

Meeting Summary

Drought Resilience Interagency & Partners (DRIP) Collaborative

July 2025 Meeting

California Natural Resources Agency, Room 02-221A/B/C
715 P Street, Sacramento

July 18, 2025, 10:00 am - 5:00 pm

The meeting was live streamed and recorded. The recording can be viewed at:
<https://www.youtube.com/watch?v=DCiA3iCVABA>.

Meeting materials (including the presentation) are available online at:
<https://www.water.ca.gov/drip>.

A list of Drought Resilience Interagency & Partnership (DRIP) Collaborative members (members) is included in [Appendix A](#). The DRIP development team includes:

- Anthony Navasero, CA Department of Water Resources (DWR), Drought Coordinator
- Julie Ekstrom, DWR, Environmental Program Manager in the Water Justice Office
- Zoe Kanavas, DWR
- Kira Haynes, DWR
- Jaden Torres, DWR
- Glen Low, Earth Genome
- Orit Kalman

Meeting Objectives

Objective #1: Provide opportunities for collective learning about efforts to advance drought and water shortage resiliency.

Objective #2: Further the development of proposed 2025 recommendations and DRIP Collaborative inform and complement opportunities.

Welcoming Remarks and Setting Intentions

Paul Gosselin, CA Department of Water Resources (Department) [3:00 – 18:45, slides 3-10]

Paul Gosselin, Deputy Director of the Sustainable Water Management Division, will serve as the chair of the DRIP Collaborative going forward. Deputy Director Gosselin expressed his excitement about joining the DRIP Collaborative, noting that drought has long been a priority in his work with the Department and previously with Butte County. He acknowledged the recurring challenges drought poses and emphasized the importance of collaboration as we head into 2026, building on recent progress. Deputy Director Gosselin read a passage from *East of Eden* illustrating the natural cycle of wet and dry years in California's Salinas Valley and its deep effects on the land, animals, and people. He noted that while drought planning often fades in wet years, groundwater basins remain in persistent drought. Climate change will continue to intensify these cycles, making it critical to maintain year-round collaboration and preparedness.

Orit Kalman established quorum with a roll call. The list of members present is shown in [Appendix A](#). New alternates Kjia Rivers (Community Water Center, CWC), Caitlin Loventhal (California State Association of Counties, CSAC), and Josué Medellín-Azuara (UC Merced, alternate for Alvar Escrivá-Bou) introduced themselves to the group. Mariko Falke, Assistant Executive Manager and Tribal Liaison of the Tribal Affairs Office in DWR, also joined to represent the two Tribal representatives of the DRIP Collaborative in their absence.

Glen Low, Earth Genome, reviewed the DRIP Collaborative progress since its 2023 launch. Year one focused on establishing the DRIP Collaborative and its processes; year two produced six recommendations across three focus areas. This year, members are exploring new focus areas and ideas. At the May meeting, they discussed and confirmed the scope of the problem statements and formulated initial ideas, now being refined through the “inform, complement, and lead” framework to identify information needs and ways to support or enhance existing efforts. Glen reviewed the timeline, noting that the recommendations may not be ready to be voted on by the October meeting.

Presentation: Hydrology Report – The Drought Outlook

Andy Hoell, NOAA Physical Sciences Laboratory, and Amanda Sheffield, National Integrated Drought Information System (NIDIS) [18:45 – 42:40, slides 11-26], additionally, Jeanine Jones, DWR, was unable to provide the hydrology update, however she prepared [this slide deck](#) with an update on current hydrologic conditions.

Andy Hoell, NOAA, and Amanda Sheffield, NIDIS, presented on the Drought Early Warning System pilot in southern California, which closely aligns with the DRIP Collaborative 2024 recommendation on the development of drought indicators and metrics. Amanda introduced NIDIS, established by Congress in 2006 to integrate drought monitoring, forecasting, planning, and information sharing across federal, state, and Tribal levels. NIDIS fosters partnerships, supports research on drought risk and management, raises public awareness, and provides resources through drought.gov, including the regional Drought Early Warning System.

He described the NIDIS pilot in Southern California, launched in late 2023 to test delivering targeted drought early warning information and assess scalability. The goal is to modernize drought early warning by leveraging global early warning systems and integrating monitoring and forecasting to deliver monthly scenarios to inform decision-making, improve sector-specific preparedness, and shift users toward proactive drought response.

Andy shared hydrology and meteorology updates as the pilot concludes its first drought year and possibly enters a second year of drought. He also reviewed the sector-specific drought outlook from monthly briefings, which include global, regional, and sector-level data for public health, agriculture, and water utilities. Each scenario includes a confidence statement indicating the assumed reliability of the information shared.

Lastly, DRIP Collaborative members were invited to provide feedback and engage with the team, emphasizing the mutual value of collaboration. He asked members to identify the information they need and where they would find the most value. A summary of member responses is included in the appendix.

