Drought Resilience Interagency and Partners Collaborative Progress Report

February 2026

California
DRIP Collaborative

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Acronyms and Abbreviations

CDFW	California Department of Fish and Wildlife
DRIP	Drought Resilience Interagency and Partners
DWR	California Department of Water Resources
GSA	groundwater sustainability agency
GSP	groundwater sustainability plan
HCD	California Department of Housing and Community Development
LAFCO	Local Agency Formation Commission
LCI	Governor's Office of Land Use and Climate Innovation
MLRP	Multi-Benefit Land Repurposing Program
NGO	non-government organization
O&M	operations and maintenance
SB	Senate Bill
SGMA	Sustainable Groundwater Management Act
SME	subject-matter expert
State Water Board	State Water Resources Control Board
UWMP	urban water management plan

Executive Summary

This report summarizes the 2025 activities and progress of the Drought Resilience Interagency and Partners (DRIP) Collaborative.

In September 2021, Governor Gavin Newsom signed into law Senate Bill (SB) 552 requiring that the California Department of Water Resources (DWR) take specified actions to support the implementation from the County Drought Advisory Group and to establish a standing interagency drought and water shortage task force. This task force will facilitate proactive planning and coordination, both for predrought planning and post-drought emergency response, which shall consist of various representatives, including representatives from local governments, State agencies, community-based organizations, nonprofit technical assistance providers, the public, and experts in land use planning, water resiliency, and water infrastructure.

To fulfill its facilitation mission, the DRIP Collaborative established workgroups on critical drought focus areas. The workgroups provide a forum to exchange ideas and information and potentially develop recommendations. The workgroups present their progress and potential recommendations to the DRIP Collaborative. The recommendations approved by DRIP Collaborative represent acknowledgement of the completed work consistent with the DRIP Collaborative Charter. Approved recommendations do not necessarily represent a policy endorsement of the member agencies.

In 2025, the DRIP Collaborative selected three primary focus areas for discussion: Reducing Ecosystem Impacts of Drought, Land Use Planning for Drought Resiliency, and Water Infrastructure and Planning. The Collaborative also identified cross-cutting themes relevant to the primary focus areas and evaluated existing drought communications programs.

Workgroups convened on the three focus areas to develop three recommendations:

- **Eco1. Instream Flows: Best Practices for Landowner Cooperative Solutions.** Develop guidance for voluntary, incentive-based approaches that enable landowners, Tribes, and agencies to maintain ecological flows and strengthen drought resilience through collaborative action.
- **Land2A. Aligning Communication and Planning Timelines for Housing and Water.** Identify where housing and water planning processes misalign and establish strategies to improve coordination and ensure water-secure development.
- **Land2B. Assessing Water Supply and Wastewater Capacity with Housing Needs.** Evaluate regional water and wastewater capacity relative to housing growth to inform infrastructure investment and sustainable land use planning.

The DRIP Collaborative also advanced discussions under the Water Infrastructure and Planning focus area, identifying opportunities to strengthen regional and local drought resilience through improved system flexibility, enhanced support for small and vulnerable water systems, and expanded recharge capacity. These discussions established the groundwork for potential future work and partnerships.

In addition, the DRIP Collaborative finalized a framework for Cross-Cutting Themes, defining purpose statements for Climate Change Adaptation, Nature-Based Solutions, and Equity. The Communication workgroup continued work on improving collective understanding on how drought and water shortages are communicated across California, emphasizing clearer, coordinated messaging and stronger engagement with community-based organizations. The DRIP Collaborative began tracking the implementation of 2024 recommendations by external entities and reported this information back to members. The DRIP Collaborative also refined its recommendation development process by streamlining the recommendation template to support clearer recommendations. Together, these efforts demonstrate steady progress toward coordinated, inclusive drought and water-shortage resilience planning across California.

1 Introduction

This report summarizes the 2025 activities and progress of the Drought Resilience Interagency and Partners (DRIP) Collaborative.

1.1 Foundational Purpose of the DRIP Collaborative

The DRIP Collaborative was established in 2023 under California Water Code Section 10609.80(b)(1), enacted by Senate Bill (SB) 552 (2021), which mandates the California Department of Water Resources (DWR), in partnership with the State Water Resources Control Board (State Water Board) and other key State agencies, to “establish a standing interagency drought and water shortage task force” that proactively supports statewide drought resilience planning and coordination.

The task force membership “shall include representatives from local governments, State agencies, community-based organizations, nonprofit technical assistance providers, the public, and experts in land use planning, water resilience, and water infrastructure.” The current DRIP Collaborative membership expands beyond these requirements to include Tribal, environmental, agricultural, and public water system representatives, as outlined in the 2025 membership list in Appendix A.

1.2 DRIP Collaborative Structure

The structure of the DRIP Collaborative continued as a 26-member body, meeting in person three times per year, with the addition in 2025 of three ad hoc workgroups formed by the DRIP Collaborative to further discuss recommendation ideas. Workgroup membership is detailed in Appendix B. In addition to experience and insight provided by its members, the DRIP Collaborative relies on outside expertise to ensure that ideas developed are based on the best available information and rooted in real-world endeavors. The contributing subject-matter experts (SMEs) are listed in Appendix C.

1.3 Report Purpose

The purpose of this report is to provide a public document summarizing the DRIP Collaborative's achievements, challenges, and discussions from the meetings during 2025. This report will be published publicly and shared with State agencies and departments involved in water resource management, aiming to guide the State's planning and preparedness for future droughts and water supply shortages.

2 Cross-Cutting Themes

In 2025, the DRIP Collaborative identified themes that cut across all focus areas and are important considerations for DRIP discussions. Members first raised this need during the October 2024 meeting and voted to create a Cross-Cutting Themes workgroup to define what cross-cutting themes should mean for the DRIP Collaborative. The workgroup met in March 2025 to clarify the role of cross-cutting themes, refine purpose statements for existing themes, and develop a process for how they would be integrated into future discussions. Workgroup members contributed their perspectives and collaboratively drafted the initial purpose statements.

Members identified cross-cutting themes as shared considerations meant to provide a consistent lens for DRIP Collaborative discussions, helping ensure that key topics are thoughtfully surfaced and incorporated throughout the development of problem statements, recommendations, and related conversations. Members noted that although these themes are important to discussions of drought resilience, they are too broad to be addressed through specific focus areas and instead should inform the Collaborative's overall approach.

Members also discussed how these themes should function in practice. They agreed that the themes can guide how ideas are scoped, discussed, and revisited by prompting early reflection during problem statement development, supporting facilitated discussions, informing the selection of subject-matter presentations, and helping the DRIP Collaborative reflect at year's end on how well key priorities were addressed.

In May 2025, the DRIP Collaborative finalized purpose statements for Climate Change Adaptation, Nature-Based Solutions, and Equity. These purpose statements (summarized below) are maintained in the Cross-Cutting Themes Reference Document, a living resource that the DRIP Collaborative will continue to update as themes evolve or new ones are added.

2.1 Climate Change Adaptation

Members discussed how climate change is intensifying drought conditions in California, altering precipitation patterns, and reshaping hydrologic cycles. Because of these changes, members emphasized that drought resilience strategies must remain effective under future climate scenarios, even when the focus is not explicitly on adaptation. The purpose of this theme is to help the DRIP Collaborative consider how changing climate conditions may affect the durability and long-term usefulness of recommendations. Members described climate change adaptation as preparing water, land use, and environmental systems to operate under shifting

conditions and supported maintaining a flexible, dynamic set of resources rather than relying on any single State strategy.

2.2 Nature-Based Solutions

Members highlighted that natural systems, including wetlands, meadows, forests, soils, and headwaters, play a central role in retaining water, sustaining ecosystem health, and buffering communities and landscapes from drought impacts. They noted that nature-based approaches can complement traditional infrastructure and expand multi-benefit outcomes. The purpose of this theme is to encourage consideration of natural processes and ecological functions as contributors to drought resilience. Members viewed nature-based solutions as a broad and adaptable set of strategies, with examples like wetland restoration, Flood-MAR, soil health practices, and headwaters restoration.

2.3 Equity

Members emphasized that drought impacts are unevenly distributed across California. With a noticeable percentage of households reliant on domestic wells and small systems, many rural communities, low-income communities, communities of color, and Tribal Nations face disproportionate risks during water shortages. This imbalance underscores how equity is foundational to drought resilience. The purpose of this theme is to ensure that DRIP Collaborative discussions and recommendations reflect fair and inclusive processes and outcomes. Members described equity as addressing structural barriers to water access, uplifting Tribal perspectives and leadership, advancing the human right to water, and ensuring resilience actions do not worsen existing inequities. Members agreed that this theme should remain focused yet flexible, encompassing racial equity, climate justice, and meaningful community engagement.

3 2025 Focus Areas, Idea Development, and Recommendations

The DRIP Collaborative organizes its work around a set of four focus areas, each representing a major topic essential to advancing drought and water shortage resilience in California. Within each focus area, members develop problem statements to describe key challenges, outline why they matter, and identify gaps or opportunities for State and local action. These problem statements serve as the foundation for recommendations: proposals that offer specific, actionable solutions related to drought preparation, response, or recovery.

In 2024, the DRIP Collaborative established a standardized process for developing and accepting recommendations. Since then, progress on the 2024 recommendations has been tracked throughout the year; a summary of that tracking effort is provided in Appendix D. Building on that foundation, the DRIP Collaborative has continued to use this process (illustrated in Figure 3-1) to guide how ideas evolve from initial identification and development, through review and refinement, to final determination of collective support. Each stage includes opportunities for member input, expert presentations, and public feedback to ensure recommendations are both technically sound and broadly supported.

