertinent to the Water Forum.

Each caucus may choose to elect leaders or points of contact to assist with communication and information-gathering within and between caucuses and/or Water Forum staff. Additionally, having an individual (or individuals) selected to help the caucus clarify and sharpen its shared interests is extremely helpful and encouraged. Conversations in the caucus meetings are intended to foster brainstorming among members and generate ideas that can be shared in discussions across caucuses. Each caucus will decide how to handle confidentiality regarding caucus discussions.

Water Forum staff and consultants typically participate in caucuses to stay abreast of and contribute to caucus deliberations. Staff and consultants draw on these insights to help guide Water Forum discussions and activities, building collaboration across caucuses. In doing so, staff and consultants are asked to use their discretion in sharing information across caucuses (e.g., not assigning comments to individual members nor with enough specificity to identify the commenter), and caucuses are encouraged to indicate to staff and consultants sensitive issues that should be treated confidentially (i.e., not appropriate for sharing outside of the caucus).

Conversations among signatory representatives are encouraged, and nothing in this description is intended to limit individual Water Forum members from engaging in dialogue directly with other members.

Schedule: Caucus meetings are held monthly, or as needed (may be more or less frequent). Caucuses may request Water Forum staff/consultant support related to facilitation, technical presentations, etc.

10. Water Forum Staff

Purpose: Water Forum staff are the “glue” that hold the Water Forum together and facilitate implementation of the five Program Areas and ARCAP. To that end, they act as key points of contact with members and non-members. The Water Forum is staffed by a range of professionals with expertise in water, biology, environmental, engineering, construction, communications, and other related disciplines. More details on Water Forum staff roles in external communications can be found in the Representing the Water Forum Externally Program Element.

Composition: Water Forum Staff includes the Executive Director, and technical leads/program manager(s) for the Water Forum Program Areas, and fiscal and administrative support staff. At the time of signing, the Executive Director reports directly to the Director of the City of Sacramento Department of Utilities, while other staff report directly to the Water Forum Executive Director. These positions and roles are subject to change based on the Water Forum's focus, available funding, and ongoing discussions with the Plenary and the City of Sacramento.

- The Executive Director plays a vital role in working with member organizations, caucuses, and the Plenary to identify opportunities for collaboration and agreement-building across the various entities, as well as surfacing and resolving disagreements that may impede the pursuit of the coequal objectives. The Executive Director (in conjunction with other Water Forum staff and consultants) carries out this role through a mix of one-on-one conversations with members, arranging for small within and across-caucus discussions, and conducting ongoing outreach to other implementation partners. The Executive Director provides regular updates on issues of interest to all facets of the Water Forum (Plenary, caucuses, relevant members, Coordinating Committee, etc.).
- The River Corridor Health Program Manager is the lead in implementing a comprehensive habitat enhancement and science program for the Water Forum. These responsibilities include a range of activities, including technical oversight of design, permitting, construction/implementation, and monitoring of habitat projects; oversight of science and monitoring programs; development and execution of grant applications and funding; engagement with local, state, and federal agencies on external activities; and implementation of public outreach related to habitat projects. Additionally, the position serves as the lead on special internal and external projects to ensure consistency with the Water Forum's efforts.
- The Water Resources Senior Engineer is the lead for several core areas of the Water Forum's programs including Flows and Operations, the FMS, engagement with state and federal agencies on regulatory processes (e.g., re-consultation of the Long-Term BiOp and the SWRCB Water Quality Control Plan update/Voluntary Agreement process), Surface Water, Groundwater, and ARCAP, other elements of WF2050. The role requires a high level of technical fluency to direct analysis (e.g., temperature modeling, climate change

modeling) as well as excellent communication skills to translate findings and facilitate discussions with a diverse group of interested parties.

Program Elements—Water Forum Standing Committees and Working Groups

The Water Forum utilizes standing committees and working groups to facilitate the achievement of WF2050's program elements and annual priorities. Standing committees have a specific focus and work plan aligned with a major program area. For example, the Flows and Operations Cross-Caucus Committee, described below, focuses on critical technical and operational issues that affect the American River during the water year. Water Forum signatory member representatives who serve on committees and working groups serve as effective conduits to their respective caucuses. They provide perspectives from their respective caucuses and serve to gather input and share information back to their caucuses. Committee and working group members serve as either representatives of their respective caucuses and/or their organizations, as specified.

11. Coordinating Committee

Purpose: The Coordinating Committee provides fiscal oversight and guidance for the Water Forum staff. This includes working closely with the Executive Director on the annual budget process and recommending a proposed budget to the Water Forum Plenary for approval. In doing so, the Coordinating Committee provides input on annual priorities and work plans, consistent with the priorities of the Plenary. The Coordinating Committee also considers recommendations and suggestions from the caucuses, standing committees, and working groups for inclusion in the proposed budget and when developing recommendations for Plenary consideration. Coordinating Committee members are expected to provide guidance informed by and consistent with their respective Caucus's input.

The Coordinating Committee provides oversight and input into Water Forum strategic communications, on behalf of the Plenary. At the request of the Executive Director and any affected signatory (if relevant), the Coordinating Committee will review public information releases, Water Forum comment letters, and endorsements prior to their release. The Coordinating Committee will include in its deliberations any affected Water Forum members to get their input on any relevant communication. The Coordinating Committee, at the request of the Executive Director, will review Plenary meeting agendas, draft standing committee and working group charters, and other staff-generated documents to be provided to Plenary members or directly to the general public.

The Coordinating Committee is responsible for discussing (e.g., identifying additional information needs, etc.) and forwarding to the Plenary for its consideration any formal requests to amend WF2050. This process is further described in the Administration Program Elements.

The Coordinating Committee, in conjunction with the City of Sacramento and with input from their respective caucuses, will contribute to the hiring and evaluation of the Executive Director, similar to the role of an executive committee or board. For example, the Coordinating

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Committee will contribute to an annual review. The exact format for providing input is to be determined in discussion with the City of Sacramento to ensure consistency with Human Resources policies and procedures. The Executive Director reports to the Director of the City of Sacramento Department of Utilities or their designee.

The Coordinating Committee is responsible for accepting feedback from signatories of the Water Forum. This input will help inform priorities in the Water Forum's annual work plan.

Composition: The Coordinating Committee comprises two representatives from each of the four caucuses and the Executive Director. These representatives are chosen by their respective caucuses. The format for Coordinating Committee meetings – whether open or closed to observers - will be determined by the committee members, with a preference for openness. This discretion allows representatives to discuss and consider sensitive topics as needed (e.g., legal or personnel matters), and to seek input from funders or other stakeholders on topics when appropriate.

Roles and Responsibilities: Coordinating Committee members will be responsible for sharing items that are ready for discussion beyond the Coordinating Committee with their respective caucus and for bringing the perspective of their caucus to the Coordinating Committee. Coordinating Committee agendas will be shared with all caucuses in advance to identify relevant caucus interests and if others should participate in pending/upcoming discussions, and a standing agenda item will be added to each caucus's monthly agenda to debrief the most recent Coordinating Committee meeting.

Meeting Schedule: The Coordinating Committee will meet monthly or as needed.

The Plenary will assess the effectiveness of measures to address the Coordinating Committee's transparency and accountability following the first year of implementation of this agreement.

12. Flows and Operations Cross-Caucus Committee

Purpose: The Flows and Operations Cross-Caucus Committee (Flows & Ops) enables Water Forum members to coordinate with Water Forum staff on issues related to the operations of Folsom Reservoir and implementation of the Modified FMS. Activities include dialogue to develop a recommended approach to current and forecasted reservoir operations and strategize for regional watershed and dam management advocacy. The approach will be informed by the best available and current data, including forecasts, reservoir operations, and flows on the LAR. In their meetings with Reclamation and other regulatory agencies, Water Forum staff will advocate for the position developed by the Flows & Ops Cross-Caucus representatives. Representatives are often attending primarily on behalf of their organizations, but will indicate when they are taking a caucus-based interest in a topic.

Flows and Ops meetings will also include reporting on the UIFR, as well as pertinent Water Forum and/or member actions.

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Composition: Flows & Ops is open to any interested Water Forum member who has knowledge and interest in the real-time flows and operations of the LAR. Each caucus will inform the Executive Director of members who wish to be kept informed about Flows & Ops meetings and work.

Roles and Responsibilities: The focus of Flows & Ops will be on implementing the FMS within the relevant regulatory framework.

Meeting Schedule: The frequency of the Flows & Ops meetings will depend on the needs of the given water year and could range from monthly to weekly (drought years will likely require heightened levels of coordination as compared to wetter years).

13. American River Corridor Health Cross-Caucus Committee

Purpose: A standing group to inform the Water Forum members regarding prioritization of proposed projects, performance of implemented projects, and overall River Corridor Health programs. Water Forum members will have an opportunity to seek clarity on the approach and to provide input and guidance on program direction. Key information shared and discussed with the ARCH Cross-Caucus will also be reported out to the Plenary on an annual basis.

Composition: Representatives from each Water Forum caucus, Water Forum staff, and technical consultants who are subject matter experts, temporarily, depending upon the subject and need. The ARCH Cross-Caucus will be chaired by the Executive Director, in coordination with the Water Forum's technical staff and consultants.

Roles and Responsibilities: The ARCH Cross-Caucus will provide input and guidance for the ARCH program area.

Meeting Schedule: The ARCH Cross Caucus will meet at least semi-annually, including to inform ARCH-related elements to be included in the annual work plan. The ARCH Cross-Caucus may schedule meetings as needed. All meetings will be open to observation by Water Forum members and will be hybrid meetings, allowing participants to observe remotely.

14. American River Climate Adaptation Program Working Group

Purpose: This working group will inform and guide the activities of the ARCAP.

Composition: The working group will be co-convened with the Water Forum and RWA, will include two members from each caucus as primary representatives, and will be open to all Water Forum members

Roles and Responsibilities: Working group primaries will commit to making reasonable efforts to attend all working group meetings and to review related materials prior to the meetings. The primaries will also be expected to act as representatives of their caucuses by reporting ARCAP progress to the caucus and providing feedback to the Working Group on matters affecting the caucus. The ARCAP working group will be tasked with:

- Reviewing and commenting on work products
- Providing input on program direction, scope, and pace
- Deliberating, refining, and providing answers to ARCAP Questions

The Working Group decisions and recommendations will be developed by consensus and will be presented to the Plenary for approval.

Meeting Schedule: Meetings will be held monthly and supported by facilitation staff, with the option of additional meetings as necessary.

15. Process for Establishing New Standing or Ad-Hoc Committees

The action to initiate the formation of a new standing committee, ad-hoc committee, or working group can be initiated by the Executive Director, a caucus or caucuses, a member representative or organization, or the Plenary. The need for a new committee or working group can stem from a significant change in circumstances, resource or programmatic constraints, a need for the application of adaptive management, or other significant changes that are not being addressed by the Water Forum's current structure.

The first step in establishing a new committee or working group is to develop a Charter. The Charter identifies the problem or issue to be addressed, why the problem or issue cannot be effectively addressed within the Water Forum's current structure, and how the needed resources and expertise will be applied from within the Water Forum's existing resources. The individual or Caucus initiating the Charter will work with the Executive Director to prepare the draft document.

The draft Charter is circulated among the caucuses and the Coordinating Committee for review and discussion. Comments are reviewed and consolidated into a final draft, which the Coordinating Committee then reviews for any budgetary or programmatic considerations before being sent to the Plenary for discussion and action.

Program Elements–Decision-Making

Members of the Water Forum will continue to use the same collaborative form of decision-making used in the Water Forum since its inception. This collaborative process respects both the diversity and the legitimacy of the interests of all participants and is grounded in the Guiding Principles outlined above. The steps below will guide the Water Forum's ongoing decision-making process, any disputes that arise among members, and any efforts to change or amend WF2050.

16. Decision-Making Process

- The Water Forum is a consensus-based organization.
- The caucuses are encouraged to seek consensus to facilitate effective decision-making at the Plenary.

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- The Plenary is the main decision-making body of the Water Forum and always strives for consensus, meaning all signatories are able to support a particular policy or decision under discussion. (Since its inception, the Plenary has reached a consensus on all decisions.) However, if, after full exploration and discussion of an issue or set of issues, the Plenary cannot come to a consensus agreement, the following process will be used:
 - If one or more Signatory Representative(s) disagree with the majority of Signatory Representatives in the Plenary, this member may choose to “stand aside” and let the Plenary reach consensus without them. Within the Water Forum, this is still considered a consensus.
 - If the Signatory Representative(s) who disagree with the rest of the Plenary cannot “stand aside,” then the “75% rule” will prevail. The 75% rule requires that 75% of the signatory organizations from each Caucus support a proposal for it to be considered a formal action of the Water Forum. The 75% consists of those signatory organizations present and voting within each caucus (primary or alternate Representative) or, in the event that neither the primary nor alternate is present, represented by a proxy (another member organization within the same caucus is granted permission by the absent organization to vote on its behalf).

Consideration of suggested revisions to WF2050 is subject to the above decision-making process, but WF2050 itself cannot be changed or modified without the expressed approval and consent of the signatories whose interests would be affected by the change (see section below on Changed Conditions and Amendments to the Agreement for more detail).

- Designated Signatory Representatives may identify alternates to participate on their behalf in Water Forum meetings or Plenary sessions in instances of unavoidable absences. However, it remains the responsibility of each Designated Signatory Representative to make the necessary time available to attend all Water Forum meetings and Plenary sessions as well as the various group and committee meetings, as appropriate.
- Plenary Meetings of all Signatory Representatives will be held periodically throughout the year and are open to all Water Forum participants. Specifics on meeting frequency are included in the Water Forum Plenary Program Element.
- The Plenary shall, as necessary, appoint teams of Signatory Representatives to meet on a routine and/or ad hoc basis to: foster implementation of WF2050; finalize procedural agreements (if drafted); develop “trial balloons” regarding changed conditions; and propose options—for subsequent Plenary consideration—to resolve disagreements related to differing interpretations of WF2050. These teams shall use the interest-based collaborative decision-making process described above.

17. Dispute Resolution

A major function of a collaborative process, and a tenet of the Water Forum Way, is to prevent disagreements from escalating into full-fledged disputes. With proper facilitation and communication, most potential disputes can be resolved. However, no matter how sophisticated a collaborative process may be, disputes will inevitably arise. Some may arise out of the interpretation of specific provisions of WF2050. Others may result from concerns about non-compliance or differing interpretations of the terms of WF2050.

It is essential that interested parties refrain from resorting to litigation as a first response to every perceived problem or transgression that falls within the purview of WF2050. Lawsuits can quickly destabilize the collaborative process, potentially returning all Water Forum participants to gridlock. Therefore, while not waiving any of their legal rights, all organizations represented in WF2050 agree to initiate alternative dispute resolution procedures, including mediation, before pursuing litigation.

Program Elements–Representing the Water Forum Externally

While the heart of the Water Forum’s work is centered on communication and collaboration among its members and four caucuses, the nature of the Water Forum’s work requires frequent interaction with a range of external parties, including state and federal agencies, the media, and others.

The Water Forum, in the course of its regular work, implements a robust communications strategy that calls for a range of methods to reach a diverse audience. Typical Water Forum communication products include publications such as the annual plan and the Five-Year Status Report, which communicate the Water Forum's progress, priorities, and upcoming actions to external audiences. In addition, the Water Forum maintains a presence on social media platforms. The annual communication strategy as well as periodic reports will be developed in close collaboration with the Coordinating Committee and approved by the Plenary before public release.

Additionally, the Water Forum undertakes a robust outreach and engagement effort to support the habitat enhancement work, as outlined in the American River Corridor Health program area. This work, which provides critical habitat for salmonids, must also consider the other uses and values of the American River Parkway. For example, the Water Forum habitat team is conscientious as to how its work impacts neighborhoods, river access, and perceptions of enhancement projects. The Water Forum accomplishes this through project-specific outreach, as well as general outreach at venues such as the Lower American River Task Force (LARTF) meetings and engagement with organizations working along the river. (See River Corridor Health for additional information)

The Program Elements below are intended to set expectations and procedures for ensuring the Water Forum is represented externally in a transparent way, informed by its membership, and

consistent with key aspects of the Water Forum Way, most notably the importance of clear communication and “no surprises.” They also address the mechanisms the Water Forum will use to ensure its deliberations are informed by external parties affected by the Water Forum.

18. Role of Water Forum Members

Water Forum members have the responsibility of coordinating with the Executive Director on external communications that mention or attribute work to the Water Forum, including educational material, media releases, or public presentations, to ensure consistent and accurate representation. This responsibility is carried out by members during interactions with one another and the Water Forum staff, and is practiced through Water Forum meetings (see Member Responsibilities on Page 74).

19. Role of Executive Director

The Executive Director serves as the primary external representative of the Water Forum. The Executive Director uses their discretion in representing Water Forum activities, policies, and perspectives with external groups and in public settings, as well as building and strengthening relationships with external partners to the benefit of the organization.

Working with Water Forum members and caucuses, the Executive Director will also seek to identify and foster outreach to and connections with a diverse set of potentially affected parties to ensure (1) they are aware of Water Forum activities, and (2) that their perspectives inform relevant Water Forum discussions. These efforts could range from conversations within established venues, such as conferences, to one-on-one engagements and focus groups.

Note: The role of the Executive Director relative to internal communications within and across staff and Water Forum members is discussed on Page 80.

20. Role of the Coordinating Committee

The Coordinating Committee serves an important role in reviewing external communication materials (e.g., media statements, press releases, letters, etc.) to ensure consistent messaging that balances the interests of all four caucuses. The level of review and involvement depends on the product, topic, and level of controversy, but as a part of the regular work of the Water Forum, the Executive Director will engage with the Coordinating Committee and any potentially affected members on the following:

- Consult in the development of proposed external messages that represent the Water Forum to the public, including news and print media, social media, video, signage, brochures, educational materials, and website content prior to release.
- Confirm proposed external messages that represent the Water Forum in special settings, such as conferences, meetings with elected officials, or state or local agencies, prior to representing the organization’s interest or position on sensitive issues.