DRIP Collaborative Discussion:

- Who are the partners you worked with on the Southern California pilot project?

Response: We're working closely with public health and larger Southern California water utilities. While these utilities have been less actively involved, we see this as a learning opportunity and encourage broader participation to help shape the project for mutual benefit.

2024 Recommendations Updates

Julie Ekstrom, CA Department of Water Resources, Water Justice Office [42:40 – 52:37, slides 27-28]

Julie provided an update on tracking progress for the 2024 DRIP Collaborative recommendations, highlighting related efforts and opportunities for involvement. The update is based on member input, and members are encouraged to continue providing updates by contacting DWR. Below is the progress to date on the six 2024 recommendations:

1. **Drought indicators and metrics:** DRIP Collaborative members heard a presentation on the NIDIS Southern California pilot for the Drought Early Warning System. DWR and the State Water Board (SWB) are collaborating with the California Water Data Consortium to test publicly available drought data reported by urban suppliers, aiming to enhance dashboards and local drought messaging. A related workshop will be held in mid-August in Davis as part of the California Water Data Summit.
2. **Rapid inventory of drought-related tools and resources:** This recommendation involves ICARP Climate Services documenting drought-related tools and data. This will be published as part of the Vulnerable Communities Platform, a collaborative project among multiple state agencies aimed at providing valuable information to identify vulnerable communities.
3. **Empowering county drought resilience planning for domestic wells and state small water systems:** DWR and CSAC continue their well-attended monthly webinar series for county staff, fostering fruitful discussions. Ten counties have completed their SB552 Drought Resilience Plans, with seven using DWR's Technical Assistance Program. DWR is updating the Water Shortage Vulnerability Scoring tool for domestic wells, state small water systems, and small water systems, which will be integrated into the next SAFER risk assessment through collaboration with SWB.
4. **Voluntary community-based well monitoring program:** DWR is piloting a program in the South American Subbasin to provide education, training, and monitoring equipment to domestic well owners. Participants can track and share groundwater levels, contributing data to an open data platform. The pilot is expected to launch late summer to early fall.
5. **Roles and responsibilities for domestic wells:** The State Water Board's draft SAFER fund expenditure plan is now open for public comment.
6. **Drought definitions and case studies:** The Governor's Office of Land Use and Climate Innovation (LCI) is moving forward with including case studies of communities' experiences from drought as part of their work on the State's Fifth Climate Change Assessment.

Pathways to Advancing 2025 DRIP Collaborative Ideas

Glen Low, The Earth Genome [52:37 – 1:01:44, slides 30-36]

Since the May meeting, workgroup discussions and members' feedback made it clear that not every DRIP Collaborative idea will become a recommendation. To guide the 2025 idea development, the DWR Development Team proposed using the Inform–Complement–Lead framework: Inform – stay updated or gather more information; Complement – leverage the DRIP Collaborative's unique perspective and support existing, ongoing efforts; Lead – fill a gap with a recommendation.

Glen reviewed the updated recommendation template and a new outline for ideas best suited for the Complement path. At the May meeting, eight ideas were selected for further development in three focus areas: reducing ecosystem impacts of drought, land use planning, and water infrastructure and planning. As they are refined, the DRIP Collaborative will determine their best path and assess each idea's potential impact and alignment with its focus area's problem statement.

Reducing Ecosystem Impacts of Drought Focus Area

Zoe Kanavas, CA Department of Water Resources [1:01:44 – 1:53:06, slides 38, 57]

IDEA Eco1. In-stream Flow Requirements: Prioritization and Incentives

Zoe introduced the first idea, ECO1. In-Stream Flow Requirements, which proposed the piloting of voluntary, cooperative landowner approaches to meet in-stream flow targets in small coastal tributaries, building on efforts in the Scott and Shasta Rivers and the California Environmental Flows Framework (CEFF). She invited two subject matter experts to provide background.

Identifying high-ecological function streams that are highly vulnerable to drought impacts | Caitrin Chappelle, The Nature Conservancy (TNC) [1:04:21 - 1:20:26, slides 39-51]

Caitrin oversees TNC's statewide rivers work, focusing on improving flows in California's rivers to benefit people and nature. She emphasized that California's rivers are highly altered and overallocated through the water rights system, often exceeding actual river flows, making drought-driven shortages and dry rivers increasingly common as climate change intensifies water scarcity. Most California rivers (96%) lack flow protection, a major concern for TNC since the last multi-year drought. Tackling this overwhelming issue requires a science-based approach and building capacity with state agencies and local water users. TNC focuses on two key questions: Do we have the science needed to establish flow protections, and where should we start?

The question of how much water should stay in rivers has largely been answered through extensive science, particularly the CEFF; this tool defines five essential flow metrics for every stream in California, providing targeted, science-based guidance on the water needed to maintain river health. What's missing is a mechanism to translate these target flows into changes in water use, planning, and investment. Flow protections – actions by the state or local agencies to ensure a minimum flow, dry-season base flow, to keep rivers from going dry during droughts – are key to preventing rivers from running dry during drought.