In 2025, the DRIP Collaborative continued advancing its work through three main focus areas: Reducing Ecosystem Impacts of Drought, Land Use Planning for Drought Resiliency, and Water Infrastructure and Planning. Given the complexity of focus areas selected for 2025 discussions, SMEs were identified and invited to support DRIP Collaborative discussions and inform the development of proposed ideas. The list of SMEs invited throughout the year is provided in Appendix C. The group also continued effort on the Communication Program (re-formed from the 2024 Drought Definition and Narrative focus area) and on developing a coordinated statewide approach to drought communication. Across all focus areas, the DRIP Collaborative advanced its work through a combination of in-person meetings and focused workgroup sessions, where members refined problem statements, developed ideas, and drafted recommendations. A summary of these discussions and outcomes is provided in Appendix E.

The DRIP Collaborative uses three engagement pathways to determine how best to approach each idea: Inform, Complement, and Lead. These pathways clarify the DRIP Collaborative's role and the type of actions or outcomes expected. The pathways are defined below:

- **Inform:** A learning opportunity to promote information exchange and ensure members have a shared understanding of drought-related issues. Members may hear from SMEs or other agencies. These discussions are not expected to produce a formal DRIP Collaborative recommendation.

- **Complement:** An opportunity for DRIP Collaborative members to build on existing efforts by other entities. Members contribute actions or input that fill a targeted gap in current work. This pathway may include developing an engagement process but does not require completion of a recommendation template.
- **Lead:** A DRIP Collaborative effort to identify, frame, and elevate a portion of a problem not currently being met. These efforts focus on developing new DRIP Collaborative recommendations that articulate identified needs, gaps, and potential pathways for action by appropriate implementing entities. The DRIP Collaborative does not implement these recommendations; rather, each recommendation identifies the entity or entities best positioned to lead implementation.

The following sections describe the 2025 focus areas and the communications workgroup. Each focus area section presents its problem statement, followed by a summary of the associated recommendation(s) and related discussions. The full recommendations, including implementation considerations, are available on the DRIP Collaborative's webpage.

Figure 3-1. Timeline of 2025 Recommendation and Idea Development

Note: The timeline for each focus area/workgroup varies.

3.1 Focus Area: Reducing Ecosystem Impacts of Drought

The development of this focus area began during the 2024 DRIP Collaborative meetings, where members elevated ecosystem resilience as a priority for discussion for 2025. Members deepened their understanding through subject-matter presentations in July 2024 and reviewed a draft problem statement in October 2024. Based on that discussion, the DRIP Collaborative voted to form a workgroup to continue exploring the topic in 2025. Refer to the 2024 Progress Report for a more detailed explanation of that process.

In 2025, workgroup members advanced the focus area by refining the problem, framing, and shaping the direction of the recommendation that would follow. The group included representatives from environmental organizations, Tribal governments, academia, and local government, and members invited SMEs from DWR and the California Department of Fish and Wildlife (CDFW) to inform the appropriateness of emerging ideas. A list of workgroup participation is included in Appendix B and contributing SMEs in Appendix C.

First, the workgroup strengthened the problem statement by refining its description of ecosystem degradation and clarifying how ecological health supports drought resilience. Later, members explored pathways to address these challenges, and their input ultimately informed the recommendation presented to the full DRIP Collaborative membership. Additional detail on these discussions is provided in Appendix D.

The problem statement discussed in Section 3.1.1 reflects these collective contributions.

3.1.1 Problem Statement

California's ecosystems — freshwater, terrestrial, aquatic, and coastal — are increasingly degraded because of unsustainable water use, habitat fragmentation, land conversion, and climate-driven stressors. Reduced snowpack, rising temperatures, altered precipitation patterns, and more frequent and severe wildfires have amplified the strain on ecological systems, diminishing their capacity to adapt to or recover from drought. Despite these growing threats, water management and land use decisions often fail to adequately account for ecological health, particularly outside of drought emergencies.

Healthy ecosystems are essential to California's drought resilience. They buffer against extreme events, improve water quality and availability, support biodiversity, reduce wildfire severity, and safeguard public health.

Subtopics:

- **Environmental flow protection:** The majority of California's rivers lack formal environmental flow protections. Critical species — such as salmon, smelt, steelhead, and sturgeon — depend on adequate flow conditions (flows not adversely affected by diversion and droughts). Establishing environmental flow protections is complex and challenging and has limited the establishment of minimum instream flows.
- **Habitat restoration:** Wetlands, riparian corridors, and other key habitats have been dramatically reduced or degraded. Restoration can enhance drought and fire resilience but faces barriers such as complex permitting and fragmented funding. Tailored restoration strategies are needed that recognize the distinct services of different ecosystem types.
- **Integrated planning:** Ecosystem resilience to drought requires integrating fire management, land use, groundwater-surface water dynamics, and climate projections at the watershed scale. Nature-based solutions and Tribal ecological knowledge are key to advancing planning for ecosystem resilience.
- **Existing tools and regulations:** California's legal tools — including the public trust doctrine, water rights enforcement, and instream flow authorities — have specific roles in protecting ecosystems especially during droughts.

3.1.2 Recommendation Eco1. Instream Flows: Best Practices for Landowner Cooperative Solutions

After finalizing the problem statement, workgroup members focused on identifying a practical pathway to improve instream flows during drought. Members emphasized that landowners, Tribes, and local partners need clearer, more accessible ways to use existing voluntary tools to maintain ecological flows. With input from a DWR SME (see Appendix C for a list of SME contributors), the workgroup shaped the concept of developing best practices for cooperative, incentive-based agreements that support instream flows; the recommendation process, resulting recommendation, and anticipated benefits are outlined in the sections below.

3.1.2.1 Problem Addressed

Tools and techniques that can improve ecosystem conditions during drought are available to landowners. But landowners and local partners often lack clear, practical guidance on how to use these tools collaboratively with agencies or Tribes to maintain instream flows and protect ecosystems during drought.

The recommendation would close this gap by translating existing authorities and on-the-ground experience into a practical roadmap for voluntary, cooperative solutions that enhance ecological flows. Promoting incentive-based approaches

adaptable to local watershed conditions would help reduce emergency curtailments; strengthen partnerships among landowners, Tribes, and agencies; and expand the use of nature-based strategies that build long-term drought resilience.

3.1.2.2 Recommendation Description

As a Lead effort, this recommendation proposes that external partners could develop a best practices guidance document for voluntary landowner agreements that enhance instream flows and drought resilience. The guidance would compile practical strategies, case studies, and step-by-step approaches for implementing cooperative solutions (e.g., instream flow leases, forbearance agreements, storage flexibility), alongside nature-based strategies, such as riparian restoration and beaver reintroduction. The guidance document potentially could be collaboratively drafted by non-government organizations (NGOs), academic experts, and local partners. The recommendation envisions that the State Water Board and CDFW could review the document. Funding would need to be identified, but the effort could be aligned with funding programs, such as the California Wildlife Conservation Board Stream Flow Enhancement Program.

3.1.2.3 Anticipated Benefits

The guidance would make voluntary flow protection tools more accessible, trusted, and replicable statewide, helping landowners and Tribes maintain instream flows during drought, reduce emergency curtailments, and strengthen partnerships among agencies and local communities. Promoting proactive, incentive-based drought strategies would improve ecological resilience, build trust between regulators and water users, and advance equitable participation in watershed stewardship.

3.1.2.4 Cross-Cutting Themes

This recommendation advances multiple cross-cutting themes. It supports Climate Change Adaptation by promoting proactive, locally tailored strategies that help ecosystems withstand and recover from drought. This recommendation exemplifies Nature-Based Solutions through its emphasis on riparian restoration, beaver reintroduction, and voluntary flow protection measures that enhance ecological function. It also advances Equity by building partnerships among Tribes, landowners, and agencies to ensure cooperative agreements are accessible, transparent, and inclusive.

3.1.3 Other Ideas Discussed

The workgroup explored several related ideas that address barriers to ecosystem resilience and restoration but were not advanced to full recommendations in 2025.

3.1.3.1 Eco2: Streamlining Grant and Contract Processes for Habitat Restoration Projects

Members discussed expanding successful practices from the Cutting the Green Tape initiative to simplify and align grant and contract processes for habitat restoration. To support this discussion, a SME from the CDFW provided an overview of the initiative and highlighted how its permitting efficiencies, including permit bundling, CEQA statutory exemptions, and integrated grant-permit workflows, could inform improvements to grant execution and contracting. Members also identified opportunities such as adopting rolling solicitations, improving indirect cost recovery, and reevaluating long-term operations and maintenance (O&M) requirements.

3.1.3.2 Eco3: Long-Terms Operations and Maintenance Considerations for Habitat Restoration Projects

Discussions about streamlining grants and contract processes raised significant concerns about long-term operations and maintenance, which had originally been part of the broader streamlining concept. Recognizing that O&M obligations are often set at the grant stage, members identified the need for sustainable stewardship and funding models to ensure restoration investments remain functional over time.

3.2 Focus Area: Land Use Planning for Drought Resiliency

The development of this focus area began during the 2024 DRIP Collaborative meetings, where members identified land use planning as an emerging priority for the following year. Members built understanding through subject-matter presentations in July 2024 and discussed an initial draft problem statement at the October 2024 meeting. Based on that discussion, the DRIP Collaborative voted to form a workgroup to continue shaping the topic in 2025. Refer to the 2024 Progress Report for a more detailed explanation of that process.

In 2025, more than half of the DRIP Collaborative members participated in the workgroup, reflecting a broad cross-section of representatives from environmental organizations, agricultural interests, local government, State agencies, Tribal governments, domestic well advocates, community-based organizations, and public water agencies. SMEs also informed the group's work, including staff from the California Department of Housing and Community Development (HCD), Local Agency Formation Commissions (LAFCOs), and the Governor's Office of Land Use and Climate Innovation (LCI). A list of workgroup participation is included in Appendix B and contributing SMEs in Appendix C.