- Review and refine comment letters on behalf of the organization, or to form cross-caucus working groups as needed to engage in complex or sensitive topics (e.g., re-consultation of the BiOp) that require a public statement (see additional detail in the section below).
- Coordinate with individual Water Forum members and caucuses regarding external discussions on issues that may be relevant or important to those entities.

Recognizing the unique relationship the Water Forum has with the City of Sacramento, the Executive Director (in collaboration with the Coordinating Committee) will maintain close contact with the City of Sacramento on sensitive legal and administrative issues.

21. Requests for Engagement or Support

There may be times when the Water Forum is asked to engage in formal or informal discussions directly with various external partners or asked to endorse or provide input on a specific issue. These requests may come with different timeframes (e.g., a request requiring immediate response versus those that come with weeks or months of lead time) or in different formats (e.g., a written statement, letter, or oral testimony). Requests may be generated by a member or non-member, as well as from Water Forum staff.

The sensitivity of the requests will also likely vary, generally falling under one of two categories:

1. Requests with strong member concurrence

This type of request includes subjects that fall under the purview of the Water Forum or are consistent with WF2050 and are non-controversial. For example, a request by a Water Forum member to send a letter to the editor of a newspaper extending support for an action or project that is consistent with WF2050 (e.g., Folsom storage levels), and the statement can be issued with support from all interests.

The Executive Director, in discussion with the Coordinating Committee and affected Water Forum members, determines a path for addressing the request based on timing/urgency and level of concurrence or divergence, as follows:

- The requestor meets with the Executive Director to provide details on the requested action, including the timeframe, format, and duration of engagement. The Executive Director meets with Water Forum member(s) most affected or involved in the issue to discuss the Water Forum's response in light of WF2050.
- The Executive Director responds and proposes an approach to the Coordinating Committee and any affected members, and then implements the action.
- The Coordinating Committee members inform the caucuses at the next regularly scheduled meeting, and action is then reported on at the next regularly scheduled Plenary meeting.

2. Requests with low member concurrence or that are controversial

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This type of request includes subjects that may or may not be consistent with WF2050 or have the potential to be highly controversial due to the level of interest outside of the Water Forum. For example, being asked to submit testimony to, or negotiate with, state or federal regulatory agencies on issues that may affect the coequal objectives but are not in WF2050 (e.g., litigation). These requests often have a longer time frame for response and engagement.

The Executive Director, in discussion with the Coordinating Committee and affected Water Forum members, determines a path for addressing the request based on timing/urgency and level of concurrence or divergence, as follows:

- The Executive Director meets with the Coordinating Committee and the member(s) most affected or involved in the issue to coordinate and discuss the Water Forum's concerns and position in light of WF2050 and the coequal objectives.
- The Executive Director develops an issue memo that lays out:
 - purpose of the request and the interested parties
 - recommended engagement to respond to the request
 - ground rules and guideposts for the response
 - outcome being sought
 - areas that are not to be engaged in/negotiated
- The Executive Director will consult with the Coordinating Committee (and any affected members) on the issue memo, who will then coordinate its review by and feedback from the caucuses. All feedback will be shared with the Executive Director, who will coordinate the completion of the issue memo with the author(s).
- Once completed, the Coordinating Committee will redistribute the memo to the caucuses and schedule the issue memo for discussion at a Plenary meeting, where the appropriate individuals will present the issue to the Plenary for discussion and resolution.
- Once the engagement begins, the Executive Director and/or the individual(s) leading the Water Forum engagement will provide updates as warranted to the Coordinating Committee, affected members, and the Plenary.
- As engagement progresses, changes in circumstances may arise that warrant adjustments to the Water Forum response. Changes will be brought back to the Coordinating Committee, caucuses, and, when appropriate and consistent with the commitment to disclosures as described elsewhere in this document, to the Plenary for agreement and authorization to adopt them into the Water Forum's response.
- The Water Forum may also ultimately not respond to or decline the request for engagement.

22. Cross-Learning Among Water Forum Members

Water Forum members routinely engage in outreach activities with their various constituencies. As a result, they have each developed practices and approaches that can inform engagement strategies aimed at furthering the Water Forum’s coequal objectives. These can include mechanisms for effectively sharing technically dense information, communicating complex or controversial funding and budgetary needs, and reaching out to traditionally underrepresented or hard-to-reach communities and interested parties, among others.

Given this expertise, Water Forum members are encouraged to share these approaches with one another and create spaces for mutual learning. Water Forum members are also encouraged to partner with one another and Water Forum staff to deepen the effectiveness of outreach and engagement strategies.

Program Elements–Implementation Partners

The Water Forum’s work towards achieving the coequal objectives demands consistent cooperation and collaboration among its members. While much of this work is accomplished through the informal or ongoing efforts of staff and members, it is anticipated that, due to the integrated nature of many governmental and non-governmental organizations, there are opportunities for more formal partnerships or agreements.

To that end, the Water Forum's governance structure acknowledges the need for “implementing agreements” with other entities that work on and have influence over LAR conditions and activities related to, and/or furthering, the coequal objectives. Implementing agreements are intended to be consistent with WF2050 and provide more detail regarding the roles and responsibilities of the Water Forum in relation to our partners. Implementing agreements can be crafted between the Water Forum and its members, or between the Water Forum and non-members, such as state and federal partners like DWR, Reclamation, and USACE.

Implementing agreements can be developed, reviewed, and updated on a case-by-case basis. Due to the wide range of activities covered by Water Forum members or partners, the structure of any implementing agreement is unique to the issues or topic and can change over time. For example, the Water Forum has an implementing agreement with Reclamation (2021) to inform operations at Folsom Dam. At the time of execution of this Agreement, the Water Forum also has an MOU with the City of Sacramento Department of Utilities that outlines roles and responsibilities for fiscal and administrative services.

The Water Forum will use the process below to introduce, consider, and enter into any formal agreements with other entities:

- Any Water Forum member, Water Forum staff, or third-party entity may suggest the need for an implementing agreement with another Water Forum member or external entity. This expression of need should include a brief description of the need for and structure of the

intended partnership, highlighting the benefit to the Water Forum’s coequal objectives and any resource obligations (staffing, funding, etc.). This description should be submitted to the Water Forum Executive Director.

- Once received, the Executive Director first refers the proposal to the caucuses and any relevant committees for discussion. Caucus and committees are encouraged to consider both benefits and concerns, identify any additional information needs, and indicate, as warranted, whether the proposed partner agreement is necessary.
- Once the caucuses and committees have had an opportunity to consider the proposal, the request is forwarded to the Coordinating Committee for its discussion. The Coordinating Committee will draw on input from the caucuses and committees to develop a recommendation for consideration by the Plenary.
- The Coordinating Committee is to forward all requests on to the Plenary for its consideration. The Coordinating Committee may, at its discretion, offer an accompanying recommendation to adopt, modify, or reject the agreement. It may also forward it on to the Plenary without any recommendation.
- The Plenary will consider the request and make a final determination in accordance with its decision-making protocols, as described elsewhere in this agreement.

Any agreements developed will be included in the administrative record of the Water Forum (or appended to WF2050) and will be available upon request. The City of Sacramento is the legal entity that enters into agreements on behalf of the Water Forum.

Program Elements–Community Outreach and Engagement

The Guiding Principles in this section emphasize the importance of implementing WF2050 in a manner that encompasses the breadth of perspectives in the region, engages with communities and individuals not typically involved, and fully considers how WF2050 and its work to further the coequal objectives may impact all communities and constituencies. The best way to accomplish this is to have representation from underserved and historically underrepresented community members on the Water Forum. This emphasis on outreach, engagement, and transparency is important not just in the context of the governance and administration of the Water Forum but should be viewed as an integral part of the Water Forum Way.

Water Forum will work to better understand and will provide learning and engagement opportunities related to:

- Human dimensions of resource management on the American River
- Water affordability and related best practices
- Underrepresented communities’ ability to engage with and relate to the work of the Water Forum

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To that end, the Water Forum will apply methodologies to help inform its full range of implementation activities, guiding our work to meaningfully reflect the Water Forum’s commitment to the Sacramento region. While specific approaches will vary from program to program, implementation activities should consider the following issues:

- How outreach is being carried out to ensure people from historically underrepresented groups are made aware of Water Forum activities (e.g., tribes and economically disadvantaged communities, among others)
- How and when input is being gathered to help overcome barriers to meaningful participation (e.g., time of day, location, unseen costs, etc.)
- How the Water Forum can evaluate, (1) how its actions are perceived and/or impact groups across the region, and (2) how the legacy of non-participation by historically underrepresented groups may be improved through Water Forum implementation when appropriate

In addition to these important yet more general practices, the Water Forum and its members participate in various initiatives that can help foster broad participation within all communities affected by the coequal objectives. These efforts can include access to our region’s natural resources, education about the LAR, and support for the affordability of our drinking water. These efforts can be continued and strengthened under the WF2050 framework.

- **American River Corridor Health and Access** – The Water Forum recognizes that its habitat enhancement work along the American River corridor, in furtherance of the coequal objectives, has the potential to affect historically underrepresented communities. The Water Forum is aware of and will continue to work to understand these conditions, from fire risk and waste management, to safety, pollution, river access and use, and other human dimensions of resource management. Recognizing these complexities and with the leadership of the Public Caucus, the Water Forum will work to draw in speakers and members able to bring this vantage point to Water Forum discussions.
- **Water Affordability** – The Water Forum recognizes there is a potential nexus between its members’ commitments and water affordability. Considering this, Water Forum members commit to fostering an ongoing series of dialogues and joint learning sessions as part of the implementation of WF2050 to better understand this connection, and, as appropriate, identify relevant best practices that have the potential to contribute to achieving the Water Forum’s coequal objectives while accounting for affordability concerns. Signatories are committed to exploring this topic while acknowledging that rate-setting rests within the purview of each water purveyor’s governing body and applicable laws.
- **Education** – Under the leadership of the Public Caucus, the Water Forum will engage with underrepresented communities to, (1) understand how the coequal objectives resonate with, address and/or impact these communities’ needs and priorities, (2) improve public

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participation processes, and (3) identify opportunities to implement WF2050 in a way that accounts for people having different access to resources due to systemic inequities. This will focus primarily on Water Forum-led activities, but can also include members sharing guidance with one another on strategies they can undertake to deepen their public participation processes.

The Water Forum recognizes that its work to meet the interests of the broader community is an ongoing effort and welcomes feedback on how it can engage more effectively with communities across the region as it pursues its coequal objectives.

FUNDING

The Water Forum’s governance, finance, and administration will be transparent and collaborative in nature. The operation and funding of the Water Forum require a significant commitment of time and money by interested parties to promote and carry out stewardship of our watershed’s resources. The administration of the Water Forum’s various initiatives, along with its large group of signatories and interested parties, requires a dedicated and consistent effort to make progress toward achieving the coequal objectives.

Guiding Principles

The principles outlined below shape the Water Forum’s approach to budgeting and funding its activities, and are intended to create a foundation for equitable and sustainable funding and budgeting throughout the life of this agreement.

1. Finance Mechanisms

Effective Water Forum governance must provide a clear and reliable financial mechanism to generate the necessary funding, as well as a transparent and inclusive process for identifying and confirming funding sources.

2. Diverse Funding Sources

Water Forum activities are to be funded through a mix of water purveyor contributions, state and/or federal grants, and in-kind contributions of non-monetary support for Water Forum initiatives, including advocacy, public outreach, in-kind contributions of time, etc. The Water Forum will continue to pursue diverse forms of funding and is open to funding contributions from all caucuses.

3. Commitment to Affordability and Cost-Effectiveness of Actions

When considering program areas and priorities, the Water Forum is committed to understanding the cost-effectiveness and affordability of its actions. The Water Forum further acknowledges that while programs and activities are funded through a range of sources, they are primarily funded through local ratepayers, and we have a responsibility to provide clear benefits to those ratepayers and the broader public.

4. Financially Viable and Effective

The Water Forum strives to establish a budget and funding mechanism that balances the meaningful and ongoing pursuit of its coequal objectives with the limited financial capacity of its funding members. To that end, the Plenary sets annual priorities that are consistent with both the Water Forum’s objectives and available budget resources.

5. Differential Abilities to Pay

The Water Forum recognizes that its members, both within and across caucuses, have varying abilities to contribute to Water Forum funding. The Water Forum budget and funding allocation approach is structured to account for these differences. All members are expected to contribute,

at a minimum, substantial in-kind effort through participation in a range of committees, Plenary meetings, and activities.

6. Ongoing Budgetary Review

Each year, the Water Forum shall undertake a thorough review of progress to date and update its annual work plan based on funding needs and the expected contributions of funders. Any increase or decrease to the annual budget requires a consensus among all caucuses and agreement by those agencies providing Water Forum funding.

7. Long-term Budgetary Planning

The Water Forum recognizes that pursuing its coequal objectives requires longer-term budgeting and financing commitments. To that end, while Water Forum budgets must be approved annually by both its funders and the Plenary, the Water Forum will undertake longer-term budgetary planning to provide greater clarity and certainty to both funders and the Water Forum's programmatic long-range planning. It will also consider base funding from sources other than ratepayers.

8. Augmenting Water Forum Member Funding

The Water Forum strives to augment annual contributions from its funders with grant funding from federal, state, and other sources that will further contribute toward its mission to advance the coequal objectives. Such grant applications, prepared by the Water Forum, must be approved by resolution of the Sacramento City Council. The City of Sacramento would be the formal grant applicant.

9. Importance of Maintaining a Reserve Fund

The Water Forum recognizes that costs and funding may fluctuate from year to year. To maintain a consistent program across uneven funding years, the Water Forum is committed to building and maintaining a reserve fund equal to 120 days of working capital. The Water Forum reserve fund will be managed in accordance with relevant policies and best practices per the City of Sacramento.

10. Program Fund Accounts

The Water Forum's program funds include the WFSE, HME, and grants, keeping outside funding separate from Water Forum member contributions. The WFSE and HME fund expenses are tracked separately to maintain budgetary transparency for these two distinct functions. Similarly, outside grant funds or potential Healthy Rivers and Landscape Program funds will also be separately accounted for and budgeted. Additional funds accounting approaches may be applied as funding sources / other requirements dictate. The HME fund shall have a cap; if and when that cap is reached, funders will not be assessed additional HME funds until the balance drops below the cap level.

Program Elements

1. Water Forum Budget

As an entity within the City of Sacramento's administration with a July through June fiscal year, the Water Forum budget also operates on a July through June fiscal year. The Water Forum budget will be approved by the Plenary as described below, and the associated funding contributions are expected to be approved by the funding agency governing boards and councils no later than May.

Below is a description of the process for developing and approving annual budgets as part of the WF2050 Agreement.

Budget Description

The annual budget, prepared by the Executive Director, will include, but not be limited to, the following elements:

- Clear linkages to annual and multi-year work plans
- Delineation of costs associated with staff, consultants, direct expenses, contingencies, etc.
- Status of the Water Forum reserve fund
- A report on prior year expenditures (actuals)
- A report on the status of local, state, and federal grants
- Highlight budget items tied to Interagency agreements or contracts between the Water Forum and signatories

The budget is to be developed with the assistance of the City of Sacramento Department of Utilities' finance staff, consistent with the Water Forum-Department of Utilities MOU (**refer to Appendix 10: Water Forum and Department of Utilities MOU**).

Water Forum Budget Process and Schedule

The Executive Director will annually develop a proposed budget, which the Coordinating Committee will review and approve. As part of its review, the Coordinating Committee will engage with Water Forum funders (water purveyors with PSAs, implementing agencies, and flat fee agencies) to ensure the proposed budget and work plan are consistent with funders' anticipated contributions. A final proposed budget will be shared with and must ultimately be approved by the Plenary.

The Water Forum annual budget will be developed each year using the following fiscal year (July 1 to June 30) schedule:

- **September – November:** Internal budget development for future fiscal year by Water Forum staff based on review of operating budget and actual expenditures, Water Forum

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priorities (set by the Plenary), annual work plan including upcoming project costs and staffing needs, reserve fund status, and anticipated revenue (funder contributions and grants). Executive Director reviews first and subsequent drafts of the future fiscal year budget with the Coordinating Committee.

- **November – December:** Executive Director meets with the Water Caucus (with expanded participation, as needed, to bring in any non-Water Caucus funders) to review and confirm consistency with funders' funding abilities and commitments. The Executive Director collaborates with the Coordinating Committee (in consultation with interested funders) to resolve any outstanding funding and budgetary issues before submitting the budget to the Plenary for consideration and approval.
- **January – February:** Executive Director presents proposed draft for future fiscal year budget to the Plenary for its review and approval. This budget is accompanied by a memo that details the proposed budget, expenses, and the status of the reserve fund. Member agency contributions are calculated in January to allow for inclusion in annual member agency budgeting processes. Plenary identifies if there is any opposition to proceeding with the budget. As needed, the Executive Director, in consultation with the Coordinating Committee and interested funding members, revises the budget based on Plenary discussions and direction.
- **February – May:** Interagency funding agreements are signed, with final approval from the City of Sacramento Council for the upcoming fiscal year.

Budget Oversight Process

The Water Forum will establish a transparent budget oversight process, including the following reports, to foster effective use and tracking of Water Forum spending:

- **August:** Publish an annual implementation report card. Review the prior year's accomplishments and identify any uncompleted priorities with the Plenary.
- **August-September:** Provide a standard budget report (spreadsheet) to the Coordinating Committee detailing prior fiscal year actual expenditures and remaining balance in reserve funds.
- **October:** Provide a standard budget report (spreadsheet) to the Coordinating Committee on the first quarter (July-September) actuals.
- **January:** Provide a standard budget report (spreadsheet) to the Coordinating Committee on second quarter (October-December) actuals.
- **April:** Provide a standard budget report (spreadsheet) to the Coordinating Committee on the third quarter (January-March) actuals.