For where to start, TNC prioritizes small, undammed coastal watersheds from the Central Coast to the Klamath. These seasonal streams are highly vulnerable, but with clear flow targets, could adapt without major reductions in human water use if planning is proactive. Using the Navarro River as an example, Caitrin described the challenge of coordinating many small diverters and groundwater users (typically in small, coastal watersheds). Emergency flow protections, such as in the Scott and Shasta, often come mid-crisis, years into a drought; long-term protections set targets in advance, giving communities time to prepare.

Key considerations for the DRIP Collaboration include that achieving flow protection requires cross-industry collaboration and delivering value to both communities and ecosystems. In coastal rivers, which are often overlooked in drought planning, successful protections must help rural communities prepare for future droughts while safeguarding river health. Many of the strategies discussed are referenced in the California Natural Resources Agency's Salmon Strategy.

State's extent of curtailment authority and lessons learned from Shasta-Scott River | Robert Cervantes, State Water Boards (SWB) Division of Water Rights [1:20:26 – 1:32:42, slides 52-56]

Robert presented on the emergency authority enacted by the SWB in Siskiyou County for the Scott and Shasta River watersheds, major tributaries of the Klamath and curtailment implementation. In response to Governor Newsom's 2021 drought emergency declaration, SWB was able to adopt temporary regulations for the Scott and Shasta Rivers. These regulations established month-by-month minimum instream flows for each river and allowed curtailment of both surface and groundwater use, which are critical because studies showed most groundwater users, especially in the Scott, are closely connected to surface flows.

Robert described the process of implementing curtailment. The SWB uses USGS stream gauges to determine curtailments when minimum instream flows, set uniquely for each river, are reached. The SWB notifies users when flows are nearing these thresholds, typically giving a few days' notice. Due to limited enforcement capacity, the SWB focuses curtailment enforcement in the Scott and Shasta Rivers on the largest water users and those in the most critical watersheds (as defined by the California Department of Fish and Wildlife (CDFW)).

Alongside curtailments, SWB offers Local Cooperative Solutions (LCS), agreements that provide an alternative to hard shutoffs when minimum instream flows are reached. These are critical for farmers, as curtailments often interrupt growing season and remain in place until October.

There are two types of LCS: one for groundwater users, the majority, which includes three options: (1) best management practices (infrastructure improvements, conservation, monitoring), (2) graduated cessation (seasonal reductions), and (3) set percentage reductions. All options for groundwater users require meters. The second type, for surface water users, is rare, with only two in place, and is overseen by CDFW.

DRIP Collaborative Discussion:

- Regarding water rights, I like the idea of moving water when rivers are flowing rather than waiting until they're dry. However, this mainly applies to appropriative right holders, as riparian water rights holders generally cannot store water. Is there a recommendation to allow more flexibility for riparian right holders during drought years, enabling storage to reduce river impacts and improve management?

TNC Response: TNC projects in the Navarro and other rivers have involved appropriative water rights, changing the timing of diversions through an extensive process with the State Water Board. Advances, including the new Water Availability Tool, support this work. While I don't have an answer on riparian rights, your assessment seems correct. Establishing flow protections or criteria is essential, as having a target allows us to address which water rights may need adjustment.

SWB Response: That's a great question. For example, under the cannabis regulatory program, many riparian growers use a special water right through a process called forbearance, ceasing summer diversions during the growing season and instead diverting and storing water in winter under a Small Irrigation Use Registration (SIUR). The broader concept you're raising is challenging in California because of our multiple water right types, appropriative, pre-1914, and riparian, unlike other western states with simpler systems. The cannabis registration program, which allows winter storage with summer forbearance may be an example to consider as means for exploring other streams as a limited water right option for riparian users.

- With climate change, population growth, and increasing infrastructure needs, how can new infrastructure be designed to work with rivers and natural waterways rather than altering them as in the past?

TNC Response: Two key approaches are small infrastructure investments, like off-stream storage, and nature-based solutions to improve infiltration and recharge in rivers and watersheds. Flow alteration is largely driven by reduced infiltration due to land changes. Investing in these solutions, especially in small coastal streams, can significantly help maintain flow and river connectivity, linking ecosystem protection with broader land use ideas discussed by DRIP.

SWB Response: The Division of Water Rights is currently implementing a program to issue temporary, expedited beneficial use permits for groundwater recharge projects to water right holders who previously lacked authorization for recharge.

- In Santa Cruz County, a potential solution, currently limited by riparian rights, is off-stream storage used not for irrigation, but to replenish streams during critical dry periods. For example, releasing stored water during heat waves that could prevent fish kills by maintaining stream flows. Is there a way to allow such alternative water use for ecological benefits?