Workgroup members refined the problem statement by clarifying how land use planning shapes drought risk and by strengthening the framing of key challenges across rural development, urban development, agricultural land transitions, and groundwater sustainability. This shared foundation enabled members to begin identifying feasible pathways for recommendations, described later in this section. Additional details on the workgroup's discussions throughout 2025 are provided in Appendix E.

The problem statement discussed in Section 3.2.1 reflects these collective contributions and establishes the basis for the DRIP Collaborative's continued work to improve coordination between land use and water planning.

3.2.1 Problem Statement

Land Use Planning Defined: Land use planning is the process of managing how land is used to balance development, infrastructure and services, environmental protection, and economic sustainability. The extent and ways in which land use planning accounts for water have major implications for a region's water supply reliability and drought resilience. Most land use decisions in California are made at the county and city level, although land use is also influenced by decisions at the State level and the actions of private landowners.

Broad, clear connection to water and drought resilience challenges: In California, land use planning influences water demand and supply, yet is often siloed from water planning efforts, which are conducted by different agencies. This disconnect can lead to land use decisions that inadequately address long-term water supply challenges. As population grows, climate change intensifies drought conditions, and implementation of the Sustainable Groundwater Management Act (SGMA) shifts land use to reduce groundwater reliance. The fragmented status quo approach to planning for both land use and water resources places communities and local economies at greater risk of water scarcity and economic strain. Strengthening coordination between land use planners and water managers is essential to building a more drought-resilient future — one in which groundwater use is sustainable, agricultural economies (including small farms) remain viable, housing development meets California's growing population needs, and water considerations are fully incorporated into planning processes.

All subtopics below relate to how planning processes interact, what elements are required in those plans, and how the scale and scope of planning efforts shape outcomes. Although strongly interconnected, each subtopic is hindered by unique challenges that are increasing risks of drought impacts on drinking water, ecosystems, public health and agricultural economies:

- **Rural Development.** Rural communities face increasing challenges related to water insecurity and insufficient water infrastructure, especially when new

housing developments outpace water system capacity. The prevalence of small, often under-resourced water systems, reliance on domestic wells, and contamination issues underscore the need for integrated planning that aligns land use decisions with infrastructure investment and long-term water reliability.

- **Urban Development.** Urban areas face ongoing challenges in supplying sufficient housing to meet current and projected demand. Sufficient water supply and wastewater treatment capacity are critical factors to support housing development. Better data about that existing water supply and wastewater capacity and where it needs to be expanded is needed to accommodate housing demand and better anticipate future growth.
- **Agriculture Economies and Land Use Transitions.** California's agricultural sector — especially small and midsize farms — is highly vulnerable to drought and long-term water supply reductions. The last drought saw the fallowing of an estimated 752,000 acres of farmland statewide. Planning processes must better support adaptive land use transitions that generate benefits for communities and ecosystems, while proactively addressing the consequences of inaction, such as habitat degradation and rural economic decline.
- **Groundwater Recharge and Sustainability.** Integrating recharge into land use planning is crucial for sustainable water management, especially in regions facing water scarcity or relying heavily on groundwater. Many regions continue to treat groundwater and land use as separate planning domains, missing opportunities to design land uses that enhance recharge and long-term water supply reliability, especially in overdrafted or drought-prone areas.

3.2.2 Recommendation Land2A. Aligning Communication and Planning Timelines for Housing and Water

Members initially discussed the housing–water supply nexus as a single concept, but workgroup discussions and SME input showed it encompassed two distinct challenges: (1) improving coordination and timing between planning processes and (2) assessing whether regional water supplies can support planned housing growth. To ensure each idea received the appropriate scope and analytical approach, members separated the concept into Land 2A and Land 2B. Input from SMEs at the HCD and the Santa Cruz County LAFCO helped clarify where planning timelines currently misalign, and members used these insights to shape a recommendation focused on improving coordination across processes. See Appendix C for a list of SME contributors.

3.2.2.1 Problem Addressed

California's housing and water planning processes follow separate mandates and timelines. This disconnect leads to inefficiencies, higher costs, and delayed projects.

Strengthening coordination across housing and water planning cycles is essential to ensure that growth is sustainable and water-secure.

3.2.2.2 Recommendation Description

As a Lead effort, this recommendation proposes that an academic or research institution conduct a comprehensive study to analyze where and how housing and water planning processes misalign, and identify opportunities for earlier, more effective coordination. The study would:

1. Map timelines and decision points for housing and water planning processes (e.g., general plans, Regional Housing Needs Allocation cycles, urban water management plans [UWMPs], and groundwater sustainability plans [GSPs]).
2. Document case studies where misalignment caused project delays or inequities, as well as examples of successful coordination.
3. Develop best practices, process maps, and incentives for agencies to engage earlier and collaborate more effectively.

An academic or research institution could lead the study, guided by an advisory group, that depending on resource availability could include DWR, HCD, State Water Board, groundwater sustainability agencies (GSAs), LAFCOs, and local governments, with engagement from community-based organizations and developers.

3.2.2.3 Anticipated Benefits

The study could provide the foundation for statewide improvements in aligning housing and water planning, ensuring that water supply considerations are integrated early in the development process. By clarifying coordination points and documenting proven approaches, it could reduce costly delays and promote sustainable and equitable growth. Ultimately, this effort could enhance drought resilience by linking growth with water reliability across State, regional, and local planning systems.

3.2.2.4 Cross-Cutting Themes

This recommendation advances Climate Change Adaptation by promoting better alignment between housing and water planning processes to account for future drought conditions and long-term water availability. Integrating water considerations earlier in housing planning helps communities prepare for and adapt to a changing climate.

3.2.3 Recommendation Land2B. Assessing Water Supply and Wastewater Capacity with Housing Needs

Building on the separation of the original housing–water supply nexus concept, Land 2B addresses the second challenge identified by workgroup members: the need for a clearer, data-driven understanding of whether regional water supply and wastewater capacity can support planned housing growth, especially during drought. Input from the UCLA Luskin Center and the Watershed Solutions Network highlighted analytical gaps and opportunities for stronger regional assessments, and members drew on this expertise to frame a recommendation centered on comparing housing allocations with available and projected water and wastewater capacity. See Appendix C for a list of SME contributors.

3.2.3.1 Problem Addressed

This recommendation responds to the need for land use decisions to be informed by available and sustainable water supplies. Without this information, it is difficult for planners and policymakers to anticipate capacity gaps, target infrastructure investments, or ensure that future housing development is water-secure under worsening drought conditions.

3.2.3.2 Recommendation Description

As a Lead effort, this recommendation proposes to conduct a statewide study to assess current and projected water supply and wastewater treatment capacity by region, comparing findings against regional housing demand. The study would define regions (e.g., county, GSA, planning region, etc.), integrate diverse datasets — such as UWMPs, GSP modeling, and water quality data — and consider long-term climate and water shortage scenarios. A pilot study could be launched to test methods before scaling statewide. To ensure rigor, transparency, and equity in approach, a research institution or neutral organization could lead the effort, supported by an advisory group of State and local partners (as resources allow), including DWR, HCD, State Water Board, LCI, regional councils of government, water suppliers, and community-based organizations.

3.2.3.3 Anticipated Benefits

The study would clarify where housing demand aligns or conflicts with water and wastewater capacity, providing a foundation for sustainable and equitable planning. Its findings could guide infrastructure investment, highlight vulnerabilities for small systems and domestic well communities, and inform future planning guidance. Over time, these insights would strengthen coordination between land use planning and water management, helping California plan for growth that remains viable and drought-resilience under a changing climate.

3.2.3.4 Cross-Cutting Themes

This recommendation advances Climate Change Adaptation by evaluating water and wastewater capacity through a forward-looking lens that considers changing hydrologic conditions and long-term drought risks. It also supports Equity by highlighting where small systems and domestic well communities may be disproportionately affected by housing development, helping ensure that water security planning benefits all communities.

3.2.4 Complement Activity – Land3. Integrating Water into General Plan Guidance

This activity follows the Complement pathway, supporting and building on the ongoing work of the LCI to update the General Plan Guidelines and develop new optional water element guidance. Workgroup members emphasized that integrating water considerations more directly into land use planning is essential for improving drought resilience, and input from LCI helped clarify how the DRIP Collaborative could contribute meaningfully to this statewide effort. Rather than advancing a separate recommendation, members chose to participate in and inform LCI's process. Since then, members have provided input through surveys and feedback sessions to help ensure that drought and water resilience concepts are reflected throughout the updated guidance.

3.2.5 Other Ideas Discussed

The workgroup explored several complementary ideas that address broader land-water integration and regional resilience but were not advanced to full recommendations in 2025.

3.2.5.1 Land1: Agricultural Land Repurposing and Regional Capacity Building

Members discussed the growing challenge of managing farmland expected to go idle because of drought and groundwater sustainability requirements. Without coordinated planning and resources, these land transitions risk economic losses and environmental degradation, including impacts to farmland still under production, as a result of dust, weeds, and pests. Input from statewide technical experts involved in shaping the Multi-Benefit Land Repurposing Program (MLRP), along with a program manager from a local MLRP region, helped clarify the scale of anticipated land transitions and the need for stronger regional coordination structures. Drawing on these insights, members emphasized the importance of supporting and sustaining MLRP to help regions plan effectively for these shifts. Discussions focused on two potential pathways: (1) increasing direct technical and funding support to build regional coordination capacity and (2) developing an inventory of existing resources, tools, and funding opportunities, supported by an expert

advisory group to maintain the inventory, share lessons learned, and help define what effective regional capacity looks like.