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Prior to completion of the first year following the signing of WF2050, the Water Forum shall undertake a careful review of progress to date and shall revise the work plan considering existing circumstances. The annual budget and contributions may be revised at that time. Any increase or decrease to the first-year budget would require a consensus among all interest groups and agreement by funding agencies.

Use of Consultants

Consultants shall be used only as needed. Identification and approval of actual expenditures for specific consultant contracts shall be part of the Water Forum budget process. If consultant contract funds or funds allocated for consultant contracts in a given fiscal year are not spent prior to the end of that year or encumbered for future expenditure, the Water Forum shall modify the following year's budget appropriately. To the extent that there is a need for consultant services not anticipated in the annual budget, such services can be allowed, provided there is an adequate budget (e.g., savings from another line item) and with the concurrence of the Coordinating Committee.

Reserve Fund

To ensure the Water Forum's ongoing fiscally sound financial management and to adequately provide for unforeseen circumstances such as economic uncertainties, loss of significant revenue sources, grant match requirements, and grant monitoring as required, a Reserve Fund will be established with a target level equivalent to 120 days of working capital.

Budgets: Year 1 Budget and 5-year Look Ahead

To estimate the actual cost of the Water Forum's work and foster long-term planning by its staff, members, and funders, the Water Forum is committed to producing a five-year look-ahead as part of its Five-Year Status Report. While the look-ahead is non-binding, members and funders will use these projections to identify and secure the necessary resources and shape the work of the Water Forum. The initial five-year look-ahead (2025-2030) is provided in **Appendix 11**. Fiscal Year 2025-2026 budget components include proposed expenditures, a summary of projected funding sources, the HME Cost Share Projection, and the WFSE Cost Share. The Fiscal Year 2025-2026 budget totaled \$1,973,140 and is included in **Appendix 11**. All signatories have reviewed and agreed to this five-year look-ahead and associated budget.

2. Water Forum Funding

As part of their commitment to investing in a reliable water supply and a healthy LAR ecosystem, Water Forum member water purveyors and other funders voluntarily enter into an annual funding agreement that stipulates funding levels for the Water Forum, based on the negotiated Cost Allocation Method. This Cost Allocation Method is included as **Appendix 12** and describes the funding allocation methodology in detail.

Description of Funding Methodology and Other Sources

The Water Forum will draw on a range of sources to fund its annual budget. These sources include both member funding and resources provided by outside entities. It also includes both direct funding and in-kind support.

The funding allocation methodology intends to equitably share the costs of the Water Forum programs in furtherance of the coequal objectives. The current (2025) version of the cost allocation model is included as **Appendix 12**. This model will be updated at five-year intervals and will be subject to approval solely by the funding agencies listed in the model. It should be noted that this cost allocation assumes that all the purveyors identified in **Table 2** in **Appendix 12** will sign WF2050. If fewer funders sign WF2050, the percentages of the costs allocated to the other funders that do sign will increase.

Below is an overview of the agreed-upon funding sources and cost-allocation methodologies.

- **Purveyor Specific Agreements:** Purveyors with PSAs provide funding based on the formula described in the cost allocation model (see Appendix 12), which was developed and unanimously agreed to by the purveyors, and as reflected in the annual funding agreement.
- **Implementing agencies:** Implementing agencies provide funding based on a set-fee model. These fees are set by mutual agreement between the implementing agency and the Water Forum and will be included in the Water Forum's budgets as agreements are made. Sacramento County, SMUD, EDWA, and SAFCA have contributed in this manner historically and are expected to continue doing so.
- **Grants:** The Water Forum receives extensive grant funding from federal, state, and other sources to support its work on the ARCH Program Area and may include other Program Areas in the future. The total grant funding varies from year to year and is outlined in the annual budget.
- **In-Kind Donations:** Significant resources are donated on behalf of Water Forum member organizations through the participation of their staff and members in various Water Forum activities and committees. In-kind donations are not reflected in the budget or funding allocation.

Except for grant funding that is earmarked for specific projects and purposes, all other funding provided to the Water Forum is collected as a general contribution. Funding is pooled across all these sources and then allocated to either the WFSE or the HME program based on the annual budget need, or to the Reserve Fund.

The process to amend the funding structure described above will follow the “Changed Conditions and Amendments to the Agreement” section outlined elsewhere in this document.

3. Five-Year Review

As described elsewhere in this agreement, the Water Forum will comprehensively review progress made toward achieving the coequal objectives every five years. The results of this review will assist in the development of the next five-year plan, revising the annual work plan, and adjusting the current budget and activities to reflect successes and failures revealed by the review.

ADMINISTRATION

Guiding Principles

1. Authority and Accountability

Water Forum governance should clearly articulate lines of authority and accountability among all parties to the Agreement. This accountability is intended to cover all aspects of the Water Forum work, including but not limited to: members to members; members and staff to one another; members and staff to the Water Forum mission and agreed-upon actions and priorities; and the Water Forum to the affected public.

2. Tracking Progress

Understanding, tracking, and reporting on the Water Forum's progress are essential to supporting the coequal objectives, as well as fostering thoughtful consideration of any necessary changes in its work and approach throughout the life of the Agreement. To that end, Water Forum governance should include clear metrics, benchmarks, and an agreed-upon process to ensure that Water Forum members and staff can track and, as needed, adapt its work related to the following:

- Water Forum-led projects and actions are intended to support Water Forum's coequal objectives.
- Water Forum member-led projects are intended to support the Water Forum's coequal objectives.
- A comprehensive understanding of both river health and water supply reliability

Program Elements

1. Administrative Structure

The Water Forum will continue to be administered under the auspices of the City of Sacramento. Staff will be either employees or contractors of the City of Sacramento, and all administrative responsibilities related to such employees or contractors will continue to be handled by the City. This arrangement will:

- Ensure continuity between WF2050 and the priorities of the Water Forum
- Preserve existing technical expertise
- Avoid creating another redundant government entity

WF2050 is made binding and enforceable through the execution of three agreements: the MOU for the Water Forum 2050 Agreement (this document, signed by all entities choosing to be Water Forum members); the annual Funding Agreements (which, consistent with the funding principles set forth above, are executed by the entities making payments to support the work of the Water Forum); and the Interagency Agreement for the Administration and Management of the Water

Forum (also signed by funding members, [see Appendix 13](#)). Together, these agreements will contain provisions to continue the Water Forum organization. All parties that sign the MOU will become full participants in the Water Forum. It is important to note that:

- All signatories to WF2050 will have equal standing in the Water Forum, regardless of whether they are a public agency, an investor-owned utility, or a community interest or advocacy organization.
- Although Water Forum staff will be employees or contractors of the City of Sacramento, the WF2050 signatories will provide overall policy direction for the work of staff.

2. Changed Conditions and Amendments to the Agreement

No individual Water Forum member or staff has independent authority to alter WF2050. At the same time, the Water Forum must be able to respond to the changing conditions or other unforeseen circumstances that will arise over the next several decades. WF2050 may be amended only by all signatories employing the same interest-based collaborative process used to negotiate the original WF2050. The Water Forum staff will facilitate and coordinate such negotiations should they prove necessary. Changes to WF2050 are the purview of the Plenary unless the Plenary decides they need to be referred to signatory members' boards for formal confirmation.

Term of the Agreement

The original WFA, adopted in 2000, was set to expire after a 30-year term. In 2020, then Water Forum Executive Director Tom Gohring initiated a renegotiation of the WFA well in advance of the expiration date, recognizing that the original agreement had taken seven years to negotiate and that regulatory, policy, and physical conditions had substantially changed over the past 20 years. While the renegotiation of the WFA is expected to be completed prior to the original expiration date and in less time than the original negotiations, it is recognized that, due to the nature of the agreement and the complexity of the issues, members should anticipate and plan for future renegotiations.

Therefore, given the complexity of issues and anticipated climate change, WF2050 is to be reviewed through an assessment of key indicators in the Five-Year Status Report, including data from UWMPs and GSPs, on a 5-year basis, with a renegotiation term of 25 years.

The anticipated timeline of review and renegotiation is as follows for the period of 2025-2050:

- **2025:** Signing of the New Agreement, WF2050. Publish updated Annual Work Plan that lays out programmatic and budgetary priorities for the coming year, as well as a look-ahead for the FY 25/26-30/31 period.
- **2030:** Publish Five-Year Status Report. Review progress on implementation of program elements; develop updated Annual Work Plan that lays out programmatic and budgetary

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priorities for the coming year, as well as a look-ahead to cover the next 5-year period (FY 30/31-35/36) for Plenary approval.

- **2035:** Publish Five-Year Status Report. Review progress on implementation of program elements; develop revised Annual Work Plan that lays out programmatic and budgetary priorities for the coming year, as well as a look-ahead for the next 5-year period (FY 35/36-40/41) for Plenary approval.
- **2040:** Publish Five-Year Status Report. Review progress on implementation of program elements; develop revised Annual Work Plan that lays out programmatic and budgetary priorities for the coming year, as well as a look-ahead for the next 5-year period (FY 40/41-45/46) for Plenary approval.
- **2045-2050:** Publish Five-Year Status Report. Initiate review and renegotiation of WF2050 to coincide with a 25-year renewal period. Provide a 5-year window to complete, with the anticipated new agreement to be approved no later than 2050. This 5-year window can be automatically extended with the concurrence of the Plenary, provided that negotiations are deemed productive and are on a path towards a successful conclusion.

Request for Renegotiation

Renegotiation can be requested outside of the scheduled timeframe. Any proposal to renegotiate WF2050 would be considered in the context of the Water Forum's coequal objectives. Specific engagement processes for renegotiating WF2050 should be developed through a transparent and collaborative process.

Request for Amendment

Amendments to WF2050 can be requested outside of the scheduled timeframe. Any proposal to amend WF2050 would be considered in the context of the Water Forum's coequal objectives. Specific engagement processes for amending WF2050 should be consistent with the collaborative decision-making process that was used in the development of WF2050.

Process for Renegotiation or Amendment Requests

The mechanism to request consideration of amendments is as follows:

- Any signatory, caucus, or Executive Director can make a formal request for renegotiation of some terms. The request must include a rationale stating the changed conditions warranting consideration and should include proposed amendment concepts or language.
- The request for renegotiation by a signatory or caucus must be submitted to the Water Forum Executive Director, who will bring it (or any request they may have) first to the Coordinating Committee for discussion. Coordinating Committee discussions will be

informed by input from their respective caucuses and, as appropriate, any guidance from relevant committees.

- The Coordinating Committee is to forward all requests on to the Plenary for its consideration. The Coordinating Committee may, at its discretion, offer an accompanying recommendation to adopt, modify, or reject. It may also forward it on to the Plenary without any recommendation.

A request for an amendment or renegotiation does not necessarily mean WF2050 will be revised. WF2050, including specific agreements (e.g., PSAs), can be changed or modified only with the express approval and consent of the Plenary. Changes to WF2050 are the purview of the Plenary, with the caveat that changes that require additional funding will be subject to agreement by the funders. The Plenary may recommend that the proposed changes be referred to the signatory members' boards/decision-making bodies for formal confirmation.

Specific implementing agreements (e.g., PSAs) cannot be changed or modified without the express approval and consent of the entity whose interests would be affected by the change. These changes also must be approved by the Plenary.

3. Process for Project Endorsement from the Water Forum

This program element is designed to provide a framework for projects proposed by Water Forum members to receive endorsement from the Water Forum, consistent with the decision-making processes described above.

Water Forum signatories may receive support (i.e., endorsement) for a proposed project from fellow signatories when agreed-upon conditions are met, including good faith sharing of project information and the project proponent's commitment to WF2050 implementation. A "project" could refer to infrastructure, water entitlement, an application for funding, a policy, or a procedure. Endorsement can range from conceptual to full endorsement (as described below) and is dependent on the level of project development and information shared with the Water Forum.

Conceptual Endorsement

Definition: The project idea is acknowledged by signatories as relevant and aligned with the coequal objectives.

Purpose: Signals openness to explore the concept further.

Full Endorsement *Ready to Implement*

Definition: Water Forum signatories have confirmed support for the project's final implementation.

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Purpose: Signals that the project is supported by all caucuses and implementation will not be opposed by Water Forum signatories.

When a project receives Water Forum endorsement, signatories (when called upon) will make reasonable efforts to provide endorsement in any (or all) of the following ways:

- Speak before stakeholder boards and regulatory bodies
- Provide letters of endorsement
- Provide supportive comments to the media
- Advocate the WF2050 Agreement to other organizations, including environmental organizations that are not signatories to the Water Forum Agreement.
- Otherwise, respond to requests from other signatories to make public their endorsement of WF2050 and associated projects (as relevant).

At a minimum, Water Forum endorsement of a project will mean refraining from making negative statements or opposing the project. However, *conceptual endorsement* does not preclude Water Forum signatories from asking questions and seeking clarity within various environmental review processes as projects are advanced.

If requested, an endorsement could come from individual signatories, the Plenary, or the Executive Director on behalf of the Plenary.

Framework for Information Exchange to Build Trust

Projects that receive Water Forum endorsement are those that have been shared and discussed widely with other Water Forum signatories. This could occur in caucus meetings, Plenary, Water Forum committees, or other Water Forum meetings that have been made available to all signatories. Discussions with signatories may be completed sequentially if access to information is made to all signatories in a timely manner. For instance, a project proponent could share their project details with all caucuses separately.

Inherent in this approach is the intent to build trust among signatories through full and early disclosure of project details. Sharing project information early in its development process will allow Water Forum signatories to evaluate, provide feedback, and engage in dialogue about the project. Project proponents should share project details in good faith before final decisions are made. The history of the Water Forum has shown that this type of information tends to garner support from other signatories.

In addition to the information sharing and disclosure process, projects may also receive Water Forum endorsement through the ARCAP, which will include analysis and assessment of regional actions to support the coequal objectives including through the potential development of

additional volumes of water. Projects considered within ARCAP are expected to undergo review and discussion through all levels of the Water Forum governance structure.

Project Endorsement Caveats and Assurances

- 1) *The nature of a project endorsement will be commensurate with the level of detail shared with the WF and the level of development of the specific project. For example, if conceptual project information is available and shared with the WF, then WF signatories can only provide endorsement of the project's concept. If project proponents seek full endorsement of a ready-to-build project, then it is expected that they will have shared and discussed details, including concept, design, funding, permitting, and construction, as relevant.*
- 2) *WF endorsement will be contingent on:*
 - a. *Proponent is adhering to all applicable planning, environmental, and regulatory requirements.*
 - b. *The proponent has conducted a public participation process, such as engaging with established citizen advisory committees or employing other appropriate mechanisms, to inform project design and implementation as needed.*
 - c. *Project aligns with the coequal objectives and the WF 2050 guiding principles.*
 - d. *The project proponent has demonstrated a clear commitment to WF2050 implementation.*
- 3) *If a consensus cannot be reached within the Water Forum for endorsing a project, no action will be taken by the Water Forum.*
- 4) *If a project is determined by consensus within the Water Forum to be in direct and clear conflict with the Water Forum's coequal objectives, it is possible that the Water Forum would take a position of opposition to the project.*
- 5) *All signatories retain their existing ability to comment or provide input on specific details of facility design, financing, and construction of projects.*

4. Legal Considerations

Administrative Structure

The Water Forum is not a legal entity, but rather a forum for a group of business and agricultural leaders, community groups, environmentalists, public and private water agencies, and local governments. Staffing and administrative support for the Water Forum are funded by water purveyors and other willing donors, with personnel management provided by the City of Sacramento. The Water Forum is not a separate legal entity. The current authority for the Water Forum is outlined in the 2025 Interagency Agreement for the Administration and Management of the Water Forum.

The key points of the 2025 Interagency Agreement for the Administration and Management of the Water Forum (**attached as Appendix 13**) are as follows:

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- The objective of the Water Forum office and staff is to promote the implementation and continued vitality of the Water Forum Agreement.
- The Executive Director of the Water Forum reports directly to the Director of the City of Sacramento Department of Utilities.
- The City is responsible for providing facilities, budget, and administrative support to the Water Forum.
- All employees of the Water Forum, including the Executive Director, are City employees.
- The Water Forum contracting follows City procedures.
- The Water Forum will carry its own insurance policy to cover claims up to an agreed-upon threshold.
- If a signatory decides to terminate membership in the Water Forum, that signatory is responsible for covering their funding share for the current and subsequent fiscal year.
- The City's signature delegation policy identifies the Executive Director's position as equivalent to a Department Director and authorizes contract authority of up to \$100,000.

The City Attorney's office represents the Water Forum on matters related to City procedures and general governmental issues. The Water Forum currently shares the City's outside water counsel for advice on substantive water-related issues but has agreed to terminate the representation if a potential conflict with the City's interests arises.

Water Forum Meetings – Relationship to Brown Act

The Water Forum is neither a local governing body nor was it created by federal or state law. Accordingly, it is not subject to the Brown Act.

Nevertheless, the Water Forum strives to be as transparent and inclusive as possible, both with its members and with cooperating entities, affected parties, and the broader public. To that end, Plenary meetings are open unless a specific topic warrants member-only discussions. The Water Forum also strives to hold informational sessions that deepen understanding among its members and others. In the case of open Plenary meetings, the Water Forum will provide advance notice of meeting times and materials to inform the public. The general intent for Plenary meetings is to be open to the public so that the formulated plans and positions are made known.

The Water Forum strives to provide meeting materials to its members in a manner consistent with good public participation practices (e.g., meetings are noticed in advance, discussion topics are described in the agenda, meetings take place locally and are open to the public, etc.).

Water Forum members are responsible for ensuring their engagements with the Water Forum are consistent with their agency's Brown Act obligations.

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California Environmental Quality Act

The City of Sacramento is considered the lead for any Water Forum actions requiring CEQA (California Environmental Quality Act) review.

Development and adoption of WF2050 is not a “Project” subject to CEQA.