TNC Response: TNC looked at flow release projects like the one you described, storing small amounts of water and timing releases. These creative solutions are promising, but without established instream flow protections or targets, it's difficult to measure progress or motivate water users to invest in them.

- As instream flow requirements depend on baseline data and monitoring, do you have a sense of existing flow sensor infrastructure across state watersheds? This has come up as a potential gap in our discussions.

TNC Response: Stream gauge data is a significant gap, making investment in gauges crucial. Tools, such as the CEFF, help model flow needs for ungauged rivers, providing a science-based starting point until gauges are installed.

- Regarding the maintenance of minimum flows on the Navarro River, have you analyzed the varying water usage rates among different farmers and diverters? With time-of-use rates, farmers tend to pump on the same low-rate days, causing high demand spikes. Have you explored working with farmers to stagger their pumping schedules, spreading water use more evenly across the week to reduce flow impacts?

TNC Response: Yes. In the Navarro and some tributaries, TNC partnered with local RCDs to develop a Collaborative Water Management Plan. This involved coordinating many water users, six focused on storage and forbearance, two on water efficiency, while maintaining necessary instream flows.

IDEA Eco2. Streamlining Grant and Contract Processes for Habitat Restoration [1:45:17 – 1:53:06, slides 58-60]

This idea proposes expanding successful practices demonstrated by CDFW's Cutting the Green Tape initiative – such as rolling solicitations, pre-application consultations, simplified guidelines, staff training on new procedures, and bundled contracts – to other agencies to reduce administrative burdens and accelerate implementation timelines. This idea aligns with DWR's new contracting authority to bundle planning, permitting, land acquisition, and implementation into single contracts.

Zoe asked for input on the best pathway to advance this idea. As *Inform*, the DRIP Collaborative could learn from state agency experts and grantees (especially smaller NGOs, Tribes, and community-based organizations) about their challenges. As *Complement*, it could promote Cutting the Green Tape and share best practices. Samantha Arthur (California Natural Resources Agency) noted the importance of defining the DRIP Collaborative's added value given ongoing related efforts and suggested assessing drought-specific needs and leveraging existing resources like the Water Commission's white paper on long-term drought recommendations.

At the June workgroup meeting, members discussed separating Operation and Maintenance (O&M) requirements from the broader grant and contract streamlining conversation, given O&M's distinct legal, funding, and stewardship considerations. Members provided the following input on this suggestion.

- Grant contracting and streamlining are broad statewide issues; the O&M topic feels more specific to our work and separating it out makes sense.
- Most grant applications require an O&M solution. While separating O&M makes sense, it's important to keep the connection, as one doesn't work without the other.
- It would be helpful to get more information on the Cutting the Green Tape initiative. Specifically, what it includes and whether it covers only CDFW permits or also involves regional boards and other agencies.

Members' written feedback is provided [here](#), this input will inform future workgroup discussions.

2024 Communication Program Recommendation – An Update

Anthony Navasero, CA Department of Water Resources [1:53:06 – 2:01:07, slides 62-63]

Anthony reported that he, Laura Ramos, and Tim Worley – the recommendation co-leads – have been collecting drought-related communication documents from governments, federal, state, local, and nonprofit sources to identify insights for potential recommendations.

Tim noted a key takeaway from the Water Commission’s 2024 white paper: drought communication should shift from framing as emergency response to communicating it as a recurring part of California’s climate. While many resources address utility-to-customer messaging during droughts, few focus on shaping a broader, long-term public narrative.

DRIP Collaborative Discussion:

- I think establishing core principles for communication and clarifying the key messages we want to convey is important. I appreciate Caitrin’s point that “rivers that run dry don’t serve anyone,” underscoring that water isn’t only for housing or development, but for sustaining life itself. This suggests an opportunity for deeper, more meaningful messaging that goes beyond emergency response.

Presentation: LAFCo and Water System Consolidation

Kristin Dobbin, Assistant Professor of Cooperative Extension | UC Berkeley, Department of Environmental Science, Policy & Management [2:01:07– 2:35:28, slides 67-82]

Kristin Dobbin presented findings from [a recent report](#), co-authored with Justin McBride from UCLA, on bridging gaps between local and state regulators to address the unsustainable proliferation of small water systems. This project began with convenings on consolidation co-hosted by the U.S. Water Alliance and the Water Foundation in 2021, highlighting the need for better coordination between land-use and drinking water supply planning.

Since 2015, consolidation has been increasingly promoted at the state level as the primary solution struggling small water systems, but implementation remains complex, resource-intensive, and slow. County Local Agency Formation Commissions (LAFCo) – agencies managing service boundaries, open space and agricultural lands, and city/special district boundaries – play a critical role, as any consolidation involving these entities requires LAFCo approval. LAFCos also develop Municipal Service Reviews (MSRs), evaluating and recommending improvements to governmental services, including drinking water.