3.3 Focus Area: Water Infrastructure and Planning

The development of this focus area followed a different trajectory from the DRIP Collaborative's other topics. Members built understanding through subject-matter presentations in July 2024, but no problem statement was developed ahead of the October 2024 meeting. However, in that October meeting, members expressed support for advancing this topic in 2025 and voted to form a workgroup to develop the problem statement. Refer to the 2024 Progress Report for additional context.

In 2025, workgroup members representing agricultural interests, small water systems, community organizations, county public works agencies, water agencies, academia, and local government developed and refined the problem statement. Their early discussions clarified the scope of "infrastructure," identified core challenges that shape drought vulnerability, and established a shared framing for the DRIP Collaborative's work. A list of participants is provided in Appendix B.

After finalizing the problem statement, members heard from SMEs from State agencies, regional water agencies, and infrastructure and drought-resilience programs; these experts are listed in Appendix C. These insights helped members understand existing efforts, gaps, and opportunities as they shaped the idea concepts described in Section 3.3.2. Additional details on the workgroup's discussions are provided in Appendix E.

The problem statement discussed in Section 3.3.1 reflects the workgroup's collective contributions and forms the foundation for the idea development that follows.

3.3.1 Problem Statement

Governor Newsom's 2022 Water Supply Strategy (also known as the "Hotter, Drier" strategy) outlined overarching goals and large-scale actions to address "backbone" infrastructure and future shortages in the long-term. At the same time, multiple coordinated, smaller-scale, and shorter-term (1 to 5 years) efforts are also critical to prepare for the next drought. This is particularly true when addressing drought resilience at regional and local levels where there can be a lack of "baseline" water infrastructure to support community-level drought resiliency and, specifically, the Human Right to Water.

Both backbone and baseline water infrastructure are needed and should be simultaneously planned for improvement and scaled to address future drought expectations. Although backbone infrastructure has the "Hotter, Drier" strategy, for baseline infrastructure, there still may be gaps in planning and strategy for future

needs. Near-term, small-scale actions could be identified, for instance, by utilizing existing information at the State and federal level (e.g., applications for grant and loan programs, formal needs surveys) and, especially, planning developed at the local level itself (e.g., water supply master plans, capital improvement plans).

- **New Water Sources.** As mentioned in the Governor's 2022 Water Supply Strategy, securing new water sources is one of the major actions to address future water supply needs. Capturing stormwater, desalinating ocean and salty groundwater sources, and implementing recycled water use are needed. Implementation of water infrastructure, such as treatment facilities or conveyance and distribution networks, are key to support these new water sources.
- **Identify Vulnerability of Users.** Some past drought response actions, such as providing grants to support regional and local response actions, indicate that more than just providing hauled and/or bottled water is needed during drought. Communities can be vulnerable to a host of issues during droughts, such as system delivery interruption, water quality issues, or limited ability to measure and regulate water use because of infrastructure limitations.
- **Improve System Flexibility.** Like other types of systems, water infrastructure systems can be limited or impaired to react to changing conditions or demands, such as during drought or flood. When drought and water shortages occur, water systems can lack the ability to access or deliver from alternative water sources. For example, communities that are reliant solely on groundwater may be challenged to receive and distribute other water sources, such as imported water.
- **Identify Local Gaps.** Because of the variety of water infrastructure and systems in California (e.g., small water systems, State small water system, domestic wells, etc.) in combination with different uses and application of water on a variety of landscapes, local conditions can be different. A greater understanding of these differences would require surveying communities throughout the state to identify local issues and gaps that communities face, such as the need to develop a portfolio of sources.

3.3.2 Ideas Discussed

The workgroup explored several interconnected ideas aimed at improving how California plans, funds, and coordinates water infrastructure to strengthen drought resilience at regional and local levels. These ideas were not advanced to formal recommendations in 2025; however, the discussions, supported by input from SMEs from State agencies SMEs and regional water agencies, helped clarify priority needs and pathways for future work, particularly around supporting small systems, improving flexibility, and expanding recharge capacity.

3.3.2.1 Infra1. Enhancing Support and Collaboration for Vulnerable and Small Water Systems

Members emphasized that many small and rural systems continue to face infrastructure and capacity challenges that limit their ability to respond to drought. Presentations from the State Water Board's SAFER Program and DWR's Water Shortage Vulnerability Tool team provided statewide context on system vulnerabilities; technical, managerial, and financial capacity gaps; and affordability challenges. A regional water agency leader from the Mojave and San Gorgonio Pass water agencies shared on-the-ground examples of how regional partnerships can bridge funding gaps, coordinate technical support, and build trust with small systems. Members discussed how similar partnerships between regional agencies and nonprofits could be replicated in other regions to help small water systems access funding, technical assistance, and long-term drought resilience support.

3.3.2.2 Infra2. Improving Systems and Regulatory Flexibility

The workgroup discussed how both infrastructure and regulatory processes can limit local agencies' abilities to respond to increasingly variable wet and dry conditions. Members explored opportunities to enhance flexibility through streamlined permitting for small-scale, low-impact projects; repurposing existing facilities, such as retention basins for temporary water storage or recharge; and expanding the use of interties or system connections during emergencies. They also discussed potentially applying principles from the Cutting the Green Tape initiative to water infrastructure projects and simplifying funding application processes.

3.3.2.3 Infra3. Establishing a Groundwater Recharge Infrastructure Program for Local Drought Resilience

Building on lessons from the extremely wet 2023 water year, members discussed creating a framework for local groundwater recharge to complement emergency executive orders. A presentation from DWR's Sustainable Groundwater Management Office provided detailed updates on statewide recharge efforts, California Water Code Section 1242.1 implementation, flood diversion programs, and local planning needs. This input underscored the importance of long-term planning, consistent funding, and better alignment between flood management and groundwater sustainability programs. Members discussed how a statewide or regional framework could help local agencies prepare land, develop infrastructure, and implement recharge projects that also provide environmental and community benefits.

3.4 Focus Area: Communications

In October 2024, the DRIP Collaborative re-formed the former Drought Definition and Narrative Workgroup as the Communication Workgroup to continue addressing

how drought and water shortages are communicated to the public and decision-makers. The group's goal is to develop clearer, more coordinated messaging that reflects California's regional diversity and long-term climate realities.

Throughout 2025, the co-leads reviewed existing communication efforts, including California Water Watch and Save Our Water, and compiled drought-related materials from State, local, and nonprofit sources to identify lessons from past campaigns. The workgroup also examined three potential engagement pathways: Inform, which included compiling drought communication resources, hosting expert presentations, and building a library of best practices; Complement, which emphasized improving outreach to diverse communities and supporting translation and practitioner engagement; and Lead, which focused on facilitating cross-learning by sharing communication and resilience approaches from water agencies and counties.

During discussions, members stressed the importance of establishing core communication principles and key messages that move beyond emergency response to highlight drought as a recurring part of California's climate. They also emphasized including nonprofits and community-based organizations, particularly those representing small or domestic well systems, in future conversations to ensure that the State's communication strategies are inclusive and grounded in community experience.

By the end of 2025, the workgroup's efforts helped clarify where the DRIP Collaborative can add value, namely by compiling existing resources, engaging communication experts, and supporting coordination among State, local, and nonprofit efforts. These findings will inform next steps in determining whether the DRIP Collaborative's role should be to inform, complement, or lead future statewide drought communication initiatives.

4 Looking Ahead to 2026

As the DRIP Collaborative enters its fourth year, members emphasized the importance of advancing work that strengthens both immediate drought response and long-term resilience. Building on three years of shared learning, members signaled interest in refining the DRIP Collaborative's processes by streamlining workgroup expectations, broadening participation, and supporting targeted deliverables, such as white papers and issue briefs. Guiding principles for 2026 will center on flexibility, regional capacity building, and coordinated action across agencies and partners.

Members also agreed to continue the recommendation-tracking process to monitor progress, revisit earlier ideas, and identify opportunities for collective action. This ongoing effort, summarized in Appendix D, provides a structured way to document implementation and clarify where the DRIP Collaborative can add value.

Topics members identified for 2026 include:

- **Roles and Responsibilities for Drought Response.** Build on the DRIP Collaborative's 2024 work to clarify how State, county, and community partners coordinate during droughts to address water supply losses of private wells and community service wells. Members expressed interest in refining roles across agencies, identifying gaps in current response pathways, and exploring approaches that support more timely, consistent, and community-centered assistance.
- **Drought Indicators and Metrics.** Continue the DRIP Collaborative's 2024 effort to build a shared, transparent statewide framework. Members expressed interest in refining user needs, improving data coordination, and exploring communication and implementation strategies that support broader use of the indicators.

Beyond these priorities, members also noted continued interest in topics such as water infrastructure and vulnerable communities, as well as land repurposing and agricultural transitions. Rather than advancing these as formal workgroups in 2026, individual members or small groups may continue developing ideas, share insights with the full DRIP Collaborative, and identify opportunities for alignment with ongoing State and regional efforts.

In 2026, the DRIP Collaborative aims to build on its foundation of shared learning and coordination, using its recommendations and discussions to inform ongoing State initiatives and advance practical, locally driven solutions for drought resilience.

5 Closing

Throughout 2025, the DRIP Collaborative continued to mature as a forum where agencies, local partners, Tribes, water suppliers, community organizations, academics, and environmental and agricultural interests can work together to understand drought challenges and develop practical pathways forward. Members refined how ideas move from early discussion to shared products, strengthened use of cross-cutting themes, and produced recommendations that reflect both the complexity of drought resilience and the value of collective problem-solving.