Caveats and Assurances

AMERICAN RIVER CLIMATE ADAPTATION PROGRAM (ARCAP)

ARCAP Caveats and Assurances include the following:

1. *The ARCAP will be developed and implemented, with opportunities for open cross-caucus discussions and guidance, utilizing the Water Forum’s decision-making processes. This applies to both technical processes and member deliberations.*
2. *The Water Forum will work jointly with RWA and the GSAs to resolve technical issues during ARCAP development and implementation. Staff from RWA and the Water Forum will work together in a collaborative relationship to support this program and will engage with the regional GSAs.*
3. *The ARCAP approach will strive to add value and avoid creating added costs, duplicative processes, and bureaucracy.*
4. *The ability of Water Forum members to identify and employ ARCAP Water does not imply that the American River is in excess conditions.*
5. *ARCAP implementation will complement and support other Water Forum programs (e.g., FMS).*
6. *The Water Forum will review the successes and challenges of the ARCAP and refine the program as needed, with adjustments agreed upon by all caucuses.*
7. *ARCAP assets (e.g., water rights and contracts, wells, diversion works) will remain under the control of the owning agencies.*
8. *The role of the Water Forum (including its staff and members) will be to coordinate ARCAP actions, complete agreed-upon technical analyses and studies, advocate for programs and funding, and track and review the status of these programs.*
9. *The Water Forum and RWA will respect the operational authority and third-party agreements of their members, which are necessary for their contributions to ARCAP Water.*
10. *No part of the ARCAP will abridge the authorities, entitlements, or agreements of Water Forum members without the express consent of the relevant parties.*

AMERICAN RIVER FLOWS AND OPERATIONS (ARFO)

ARFO Caveats and Assurances are grouped in the following categories:

- Flow Management Standard (FMS)
- Flood Operations
- Temperature and Other Water Management Infrastructure

Flow Management Standard

1. *Signatories acknowledge that, while minimum reservoir releases are a key feature of the FMS, flows above the specified minimum releases can provide important benefits for wildlife, recreational, and aesthetic values of the LAR.*
2. *Signatories acknowledge that low Dissolved Oxygen (DO) levels have a significant impact on the health of salmonids, thereby negatively affecting the benefits of the FMS. Consequently, Folsom Reservoir complex management actions must take this factor into account to avoid unhealthy DO levels.*
3. *Signatories acknowledge that Folsom Reservoir storage levels in the spring are critical to the volume of cold-water pool available for the effective implementation of the FMS during the rest of the year, and that management actions should be taken to preserve as much reservoir storage as feasible during this timeframe.*
4. *All signatories agree to recommend to the SWRCB an updated American River Flow Management Standard that protects the fishery, wildlife, recreational, and aesthetic values of the lower American River. The recommendation will include requirements for Reclamation releases to the LAR.*
5. *The Water Forum will develop recommendations to inform transfer activity in the region, subject to agencies' determinations of operational, regulatory, and contractual feasibility, to be as consistent with the FMS as possible and maximize the value of the transfer water for the health of the LAR.*
 - a. *Note: Current regulations include a commitment to implement certain aspects of the FMS, and water moved through a transfer agreement has the potential to offer additional flows and/or temperature benefits to the LAR, pending operational constraints such as, but not limited to, timing of deliveries, infrastructure capacity, regulatory or discretionary actions by Reclamation.*
 - b. *Note: When transfers are arranged with Reclamation, purveyors can make requests or suggestions regarding how and when water is moved through the system; however, operational decisions are ultimately at the discretion of Reclamation and are subject to regulatory requirements.*

Flood Operations

6. *The Water Forum Signatories support pursuing a Preliminary Viability Assessment of American River Watershed Forecast-Informed Reservoir Operations³⁴ (Watershed FIRO) in partnership with Reclamation, USACE, NOAA, and others, where appropriate and possible.*
7. *The Water Forum signatories support the identification and implementation of excess flood water recharge when: 1) carried out within the region; 2) designed, constructed, and operated in accordance with appropriate environmental and engineering standards/requirements, and the FMS; and 3) consistent with and supporting the Water Forum's coequal objectives.*

Temperature and Other Water Management Infrastructure

8. *Signatories support the current efforts to redesign and improve the temperature control shutters at Folsom Dam and will consider opportunities for Water Forum support and advocacy. Until improvements are made, signatories support the implementation of a power bypass at Folsom Dam in all years as necessary to provide suitable fall spawning temperatures for LAR resident salmonids, unless September temperature modeling indicates that 56°F or lower can be achieved at Watt Avenue on or before November 1st without the bypass.*

REGIONAL WATER SUPPLY SUSTAINABILITY (WSS)

WSS Caveats and Assurances are grouped in the following categories:

- Surface Water Management
- Groundwater Management
- Demand Management
- Dry-Time Actions

Surface Water Management

1. *The ability for any individual purveyor to implement the surface water diversions principles will depend on their respective opportunities and constraints.*
2. *On a five-year cycle, purveyor signatories will coordinate with the Water Forum staff to provide data and assumptions to be reported in their Urban Water Management Plans (UWMPs), including demand projections, current and planned supplies, status of demand management and water use efficiency programs, and drought planning scenarios. Water*

³⁴ Definitions of FIRO can vary, but generally includes expanding meteorological, watershed, channel condition, and environmental monitoring; advancing technology to enhance meteorological, watershed, channel condition, and environmental forecasting; and integrating data collection, management, display, and analysis capabilities into decision support systems related to reservoir operations.

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Forum staff will compile regional data and assumptions for presentation to the Water Forum membership for review and discussion.

3. *Nothing in the agreement is intended to call for the reduction or forfeiture of existing surface water entitlements. Signatories to the agreement will honor this principle in state and federal entitlement proceedings directly related to WF2050. It is recognized that there may be broader state and federal entitlement proceedings where signatories may have different interests, such as the SWRCB water rights proceeding for the Bay-Delta. Signatories agree to work in good faith through the Water Forum with the objective of developing a consensus recommendation for how state and federal entitlement proceedings should affect those agencies that store and divert American River water. All signatories will make good faith efforts to ensure that recommendations are consistent with both coequal objectives.*
 - a. *The LAR is considered to be fully appropriated by way of the existing declarations of full appropriations, the responsibilities of the California Wild & Scenic Rivers Act, and the realities of the National Wild & Scenic Rivers Act. For more detailed information, see **Appendix 6**. The Water Forum will not be pursuing amendments to the existing declaration of full appropriation.*
4. *Recognizing that the majority of LAR surface water supply originates in the Upper American River Watershed, signatories support efforts above Folsom Reservoir to enhance and restore watershed health, creating a resilient headwater for water supply and ecosystem benefits on the American River.*
5. *The Water Forum did not evaluate new reservoirs in the analyses used to inform the WF2050 negotiations. Notwithstanding any provision of this agreement, any proposal for the Water Forum to support or oppose a new reservoir shall be approved by the Plenary, with at least 30-day notice to each Water Forum representative.*
6. *Signatories acknowledge that the parties to the Healthy Rivers and Landscape (HR&L) Proposal will be obligated to meet tributary program requirements for the American River, if approved by State Water Resources Control Board along with associated agreements. In addition, there are Water Forum members who have also made flow commitments pursuant the American River Terms for Ecosystem Support and Infrastructure Assistance Needs (ARTESIAN) Agreement³⁵.*
7. *Signatories are encouraged when invited to support (where possible) purveyors' rates and fees necessary to implement projects and programs insofar as they are consistent with the WF2050 guiding principles and in support of the coequal objectives. The Water Forum will provide learning and engagement opportunities on water affordability and related best*

³⁵ The ARTESIAN Agreement contains commitments for certain RWA members to obtain funding to complete groundwater infrastructure projects and provide contributions to environmental outflow with or without adoption of the HR&L. The ARTESIAN Agreement governs the rights and obligations with respect to the administration of state funding provided for in the Funding Agreement Between the State of California (Department of Water Resources) and the Regional Water Authority - Voluntary Agreement Early Implementation for the American River, executed on July 21, 2023.

practices, and signatories will work to better understand associated challenges and opportunities (see Governance Program Element– Community Outreach and Engagement for more information).

Groundwater Management

- 8. The Water Forum will work to understand better and communicate the opportunities for, and impacts of, increased surface water diversions in wet conditions.*
- 9. Signatories acknowledge the importance of continued data collection and analysis to improve understanding of Groundwater Dependent Ecosystems (GDEs) and surface water–groundwater interactions and commit to ongoing dialogue within the Water Forum as these topics are explored in the context of SGMA requirements and ARCAP analyses (as relevant).*

Demand Management

- 10. All signatories acknowledge that the requirements related to water purveyors' water use efficiency and demand management have become increasingly stringent since the signing of the original WFA and are continuing to evolve.*
- 11. All signatories acknowledge that the purveyors must consider the costs and benefits of demand management actions (monetary, ecosystem, quality of life, etc.).*
- 12. All signatories acknowledge that water rates have impacts on affordability and equity.*
- 13. All signatories recognize that conserving water provides multiple benefits (if properly targeted, implemented, and managed) and commit to implementing demand management actions in a manner that strives to support both coequal objectives, with considerations for improvements to landscape irrigation efficiency and installation of native and low-water-use vegetation.*

Dry-Time Actions

- 14. Water is essential for public health and sanitation, as well as for economic stability and quality of life. Water agencies have a fundamental responsibility to provide all customers with reliable access to safe, clean drinking water. This fundamental responsibility may constrain the breadth of Water Forum related actions purveyors are able to take during extreme drought.*
- 15. Water agencies in California manage water shortages in accordance with their individual Water Shortage Contingency Plans (WSCPs), which are developed and updated every five years as part of their UWMPs, in compliance with California Water Code requirements.*
- 16. Signatories acknowledge that dry times present exceptional challenges for the health of the LAR, and actions should be pursued to protect the fish that rely on river flows and temperature.*

SCIENCE, MONITORING, AND DECISION SUPPORT

Science, Monitoring, and Decision Support Caveats and Assurances include the following:

1. *The level of effort and the scope of Science, Monitoring and Decision Support Program activities will be informed by emerging data needs, and science activities mandated by regional and/or statewide programs that may arise during the WF2050 term (i.e., the Statewide HR&LP Science Plan habitat accounting process, changing hydrology, new water supply regulations, etc.), and other emerging funding sources and requirements, as applicable.*

GOVERNANCE, FUNDING, AND ADMINISTRATION

Governance, Funding, and Administration Caveats and Assurances include the following:

1. *The nature of a project endorsement will be commensurate with the level of detail shared with the WF and the level of development of the specific project. For example, if conceptual project information is available and shared with the WF, then WF signatories can only provide endorsement of the project's concept. If project proponents seek full endorsement of a ready-to-build project, then it is expected that they will have shared and discussed details, including concept, design, funding, permitting, and construction, as relevant.*
2. *WF endorsement will be contingent on:*
 - a. *Proponent is adhering to all applicable planning, environmental, and regulatory requirements.*
 - b. *The proponent has conducted a public participation process, such as engaging with established citizen advisory committees or employing other appropriate mechanisms, to inform project design and implementation as needed.*
 - c. *Project aligns with the coequal objectives and the WF 2050 guiding principles.*
 - d. *The project proponent has demonstrated a clear commitment to WF2050 implementation.*
3. *If a consensus cannot be reached within the Water Forum for endorsing a project, no action will be taken by the Water Forum.*
4. *If a project is determined by consensus within the Water Forum to be in direct and clear conflict with the Water Forum's coequal objectives, it is possible that the Water Forum would take a position of opposition to the project.*
5. *All signatories retain their existing ability to comment or provide input on specific details of facility design, financing, and construction of projects.*

Purveyor Specific Agreements

NOTE: Conversations related to PSAs are ongoing. Updated proposals shared in July of 2025 are being actively reviewed and discussed and are not included in this Draft.

California American Water Company

Carmichael Water District

City of Folsom

City of Roseville

City of Sacramento

East Bay Municipal Utility District

El Dorado Irrigation District

Golden State Water Company

Placer County Water Agency

Sacramento County Water Agency

San Juan Water District- Consortium

Sacramento Municipal Utilities District

Sacramento Suburban Water District

Glossary of Common Terms

Sources of definitions are indicated in italics

Acre-foot (AF)

An acre is about the size of a football field. An acre-foot is the amount of water that would cover one acre of land one foot deep. It equals 325,800 gallons. That is approximately how much water five people use a year for drinking, washing, and landscape watering.

Aquifer

A geologic formation that stores, transmits, and yields significant quantities of water to wells and springs. *Water Education Foundation*

Anadromous Fish

Fish that spend a part of their life cycle in the sea and return to freshwater streams to spawn.

Best Management Practices (Water Conservation)

A policy, program, practice, rule, regulation, or ordinance of the use of devices, equipment, or facilities that is an established and generally accepted practice that results in more efficient use or conservation of water, or a practice that has been proven to indicate that significant conservation benefits can be achieved. *MOU Regarding Water Conservation in California*

Biological Opinion

A Biological Opinion is a document produced by the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS) as part of a formal consultation under Section 7 of the Endangered Species Act (ESA). It determines whether a proposed action is likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat.

California Environmental Quality Act

An act conceived primarily to require public agency decision makers to document and consider the environmental implications of their actions. *Guide to the California Environmental Quality Act: Remy & Thomas*

Central Valley Project Improvement Act (CVPIA)

Amends the Central Valley Project (CVP) reauthorization act of 1937 and reauthorizes the CVP to add mitigation, protection, and restoration of fish and wildlife as project purposes equal to

agricultural and domestic uses, and to make fish and wildlife enhancement a project purpose equal to power. *USBR ARWRI*

Changed Conditions

This refers to significant changes in circumstances such as laws, regulations, and even the health of the river, which may occur after a *Water Forum Agreement 2050* is signed. If changed conditions arise that may interfere with the implementation of the Agreement, the Water Forum will reopen negotiations.

Conjunctive Use

The planned joint use of surface and groundwater to improve overall water supply reliability.

Conservation Pricing

Pricing that provides an incentive to reduce average or peak use, or both.

Contractual Entitlement

A water entitlement based on a contract, such as a contract with the United States Bureau of Reclamation for Central Valley Project water.

Cost-Effective

A case where the financial benefits of a project are greater than the overall cost.

CVPIA Programmatic Environmental Impact Statement

The program-level document, prepared by the United States Bureau of Reclamation, on the Central Valley Project Improvement Act, complies with the requirements of the National Environmental Policy Act.

Groundwater

The water in an aquifer. For human use and consumption, this water is generally pumped to the surface through a well.

Interested Party

In a negotiation, a person, organization, or entity entrusted to represent those with an interest in the outcome. There are 46 stakeholder organizations participating in the Water Forum.

Inter-basin Transfer

Water transfers from entities outside of a watershed to entities within a watershed.

Landscape Efficiencies

What is achieved through skillful planting and irrigation design, appropriate use of plant materials, and intelligent management to assure landscape development that avoids excessive water demands and is less vulnerable to periods of severe drought.

Low Water Use and Native Plants

Plants that thrive with minimal irrigation typically requiring only one watering per week or less. This includes native plants adapted to the region's climate, as well as drought-tolerant species. Native plants often have deep root systems that tap into groundwater, reducing the need for frequent watering.

Memorandum of Understanding (MOU)

A means of gaining formal consensus between two or more parties on a particular complex issue.

Point of Diversion

The place along the stream channel where a diverter takes control of the water. *How to File an Application to Appropriate Water, State Water Resources Control Board*

Public Trust Doctrine

California's legal doctrine requires the balancing of competing public interests while protecting the rights of the public to use water courses for commerce, navigation, fisheries, recreation, open space, preservation of ecological units in their natural state, and similar uses for which those lands are uniquely suited. It is based on the California State Constitution and goes back to English Common Law. The California Supreme Court stated, "*The state has an affirmative duty to take the public trust into account in the planning and allocation of water resources, and to protect public trust uses whenever feasible.*" *National Audubon* (33Cal.3d 419 1983)

Purveyor

An agency or district that provides water to customers for a fee.

Reasonable-Feasible

Practicable and in accord with reason.

Riparian Vegetation

Of, adjacent to, or living on, the bank of a river or, sometimes, of a lake, pond, etc. *Webster's Ninth New Collegiate Dictionary*

State Water Project

California's state-owned and operated water project, consisting of 22 dams and reservoirs, delivers water 600 miles from the Sacramento Valley to Los Angeles. *Water Education Foundation*

Subsidence

Sinking of the land surface due to a number of factors, of which groundwater extraction is one.

Surface Water Diversions

Water that is diverted and/or pumped from above-ground sources such as rivers, streams, reservoirs, and lakes, as opposed to groundwater, which is water pumped from the aquifer.

Sustainable Yield

Sustainable yield is a balance between pumping and basin recharge, expressed as the number of acre-feet of water per year that can be pumped from the basin on a long-term, average annual basis.

Water Forum

A community collaboration process involving interested organizations and commitment to the coequal objectives of *providing a reliable and safe water supply for the region's economic health and planned development through the year 2050, and preserving the fishery, wildlife, recreational, and aesthetic values of the lower American River.*

Water Forum 2050

The formal agreement among the Water Forum representatives will be presented to stakeholder organizations in the fall of 2025 for ratification without revision.