From interviews with LAFCo and state drinking water regulators, survey responses of LAFCo executive officers from around the state, and technical assistance provider input, the report identified seven challenges to state-local coordination: poor communication and information sharing; lack of shared language and vision; inconsistent local implementation; unclear roles and responsibilities; gaps in authority; competing local priorities; and limited, uneven LAFCo resources.

Recommendations include leveraging local planning to support proactive consolidations before vulnerable systems fail. This includes regular, comprehensive MSRs, standardized county-level assessments and better information sharing between state and local agencies. Other planning processes, such as drought task forces or county general plans, could also be tapped, but often lack the data and information needed. Examples from the Sativa County Water District in Los Angeles and Santa Cruz County demonstrated these opportunities.

Kristin concluded by emphasizing the need for incentives and support for proactive consolidations, noting that many small systems are willing to consolidate but limited local capacity and resources.

DRIP Collaborative Discussion:

- Regarding LAFCo-initiated consolidations, local funding is a challenge since LAFCos are fee-based and require the proposing party to cover costs. Do you have any recommendations or thoughts on how this could be done?

Response: LAFCos are typically funded by fees from the agencies they regulate, and resource levels vary; larger, urban counties tend to have more capacity. Based on our interviews, some LAFCos have the resources and willingness to initiate consolidations but currently lack the authority to do so. Allowing LAFCos to take action is one positive recommendation but we certainly have to figure out the funding side. There has been some discussion about whether they could be eligible for funding through planning funds.

- What kind of input did the report receive from the small water systems that were the focus of the research?

Response: This report specifically focused on regulators, including LAFCos, the State Water Board, and the California Public Utilities Commission, so input from small water systems was not the focus. However, I've been involved in other work that directly engages with water systems and consolidations.

- One of your recommendations was that service-level reviews could be conducted by LAFCos or others. Could you clarify who you had in mind when you mentioned "others"?

Response: The recommendations focus on best practices for LAFCo Municipal Service Reviews (MSRs), which LAFCos are required to conduct every five years. However, these best practices are also relevant in other county-level planning spaces, such as general plans, water elements, and drought task forces. Essentially, the approaches we're developing for MSRs could be applied broadly across various local water-related planning efforts.

- Provided an in-depth explanation and timeline for the Sativa Water District example, highlighting the LA County Board of Supervisors' role in providing support. She cautioned that the proposed role for LAFCo requires water system expertise outside their core expertise, shifting responsibility to local governments that often lack funding to support such efforts. Even willing systems face financial barriers to proactive consolidation.

- Emphasized the relevance to upcoming land use and water infrastructure discussions. While resource limitations exist, the necessary authorities are already in place, and the State Water Board's Division of Drinking Water can address expertise gaps. Encouraged collaboration with LAFCos to integrate these insights into DRIP Collaborative recommendations.

Land Use Planning for Drought Resiliency Focus Area

IDEA Land1. Elevate regional approaches to proactively and inclusively plan for ag land transitions [2:35:28 - 2:53:43, slides 84-85]

Anna Schiller, Environmental Defense Fund, introduced Land Repurposing idea to elevate regional approaches to proactively and inclusively plan for agriculture land transitions idea. California agriculture covers 8.5 million irrigated acres – 75% in the Central Valley – making it the state's largest human water user. This sector is highly vulnerable to drought and climate change. Up to 900,000 acres of San Joaquin Valley farmland (~20%) could be followed by 2040 to meet groundwater sustainability goals, risking major economic, environmental, and health impacts, including dust emissions linked to increased mortality.

With regional coordination and state support, agricultural regions can adapt to changing water availability through voluntary land repurposing that reduce negative impacts while creating public benefits like habitat restoration, recreation, soil conservation, renewable energy, and flood risk reduction. State initiatives such as the Multi-Benefit Land Repurposing Program (MLRP) and DWR's LandFlex program, alongside efforts by CDFA, groundwater sustainability agencies (GSAs), and counties, are advancing these strategies. Building regional capacity for land-use planning is critical, as decisions are best made regionally, reflecting unique conditions, land-use priorities, and input from residents and growers.

Anna reported that the Land Use Planning workgroup met with a project manager overseeing MLRP block grants to discuss efforts in the Merced and Kaweah subbasins to lay groundwork for transitions toward drought resilience and sustainable groundwater use, offering a model for other regions. The DRIP Collaborative could recommend sharing lessons learned from ongoing MLRP projects and supporting regional capacity for inclusive planning and governance. Agricultural land use transitions impact not only water but also air quality, the economic health of farming communities, biodiversity, and rural community health.

DRIP Collaborative Discussion:

- MLRP funding is limited and its \$200 million in Prop 4 funding won't meet the full demand and the LandFlex program has ended. Other efforts, like the Governor's Office of Business and Economic Development Jobs First program and the San Joaquin Valley Collaborative Action Program (CAP) are examples of critical local/regional planning. The urgency is growing as farms face foreclosures due to market and water constraints, even before regulatory reductions fully take effect.
- MLRP could serve as a matching grant for water and irrigation districts to purchase farmland for groundwater recharge, but awareness is low that such purchases can earn water credits. Increasing awareness could expand participation and extend program impact.
- There is strong overlap with earlier discussion on streamlining permits for restoration projects; cross-workgroup coordination could strengthen both ideas.