This year's work deepened understanding of ecosystem needs, land–water coordination, and the infrastructure gaps that shape local vulnerability, while also clarifying where additional learning and partnership-building are needed. Throughout these discussions, SMEs provided essential technical and contextual insight, and their contributions are summarized in Appendix C, Table C-1. The DRIP Collaborative's ongoing tracking of 2024 recommendations helped connect current discussions to the broader statewide landscape, ensuring continuity and visibility for related efforts.

Looking to 2026, members identified priorities that build directly on this foundation: clarifying roles in drought response, advancing drought indicators and metrics, and continuing discussions about infrastructure, vulnerable communities, and agricultural land transitions. With a strengthened process and a clearer sense of shared priorities, the DRIP Collaborative enters 2026 prepared to support coordinated, practical, and community-centered drought resilience across California.

6 Useful Web Links

California Environmental Flows Framework
https://ceff.ucdavis.edu/

California Department of Water Resources
https://water.ca.gov/

California Water Boards FY 2025–26 Fund Expenditure Plan: Safe and Affordable Drinking Water Fund
https://www.waterboards.ca.gov/water_issues/programs/grants_loans/docs/2025/fy2025-26-fep-final-1125.pdf

California Water Commission January 2024 Report – Potential State Strategies for Protecting Communities and Fish and Wildlife in the Event of Drought
https://cwc.ca.gov/-/media/CWC-Website/Files/Documents/2024/01_January/Drought-Strategies-White-Paper_Final.pdf

California Water Library: A Practitioner's Guide to Instream Flow Transactions in California
https://cawaterlibrary.net/document/a-practitioners-guide-to-instream-flow-transactions-in-california/

California Water Watch
https://cww.water.ca.gov/

California's Water Supply Strategy: Adapting to a Hotter, Drier Future
https://resources.ca.gov/-/media/CNRA-Website/Files/Initiatives/Water-Resilience/CA-Water-Supply-Strategy.pdf

Cutting the Green Tape
https://wildlife.ca.gov/Conservation/Cutting-Green-Tape

DRIP Collaborative webpage
https://water.ca.gov/drip

DRIP Collaborative 2024 Progress Report: 2024 Drought Resilience Interagency and Partners Collaborative Progress Report (February 2025)
https://water.ca.gov/-/media/DWR-Website/Web-Pages/Water-Basics/Drought/Files/Drought-Resilience-Interagency-and-Partners-Collaborative/DRIPCollaborative2024ProgressReport.pdf

DRIP Collaborative May 2025 Meeting Presentation
https://water.ca.gov/-/media/DWR-Website/Web-Pages/Water-Basics/Drought/Files/Drought-Resilience-Interagency-and-Partners-Collaborative/20250516-DRIP-Collaborative-Meeting-PRESENTATION.pdf

DRIP Collaborative May 2025 Meeting Summary
https://water.ca.gov/-/media/DWR-Website/Web-Pages/Water-Basics/Drought/Files/Drought-Resilience-Interagency-and-Partners-Collaborative/20250516-DRIP-Collaborative-Meeting-SUMMARY.pdf

DRIP Collaborative May 2025 Meeting Video Recording
https://www.youtube.com/watch?v=tFqosdUhJmg

DRIP Collaborative July 2025 Meeting Presentation
https://water.ca.gov/-/media/DWR-Website/Web-Pages/Water-Basics/Drought/Files/Drought-Resilience-Interagency-and-Partners-Collaborative/20250718-DRIP-Collaborative-Meeting-PRESENTATIONADA.pdf

DRIP Collaborative July 2025 Meeting Summary
https://water.ca.gov/-/media/DWR-Website/Web-Pages/Water-Basics/Drought/Files/Drought-Resilience-Interagency-and-Partners-Collaborative/71825-DWR-DRIP-Meeting-SummaryADA.pdf

DRIP Collaborative July 2025 Meeting Video Recording
https://youtu.be/DCiA3iCVABA

DRIP Collaborative October 2025 Meeting Presentation
https://water.ca.gov/-/media/DWR-Website/Web-Pages/Water-Basics/Drought/Files/Drought-Resilience-Interagency-and-Partners-Collaborative/20251017-DRIP-Collaborative-Meeting-PRESENTATION.pdf

DRIP Collaborative October 2025 Meeting Summary
https://water.ca.gov/-/media/DWR-Website/Web-Pages/Water-Basics/Drought/Files/Drought-Resilience-Interagency-and-Partners-Collaborative/20251017-DWR-DRIP-Collaborative-Meeting-SUMMARYADA.pdf

DRIP Collaborative October 2025 Meeting Recording
https://youtu.be/FWjpgLM2Wb8

DRIP Collaborative Cross-Cutting Themes
https://water.ca.gov/-/media/DWR-Website/Web-Pages/Water-Basics/Drought/Files/Drought-Resilience-Interagency-and-Partners-Collaborative/CrossCuttingThemes-05162025.pdf

Final Approved Recommendations (including implementation considerations)
https://water.ca.gov/-/media/DWR-Website/Web-Pages/Water-Basics/Drought/Files/Drought-Resilience-Interagency-and-Partners-Collaborative/FinalApprovedPacket_ADA.pdf

Human Right to Water
https://water.ca.gov/Programs/All-Programs/Human-Right-to-Water

Integrated Climate Adaptation and Resiliency Program's Adaptation Clearinghouse
https://resilientca.org/

Save Our Water
https://saveourwater.com/

Vulnerable Communities Platform
https://vcp.opr.ca.gov/

Appendix A
DRIP Collaborative 2025
Membership and Alternates

A. DRIP Collaborative 2025 Membership and Alternates

The Drought Resilience Interagency and Partners (DRIP) Collaborative membership consists of 26 individuals, comprising 8 State agency members and an additional 18 non-State agency representatives. In 2023, following a letter of invitation from California Department of Water Resources (DWR) Director Karla Nemeth, the relevant State agencies each appointed a delegate to serve as their agency representative. The State agency members are annually reappointed by that agency's director. Members may designate an alternate to attend meetings on their behalf.

Table A-1. State Agency Members of the DRIP Collaborative, 2025

Agency	Member	Alternate(s)
California Department of Fish and Wildlife	Emiko Burchill	--
California Department of Food and Agriculture	Virginia Jameson	--
California Department of Water Resources	Karla Nemeth	John Andrew Paul Gosselin
California Environmental Protection Agency	Anna Naimark	Katy Landau
California Natural Resources Agency	Samantha Arthur	--
Governor's Office of Emergency Services	Christina Curry	Nate Ortiz Rose Nguyen
Governor's Office of Land Use and Climate Innovation	Natalie Kuffel	Lawrence Grodeska
State Water Resources Control Board	Joaquin Esquivel	Andrew Altevogt Karen Mogus

The non-State agency representatives were selected in 2023 following DWR's public call for applications. As required by the California Water Code Section 10609.80(b)(2), membership must include representation for non-profit technical assistance providers, community-based organizations, the public, local government, experts in land use planning, water resilience, and water infrastructure. To consider all water users, membership categories were expanded to include Tribal representatives and the environment, agriculture, and public water systems, while also trying to include the diverse geography of California. The non-agency representatives and their alternates are listed in Table A-2.

Table A-2. Non-State Agency Members of the DRIP Collaborative

Rep	Organization	Region	Member	Alternate(s)
Ag	Agricultural Council of California	Statewide	Emily Rooney	--
Ag	Jay Colombini Ranch, Inc.	SJV, Sierras	Jason Colombini	--
CBO	California Association of Mutual Water Companies	Southern	Tim Worley	Karina Cervantez
CBO	Community Water Center	SJV, Central Coast	Kyle Jones Kelsey Hinton[a]	Kija Rivers
Envi	California Trout, Inc.	Statewide	Redgie Collins	Analise Rivero
Envi	Environmental Defense Fund	Statewide	Anna Schiller	--
Expert	California Water Institute at Fresno State	SJV	Laura Ramos	--
Expert	University of California, Davis	Statewide	Alvar Escriva-Bou	Josué Medellín-Azuara (UC Merced)
Local Gov	Santa Cruz County	Central Coast	Sierra Ryan	--
Local Gov	California State Association of Counties	Statewide	Catherine Freeman	Caitlin Loventhal[a]
Public	Domestic Well Planning Group South American Subbasin	Central Valley	Suzanne Pecci	--
Public	Plumas Lake Self Storage, Owner	Northern	Brent Hastey	--
PWS	California Urban Water Agencies	Statewide	Katie Ruby	Tiffany Tran
PWS	Los Angeles County Public Works	Southern	Carolina Hernandez	--
TA	Rural Counties Association of California[b]	Statewide	Maria Gallegos Herrera	Cyril Barmore
TA	Self Help Enterprises	SJV	Tami McVay	--
Tribal	Buena Vista Rancheria of Me-Wuk Indians	North Central	Matessa Martin	Petra Silverman
Tribal	Yurok Tribe	Northern	Josh Cahill[c]	--

Table A-2 Notes: Ag = agriculture; CBO = community-based organizations; Envi = environment; Expert = expert in land use planning, water resilience, or water infrastructure; Local Gov = Local Government; Public = general public; PWS = public water systems, small water suppliers or urban water agencies; Rep = representative water user group; State = State agency; SJV = San Joaquin Valley; TA = nonprofit technical assistance providers.

[a] Kelsey Hinton and Caitlin Loventhal transitioned to being the member representative for the Community Water Center and California Association of Counties, respectively.
[b] Because of a vacancy in the Technical Assistance category, a public solicitation for a new DRIP Collaborative member was conducted in late 2024. This led to the Rural Counties Association of California being brought on.
[c] Josh Cahill joined the DRIP Collaborative in 2025, replacing the originally selected representative for their respective categories.