Quick Reference for Common Acronyms

AB	Assembly Bill
ACWA	Association of California Water Agencies
AF	Acre feet
AHTT	Ad Hoc Technical Team
ARCH	American River Corridor Health Program Area
ARFCD	American River Flood Control District
ARFO	American River Flows and Operations Program Area
ARG	American River Group
ARPF	American River Parkway Foundation
BC	Business Caucus
BiOp	Biological Opinion
CCOWMP	City County Office of Metropolitan Water Planning (the formal title for the Water Forum under the original Water Forum Agreement)
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFS	Cubic feet per second. One cubic foot is about 7.5 gallons.
CII	Commercial, Industrial, and Institutional water users/uses
CVP	Central Valley Project
CVPIA	Central Valley Project Improvement Act
DAC	Disadvantaged Community
DFW	California Department of Fish and Wildlife
DOFA	Declaration of Full Appropriation
DM	Demand Management (water conservation practices)
DPMWD	Del Paso Manor Water District
DTA	Dry Time Actions (element of the Water Forum Agreement)
DWR	California Department of Water Resources
EBMUD	East Bay Municipal Utility District
EDCWA	El Dorado County Water Agency
EID	El Dorado Irrigation District
EC	Environmental Caucus
ECOS	Environmental Council of Sacramento

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FOR	Friends of the River
FIRO	Forecast-Informed Reservoir Operations
FMS	Flow Management Standard
FOR	Friends of the American River
GFA	Governance, Funding, and Administration Program Area
HME	Habitat Management Element (of the Water Forum Agreement)
HR&L	Healthy Rivers and Landscapes Program (also known as Voluntary Agreements)
LAFCo	Local Agency Formation Commission
LAR	Lower American River
LOWV	League of Women Voters
M&I	Municipal & Industrial
mFMS	Modified Flow Management Standard
MGD	Millions of Gallons Per Day
MOU	Memorandum of Understanding
NASb	North American Subbasin (groundwater)
NEPA	National Environmental Policy Act
NSC	Negotiating Steering Committee
PC	Public Caucus
PCWA	Placer County Water Agency
PSA	Purveyor Specific Agreement
Reclamation	U.S. Bureau of Reclamation
RWA	Regional Water Authority
SACOG	Sacramento Area Council of Governments
SAFCA	Sacramento Area Flood Control Agency
SARA	Save the American River Association
SASb	South American Subbasin (groundwater)
SB	Senate Bill
SCGA	Sacramento Central Groundwater Authority
SCWA	Sacramento County Water Agency
SDAC	Severely Disadvantaged Community
SGA	Sacramento Groundwater Authority
SJWD	San Juan Water District
SME	Subject Matter Expert

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SRBX	Sacramento Regional Builders Exchange
SWRCB	State Water Resources Control Board
TAF	Thousand Acre Feet
TUCP	Temporary Urgent Change Petitions
UIFR	Unimpaired Inflow into Folsom Reservoir
USACE	U.S. Army Corps of Engineers
USBR	U.S. Bureau of Reclamation
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UWMP	Urban Water Management Plan
VAs	Voluntary Agreements
WC	Water Caucus
WF	Water Forum
WF2050	The current Water Forum Agreement
WFA	Water Forum Agreement
WFSE	Water Forum Successor Effort (relevant terms from original WFA)
WG	Working Group
WSCP	Water Shortage Contingency Plan (component of Urban Water Management Plans)
WSS	Water Supply Sustainability Program Area

List of Appendices

Appendix 1: Advancing the Seven Elements of the First Water Forum Agreement

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Appendix 1: Advancing the Seven Elements of the First Water Forum Agreement

The first Water Forum Agreement (WFA), signed in the year 2000, included seven key elements that represent the strategies members used to meet the coequal objectives of water supply reliability and environmental stewardship. Over the past 20 years, these strategies shaped water management in the Sacramento region, addressing both immediate needs and long-term sustainability.

1. Increased Surface Water Diversions
2. Dry Year Actions
3. Flow Standard
4. Habitat Management
5. Water Conservation
6. Groundwater Management
7. Water Forum Successor Effort (WFSE)

The WF2050 Agreement restructures the original seven elements into five program areas. The following section outlines the original seven elements from the first WFA and highlights the progress made under each.

1. Increased Surface Water Diversions

The first WFA detailed plans to increase surface water supplies from rivers to support Sacramento's anticipated population and economic growth through 2030. Recognizing that conservation and sustainable groundwater use alone would not meet projected future demand, the agreement specified the amount of surface water each provider would divert during average, wet, dry, and very dry years, as well as the necessary infrastructure and projects to meet customer demand. Additionally, the agreement included emergency flow strategies to protect salmon and steelhead, as well as measures to reduce river water demand by shifting to groundwater and enhancing conservation efforts.

Progress: This element played a crucial role, alongside the WFA's Groundwater Management strategy, in restoring the region's groundwater basin to sustainable levels. By committing to increased surface water use during wet times, water providers allowed groundwater levels to recover. Over the past 20 years, regional groundwater levels have stabilized or risen in many areas.

For example, the Sacramento County Water Agency (SCWA), which was once completely dependent on groundwater, increased its surface water use by 29 percent in 2023 compared to the previous year, thanks to the Freeport Water Intake, a project outlined in the WFA. This shift stored approximately 10,220 acre-feet of groundwater in aquifers, enough to meet the annual needs of over 30,600 households.

2. Dry Year Actions

The "Dry Year Actions" section of the WFA was designed to help ensure sufficient water supplies during dry years for people while also protecting the environment of the American River. The agreement outlined increased water diversions from the American River in wet and average years, but during dry years, water providers agreed to reduce these diversions to protect fish, wildlife, and recreation on the river. To compensate for reduced river water in dry years, water providers planned to use strategies such as increasing groundwater use, re-operating reservoirs, increasing conservation, and utilizing recycled water. Each provider had specific targets for reducing river water use in dry years, which were detailed in the agreement.

Progress: This element was successfully tested over the years and particularly during California's extreme drought in 2014-15. Members worked together to reduce demands on the river by increasing groundwater use, boosting water conservation efforts, and reoperating reservoirs upstream of Folsom Reservoir. Through the Water Forum's Dry Year Conference, members also worked together to advise the U.S. Bureau of Reclamation on emergency flow strategies for Folsom Reservoir, aiming to minimize harm to salmon and steelhead as water levels in the lower American River reached historic lows.

3. Flow Standard

The WFA included plans to establish a new flow standard for the lower American River that would improve water releases to better support fish, especially fall-run Chinook salmon, while also preserving water storage in Folsom Reservoir to safeguard against drought.

Historically, water releases from Folsom Dam did not align with the fish's life cycle, negatively impacting the fishery. To address this, a team of fish biologists and experts from agencies such as the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife collaborated with the Water Forum to design a release pattern that prioritized the needs of the fish, while still meeting the reservoir's water supply and flood control objectives.

This new approach involved reducing summer flows to conserve water for increased releases in the fall, to provide better water conditions for salmon. The plan also included flexibility for adjustments based on real-time environmental needs.

Progress: In 2006, the Water Forum published the first Flow Management Standard (FMS) for the lower American River. The FMS utilizes the best available science to establish targets for minimum river flows and cold-water storage at Folsom Reservoir, aiming to preserve water storage, mitigate drought impacts, and enhance water temperature in the Lower American River for the benefit of salmon and steelhead. Since then, this science-based methodology has evolved with advancements in modeling and technical analysis, as well as real-world experience. After nearly 20 years of study and refinement, the Modified FMS is now recognized as the best path forward for protecting and restoring steelhead and fall-run Chinook salmon in the lower American River, while enhancing local water supply reliability without adverse impacts elsewhere in the state.

The Modified FMS is integrated into the most recent federal Biological Opinion, guiding the operation of Folsom Reservoir. To further support its understanding and implementation, the Water Forum is working on a consolidated version of the methodology for reference by the U.S. Bureau of Reclamation and other state and federal agencies.

Moreover, the Water Forum's science and habitat work positioned the region to successfully negotiate a voluntary agreement with the State Water Resources Control Board as part of the Healthy Rivers and Landscapes (HR&L) Program. This agreement incorporates the flow management standard in combination with habitat enhancement and increased river flows during dry years.

4. Habitat Management

The Habitat Management Element (HME) of the WFA focused on preserving the fishery, wildlife, recreational, and aesthetic values of the lower American River. The LAR Salmonid Habitat Enhancement Projects are at the core of the program, largely supported by federal funding through the Central Valley Project Improvement Act (CVPIA) and State of California funding. Key HME projects included habitat enhancement for salmon and steelhead, such as constructing spawning and rearing habitats. The element also focused on scientific research to better understand how river operations and enhancement efforts affected fish migration. The HME also specified collaboration with partners, including co-convening the Lower American River Task Force with the Sacramento Area Flood Control Agency and supporting water-related education.

Progress: The Water Forum's contribution to the lower American River environment is unmatched. No other organization invests in the lower American River environment like the Water Forum. With support from local, state, and federal partners, it has invested over \$38.8 million in habitat improvement and public education since 2000. These efforts include constructing more than 30 acres of spawning beds and 1.2 miles of side channels to support salmon and steelhead rearing.

The pace of the Water Forum's habitat enhancement work has accelerated significantly over the past five years. In 2020, the Water Forum secured \$5 million in Prop 68 funding from the State to support the early implementation of the Healthy Rivers and Landscapes Program (HR&L). This funding complemented existing program resources, enabling faster, larger-scale implementation. The Water Forum focused on refining designs, conducting necessary analyses, and implementing phased construction at each of the 10 approved habitat project sites. Additionally, the Water Forum assessed other potential habitat enhancement sites along the lower American River and advanced multi-benefit projects, such as the naturalization of Cordova Creek.

The Water Forum employs a science-based approach to habitat improvement and monitoring, linking each study to specific goals that support adaptive management. This work supports decisions related to the FMS and evaluates the feasibility of future habitat enhancement projects. With a changing climate, this program has become increasingly vital.

Moreover, the Water Forum has contributed to the scientific understanding of anadromous fish in the lower American River through studies that produce underwater maps and monitor salmon behavior during drought. These studies help identify locations for habitat enhancement that avoid impacts to flood safety. Years of adaptive management have allowed the Water Forum to refine conditions for optimal salmon spawning, such as gravel depth, flow rate, and substrate size, advancing sustainable habitat practices for the river.

The Water Forum's scientific work has earned it a place as a trusted regional voice among state and federal agencies overseeing Folsom Reservoir and the statewide water system. This work has enabled the Water Forum to provide consensus-based recommendations on critical issues, including temperature modeling, fisheries, and hydrology.

5. Water Conservation

Under the first WFA, water providers committed to comprehensive conservation plans to meet regional water needs while reducing reliance on both groundwater and surface water, including diversions from the American River. Initially, providers followed the 2000 Water Conservation Plans specified in the WFA, with a focus on maximizing conservation in a way that was accountable, measurable, and effective. Later, they adopted Best Management Practices (BMPs) under the guidelines of the California Urban Water Conservation Council (CUWCC) as a means of meeting the state's water conservation requirements to reduce per capita water use by 20 percent by 2020. These requirements had been mandated by Senate Bill x7-7 of 2009, which created the 20 x 2020 program.

Progress: The WFA led to the creation of the Regional Water Authority and its Water Efficiency Program. For over two decades, this program has engaged local water providers in a regional strategy to conserve local water resources, share best practices, and pool resources to maximize impact and meet state requirements. Working together, participants have leveraged funds with other regional utilities, increased economies of scale for securing grants, and optimized advertising dollars for extensive customer outreach. The program also runs a regional school education initiative and manages the customer-focused website BeWaterSmart.info, which promotes water-saving practices across the region.

This award-winning program empowers members to optimize their investments in water efficiency and capitalize on available grant opportunities. Since 2003, it has successfully secured nearly \$19.9 million in competitive grants to support outreach, advertising, rebate programs, and services that would be challenging for individual agencies to implement independently. Since 2013, local water use has decreased by 23 percent, despite a 15 percent increase in population. This strong regional effort has positioned local water providers to meet the new *Making Conservation a California Way of Life* standards set by the State Water Resources Control Board, pursuant to the water conservation legislation adopted in 2018.

6. Groundwater Management

The Groundwater Management Element focused on protecting the region's groundwater resources, which supply about half of the region's annual water supply. The goal was to help ensure that groundwater remains available for future generations while balancing its use with that of surface water supplies.

As part of the WFA, the region established several local agencies, such as the Sacramento Groundwater Authority (SGA) and Sacramento Central Groundwater Authority (SCGA), to monitor groundwater use and implement a conjunctive use program, a strategic approach to managing groundwater that combines the planned use of both surface water from lakes and rivers and groundwater via wells. The practice optimizes water availability in the region over the long term even as the climate changes.

Progress: The WFA provided a crucial collaborative foundation essential to developing the Sacramento region's successful conjunctive use program. Over the course of two decades, this program enabled the once-overdrafted North American Subbasin to recover and reach sustainable levels, while also providing a path for water providers to reduce their reliance on the river during critical habitat periods for endangered fish.

The SGA was a pioneer in groundwater management and served as a model for the Sustainable Groundwater Management Act (SGMA), California's landmark law passed in 2014 to safeguard California's groundwater resources for the long term.

SCGA has also played a critical role in implementing sustainable groundwater management in the South American Subbasin. One of the most significant efforts underway in this area is the Harvest Water project, California's largest agricultural water recycling initiative, led by the Sacramento Area Sewer District (SacSewer).

SGMA required local agencies to establish Groundwater Sustainability Agencies (GSAs) and develop and implement Groundwater Sustainability Plans (GSPs) for more than 100 high- and medium-priority subbasins statewide. In the greater Sacramento region, local agencies formed multiple GSAs for the North and South American Subbasins. They were well-positioned to develop GSPs for these subbasins, which were subsequently adopted locally in 2022 and approved by the DWR.

7. Water Forum Successor Effort

The Water Forum Successor Effort (WFSE) was established to guide the ongoing implementation and adaptation of the WFA through 2030. It provides a structured approach to addressing emerging issues, adapting to policy changes, and maintaining continued collaboration among interested parties.

The WFSE was designed to emphasize cooperative problem-solving, requiring participants to engage collaboratively, respect diverse viewpoints, and work toward mutually beneficial

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solutions. The Agreement also established that all parties involved would participate on equal footing within the WFSE.

Under the structure outlined in the WFA, the City-County Office of Metropolitan Water Planning oversees the WFSE, funded through agreements with member agencies, primarily water providers. Representatives of member agencies set policy direction, while staff, managed by the City of Sacramento, carry out the work of the WFSE.

Progress: The framework for the WFSE is a hallmark of the Water Forum process and WFA. It has allowed immediate focus on new issues, provided members with flexibility to realign when necessary, and helped sustain trust and momentum throughout the decades of implementation. Membership has remained stable, with many signatories of the first WFA still actively involved. New participants continue to join, strengthening the collaborative framework established in the first WFA.

Appendix 2: ARCAP Two-Year Workplan

SCOPE OF WORK

This workplan describes the intended activities related to the Water Forum American River Climate Adaptation Program (ARCAP) for the first two years of implementation. The focus for the first two years will include confirming the priority issues for resolution, establishing data, tools, and methods for evaluation, conducting analyses, and is also expected to include trial operations. The work will be phased to align with the approved Water Forum budget for the 2026 Fiscal Year (FY) and includes a Progress Report and an opportunity for workplan refinement after the first year. The budget presented within this work plan only includes the activities identified for the first year. The second-year activities and budget will be refined based on the progress made in year one.

ARCAP TASKS

The Work of ARCAP will be organized into the following tasks. Some of these tasks will take place simultaneously and are not necessarily sequential.

Task 1: Water Forum Member Coordination (ongoing)

An ARCAP Working Group will be created to inform and guide the activities of the ARCAP. The Working Group will be co-convened with the Water Forum and RWA, will include two members from each caucus as primary representatives, and will be open to all Water Forum members. The primaries will commit to making reasonable efforts to attend all working group meetings and to review related materials prior to the meetings. The primaries will also be expected to act as representatives of their caucuses by reporting ARCAP progress to the caucus and providing feedback to the Working Group on matters affecting the caucus. The ARCAP working group will be tasked with:

- Reviewing and commenting on work products
- Providing input on program direction, scope, and pace
- Deliberating, refining, and providing answers to ARCAP Questions

Meetings will be held monthly and supported by facilitation staff, with the option of additional meetings as necessary.

The Working Group decisions and recommendations (including answers to ARCAP Questions) will be developed by consensus and will be presented to the Plenary for approval. This process is consistent with the decision process as defined in the Water Forum Agreement 2050.

Task 2: Refine and Focus ARCAP Questions

The initial list of questions associated with the ARCAP program was identified in the Water Forum 2.0 negotiations. The list is extensive and reflects the broad interests of the Water Forum Members (see ARCAP agreement language, Program Element 1). The key questions to be addressed within the first two years of ARCAP implementation will be refined and agreed upon by

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the ARCAP Working Group within the first three months of this two-year work plan. It is acknowledged that as ARCAP is implemented, the questions to be answered will evolve, be refined, and re-prioritized as necessary.

Task 2 Deliverable: *Refined list of questions to be addressed within the two-year work plan, building from ARCAP Program Element 1.*

Target Schedule for Completion: *Early 2026*

Task 3: Regional Data Collection and Synthesis

This task will be divided into two sub-tasks, with the first centered on collecting and synthesizing information directly from Water Forum purveyors, and the second focused on organizing and preparing data and information for the Technical Analysis (Task 4).

Subtask 3.1 Regional Water Purveyor Data Collection and Synthesis

Water Forum staff and consultants will coordinate with regional purveyors to identify operational scenarios that address various questions defined in Task 2. The information to be collected about these scenarios will include specific types of transactions that could be implemented to provide measurable quantities of water that could meet the program objectives. The information will be synthesized to provide a regional perspective, illustrating the best opportunities for ARCAP Water to be generated and tracked.

This activity is expected to be done in an iterative manner. Initially, the information collection will focus on identifying operational opportunities and constraints for potential ARCAP actions. Later information collection activities will involve more quantitative information on facility capacities, water demands, and available supplies. This information will be used to refine and answer ARCAP Questions related to the potential performance, rules, or structure.

Data synthesis will involve summarizing and packaging the information into regional overviews, highlighting and illustrating potential ARCAP opportunities. In many cases, WF staff will prepare draft syntheses for consideration and deliberation by the ARCAP Working Group.

Subtask 3.1 Deliverable: *Regional Supply and Operations Synthesis Report*

Target Schedule for Completion: *Summer 2026*

Subtask 3.2 Other Regional Data Identification, Organization, and Preparation

Water Forum staff, with input and guidance from the ARCAP working group, will work to collect and organize data and tools for technical analyses, which are expected to begin in the second year of the ARCAP program. Activities related to subtask 3.2 are outlined below:

- Review and consideration of existing analyses and information
 - Acknowledging the possibility that some ARCAP questions may be answered by other efforts, consideration will be given to opportunities to align analyses with other regional efforts, including efforts by Groundwater Sustainability Agencies (GSAs) and the Regional Water Authority (RWA).
- Define Baseline
 - A baseline will be established for evaluating program effectiveness.
- Identify operational scenarios for evaluation.
 - To be informed by the outcomes from Subtask 3.1 (*Regional Water Purveyor Data Collection and Synthesis*), which the ARCAP Working Group will review.