IDEA Land2. Housing-Water Supply Nexus: Planning for housing needs and water supply [2:53:43 – 3:16:24, slide 86]

Sierra Ryan, Santa Cruz County, and Lawrence Grodeska, LCI, introduced the idea of better aligning housing growth with long-term water planning. Using Santa Cruz County as an example, Sierra highlighted the disconnect between rapid pace of housing development and the lengthy process of securing new water supplies – often leaving GSAs and water agencies out of early planning discussions.

At the workgroup meeting, the Department of Housing & Community Development (HCD) explained how Regional Housing Needs Allocation (RHNA) assessments are determined. A key takeaway was the need for earlier, more integrated water planning that connects the RHNA process with groundwater sustainability plans (GSPs) and urban water management plans (UWMPs) to avoid siting housing development where water supply is uncertain or unaffordable. Also in the workgroup meeting, Lawrence proposed a study to assess RHNA-driven water demand, identifying capacity expansion options like water recycling that could simultaneously protect ecosystems.

DRIP Collaborative Discussion:

- Why is the district required to issue a will-serve letter?

Response: Many special districts were created specifically to provide water to their communities and are expected to meet new demand. While historically possible, growth now outpaces the ability to secure new sources, leaving costly, time-consuming projects like recycled water or desalination as the remaining option. Saying “no” to serving new development is rarely viable, and RHNA allocations often flow into water demand projections and UWMPs without including GSPs in early planning.

- Water districts often feel they have little choice but to approve will-serve letters. They’re frequently excluded from housing development decisions and may lack the leverage to push back, fearing legal challenges.
- SWB sees developers create new, separate water systems rather than connecting to nearby existing systems. Fewer, larger systems are generally more sustainable, and LAFCos play a critical role in annexation and connection decisions.
- I question whether this is really a problem. State law already requires that general plan and zoning updates account for GSPs, but this hasn’t been meaningfully implemented. Development often proceeds with little coordination: developers propose projects, counties approve variances – essentially a waiver to allow for deviation from the standard zoning regulations – and will-serve letters are issued at the end, leaving GSAs to adjust their plans afterward. Now, with the state setting housing targets, this disconnect between development and water supply is happening on a larger scale. The issue is not limited to housing – agricultural expansion has also added unplanned demands on GSAs. Plans developed today will look very different by 2040 due to new demands, climate change, and reduced water supply reliability. To prepare, we should incorporate safety factors and additional projects now to create a buffer for these inevitable changes.
- The system has never been perfect, but it mostly worked. The current challenge is the large influx of housing, much of which bypasses CEQA or typical analysis due to policy incentives. This creates a time lag: large-scale, regional water projects may be needed, but water agencies aren’t brought into the planning process early enough. They need to be at the table from the start, not just at the end when will-serve letters are required.

- Housing elements (updated every eight years) and general plans (20-30 years) operate on different cycles, creating further disconnect. Water considerations should be embedded in the RHNA process.
- LAFCo often faces pressure to approve projects, limiting its ability to push back. Existing domestic well owners may be overlooked when water service master plans are submitted.
- Even when connecting to the same water system, existing users often bear the cost for new development. Water projects timelines are much longer than those for housing, creating planning disconnects.
- Water agencies face political pressure to issue will-serve letters because new housing, commercial, and industrial development bring economic benefits and increase housing supply. Many water agencies are separate from local political bodies and serve multiple jurisdictions, making coordination with the relevant cities and counties complex. This disconnect shifts infrastructure expansion costs to developers, as water agencies typically cannot fund projects beyond existing customers, which may hinder housing growth. That's where LAFCo's role and infrastructure planning intersect with land use planning.

COM Land3. Integrated Water Planning: Assess how plans interact and offer recommendations [3:16:24 – 3:22:46, slides 88-89]

Julie Ekstrom, DWR, reported on progress toward developing the integrated water planning idea. Since the May DRIP Collaborative meeting, the workgroup met twice –first to introduce and discuss on the proposed ideas, then to hear from HCD on RHNA and LAFCo.

The General Plan Guidance update launched by LCI now includes an optional Water Element, presenting an opportunity for DRIP Collaborative input. DWR is supporting this effort and sees value in detailing how plans – UWMPs, agricultural water management plans, GSPs, and General Plans – interact. A complementary resource or guidance document that explores these plan interactions can go into greater detail than the General Plan Guidance alone can cover.

Members expressed interest in engaging through a subgroup to provide feedback to the General Plan Guidance process and report back to the larger group. The next step is identifying points where water-related input can be incorporated to strengthen integration of water considerations into land use planning.