As of the end of 2024, non-State agency representatives completed their initial two-year membership commitment and were offered the option to extend for one or two additional years. Representatives who selected a one-year extension were invited to renew again for 2026. Several chose to continue, but others elected not to renew and will conclude their service through the end of 2025. The DRIP Collaborative acknowledges and appreciates the contributions of the following three representatives and organizations completing their terms in 2025:

- Jason Colombini, Jay Colombini Ranch, Inc.
- Matessa Martin, Buena Vista Rancheria of Me-Wuk Indians
- Katie Ruby, California Urban Water Agencies

Appendix B
Workgroup Membership and Recommendation Lead Recognition

B. Workgroup Membership and Recommendation Lead Recognition

In October 2024, the Drought Resilience Interagency and Partners (DRIP) Collaborative voted to create workgroups to advance ideas related to Reducing Ecosystem Impacts of Drought, Land Use Planning for Drought Resiliency, and Water Infrastructure and Planning. In addition, the DRIP Collaborative formed workgroups to define Cross-Cutting Themes and continue work on the Communication Program recommendation. The workgroups met in the months between the in-person meetings to advance their tasks. The members of each workgroup are listed in Table B-1.

Each workgroup had one or two designated leads who worked closely with DWR points-of-contact to guide discussions and maintain momentum between in-person meetings. The leads facilitated workgroup meetings, finalized problem statements based on member input and feedback, and ensured cohesion across the ideas and recommendations developed within each focus area. They also supported the drafting and refinement of recommendation materials brought forward for the DRIP Collaborative's consideration.

In addition to member participation, the workgroups drew on input from subject-matter experts who provided technical background, case studies, and contextual information to inform the feasibility and scope of emerging ideas. These experts contributed to discussions across the Reducing Ecosystem Impacts of Drought, Land Use Planning for Drought Resiliency, and Water Infrastructure and Planning workgroups. Appendix C reports the subject-matter experts who supported the DRIP Collaborative work in 2025.

Table B-3. Workgroup Membership, 2025

Reducing Ecosystem Impacts of Drought	Land Use Planning for Drought Resiliency	Water Infrastructure and Planning	Cross-Cutting Themes	Communication Program
Redgie Collins*	Natalie Kuffel*	Emily Rooney*	Kyle Jones*	Tim Worley*
Anna Schiller	Sierra Ryan*	John Andrew*	Tami McVay	Laura Ramos*
Alvar Escriva-Bou	Carolina Hernandez	Carolina Hernandez	Virginia Jameson	Katie Ruby
Laura Ramos	Andrew Altevogt	Alvar Escriva-Bou	Elea Becker Lowe	Matessa Martin
Sierra Ryan	Virginia Jameson*	Laura Ramos	Catherine Freeman	Nate Ortiz
Brent Hastey	Suzanne Pecci	Katy Ruby	Suzanne Pecci	Redgie Collins
--	Brent Hastey	Kelsey Hinton	--	Suzanne Pecci
--	Jason Colombini	Jason Colombini	--	--
--	Katie Ruby	Suzanne Pecci	--	--
--	Anna Schiller	--	--	--
--	Tami McVay	--	--	--
--	Emily Rooney	--	--	--

Table B-1 Note: * Signifies the designated workgroup and recommendation lead(s).

Appendix C
Subject-Matter Experts Supporting the DRIP Collaborative in 2025

C. Subject-Matter Experts Supporting the DRIP Collaborative in 2025

Throughout 2025, the Drought Resilience Interagency and Partners (DRIP) Collaborative intentionally incorporated subject-matter expertise into both workgroup sessions and full in-person meetings to strengthen the development and refinement of emerging ideas. Experts were invited to provide technical background, case studies, and contextual information to help members assess feasibility; understand on-the-ground challenges; and explore the implications of potential approaches. Their participation supported informed discussion and helped ensure that problem statements, ideas, and draft recommendations were grounded in current practice, regional variability, and the State's evolving drought-resilience needs.

Table C-1 summarizes the subject-matter experts who contributed to the DRIP Collaborative's 2025 discussions.

Table C-1. Subject-Matter Experts Supporting the DRIP Collaborative in 2025

Name	Organization	Workgroup or Other Support Type	Topic Informed On
Jeanine Jones	DWR	Inform to full membership	Hydrologic conditions update and outlook
Andrew Hoell	NOAA Physical Sciences Laboratory	Inform to full membership	NIDIS drought early warning pilot in Southern California
Amanda Scheffield	NOAA NIDIS & University of Colorado, Boulder	Inform to full membership	NIDIS drought early warning pilot in Southern California
Fethi BenJemaa	DWR	Inform to full membership	2025 DWR Annual Water Supply and Demand Assessment results
Ryan Bailey	DWR	Inform to full membership	2025 DWR Annual Water Supply and Demand Assessment results
Marc Commandatore	DWR	Ecosystems	Feasibility of voluntary instream flow tools; cooperative, incentive-based agreements
Matt Wells	California Department of Fish and Wildlife	Ecosystems	Streamlining restoration permitting and contracting; Cutting the Green Tape practices

Name	Organization	Workgroup or Other Support Type	Topic Informed On
Robert Cervantez	State Water Resources Control Board	Ecosystems	Curtailment and lessons learned from Local Cooperative Solutions in Shasta- and Scott rivers
Caitrin Chappelle	The Nature Conservancy	Ecosystems	Identifying high-ecological function streams highly vulnerable to drought impacts
Kevan Rolfness	California Department of Housing and Community Development	Land Use	Housing planning requirements; RHNA timelines; coordination opportunities
Joe Serrano	Santa Cruz County LAFCO	Land Use	Local government planning processes; service area and infrastructure considerations
Greg Pierce, Megan Mullin, Edith Guzman	UCLA Luskin Center for Innovation	Land Use	Analytical needs for assessing water supply capacity relative to housing allocations
Debbie Franco	Watershed Solutions Network	Land Use	Regional assessment methods; water–housing planning integration
Lawrence Grodeska	Governor's Office of Land Use & Climate Innovation	Land Use	General Plan Guidance update process
Anna Schiller	Environmental Defense Fund	Land Use	Multi-benefit Land Repurposing Program
Reyn Akiona	Valley Eco	Land Use	On-the-ground experience of implementing regional MLRP project
Kristin Dobbin	UC Berkeley	Land Use, Infrastructure	Potential role of LAFCO in small water system consolidation
Lance Eckhart	Mojave Water Agency / San Gorgonio Pass Water Agency	Infrastructure	Regional partnerships; support models for small and vulnerable water systems
Tim Godwin	DWR	Infrastructure	Statewide recharge efforts; California Water Code Section 1242.1

Name	Organization	Workgroup or Other Support Type	Topic Informed On
			implementation; flood diversion programs
Andrew Altevogt	State Water Resources Control Board	Infrastructure	Vulnerabilities of small systems; technical, managerial, and financial capacity gaps; drought-response challenges
Zoe Kanavas	DWR	Infrastructure	Water shortage vulnerability scoring of small systems

Table C-1 Notes: DWR = California Department of Water Resources; LAFCO = Local Agency Formation Commission; MLRP = Multi-Benefit Land Repurposing Program; NOAA = National Oceanic and Atmospheric Administration; NIDIS = National Integrated Drought Information System; RHNA = Regional Housing Needs Allocation; UC = University of California; UCLA = University of California, Los Angeles.

Appendix D
Building on 2024 Recommendations

D. Building on 2024 Recommendations

As a follow-up to the Drought Resilience Interagency and Partners (DRIP) Collaborative's interest in monitoring the implementation of the 2024 recommendations, this appendix summarizes progress and related efforts observed throughout 2025. Although the DRIP Collaborative does not have the authority to directly implement the recommendations it develops, tracking progress remains valuable. This effort helps to inform future discussions, identify alignment with ongoing State and local initiatives, and highlight opportunities where members may support or engage with related activities outside of the DRIP Collaborative.

To track progress, the Development Team conducted a pre-meeting survey of DRIP Collaborative members ahead of each in-person meeting and presented summary briefings during those meetings. This process created a feedback loop linking members' work to the 2024 recommendations and ensuring that implementation updates continue to inform and shape the DRIP Collaborative's ongoing efforts. Below is a summary of the latest progress on each recommendation.

D.1 Recommendation 1: Drought Indicators and Data

Progress in 2025 included the California Water Data Consortium's August workshop on drought indicators and expanded collaboration with the Association of California Water Agencies and the California Water Efficiency Partnership. The Governor's Office of Land Use and Climate Innovation (LCI) released the first version of the Vulnerable Communities Platform, which compiles climate and drought-related data. The California Department of Water Resources' (DWR's) update of the Water Shortage Vulnerability Scoring Tool for rural communities is underway and expected in December 2025. The National Integrated Drought Information System/National Oceanic and Atmospheric Administration's Southern California Pilot Drought Early Warning System Project entered its second year of implementation and continues to engage multiple user groups on indicator and communication approach development. DRIP Collaborative members agreed to conduct workshops to advance this topic in 2026.

D.2 Recommendation 2: Rapid Inventory of Drought-Related Tools and Resources

The LCI Integrated Climate Adaptation & Resiliency Program Climate Services Team continued documenting drought-related tools and data, which support the first release of the Vulnerable Communities Platform. This work enhances accessibility and coordination of drought-relevant information across agencies.