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Subtask 3.2 Deliverable: *ARCAP Data and Approach Summary Document*

Target Schedule for Completion: *Fall 2026*

Task 4: Technical Analyses

This task may include the following activities and will depend on the outcomes of Tasks 2 and 3, and ultimately, the extent of further analysis that is recommended by the working group and approved by the Plenary. The list below provides a preliminary outline of how the work may be organized, which will be refined by the working group.

- Identify hydrologic scenarios for evaluation.
 - It will be informed by relevant regional and statewide climate modeling and will be reviewed by the ARCAP Working Group.
- Identify and prepare tools.
 - Tools considered for further evaluation will include those capable of analyzing trends and conditions for surface water, groundwater, water temperatures, water distribution analyses, etc.
 - Selection of tools will be reviewed by the ARCAP Working Group.
- Conduct Analyses
 - Operational and hydrologic scenarios will be analyzed, and results will be reviewed and discussed with the ARCAP Working Group at various stages.

Deliverable: *ARCAP Technical Analysis Report(s)*

Schedule for Completion: *TBD*

Task 5: Trial Operations and Tracking

It is expected that opportunities may arise to implement certain ARCAP operation scenarios during the first two years of implementation, potentially while technical analyses are still pending. Within Water Forum 2050, it is acknowledged that sources for ARCAP Water will include existing sources and may include operations that are currently being conducted. The ARCAP will provide a mechanism to account for and track the outcomes of these regional activities. Based on the findings of Task 3 (*Regional Data Collection and Synthesis*), opportunities for early trial runs will be identified and considered by the ARCAP Working Group.

As trial runs are performed, individual reporting will be completed on the outcomes of the specific activities.

Deliverable: *Memo(s) reporting results of early trial runs*

Schedule for Completion: *TBD*

Task 6: Synthesis and Documentation

This task will involve synthesizing and documenting all ARCAP activities and analyses. Key reporting is listed below; other documentation may be identified after the first-year progress report.

Year One Documentation

- Year One Progress Report
 - Summarize all activities completed and outcomes for the first year
 - Identify areas for refinement for the second year

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Year Two Documentation (tentative)

- Two-Year Report and Recommendations
 - Summarize all activities completed and outcomes
 - Recommend next steps and activities for the ARCAP program. These recommendations will be developed with the ARCAP Working Group.

Task 7: Engagement with Partners (ongoing)

Engagement with ARCAP partners will be ongoing during the entire two-year work plan. Engagement will include regular meetings, coordination, and strategic messaging based on the status of ARCAP activities and the specific partner. Engagement will be guided by input from the ARCAP Working Group. Expected ARCAP partners are listed in the ARCAP Agreement language.

SCHEDULE

Pending: To be added and will reflect the schedule described in the Tasks above after the WF2050 agreement is finalized.

YEAR ONE BUDGET

The budget below reflects the expected costs for the first-year activities of this work plan, including consultants (hours and estimated costs), and indicates the expected level of effort for Water Forum staff (hours and percentage of time for one full-time employee [FTE]). Note, year two costs will be developed as part of the Year One Progress Report.

ARCAP Workplan - Year One Budget

	WF Staff (1 FTE)		Consultants			
			Technical		Facilitation	
	Hours	% Time for Year One	Hours	\$	Hours	\$
Task 1: Water Forum Member Coordination	72	3.5%	90	\$27,000	84	\$21,000
Task 2: Refine and Focus ARCAP Questions	20	1.0%	5	\$1,500	10	\$2,500
Task 3: Regional Data Collection and Synthesis	150	7.2%	150	\$45,000	0	\$0
Task 4: Technical Analyses ^a	--	--	--	--	--	--
Task 5: Trial Operations and Tracking ^a	--	--	--	--	--	--
Task 6: Synthesis and Documentation	40	1.9%	15	\$4,500	0	\$0
Task 7: Engagement with Partners	50	2.4%	20	\$6,000	0	\$0
Total	332	16.0%	280	\$84,000	94	\$23,500

a. Task 4 and 5 are expected to be initiated in year two of ARCAP implementation and costs will be developed as specifics for the associated activities are refined

Appendix 3: Engagement with the US Bureau of Reclamation

The Water Forum’s ongoing engagement with the U.S. Bureau of Reclamation (Reclamation) has been and will continue to be key to supporting the coequal objectives. The operations of Reclamation at Folsom Reservoir play a critical role in maintaining the health of the lower American River and ensuring the reliability of regional water supplies. By carefully managing water releases from Folsom Dam, Reclamation helps maintain flow conditions that support aquatic ecosystems, including the habitat needs of species like the Central Valley steelhead and Chinook salmon. These operations are also essential for balancing water supply demands for agricultural, municipal, and industrial use in the Sacramento region, especially during periods of drought or fluctuating hydrological conditions.

DESIRED OUTCOMES

The Water Forum will continue to engage and coordinate with Reclamation through various mechanisms and forums and will pursue the following outcomes in efforts to support both coequal objectives. The signatories' shared commitment to the stated outcomes will enhance the region’s ability to adapt to and meet the challenges of climate change.

1. Implementation of the Flow Management Standard (FMS), reflective of the latest data, science, and understanding.
 - a. This includes all features of the FMS (storage targets, minimum flows, temperature protocols, etc.).
2. Reduce regional risks associated with critically low storage in Folsom Reservoir.
3. Leverage regional actions to support healthy conditions on the LAR and regional water supply reliability.
4. Representation of LAR interests in the development and sharing of best available data, science, and methods in regional and statewide collaborative planning and monitoring efforts.
5. Secure funding for habitat planning, implementation, and monitoring efforts on the LAR.
6. Improvements to infrastructure at Folsom and Nimbus dams necessary to support conditions on the LAR.
7. Balanced considerations for American River interests within broader CVP operations, and the regulatory processes to develop operational plans.

In pursuing these outcomes, Water Forum members will coordinate internally to ensure that messaging and communication are consistent and aligned with the interests of all four caucuses.

MECHANISMS FOR ENGAGEMENT

The list below provides an overview of current and planned mechanisms for engagement. This list is likely to change over time.

- Water Forum and Reclamation Memorandum of Understanding (MOU)
 - “*Coordination of Communication and Information-Sharing Activities Related to Lower American River Operations*”
 - Water Forum intends to work with Reclamation to maintain the current MOU and to seek opportunities to update the MOU as needed.
- American River Group (ARG)
 - Monthly meetings with stakeholders on the lower American River to discuss current conditions and planned operations.
 - Key participants include Reclamation, CDFW, NMFS, and Water Forum.
- Monthly cross-caucus meetings with Reclamation
 - Conversations scheduled prior to the ARG meetings provide an opportunity for members to have a more informal discussion with Reclamation.
 - Focused on real-time operations, management, constraints, and forecasts.
- Weekly staff meeting with WF and Reclamation
 - Staff hold weekly staff-to-staff meetings to check in on near-term items.
- Convening LAR Salmonid Habitat Agency Technical Advisory Committee (TAC)
- Participating in and supporting the Central Valley Program Improvement Act, Science Integration Team (CVPIA SIT)
 - Structured Decision-Making and Near-Term Restoration Strategy Guidance
- HR&L Program Participation and Collaboration
- Ongoing Data Sharing
 - Two-way sharing of data and information, including:
 - Latest forecasts
 - Conditions
 - Operations decisions
 - Modeling
 - Fisheries and physical conditions data
 - Utilization of accepted public data venues such as the EDI portal

Appendix 4: List of Temperature Management Projects and Programs

This will be a living document.

			Ways to Support Coequal Goals Through Partnership			
Project/Idea	Type	Location	Advocacy or Coordination	WF Member Resources	WF Staff Time	Notes
Upgrade of Temperature Control Shutters	Project	Folsom Dam	x		x	35% design is complete, and funding is secured for the remaining design and implementation
Access cold water below the power penstocks	Idea	Folsom Dam				Elephant's Trunk, additional powerhouse on lower outlets, power bypass, etc.
Lake Natoma Temperature Curtain	Idea	Lake Natoma				link
Lake Natoma Shade	Idea	Lake Natoma				-
Lake Natoma Value Planning Study	Study	Lake Natoma		x	x	
Upstream Operations						
Geothermal river cooling						

Appendix 5: ARCH Program Planning Matrix

This will be a living document with ongoing and future potential ARCH program/project, science, monitoring, and decision support activities.

The Program Planning Matrix will be formatted to fit in this appendix. The current draft is viewable at [this link](#).

Appendix 5: ARCH Program Planning Matrix

				Water Forum Led Efforts Current Funding Mix (%)	
Category	Subcategory	Action/Idea	Other Opportunities "Outer Container"	Grants *	HME Operating Fund*
Habitat + Education	LAR Salmon Habitat	LAR Spawning and Rearing Program Build + Maintain**		99	1
Habitat + Education	LAR Salmon Habitat	LAR Rearing Site Planning (RM 0-23)		None	None
Habitat + Education	Parkway Multibenefits	New LAR tributary restoration projects: Carmichael Creek, Buffalo Creek (43)		None	None
Habitat + Education	Parkway Multibenefits	LAR Tributaries (ex. Cordova Creek – Phase 2 Design)		75	25
Habitat + Education	Parkway Multibenefits	LAR Tributaries (ex. Cordova Creek – Ph. 3 Permit + Construct)		None	None
Flows and Ops Decision-Support	Temperature	LAR Temperature Modeling. Conduct temperature Modeling, QA/QC, Temperature Management Plan Review, and support Cross-Caucus and ARG discussions (inform seasonal operational and power bypass)		85	15
Flows and Ops Decision-Support	Hydrologic Conditions	LAR FMS. Weekly review of river conditions, MRR calculations and forecasting; meetings with Reclamation, and Cross-Caucus to inform operations occur per our FMS.		0	100
Flows and Ops Decision-Support	Water Quality	Dissolved Oxygen Continuous Monitoring Pilot Study. Documenting/analyzing continuous DO concentrations below Nimbus Dam, and at Watt Avenue, which is the regulatory compliance point for LAR temperatures. This work will inform our understanding of diurnal and seasonal		0	100
Science & Monitoring	Temperature	Cordova Creek temperature monitoring. Assists with project planning and baseline conditions understanding – a longer term dataset informs site understanding and illustrates commitment of Water Forum to defensible science when applying for next phase grant funds.		0	100
Science & Monitoring	Adaptive Management	Gravel Monitoring and Maintenance Plan/Tracking. Required by regulators for continued programmatic authorization of salmon habitat program site implementation (gravel projects)		100	0
Adaptive Management	Habitat	5-Year LiDAR/top/2D Model Update. Necessary to document change in the LAR bed and banks as a result of typical flows, high flows, and habitat projects. Understanding how the river changes over time informs future design.		100	0
Science & Monitoring	Adaptive Management	Aerial salmonid redd surveys. Measure Habitat Project Effectiveness, Adaptive Management and Project Planning. Understand effectiveness of project via salmon utilization and comparison of site utilization patterns over time. Expensive but more cost-effective than in-river surveys – covers LAR from Nimbus to confluence.		100	0
Science & Monitoring	Adaptive Management	In-river salmonid redd surveys. Understand effectiveness of project via salmon utilization. Required by granting agency for funded projects. Cost-prohibitive to conduct for whole river.		100	0
Science & Monitoring	Adaptive Management	Snorkel (juvenile) surveys. Understand effectiveness of project via salmon utilization. Required by granting agency for funded projects. Cost-prohibitive to conduct for whole river.		100	0
Science & Monitoring	Adaptive Management	Off-Channel rearing and Growth Study. Understand current extent/effectiveness and inform future need and spatial extent of rearing habitat.		98	2
Science & Monitoring	Adaptive Management	Emigrating Salmonid Habitat Estimation (ESHE) Model Update. Utilize results from Off-Channel rearing and Growth Study to inform future rearing habitat implementation		98	2
Science & Monitoring	Adaptive Management	Genetic Mark-Recapture Study. Understand and directly measure production of juvenile fish from habitat sites. Measure Habitat Project/Program Effectiveness Adaptive Management and Project Planning		98	2
Science & Monitoring	Adaptive Management	Otolith Salmonid Life History Study. Understand behavior and life history of naturally spawning Chinook in LAR and how different water year types influence out-migration timing.		98	2
Habitat + Science		Statewide Voluntary Agreements. Science Committee, Habitat Planning, Funding, Implementation, Tracking, Accounting and Science Plan Development. Ensure VA implementation and accounting leverages Water Forum's existing and planned program activities appropriately.		0	100
Habitat + Education	Upper Watershed	Forestry/Watershed health projects (13)	X		
Habitat + Education	Parkway Multibenefits	Improve Riparian Corridor (38a): Protect existing resources – flow/misuse of Parkway			

Appendix 5: ARCH Program Planning Matrix

				Water Forum Led Efforts Current Funding Mix (%)	
Category	Subcategory	Action/Idea	Other Opportunities "Outer Container"	Grants *	HME Operating Fund*
Habitat + Education	? Ask Leo Intent	Improve Riparian Corridor (38b): Increase?			
Habitat + Education	Partnership/Advocacy	Improve Riparian Corridor (38c): Support Regional Parks Natural Resource Management Plan - relevant areas to the HME. Concurrent with ongoing NRMP and Monitoring Plan Implementation TAC involvement.		None	None
Functional Flows	Habitat/Multibenefits	Identify needed Fundamental/Functional Flows (28)		None	None
Habitat + Education	LAR Salmon Habitat	Improve LAR Temperature Infrastructure and Management		None	None
Habitat + Education	LAR Salmon Habitat	Voluntary Agreements: Habitat Planning/Construction		0	100
Habitat + Education	Vegetation	Invasive Species Removal on LAR Parkway		None	None
Habitat + Education	Other Multibenefits	Cosumnes River Projects	X	None	None
Habitat + Education	Other Multibenefits	Sacramento River and Small Tributaries	X	None	None
Habitat + Education	Recreation	LAR Recreation (core HME programmatic element - no projects)		None	None
Habitat + Education	Education	Soil Born Farms K-12 Curriculum Support		None	None
Habitat + Education	Education	Effie Yeaw Nature Center Curriculum/Interpretive Signage		None	None
Habitat + Education	Education	Promotion of regional waterways and their unique qualities	X	None	None
Habitat + Education	Education	Education on the interconnection of local watersheds and groundwater basins	X	None	None
Habitat + Education	Education	Upper Watershed Forest Health Improvements and Advocacy	X	None	None
Habitat + Education	Education	Regenerative and/or Water-Efficient Landscaping	X	50	50
Habitat + Education	Parkway Multibenefits	Bushy Lake Restoration (Ecocultural/Western pond turtle)		None	None
Science & Monitoring	Tracking/Reporting	State of the River Report		0	100
Science & Monitoring	Potential Need	Monitoring for Additional Species and/or Parameters	X	None	None
Habitat + Education	Partnership/Advocacy	Lower American River Task Force		0	100
Habitat + Education	Partnership/Advocacy	American River Group		0	100
Science & Monitoring	Tracking/Reporting	FISH Plan Updates	X	None	None
Habitat + Education	Partnership	Mitigation Coordination American River Common Features (SAFCA/USACE)		None	None
Habitat + Education	LAR Salmon Habitat	Support local funding for spawning and rearing areas in the LAR (46)			
Hatchery	Advocacy	Nimbus Fish Hatchery Management and Operations	X	None	None
Hatchery	Advocacy	Nimbus Hatchery genetics/measurement. Increased survival of salmonids (40)	X		
Hatchery	Advocacy	Improve survival rate of hatchery releases (timing and location of releases) (56)	X		
Hatchery	Advocacy	Support the creation of a WF team to evaluate the operation of the Nimbus Hatchery to better support the genetics of river-spawning salmonids and to improve the survival skills of hatchery-raised salmonids. (62)	X		
Habitat + Education	Upper Watershed	Introduce Salmon above Folsom (47)	X		
Science & Monitoring	Tracking/Reporting	Coequal objectives with metrics specific to LAR (39)			
Habitat	Vegetation	Management/Removal of hydrophilic vegetation along the LAR (Spanish Broom, Yellow Star Thistle, Giant Reed (Arundo donax)		100	0
Habitat	Vegetation	Plant pollinator habitat vegetation on electrical right of ways within the LAR			
Recreation	Flows	Provide for recreational (rafting flows) during the period of most use.			
Recreation		Provide (through donations or outright purchase) webbed garbage bags for each raft			
Recreation	Trails	Provide support to Sac County for recreational trail management; specifically restoration of social trails along the LAR.			
Habitat	Fishery	Identify locations off, and fill in side channel stranding pools.			
Flows and Ops	Temperature	Identify use, management and efficiency of EID Temperature Control Device			
Flows and Ops	Temperature	Identify use, management and efficiency of San Juan/Roseville Temperature Control Device located at their water supply intake.			

Appendix 6: Declaration of Full Appropriation

The WF2050 negotiations included the formation of a subgroup tasked with the review, assessment, and discussion of commitments made in the original Water Forum Agreement related to the existing declaration of full appropriation on the Lower American River. Based on the review and discussion, the subgroup is not recommending the Water Forum pursue an amendment to the Declaration of Full Appropriation (DOFA) in Water Forum Agreement 2050. The explanation follows:

Fully appropriated stream systems are those where there is insufficient supply for new water right applications, either during certain months or conditions, or all year long. The program is administered by the State Water Resources Control Board (SWRCB). SWRCB, which administers major parts of California’s water rights system, does not accept applications for new water rights on fully appropriated streams, except in certain specified circumstances.³⁶

The subgroup confirms their understanding that the American River’s current status as a fully appropriated stream helps reduce potential new competition for scarce water supplies to the benefit of existing rights holders and water users, as well as public trust watershed resources. The status is therefore a positive one.