DRIP Collaborative Discussion:

- The planning guidelines process is open to the public and DRIP Collaborative members are encouraged to share with their communities and networks interested in providing input. The guidelines were last updated in 2017, making this a significant opportunity. More information and a sign-up form are available on [the planning update website](#).

Water Infrastructure and Planning Focus Area

IDEA Infra1. Enhance Support and Collaboration for Vulnerable and Small Water Systems Infrastructure Needs [3:22:46 – 4:01:06, slides 91-92]

Anthony Navasero summarized workgroup discussions following presentations from the State Water Board on the SAFER Program and from DWR on the Water Shortage Vulnerability Tool, which focuses on small water suppliers, state small water systems, and domestic wells. Anthony proposed creating a regional forum to share technical, regulatory, and coordination expertise – drawing on the One Water LA 2040 Plan as a model for integrated, collaborative, and sustainable water management.

If this idea is developed as *Inform*, continue to explore coordination needs, data gaps, and how the SAFER Program's funding expenditure plan supports infrastructure projects for failing systems. As *Lead*, the idea could develop into a recommendation to establish regional/local coordination frameworks, including operating guidelines, funding requirements and strategies, and lessons learned from existing efforts to promote alignment and a shared understanding.

DRIP Collaborative Discussion:

- Support for small water systems is fragmented, with no clear lead agency. In LA County, this is addressed through the LA County Water Plan, a collaborative framework involving Metropolitan Water District, LA County Sanitation Districts, stormwater agencies, and others to coordinate across this highly urbanized region with many small systems. In this process, LA County Public Works has stepped in to define what support means, which can vary across systems, from funding barriers to basic compliance support.
- Small water systems vary widely and are often hard to reach. Proactive outreach, like listening sessions and targeted engagement, can help identify systems willing to consolidate, but struggling to begin. LA County's efforts follow examples like Coachella Valley and Mojave Water Agency, where regional agencies actively engage with small systems as a foundation for finding solutions. In Coachella, early efforts grew out of the Integrated Water Resources Management (IRWM) process, with an emphasis on disadvantaged community outreach. Similarly, in Mojave, the local agency proactively initiated discussions by forming a small system committee. In both cases, the agencies developed expertise in partnering with SWB to secure funding.
- Success in supporting small systems often depends on strong local leadership. California's 7,300 water systems, including 3,000 community water systems, are unsustainable at current scale. Consolidation, whether physical or managerial, can improve sustainability, water quality, and affordability, but funding remains limited.
- Even when all parties agree, consolidation can take 5-7 years due to governance, planning, and construction delays. Multi-system projects face logistical challenges, and some delays, such as equipment lead times, are unavoidable.
- About three million domestic well owners lack infrastructure planning. Development in vulnerable areas without municipal connections increases risks for domestic wells, septic systems, and the overall water quality of the area. Domestic well communities near public systems should be included in these efforts, and funding opportunities should be pursued to advance connection projects.
- Small systems must meet the same costly standards as large systems, making compliance expensive. Providing legal support and templates for water-sharing agreements could assist system where consolidation, while ideal, is prohibitively expensive.

IDEA Infra2. Improve System and Regulatory Flexibility for Water Infrastructure Resilience [4:01:06 – 4:15:45, slides 93-94]

Anthony summarized workgroup discussions on challenges in implementing less controversial water infrastructure projects that improve system flexibility, particularly permitting and water rights considerations for groundwater recharge projects. The group reviewed temporary permits, Water Code 1242.1 (allowing certain flood-flow diversions without a water right), and recent changes like Executive Order N-16-25, which eased some requirements by removing the need for a regional flood control plan. Opportunities include streamlining permitting for recharge and water supply reliability projects, particularly those receiving state funding. SB 974 new CEQA exemptions for certain water infrastructure projects benefiting small, disadvantaged communities as part of broader housing legislation adds another consideration for shaping a recommendation.

DRIP Collaborative Discussion:

- CEQA exemptions for water infrastructure and housing projects can help infrastructure but reduce review, making coordinated planning and clear communication critical to avoid unintended consequences.
- Streamlining recharge projects must not compromise drinking water quality; monitoring and soil contamination risk assessments are essential to protect vulnerable communities.
- Flexibility is needed to move water where and when it's needed, through recharge, transfers, and exchanges, but these face groundwater management, interbasin transfers, and water rights issues.
- The Metropolitan Water District's Climate Adaptation Master Plan (CAMP) aims to reduce institutional barriers by facilitating water exchanges and transfers among its 26 member agencies; its lessons could inform this work.
- Tribal consultation is often bypassed when CEQA exemptions apply; outreach to Tribes should remain mandatory and Tribal needs, such as groundwater recharge timing and location, must be incorporated.
- Water banking, already included in some recharge project designs, warrants further exploration, including accounting, monitoring, and management considerations.
- A high-level presentation on California water rights could help clarify key concepts – including riparian vs. appropriative rights, pre-1914 rights – and barriers, such as place of use limitations that delay projects. Understanding when water rights pose barriers and how the State Water Board is working to streamline these processes would be valuable.
- A potential direction for this idea is to expedite water rights process for transfers and exchanges, even without changing water rights themselves, to address permitting delays.