D.3 Recommendation 3: Empowering County Drought Resilience Planning for Domestic Wells and State Small Systems

DWR continues to host monthly California County Café Series webinars to support Senate Bill (SB) 552 implementation. The County Drought Resilience Planning Assistance Program now provides direct technical assistance to 35 counties and an additional 21 receiving grants or planning support. To date, 10 counties have completed their drought resilience plans (Colusa, El Dorado, Madera, Mendocino, Modoc, Napa, San Diego, Santa Cruz, Tehama, and Tulare). Researchers at University of California Agriculture & Natural Resources have initiated a study on county implementation of SB 552 to evaluate plan quality and identify common needs and barriers.

D.4 Recommendation 4: Voluntary Community-Based Groundwater Monitoring Program

DWR launched a pilot community groundwater monitoring program near Elk Grove, in partnership with Sacramento County, to support domestic well owners, small water systems, and schools in tracking groundwater levels. A community meeting was held in September 2025 to invite participation, and discussions are underway with other counties interested in replicating the model as part of their SB 552 efforts.

D.5 Recommendation 5: Roles and Responsibilities for Dry Domestic Wells

The State Water Resources Control Board's SAFER Program incorporated a domestic well strategy into its FY 2025-26 Fund Expenditure Plan. The strategy was discussed at recent SAFER Advisory Group meetings and represents a key step toward clarifying the SAFER Program's support roles in responding to dry-well events and improving coordination with counties and partners. DRIP Collaborative members agreed to conduct workshops to advance this topic in 2026.

D.6 Recommendation 6: Drought Definition and Case Studies

The LCI is leading development of California's Fifth Climate Change Assessment, which will include case studies highlighting community experiences with drought impacts and resilience strategies. Materials will be publicly available in 2026 through the California Adaptation Clearinghouse, and LCI is accepting input from partners and DRIP Collaborative members interested in contributing additional examples.

Appendix E
Meeting Themes and Discussions

E. Meeting Themes and Discussions

This appendix summarizes the three in-person meetings conducted in 2025. These meetings have driven the development and refinement of the proposed recommendations. The meeting agendas, summaries, presentations, and recordings are available on the DRIP Collaborative webpage.

In addition, this appendix summarizes the smaller virtual meetings that took place between the in-person meetings. Each meeting brought together the members most interested in a particular focus area to ideate on potential recommendations, receive comments, and then refine them. The purpose of these meetings was to maintain momentum and allow interested members to continue to discuss, develop, and refine the ideas.

Across the in-person and workgroup meetings, the Drought Resilience Interagency and Partners (DRIP) Collaborative also relied on subject-matter experts (SMEs) to provide technical background, case studies, and contextual information that informed member discussions. A list of SME contributors is included in Appendix C.

E.1 Spring: May 16, 2025

The May meeting launched the DRIP Collaborative's 2025 work by informing members in current drought and funding conditions, reviewing progress on the 2024 recommendations, finalizing cross-cutting themes, and defining the problem statements and initial ideas for the three 2025 focus areas.

E.1.1 Meeting Materials

- May 2025 Meeting Presentation
- May 2025 Meeting Summary
- May 2025 Meeting Recording

E.1.2 Meeting Discussion Summary

The meeting opened with remarks from California Natural Resources Agency Secretary Wade Crowfoot, who emphasized the importance of sustained drought resilience work, highlighted connections to ecosystems, land use, the Sustainable Groundwater Management Act, and infrastructure, and noted progress made on the 2024 recommendations.

Jeanine Jones (California Department of Water Resources [DWR]) then provided an update on statewide hydrology and federal budget conditions, outlining improved reservoir and groundwater levels alongside significant concerns about federal funding cuts affecting climate data, forecasting capacity, and drought-relevant

research. Members also received an update from Julie Ekstrom (DWR) on the process for tracking implementation of the 2024 recommendations. She explained that DWR is maintaining a year-round survey to collect updates from DRIP members, with progress informed by member-submitted information and related State efforts. The tracking is not an implementation tool, but a way for the DRIP Collaborative to monitor movement on each recommendation, identify where members are already engaged, and surface opportunities for future discussion or support. Julie also shared brief updates on several 2024 recommendations, including emerging research on drought indicators, ongoing county drought planning support, SAFER program efforts related to domestic wells, and early coordination on drought case studies.

Kyle Jones (Community Water Center) presented the Cross-Cutting Themes workgroup's deliverables, including finalized purpose statements for Climate Change Adaptation, Nature-Based Solutions, and Equity. Equity was introduced as a new theme and finalized during the meeting, with members discussing its components, including racial equity, climate justice, Human Right to Water, Tribal engagement, and intergenerational equity. Members also proposed Economic Resilience as a potential future theme. The DRIP Collaborative voted unanimously to adopt the proposed process for using cross-cutting themes and agreed that future additions could be discussed and approved by the full group.

Anthony Navasero (DWR) then provided an update on the Communication workgroup, which continues from the 2024 Drought Definition and Narrative focus area. He described the team's review of existing communication platforms such as California Water Watch and Save Our Water, and members shared ideas for potential SMEs to inform next steps and ensure the effort complements related State and local outreach campaigns.

The second half of the meeting focused on advancing the three proposed 2025 focus areas. Redgie Collins (CalTrout), Sierra Ryan (Santa Cruz County), and Emily Rooney (Agricultural Council of California) with John Andrew (DWR) presented draft problem statements and initial recommendation ideas for Reducing Ecosystem Impacts of Drought, Land Use Planning for Drought Resiliency, and Water Infrastructure and Planning, respectively. Following these presentations, members participated in breakout discussions to refine recommendation ideas, including cooperative landowner agreements for maintaining instream flows, improved coordination between housing and water planning, and addressing baseline infrastructure needs for small and vulnerable systems. These discussions established the direction for workgroup development of ideas and draft recommendations ahead of the July meeting.

E.2 Summer: July 18, 2025

The July DRIP Collaborative meeting served as the mid-year checkpoint to review progress across the 2025 focus areas and discuss emerging recommendation ideas. Building on the May meeting, the July session brought together updates from each workgroup and provided an opportunity for the full DRIP Collaborative to exchange feedback and refine direction ahead of the October meeting.

E.2.1 Meeting Materials

- July 2025 Meeting Presentation
- July 2025 Meeting Summary
- July 2025 Meeting Recording

E.2.2 Meeting Discussion Summary

The meeting opened with remarks from Paul Gosselin, DWR's Deputy Director for Sustainable Water Management, who joined the DRIP Collaborative as its new chair. He emphasized the importance of sustained, year-round drought preparedness, noting California's recurring dry cycles and the persistent drought conditions in groundwater basins despite recent wet years.

Glen Low (Earth Genome) introduced the Inform–Complement–Lead framework to guide development of the 2025 ideas, explaining that the framework helps the DRIP Collaborative determine whether each idea should focus on gathering information (Inform), complementing existing efforts (Complement), or leading new work potentially as recommendations (Lead), noting that not all ideas would evolve into full recommendations.

Members then received a presentation from Dr. Andrew Hoell (National Oceanic and Atmospheric Administration) and Dr. Amanda Sheffield (National Integrated Drought Information System) on the Southern California Drought Early Warning System pilot and an overview of current hydrologic and meteorologic conditions. Julie Ekstrom (DWR) also shared updates on all six of the 2024 recommendations, including progress on drought indicators and messaging work, development of the Integrated Climate Adaptation & Resiliency Program tools inventory, continued county drought planning and tool updates, the launch of the voluntary well monitoring pilot, the State Water Resources Control Board's (State Water Board) release of the draft SAFER fund expenditure plan, and the Governor's Office of Land Use and Climate Innovation's (LCI's) work to incorporate drought case studies into the Fifth Climate Change Assessment.

Zoe Kanavas (DWR) presented the Ecosystems focus area updates, beginning with Eco1, which explores voluntary, cooperative approaches to meeting instream flow

needs in small coastal tributaries. The presentation included background from Caitrin Chappelle (The Nature Conservancy) on ecological vulnerabilities in coastal rivers and the role of the California Environmental Flows Framework, as well as insights from Robert Cervantes (State Water Board) on lessons from emergency drought regulations and Local Cooperative Solutions in the Scott and Shasta rivers. Members discussed opportunities and constraints related to water rights, infrastructure, off-stream storage, and streamflow monitoring, underscoring the need for science-based flow targets and flexible tools to support rural communities and ecosystems. Zoe then introduced Eco2, an idea focused on expanding "Cutting the Green Tape" practices to streamline habitat restoration grants and contracts. She also noted Eco3 addresses the long-term operations and maintenance needs of restoration projects, which is a distinct challenge with unique policy, funding, and stewardship considerations. Members supported advancing the first concept as a recommendation while carrying the others forward as inform or complement opportunities.

Anthony Navasero (DWR) provided an update on the Communication workgroup, which has focused on reviewing existing drought communication materials, and identifying opportunities to promote consistent, long-term public messaging about drought as a recurring part of California's climate.

Professor Kristin Dobbin (UC Berkeley) shared findings from recent research on the role of Local Agency Formation Commissions in addressing the unsustainable proliferation of small water systems, highlighting the need for stronger coordination between land use planning and drinking water supply.

The Land Use Planning for Drought Resiliency workgroup shared updates across its three developing ideas. Anna Schiller (Environmental Defense Fund) presented Land1, which focuses on supporting regional approaches to agricultural land repurposing as groundwater sustainability actions accelerate land transitions in the San Joaquin Valley. She highlighted lessons emerging from Multi-Benefit Land Repurposing Program block grants and discussed the need for regional capacity to plan inclusive, community-benefiting transitions. Land2, presented by Sierra Ryan (Santa Cruz County) and Lawrence Grodeska (LCI), examined the disconnect between housing development timelines and long-term water supply planning, emphasizing opportunities to better align Regional Housing Needs Allocation processes with groundwater sustainability plans (GSPs), urban water management plans, and other water plans. Land3, presented by Julie Ekstrom (DWR), explores how to strengthen integration among water and land use plans and contribute to LCI's update of the General Plan Guidelines, including the new optional Water Element. Member discussion across all three ideas highlighted overlaps with ecosystem restoration permitting, the need for earlier coordination between water agencies and land use authorities, and opportunities to support regional planning efforts as drought and groundwater constraints intensify. Members supported

advancing the first two concepts as recommendations while carrying the other forward as a complement activity.