The subgroup notes that the SWRCB does not administer the fully appropriated streams program to affect existing water rights and contracts, or applications for assignment of state filings or for rights under the state’s Area of Origin protections such as might be made by one or more of the Water Forum 2050 negotiation participants, as provided for by SWRCB orders.³⁷

In the SWRCB’s administration of its fully appropriated streams system and its responsibilities under the California Wild & Scenic Rivers Act and realities of the National Wild & Scenic Rivers Act designations in California, SWRCB has issued orders that state or federal wild & scenic river designations result in twelve-month declarations of full appropriations on the designated reaches. SWRCB orders also state that any declaration that a stream system is fully appropriated encompasses all upstream sources that contribute to the stream system if such upstream sources are hydraulically continuous to the stream system.

Thus, the existence of insufficient unappropriated supply at times in the American River watershed and the wild & scenic river status of the lower American River is expected to constrain the acceptance and processing of new water right applications outside of the specified exceptions.

³⁶ https://www.waterboards.ca.gov/waterrights/water_issues/programs/fully_appropriated_streams.

³⁷ SWRCB Order WR 98-08 (in response to a petition to reconsider Order WR 89-25, the SWRCB adopted Order WR 90-2 on February 15, 1990. Order WR 90-2 modified and affirmed Order WR 89-25 as modified).

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Thus, the subgroup sees little utility in recommending that amendments to the existing declarations of full appropriations be sought in Water Forum 2050.

Appendix 7: Bridge to the Regional Groundwater Sustainability Agencies and Water Forum 2050

The purpose of this appendix to the Water Forum Agreement is to address the relationship between groundwater management entities and the Water Forum Agreement. The Water Forum Agreement, initially signed in 2000 and revised in 2015, includes a Groundwater Management Element (GME).

In 2014, the State of California passed the Sustainable Groundwater Management Act (SGMA), which created the foundation for the sustainable management of the state's groundwater basins/subbasins. Under SGMA, to avoid potential state intervention and state control of groundwater, local agencies can signal to the State their intention to form as Groundwater Sustainability Agencies (GSA) to locally manage groundwater within each subbasin. As required in SGMA and newly completed regulations, GSAs prepared, adopted, and began implementing Groundwater Sustainability Plans (GSPs) within subbasins throughout the state.

In the Sacramento County portion of the North American subbasin, the Sacramento Groundwater Authority (SGA) serves as the GSA governed by a joint powers agreement (JPA). SGA works collaboratively with four other GSAs in the subbasin to implement the North American Subbasin GSP.

In the South American subbasin, there are currently seven GSAs working collaboratively to implement the South American Subbasin GSP. The largest GSA in the basin is the Sacramento Central Groundwater Authority or SCGA, which is governed by a JPA, and whose members are largely signatories to the Water Forum Agreement.

The Cosumnes subbasin includes seven GSAs and is governed by the Cosumnes Groundwater Authority (CGA). The CGA serves as the coordinating body for the Cosumnes subbasin GSAs, facilitating communication, data sharing, and the implementation of projects and management actions.

Because SGMA now defines the sustainability metrics of groundwater through the adopted GSPs, the sustainable yield listed in the original Water Forum Agreement is now obsolete. Also, because groundwater management in the three regional subbasins now includes parties that are not signatories to Water Forum 2050, it is important to define the intersection between regional groundwater management and the Water Forum.

The signatories to the Water Forum who are also members of the SGA JPA and the SCGA JPA recognize the shared goal of managing groundwater resources in Sacramento sustainably.

The signatories also recognize the importance of transparent governance and the sharing of information related to groundwater management.

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The signatories remain committed to conjunctive use as defined in the original Water Forum Agreement as the balanced use of groundwater and surface water. Conjunctive use prioritizes the use of surface water during wet times and prioritizes groundwater during dry times. The signatories agree that the Sacramento Regional Water Bank will help expand and formalize the practice of conjunctive use.

Appendix 8: WSS Demand Management Actions

Acknowledging that each Water Forum purveyor must consider the timing and level of effort required for each potential demand management action in relation to their opportunities and constraints, the list below is provided as a reference for consideration and is not intended to be any form of a mandate. The ability of each purveyor to identify the most effective demand management actions for their respective service area will be critical as the region endeavors to support the coequal objectives while meeting relevant targets and standards.

1. Create and implement policies and programs that convert publicly owned, commercial, and institutional landscaping to low-water use native landscaping that supports native pollinator, insect, bird, and animal species.
2. Implement staggered outdoor irrigation schedules for twice a week during summer (e.g., based upon a last digit of street address) for residential customers, and one day a week for commercial customers.
 - a. Note: An exception would be needed for newly planted vegetation that requires additional water for healthy root development.
3. Expand and strengthen regional conservation messaging to amplify information about plant watering needs; encourage no irrigation during the cooler, wetter winter months and, in dry winters, significantly reduced irrigation due to lower transpiration rates during the non-growing season.
4. Provide rebates to all customers for indoor and outdoor WaterSense labelled products.
5. Implement programs to identify water users that are using excessive amounts of water (well above the mandated objectives) and support those users in reducing excessive use through education and access to resources (i.e., rebates), as available.
6. Implement water rate structures to promote equity and encourage water conservation (tiered, decoupled, others).
7. Implement leak detection, notification and enforcement.
8. Strengthen and expand regional program(s) that retrofit rental and low-income housing with water efficient devices and landscaping.
9. Expand and strengthen landscape conversion education and incentive programs and emphasize low-water use native plants (which require less summer water and support native pollinator, insect, bird and animal species), and improvements to irrigation practices and systems which increase water-use efficiency.
10. Maintain and strengthen active water waste prevention programs, including public messaging and intervention steps when waste is observed physically or through meter data (i.e., leak alert programs, water waste hotlines).
11. Create messaging and other information programs to positively promote and support customer efforts to help suppliers implement state requirements.
12. Encourage the use of demand management measures such as reuse, gray-water, recycling, and rainwater-harvesting.
13. Establish and support programs targeting implementation of the Commercial, Industrial, and Institutional (CII) Best Management Practices (BMPs).

Appendix 9: Metrics and Reporting Development and Tables

See the following page.

Metrics and Reporting Development and Tables

This appendix provides summary tables of the data and documentation metrics used in the Water Forum metrics and reporting program element, and their respective categories and relevant program areas. The summary tables include the ARFO, ARCH, WSS, and GFA program areas. Metrics related to ARCAP will be developed as the program is launched and the members identify specific to metrics for long-term tracking and reporting. Contextual data are not featured in this appendix. That data is informative in terms of the status of the coequal objectives but is not necessarily indicative of the success of the Water Forum’s activities. A figure and description of steps taken to develop the Water Forum Metrics and Reporting framework are identified in the figure below.



Figure 9.A. Steps taken for development of Metrics and Reporting framework

Each step is elaborated in detail as follows:

1. **Review of Guiding Principles and Available Data:** Guiding principles were reviewed along with available data and information, including existing data reporting mechanisms, to identify potential metrics applicable for each principle.
2. **Determine Type of Metrics:** An explanation was documented of whether these metrics were quantifiable data, or more qualitative and descriptive in nature (see the Types of Metrics explanation below).
3. **Identify Overlaps and Efficiencies:** Metrics were reviewed to determine potential overlaps, whereby a given metric could be tracked that demonstrates progress in supporting more than one Guiding Principle. These overlaps can also provide opportunities for efficiencies in reporting by reducing the overall total number of metrics that are tracked and reported.
4. **Identify Reporting Mechanism:** A potential form of reporting (e.g., Annual Report, Water Forum 2050 Five-Year Status Report, reporting during a standing meeting [Caucus, Plenary]) was identified for each metric. This step leveraged existing forms of reporting and existing venues for Water Forum member and staff engagement, rather than creating additional meetings. Similarly, this step supports providing progress updates that inform standing meetings and existing reporting processes and documentation.
5. **Map Reporting Schedule:** Metrics were reviewed to create an overall reporting and member engagement timeline that could be pursued within a given year to regularly communicate progress made in supporting the coequal objectives and implementing guiding principles.

Appendix 9: Metrics and Reporting

Category	Documentation Metric Description	Coequal Objectives	WF2050 Principles				Reporting Mechanism			
			ARFO	ARCH	WSS	GFA	Website	Annual Report	Meeting	5-Year Status Report
Water Quality	Nov-Feb river temperatures relative to upper tolerable thresholds for both species	X	X				✓	✓		✓
Water Quality	Mar-Oct river temperatures relative to upper tolerable thresholds for both species (where applicable)	X	X				✓	✓		✓
Water Quality	Maximum weekly average temperature (MWAT), and temperature on Nov 1. To be presented relative to peak spring/summer storage.	X	X					✓		✓
Water Quality	Dissolved Oxygen	X	X	X			✓		✓	
Storage	Storage in Folsom reservoir: annual minimum, end-of-May, and end-of-December	X	X	X	X		✓	✓		✓
Storage	Coldwater volume in Folsom Reservoir on October 15th	X	X	X			✓	✓		✓
Habitat	Nov-Feb 90% exceedance flows provide access to X% of available spawning habitat	X	X	X						✓

Appendix 9: Metrics and Reporting

Category	Documentation Metric Description	Coequal Objectives	WF2050 Principles				Reporting Mechanism			
			ARFO	ARCH	WSS	GFA	Website	Annual Report	Meeting	5-Year Status Report
Habitat	Mar-Oct flows provide access to X% of available rearing habitat	X	X	X						✓
Habitat	Number of salmonid habitat projects implemented and documentation of their total acreage and effectiveness through utilization monitoring and sharing of data.	X		X			✓	✓		✓
Habitat	Number (and acreage) of "non-salmonid" natural resource projects implemented and documentation of their utility/ effectiveness through relevant monitoring and sharing of data.	X		X			✓	✓		✓
Water Supply	Synthesis and reporting of GSP data: change in storage, sustainable yield, GW levels, GW extraction, etc..	X			X		✓	✓	✓	✓
Water Supply	Summarize and compare SW and data and information and evaluate for trends relative to hydrologic conditions	X			X		✓	✓		✓
Water Supply	Synthesis of key demand management data from existing reporting (to be summarized by region and on a purveyor basis): actual annual and monthly demands, projected annual demands, and status of meeting relevant regulations.	X			X	X	✓	✓		✓

Appendix 9: Metrics and Reporting

Category	Documentation Metric Description	Coequal Objectives	WF2050 Principles				Reporting Mechanism			
			ARFO	ARCH	WSS	GFA	Website	Annual Report	Meeting	5-Year Status Report
Water Supply	Summary of water supply data summarized by purveyor and region	X			X	X	✓	✓		✓
Water Supply	Annual and seasonal quantification of diversions from the American River	x			X		✓	✓		✓
Funding	Total funding from local, state, and federal grant entities leveraged with operating funds in support of a program area.	X	X	X	X	X		✓		✓
Other	Records of participation in Plenary and Caucus meetings	X				X		✓		
Other	Unimpaired Inflows to Folsom Reservoir (Mar-Oct)	X					✓	✓		✓
Other	Number of individuals/organizations reached (e.g., contacted or content read)	X	X	X	X	X		✓		✓
Other	Number of individuals engaged (e.g., provided input, feedback, responded to requests for information or actively participated in activities).	X	X	X	X	X		✓		
Other	Member Survey to understand perspectives on effective implementation of mutual gains approach, collaborative participation, and leadership among members and WF staff.	X				X				✓

Appendix 9: Metrics and Reporting Table

Category	Documentation Metric Description	Coequal Objectives	WFA Principles				Reporting Mechanism				
			ARFO	ARCH	WSS	GFA	Project Reporting	Website	Annual Report	Meeting(s)	5-Year Status Report/Symposia
Accountability	FMS documentation will clearly communicate flow benefits above MRRs, with quantifications where possible.	X	X				✓				
Accountability	FMS documentation will clearly communicate the importance of DO for river health, with quantifications where possible.	X	X	X			✓				
Accountability	Enumerating and documenting the outcome of meetings attended, briefings held, any beneficial legislative or regulatory outcomes resulting from WF efforts related to advocacy to support WF efforts on the LAR.	X	X	X	X	X			✓		✓
Accountability	Provide a summary of the tools, data, and assumptions used for GW evaluations within the SaSB, NaSB, and CSB.	X			X						✓
Accountability	Documentation of implemented and planned demand management programs and projects (summarized by region and on a purveyor basis).	X			X						✓
Accountability	Maintain documentation on ongoing strategies and outcomes for engagement with Reclamation.	X	X	X	X	X	✓				
Accountability	Document agreed to messages related to water conservation in dry times.	X			X		✓				
Accountability	Document when conferences are convened and include enumeration of meetings conducted.	X			X				✓		
Benefits	FMS includes evaluation of expected impacts/benefits to water quality, flows, habitat availability, and frequency of critically low storage relative to identified thresholds.	X	X	X			✓				
Benefits	Annual project/program tracking and reporting related to opportunities for enhanced operational flexibility within the American River watershed.	X	X	X	X				✓		

Appendix 9: Metrics and Reporting Table

Category	Documentation Metric Description	Coequal Objectives	WFA Principles				Reporting Mechanism				
			ARFO	ARCH	WSS	GFA	Project Reporting	Website	Annual Report	Meeting(s)	5-Year Status Report/Symposia
Benefits	Annual project/program tracking and reporting related to operational and infrastructure improvements for temperature and other water quality issues within the American River watershed.	X	X	X					✓		
Benefits	Annual project/program tracking and reporting related to opportunities for study and implementation and utilization of collected data in LAR-specific and regional/statewide decision support.	X		X					✓		✓
Benefits	Number of targeted public outreach and education activities focused on building support for WF programs and activities and sharing out the results of WF efforts on the LAR and the contribution made to broader regional or statewide goals or best available science.	X		X		X			✓		✓
Benefits	Enumerating and documenting the outcome of meetings attended, briefings held, any beneficial legislative or regulatory outcomes resulting from WF collaboration with partners.	X	X	X	X	X			✓		
Benefits	Document project monitoring and evaluation results for corridor health, can include: physical and fisheries monitoring of project sites based upon established protocols and other river science, monitoring and project and special studies results.	x		x			✓		✓		✓
Partnership	Host annual meeting with regional GSAs to present and discuss GSP status and contents of Annual Reports.	X			X					✓	
Partnership	Host annual meeting to review data and discuss trends related to regional water use and current regulations	X			X					✓	

Appendix 9: Metrics and Reporting Table

Category	Documentation Metric Description	Coequal Objectives	WFA Principles				Reporting Mechanism				
			ARFO	ARCH	WSS	GFA	Project Reporting	Website	Annual Report	Meeting(s)	5-Year Status Report/Symposia
Partnership	Annual learning and engagement sessions will be planned and topics will include all aspects of Water Forum work, and will include communities outside of the signatories (as relevant).	X				X				✓	
Process & Structure	FMS includes features for establishing storage targets/requirements for early-summer and end-of-year	X	X				✓				
Process & Structure	FMS includes evaluation of expected impacts of FMS features on out of basin users	X	X				✓				
Process & Structure	FMS features, specifically storage and flow prescription's, are not in conflict with flood rules and operations	X	X				✓				
Process & Structure	Qualitative description and reporting of scientific data and methodology/methods advocated for and used, decisions made, overview of progress in monitoring and reporting processes.	X		X					✓		✓


Appendix 10: Water Forum and Department of Utilities MOU


See the following page.

**Memorandum of Understanding for
Financial Services Provided to the
City County Office of Metropolitan Water Planning
(also known as the Water Forum)**

The following are terms of mutual understanding of responsibilities between the Department of Utilities (DOU) and the City County Office of Metropolitan Water Planning (CCOWMP) as it relates to financial services for the CCOMWP. All parties have collaborated on the contents of this document and have agreed to follow this agreement. The terms of the memorandum will be reviewed on an annual basis to ensure the language is accurate and consistent with current operations. The Executive Director of the CCOMWP reports jointly to the City and County with the primary oversight provide by the Director of Utilities. However, neither DOU nor the CCOMWP is a separate legal entity. Therefore, this MOU does not legally bind the City of Sacramento, the City Council, the City Manager, or the City Manager's designee regarding any future conduct of either DOU or the CCOMWP.

The signatures below indicate the understanding by DOU and the CCOMWP to abide by the following terms and conditions of this document.


Pravani Vandeyar (Mar 6, 2025 20:50 PST)
Pravani Vandeyar, Director
Department of Utilities


Ashlee Casey (Mar 7, 2025 11:38 PST)
Ashlee Casey Interim Executive Director
City County Office of Metropolitan Water
Planning

The CCOMWP Financial Goal Statement: Provide accurate financial reporting in accordance with the annual adopted budget that optimizes the use of financial resources and provides fiscal transparency.

Purpose for Services: DOU and the CCOMWP have agreed to enter into this interdepartmental services agreement for financial oversight provided by DOU to the CCOWMP for accurate financial reporting and fiscal transparency. The CCOMWP will dedicate one Administrative Analyst (position number 00042742) to DOU for these purposes. The assigned CCOMWP Administrative Analyst (position number 00042257) and Senior Staff Assistant will be the primary points of contact for the CCOMWP. DOU Fiscal Operations team members will provide support depending on the expertise needed to accomplish the individual tasks, in an effort to reduce funding impacts on the CCOMWP's annual budget. The DOU assigned CCOMWP Administrative Analyst (position number 00042742) will provide support to DOU to help offset costs to the CCOMWP. DOU will pay 90% and CCOMWP will pay 10% of the leave hours associated with this position.

Overview of DOU Services Provided: DOU Fiscal Operations Team will provide financial oversight, including the City annual budget and yearend deliverables, assist with accurate

financial reporting, and day-to-day fiscal oversight including all financial eCAPS approvals. DOU will also provide the following services:

Financial Services

Review, approve and provide assistance as needed with the preparation of the annual City budget deliverables for the CCOMWP, including, but not limited to, augmentations, net-zero adjustments, position moves, budget adjustments (including revenue, operating, and transfer adjustments), non-budgeted position report, fund analysis, five-year forecast, and Hyperion entry.