Anthony Navasero (DWR) presented updates from the Water Infrastructure and Planning workgroup, outlining three developing ideas. Infra1 focuses on strengthening support and coordination for small and vulnerable water systems, drawing on examples from the SAFER Program, the Water Shortage Vulnerability Tool, and regional frameworks such as the LA County Water Plan, Coachella Valley, and Mojave Water Agency. Members highlighted the challenges small systems face, including limited capacity, long timelines for consolidation, and the need for stronger regional leadership and outreach. Infra2 examines opportunities to improve permitting, regulatory flexibility, and water rights processes for recharge and reliability projects, including recent changes such as Executive Order N-16-25 and CEQA exemptions for certain small-system infrastructure. Discussion emphasized balancing streamlining efforts with water quality protections, Tribal consultation, and coordination across agencies. Infra3 explores establishing a groundwater recharge infrastructure program to consolidate existing tools, datasets, and planning resources to help local partners evaluate and pursue feasible recharge projects. Members supported advancing the first concept as a recommendation while carrying the others forward as inform or complement opportunities.

The meeting concluded with a discussion of next steps, with members sorting each idea into the Inform, Complement, or Lead pathways introduced earlier in the meeting. Workgroups will continue refining these ideas ahead of the October meeting, recognizing that some concepts may require additional exploration and may not be ready for final action this year.

E.3 Fall: October 17, 2025

The fall DRIP Collaborative meeting marked the final gathering of the year and focused on reviewing draft recommendations, discussing cross-cutting themes, and setting priorities for 2026. The meeting built on the workgroup progress presented in July and reflected a year of continued refinement across the three main focus areas, Ecosystems, Land Use, and Infrastructure, alongside the ongoing efforts of the Communication workgroup.

E.3.1 Meeting Materials

- October 2025 Meeting Presentation
- October 2025 Meeting Summary
- October 2025 Meeting Recording

E.3.2 Meeting Discussion Summary

The meeting opened with remarks from Chair Paul Gosselin (DWR), who thanked members for their continued engagement and emphasized the importance of collaboration and preparedness amid increasingly variable wet and dry conditions as the DRIP Collaborative looks ahead to 2026. Glen Low (Earth Genome) then offered an orientation reflecting on the year's progress and emphasizing the need for the DRIP Collaborative to focus its 2026 efforts on priority drought issues, particularly if dry conditions persist.

Jeanine Jones (DWR) provided an update on current hydrologic conditions, noting generally improved statewide storage alongside continued uncertainty heading into the next water year. Ryan Bailey and Fethi BenJemaa (DWR) then presented the results of the Annual Urban Water Supply and Demand Assessment, highlighting that most suppliers projected no shortages for 2026 while emphasizing the continued need for local preparedness, demand management, and clear communication even in years without declared drought. In addition, Julie Ekstrom (DWR) provided an update on progress related to the 2024 recommendations, noting the release of the Vulnerable Communities Platform, continued county drought planning support under Senate Bill 552, ongoing work on the voluntary well monitoring pilots, the State Water Board's development of roles and responsibilities for domestic wells, and LCI's efforts to incorporate drought case studies into California's Fifth Climate Change Assessment.

Redgie Collins (CalTrout) presented the Ecosystems workgroup's progress, noting the shift from earlier discussions about piloting cooperative instream flow approaches to focusing instead on developing a best practices document. This refined recommendation, Eco1, proposes creating a guide to support voluntary, cooperative solutions for enhancing instream flows during drought, drawing on existing resources (i.e., *A Practitioner's Guide to Instream Flow Transactions in California*) and providing practical guidance on early engagement, partnership development, permitting considerations, and approaches that balance the needs of ecosystems and water users. Members unanimously approved Eco1 as a recommendation. Redgie added that the workgroup's remaining ideas (streamlining restoration grant and contract processes (Eco2) and supporting long-term operations and maintenance (Eco3)) may be revisited in 2026.

The Land Use Planning for Drought Resiliency workgroup shared updates on its three ideas. Land1, focused on agricultural land repurposing and long-term land transition planning, continued to evolve but was not ready to advance as a recommendation and will carry forward into 2026. For housing and water coordination, Sierra Ryan (Santa Cruz County) and Natalie Kuffel (LCI), explained that the single idea discussed in July had since been refined and split into two complementary components, Land2a and Land2b, to better reflect distinct planning needs. Land2a focuses on aligning the timing and coordination of housing and

water planning processes, while Land2b evaluates water and wastewater capacity relative to projected housing needs. Members unanimously approved Land2a and Land2b as recommendations. Land3, presented by Julie Ekstrom (DWR), will continue as a complement activity supporting LCI's update of the General Plan Guidelines for the optional Water Element. Member discussion emphasized the need for earlier and more integrated coordination in 2026 among water agencies, planners, and housing authorities, and expressed interest in continuing related topics, particularly agricultural land transitions.

Anthony Navasero (DWR) shared updates from the Water Infrastructure and Planning workgroup, which remained focused on information-gathering for its three idea areas. He summarized discussions on supporting small and vulnerable water systems (Infra1), improving system and regulatory flexibility for infrastructure and recharge projects (Infra2), and assembling a groundwater recharge infrastructure resource to aid regional and local partners (Infra3). The workgroup determined that further foundational learning is needed and did not move any ideas forward as recommendations.

Anthony Navasero (DWR) presented updates from the Communication Program with contributions from Tim Worley (CalMutuals), Laura Ramos (California State University, Fresno), and Tiffany Tran (California Urban Water Agencies). The workgroup refined its analysis of drought communication needs and shared three potential pathways: Inform, by compiling and sharing existing drought communication resources; Complement, by strengthening outreach to diverse communities and supporting translation, engagement, and practitioner connections; and Lead, by promoting cross-learning among water agencies and counties on effective communication strategies. Members emphasized the importance of developing core drought messages that reflect long-term climate realities rather than short-term emergencies and highlighted the need to include nonprofits and community-based organizations in future communication efforts.

The meeting concluded with a discussion on priorities for 2026, facilitated by Orit Kalman. Members reflected on three years of collaboration and emphasized the need for the DRIP Collaborative to focus next year's efforts on priority drought issues, particularly if dry conditions persist. Key topics identified for continued work included revisiting the 2024 Roles and Responsibilities for Dry Domestic Wells recommendation, advancing drought indicators and metrics, and continuing efforts on water infrastructure and vulnerable communities as well as on agricultural land transitions. Members supported a more flexible structure for 2026, with work centered on targeted discussions, issue papers, and alignment with ongoing State initiatives, allowing the DRIP Collaborative to respond effectively to both near-term response needs and longer-term planning priorities.

Appendix F
Additional Ideas Raised

F. Additional Ideas Raised

In addition to the recommendations and other ideas discussed in Section 3, "2025 Focus Areas, Idea Development, and Recommendations," DRIP Collaborative members raised a number of additional ideas over the course of the year. These ideas emerged during broader discussions but were not developed, evaluated, or deliberated in sufficient detail to warrant inclusion as recommendations or priority focus areas.

To ensure transparency and to preserve institutional knowledge, these ideas are documented in this appendix for future reference. Their inclusion does not indicate endorsement, prioritization, or planned action by the Drought Resilience Interagency and Partners (DRIP) Collaborative; rather, this appendix serves as a record of concepts raised by members that may inform future discussions, scoping, or external work. The sections below summarize these ideas by focus area.

F.1 Reducing Ecosystem Impacts of Drought

- **Watershed-Scale Ecosystem Planning.** Develop a framework, potentially through the General Plan Guidelines, to integrate ecosystem management into local and regional planning within incentives for implementation.
- **Tribal Partnerships and Traditional Ecological Knowledge (TEK).** Elevate Tribal leadership and TEK in data collection, restoration design, and drought response planning.
- **Workforce Development.** Link restoration projects to local job opportunities, particularly in communities transitioning from agricultural or water-intensive sectors.
- **Soil Health, Headwaters Protection, and Groundwater-Surface Water Interactions.** Incorporate these elements as core components of drought-resilient restoration and watershed management.

F.2 Land Use Planning for Drought Resiliency

- **Monitoring and Risk Assessment for Rural Development.** Members identified growing concern over subdivision and accessory dwelling unit development in rural areas with domestic wells and septic systems. Members discussed exploring approaches for localized groundwater monitoring, potentially coordinated through homeowner associations, to help track and manage water supply and quality impacts on nearby wells.
- **Transfer of Development Rights (TDR).** Members expressed interest in examining the feasibility of TDR programs to preserve farmland and open space while directing new housing towards areas with existing infrastructure

and sustainable water supplies. Such programs could help align land use and water management goals while supporting rural economic stability.

F.3 Water Infrastructure and Planning

- **Green Infrastructure Investment.** Explore opportunities to assess and invest in water infrastructure that delivers both supply and ecosystem benefits, such as integrating surface and groundwater management or removing outdated infrastructure that no longer provides beneficial use.
- **Regional Partnerships in the San Joaquin Valley.** Identify partnerships between entities with existing resources, such as water rights, conveyance, or storage capacity, and those lacking backup supplies to strengthen local drought preparedness.
- **Coordination Among Special Districts.** Improve collaboration between special districts and other planning entities to align priorities, share data, and enhance the implementation of regional water infrastructure projects.


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