- Review, approve, and provide assistance as needed with the preparation of yearend deliverables as provided by Central Accounting for the CCOMWP. Including but not limited to coordinating project closures, grant roll forward reporting, grant compliance, reclassifying expenses as needed, review and report uncollected revenues, fixing overspent projects, p-card reconciliation, voucher payments, and preparation and/or approval of accounting journals and budget journals as needed for yearend closeout.
- Review and approve day-to-day, quarterly, and annual financial tasks as required for the adopted budget, including but not limited to quarterly projections, interfund reimbursements, accounting journals, revenue invoicing in eCAPS (grant billings and annual water purveyors), monitor doubtful accounts, etc.
- Review and approve budget journals, project requests, project closures, and status changes prepared by CCOMWP staff.
- Approve requisitions and payment vouchers in eCAPS to ensure accuracy, such as the correct budget lines, program codes/projects, sales tax, use tax, etc.
- Review and approve all grant billing packages, including all granting agency's required backup for invoicing requirements, and invoice processing in eCAPS. Grant billing should be completed on a regular basis and wherever possible in the same fiscal year as the expense occurred.
- Review and approve all training and travel requests in eCAPS and the Supervising Financial Analyst will approve in K2 prior to the DOU Director.
- Review and approve all council reports, including approval in Legistar.
- Other financial activities as needed and mutually agreed upon.

CCOMWP Deliverables: The CCOMWP will be responsible for the following tasks:

- Prepare and provide annual City budget deliverables including, but not limited to, augmentations, net-zero adjustments, position moves, budget adjustments (including revenue, operating, and transfer adjustments), non-budgeted position

MEMORANDUM OF UNDERSTANDING FOR FINANCIAL OVERSIGHT

report, fund analysis, five-year forecast, and Hyperion entry. The budget should align with the approved budget as presented to the Plenary and approved by the Executive Director.

- Prepare and provide yearend deliverables documents such as project closures, grant billing accuracy and compliance, support for uncollected revenue, preparing p-card reconciliations, and budget journals.
- Prepare and provide day-to-day, quarterly, and annual financial tasks as required for the adopted budget, including but not limited to quarterly projections, interfund reimbursements, accounting journals, revenue invoicing in eCAPS (grant billings and annual water purveyors), monitor doubtful accounts, etc.
- Prepare and input budget journals, new project requests, project closures, and project status changes in eCAPS for DOU approval.
- Obtain, negotiate, review all documentation from outside parties for contracts, change requests, and requisition requests.
- Provide travel and training documentation for processing.
- Executive Director or Designee will approve all requisitions, travel, and invoices in K2 for approval in eCAPS by DOU.
- Program Manager/Senior Engineer will lead the processes for requests for proposals, requests for qualifications, and contracts.
- Other support for financial activities as needed and mutually agreed upon.

Funding: The CCOWMP is responsible for funding the financial oversight provided by DOU and will provide one Administrative Analyst position (position number 00042742) to DOU through this MOU. This position will report to the DOU Supervising Financial Analyst and will be located in DOU (1395 35th Avenue, Sacramento, CA 95822). The costs associated with this position is included in the CCOWMP's annual budget.

The DOU Fiscal Operations Team will provide overall financial oversight with a team that includes one Supervising Financial Analyst, one Senior Accountant Auditor, one Program Specialist, one Accountant Auditor, four Administrative Analysts (including one CCOWMP Analysts), one Administrative Technician, and two Accounting Technicians. This support will be paid at actual cost with no markup through an annual interfund transfer based on actual costs charged to Program Code 14B03. DOU will complete an annual review of time spent supporting the CCOWMP and prepare an interfund transfer that will charge or reimburse the CCOWMP based on position costs minus actual costs charged. Utilizing the Fiscal Operations Team to support the CCOWMP allows DOU to assign tasks to all levels, which will minimize costs.

MEMORANDUM OF UNDERSTANDING FOR FINANCIAL OVERSIGHT

Insurance: During the term of this agreement the CCOWMP shall maintain a policy of commercial general liability insurance in the amount of not less than \$1,000,000 per occurrence. The policy shall include products and completed operations coverage and the City of Sacramento shall be covered by endorsement or policy terms as additional insured.

Appendix 11: Five- and One-Year Water Forum Budget

See the following page.

Water Forum Budget Projection Summary						
Fiscal Year 2025/26 - 2029/30						
	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30
	Adopted	Proposed	Proposed	Proposed	Proposed	Proposed
Fund 7103 - Water Forum Successor Effort	1,393,949	1,050,519	1,029,021	1,062,956	1,099,060	1,133,266
Fund 7104 - Habitat Management Element	940,286	922,621	1,070,163	1,047,620	1,093,275	1,153,975
Total Revenue Need	2,334,235	1,973,140	2,099,183	2,110,576	2,192,334	2,287,241

Note: FY25 is for informational purposes only and includes the Water Forum 2.0 funding.

Water Forum Budget Projection Summary

	FY 25 Adopted	FY 26 Proposed
Fund 7103 - Water Forum Successor Effort	1,393,949	1,050,519
Fund 7104 - Habitat Management Element	940,286	922,621
Total Revenue Need	2,334,235	1,973,140

Water Forum Successor Effort (WFSE) Fund 7103 FY26 Projected Costs			
	Account Codes	FY 25 Adopted	FY 26 Proposed ⁽⁴⁾
Staff / Labor and Benefits		1,165,126	1,172,520
Permanent staff ⁽¹⁾		1,165,126	1,082,724
Employee services contingency	413240		89,796
Operating Services and Supplies		122,516	153,536
Office and Supplies		75,131	109,006
Leased office space	444010	58,451	53,538
Office Parking spaces	444010	4,680	4,860
Postage	461010	200	207
Printing and Binding	455010	900	932
Office Supplies	461020	2,000	2,070
Rental of Equipment (photocopier)	444020	900	932
Food Program	463010	6,500	6,500
Security Services	434030	1,500	1,148
Insurance	452010	0	38,820
Travel and Training		19,385	19,773
Training/Conferences	432010	12,735	12,990
Transportation	458010	1,900	1,938
Meals	458020	925	944
Lodging	458030	2,850	2,907
Other Travel Expenses	458030	975	995
Information Technology		24,000	20,617
Telecommunications		12,000	8,257
Cellular Telephone	453020	2,000	506
Communication Lines	453030	10,000	7,751
Equipment and Software		12,000	12,360
Computer Software	461210	5,500	5,665
Computer Equipment	474410	5,000	5,150
Computer Software Maintenance	443050	1,500	1,545
Human Resources (recruitment, memberships)		4,000	4,140
Subscriptions And Publications	464020	1,000	1,035
Memberships and Sponsorships	481150	3,000	3,105
City of Sacramento/HME - Shared Resources Costs		(546,753)	(493,037)
Accounting ⁽²⁾		39,000	0
Legal		9,533	9,628
Citywide Cost Plan ⁽²⁾		0	52,250
DOU Fiscal & Admin Services (Reimbursement)/Charge		(100,000)	(103,700)
HME Cost Share Reimbursement		(495,286)	(451,215)
Consulting Services for General Operations		653,060	191,000
Communications and Outreach	433060	50,000	56,000
Facilitation Support	433060	0	70,000
Grant Support	433030	0	30,000
Legal	433020	5,000	25,000
Website and SharePoint	433060	30,000	10,000
Water Forum 2.0 MYOP		568,060	
Total Expenses		1,393,949	1,024,019
Operating Reserve Needs⁽³⁾		-	26,500
Total Revenue Need		1,393,949	1,050,519

Notes:

1) There are no assumptions for additional staff; however, if the Water Forum is successful in obtaining substantial grant funding, an augmentation could be needed in the future.

2) The Accounting budgeted transfer will be deleted in FY26 when the Citywide Cost Plan charges are implemented. The City of Sacramento has covered the Citywide Costs in error since WF inception. The Citywide Cost Plan includes all citywide shared services including but not limited to Finance, Human Resources, City Council, City Clerk, Information Technology, etc.

3) The Operating Reserve will be funded over the first five years of the new agreement to minimize funding impacts to purveyors and to maintain at least \$100,000 in available fund balance for unplanned needs. The Operating Reserve excludes costs associated with operating programs. In the event of full revenue loss, programs will be suspended until revenues are available.

4) FY26 Final includes the adjustments for the final position budgeting report, updated liability insurance premium, final adjustments to COS cost share, final adjustments to citywide cost plan, and misc. IT adjustments. Savings will be added to professional services that will later be applied to employee services to support possible overages for Executive Director or Senior Engineer when either position is filled at a higher total compensation rate.

**Water Forum Habitat Management Element (HME) Fund 7104 FY26
Projected Costs**

	FY 25 Adopted	FY 26 Proposed
City of Sacramento/WFSE - Shared Resources Costs	495,286	451,215
WFSE Cost Share Reimbursement	495,286	451,215
Consulting Services for Core Programs	445,000	591,406
Grant Support	30,000	76,406
River Corridor Health - Habitat Enhancement Projects	150,000	-
River Corridor Health - Required Monitoring and Decision Support	95,000	120,000
State of the River - Metrics Reporting and Data Informatics/Visualization	-	150,000
River Corridor Health Program - Technical Support	-	110,000
Flows and Operations - Technical Expertise	170,000	135,000
Total Expenses	940,286	1,042,621
Grant Reserve Funds	491,000	296,000
Grant Reserve Annual Allocation	-	18,500
River Corridor Health - Science and Monitoring	-	(120,000)
Grant Match for USBR WaterSMART Grant (\$650,000)	(195,000)	-
Remaining Grant Reserve	296,000	194,500
Total Revenue Needs	940,286	922,621

Water Forum Successor Effort (WFSE - 7103)
Fund 7103 FY26 - FY30
WFSE (7103 Fund) Projected Fund Balance and Reserve Needs

	FY25	FY 26	FY 27	Projected		
				FY 28	FY 29	FY 30
Fund Balance & Reserves						
Beginning Fund Balance⁽¹⁾	285,000	275,000	100,000	100,000	100,000	100,000
Fund Balance Changes ⁽²⁾	(10,000)	26,500	26,500	26,500	26,500	23,258
Emergency Operating Reserve Balance ⁽³⁾	-	(201,500)	(26,500)	(26,500)	(26,500)	(23,258)
Ending Fund Balance	275,000	100,000	100,000	100,000	100,000	100,000
Operating Reserve Balance		201,500	228,000	254,500	281,000	304,258

Notes:

1) FY24 Yearend Actuals have not been audited. The ending fund balance for FY24 and beginning fund balance for FY25 are subject to change until the Annual Comprehensive Financial Report (ACFR) is released in January 2025.

2) FY25 Fund Balance usage is estimated at \$10K for the University Enterprises contract that was not fully spent in FY24. Future years will be used to fund the Emergency Operating Reserve for WFSE operating costs only.

3) The Emergency Operating Reserve will be funded over the first five years to minimize funding impacts to purveyors. Initial funding comes from remaining WFSE fund balance (7103). In the event of full revenue loss, programs will be suspended until revenues are available. The Reserve will be available for emergencies and will cover 120-day of operating costs, and excludes costs associated with consulting services for general operations and core programs. In addition, the Water Forum will maintain at least \$100,000 in available fund balance for unplanned needs.

Water Forum FY26 - FY30						
HME (7104 Fund) Projected Fund Balance and Reserve Needs						
	FY25	FY 26	FY 27	Projected FY 28	FY 29	FY 30
Fund Balance & Reserves						
Beginning Fund Balance⁽¹⁾	541,000	50,000	50,000	50,000	50,000	50,000
Fund Balance Changes ⁽²⁾	(491,000)	18,500	18,500	18,500	18,500	-
Transfers to Grant Reserve	-	(18,500)	(18,500)	(18,500)	(18,500)	-
Ending Fund Balance	50,000	50,000	50,000	50,000	50,000	50,000
Grant Fund Reduction for Projects/Matches	(195,000)	(120,000)	-	-	-	-
Grant Reserve Balance	296,000	\$ 194,500	\$ 213,000	\$ 231,500	\$ 250,000	\$ 250,000

Notes:

1) FY24 Yearend Actuals have not been audited. The ending fund balance for FY24 and beginning fund balance for FY25 are subject to change until the Annual Comprehensive Financial Report (ACFR) is released in January 2026.

2) Water Forum will create a grant reserve at the end of FY25 to ensure funding availability to pursue grants by using all but \$50,000 of the remaining HME fund balance (7104). There is a need of \$195,000 for a grant match in FY25 and grant related operating expenses of \$120,000. If grant reserves are used in any given Fiscal Year, the reserve will be replenished to \$250,000 over the next five years to limit the impacts on contributors. HME funding was contributed by the County of Sacramento Zone 13 and the City of Sacramento. Funding from the grant match will be used to fund grant related HME efforts only.

Appendix 12: Cost Allocation Methodology Description

During negotiations, it was determined that a new cost allocation methodology would be necessary to fund the work of the Water Forum, commencing in Fiscal Year 2025-2026 (FY26). Previously, funding for multiple agencies was derived from assessments through the Sacramento County Water Agency (SCWA) Zone 13. However, Zone 13 was established 38 years prior without an inflation adjustment, and its revenue has remained static while the Water Forum’s budget grew annually to accommodate inflation. As a result, contributions from Zone 13 towards the Water Forum’s work became unsustainable. Zone 13 funds historically comprised nearly 50% of the Water Forum’s annual budget.

Over several months, water agencies and other funders explored several new funding models to distribute the Water Forum costs equitably. In November 2024, stakeholders agreed on an approach involving proportional cost allocations based on agency connection counts, five-year average groundwater production, and a five-year average of American River diversions. Each dataset is weighted relative to the benefits derived from Water Forum participation (as summarized in Table 1 below).

Specific adjustments were made for the agencies summarized below to fully capture the unique benefits and opportunities derived from Water Forum membership and participation:

EBMUD: EBMUD’s data was adjusted for the cost allocation calculation to reflect unique characteristics of its service area and water usage relative to the Water Forum. The adjustment was made based on the following factors:

1. EBMUD’s service area lies entirely outside the Sacramento region.
2. EBMUD uses water from the American River only as a dry-year supply and does not rely on groundwater from the Sacramento regional groundwater basins.
3. The American River water used by EBMUD flows through the lower American River (LAR) before being diverted at the Freeport intake.

To account for these considerations, EBMUD’s connection count was adjusted to reflect the proportion of its service area supplied with American River water on an annual basis, using a five-year average.

PCWA: PCWA’s water collection and distribution system is complex, relying on multiple sources and diversion points for its surface water supply. PCWA is also both a wholesaler and a retailer of both treated and untreated water from these multiple sources. For the purposes of the Water Forum cost allocation calculations, only the volume of American River water that is diverted and used within PCWA’s own retail service area, treated and untreated, is included. PCWA water diverted by or on behalf of its wholesale customers is excluded from PCWA’s cost calculations.

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Golden State: An adjustment was made to GSWC’s data within the Water Forum cost allocation model to account for its unique water supplies and operations. GSWC uses treated groundwater that is discharged into the American River and later diverted at the Carmichael Water District’s intake on the LAR, then the treated water is delivered to GSWC, putting the groundwater back to beneficial use. To accurately reflect this process, both GSWC’s American River diversion and groundwater production volumes were adjusted accordingly in the model.

Table 2 illustrates the application of the agreed-upon funding allocation methodology, which includes the relative percentages for each of the respective datasets, the resulting weighted percentage calculated using the factors listed in **Table 1**, and the final cost allocations for FY26 for each relevant funder. The weighted percentage shown in **Table 2** for each agency will be used for five years, and an updated weighted percentage will be calculated in 2030 to be applied in FY2030-2031 and the subsequent five years (pending approval from the funders).

Table 1. Water Forum Cost Allocation Weighting Factors and Benefits

Agency Data Set	Weighting Factor	Associated Benefits
Connection Counts	0.40	<ul style="list-style-type: none">• Environmental Stewardship• Maintaining peace on the river• Assistance in the regulatory settings
Groundwater Production	0.20	<ul style="list-style-type: none">• Regional water supply reliability• Support for more conjunctive use activities• Regional collaboration and partnerships for projects, programs, and funding
American River Diversions	0.40	<ul style="list-style-type: none">• Regional coordination and strategy with the U.S. Bureau of Reclamation• Protecting the value and function of the Lower American River corridor

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Table 2. Water Forum Cost Allocation Results

Agency	Base %			Weighted %	FY 26 Contribution Based on 5-Year Avg 2019-2023
	Connections	American River Diversions	Groundwater Production		
El Dorado Irrigation District	0.07	0.09	0.00	0.07	\$128,452
Placer County Water Agency	0.07	0.07	0.00	0.06	\$109,635
City of Folsom (minus Ashland)	0.04	0.12	0.00	0.06	\$119,623
City of Roseville	0.09	0.19	0.00	0.11	\$212,506
San Juan Water District - Wholesale ¹	0.09	0.21	0.05	0.13	\$106,938
Citrus Heights Water District	0.04	0.06	0.02	0.04	\$81,691
Fair Oaks Water District	0.02	0.04	0.03	0.03	\$63,181
Carmichael Water District	0.02	0.03	0.03	0.03	\$53,445
City of Sacramento	0.25	0.19	0.21	0.22	\$422,537
Sacramento Suburban Water District	0.08	0.06	0.21	0.10	\$187,724
Golden State Water Company	0.03	0.03	0.05	0.03	\$61,706
California American Water	0.11	0.00	0.24	0.09	\$179,501
Sacramento County Water Agency	0.11	0.00	0.21	0.08	\$160,600
East Bay MUD	0.04	0.00	0.00	0.02	\$29,602
Total ²	1.00	1.00	1.00	1.00	\$1,917,140

1. San Juan Water District Wholesale contributions include San Juan Retail, Orange Vale, and Ashland (Folsom) service areas.

2. Total funding amount shown excludes contributions of flat fee contributions from SMUD, SAFCA, and EDWA.

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Appendix 13: Interagency Agreement for Water Forum Administration

DRAFT UNDER REVISION

Will be circulated when agreement is finalized