IDEA Infra3. Establish Groundwater Recharge Infrastructure Program for Local Drought Resilience [4:15:45 – 4:47:57, slides 95-96]

Anthony reviewed the idea to consolidate existing recharge tools, programs, and data into a clear package for regional and local partners to improve understanding and feasibility of groundwater recharge projects.

While managed aquifer recharge is growing – over 400,000 acre-feet were recharged with support from DWR programs in 2023 – demand continues to rise. Resources like the Bulletin 118 update, Basin Characterization Program, Groundwater Live, the Sustainable Groundwater Management Act (SGMA) data portal provides valuable information on conditions, optimal recharge sites, and management strategies.

The proposal aims to package these tools with planning resources, water availability data, and infrastructure needs to engage local partners in identifying and pursuing practical, feasible actions that are tailored to local recharge opportunities. Outreach campaigns could increase awareness and help achieve the Water Supply Strategy goal of 500,000 acre-feet of groundwater storage.

DRIP Collaborative Discussion:

- The Occidental Center for Arts and Ecology's Fields to Flows program is a paired groundwater recharge and forest management program to take fuel stock and create a unification of watersheds that promotes forest fire prevention and creates essentially a dam that helps to sink, slow, and spread water. The program has great training and education opportunities. The workgroup should look into this program and consider supporting funding to help spread across the state.
- Outreach should highlight co-benefits – such as habitat restoration, green spaces for communities, and drinking water improvements – alongside volumetric targets or infiltration efficiency, while addressing risks through robust water quality monitoring and mitigation measures. Community Water Center (CWC) have developed recommendations on these potential risks.
- Tribal communities are especially vulnerable to water quality degradation; site assessments and soils analysis should be incorporated into planning to identify potential contaminants early. Large-scale examples like LA County Flood Control District and localized programs like the Safe Clean Water Program (safecleanwaterla.org) demonstrate how recharge can work effectively at multiple scales.
- Given the extensive recharge work already underway and dedicated funding streams, the DRIP Collaborative's role should be considered carefully and potentially focus on complementing/amplifying existing initiatives.
- That makes sense. There's a lot of information out there, but it's not always tailored to regional or local needs. A focused forum for groundwater recharge could address local or regional needs more specifically than broader statewide programs.
- Regional planning should preserve natural recharge features (e.g., swales, basins) rather than eliminating them through development.
- Flood control facilities could be leveraged for groundwater recharge, though agencies may face operational and maintenance challenges.

Working Session: Sorting Ideas into Pathways

[4:47:57 – 5:07:42, slides 99-107]

Following the review of all nine ideas across the three focus groups, including the added O&M considerations for habitat restoration projects, DRIP Collaborative members were asked to consider and provide direction to the workgroups and leads on how best to advance these ideas, following the framework to inform, complement, and lead. To accomplish this, members broke into small groups to debrief on the discussions and consider the best pathways forward for each idea. Specifically, members were asked to identify:

- Which ideas should be developed as formal recommendations?

- Which are better suited as complementary opportunities where DRIP Collaborative can add value by supporting ongoing efforts?
- Which should remain in the inform category, and of those which warrant dedicated time in upcoming meetings, either at the October meeting or virtual sessions, to hear from subject matter experts to deepen our understanding?

Below is a summary of the ideas proposed by the DRIP Collaborative, along with the suggested pathways identified during the small breakout discussions.

Focus Area: Reducing Ecosystem Impacts of Drought

Eco1. In-Stream Flow Requirements: Proposes piloting voluntary, cooperative landowner approaches to meet in-stream flow targets in small coastal tributaries where limited diversions could yield major ecological benefits, building on efforts in the Scott and Shasta Rivers and the CEFF.

→ Suggested pathway: Inform or Complement.

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

Recommends expanding successful practices from the Cutting the Green Tape initiative to simplify and align grant and contract processes for habitat restoration across agencies to reduce administrative burden and improve implementation timelines.

→ Suggested pathway: Inform or Complement.

Eco3. Long-term O&M Considerations for Habitat Restoration Projects: This idea proposes exploring long-term operations and maintenance (O&M) strategies for habitat restoration projects, including stewardship models, legal frameworks (e.g., easements or endowments), and sustainable funding mechanisms like contingency reserves or capacity grants.

→ Suggested pathway: Inform.

Focus Area: Land Use Planning for Drought Resiliency

Land1. Agricultural Land Repurposing: Calls for state-supported regional planning and capacity building to guide strategic, inclusive agricultural land transitions that align with groundwater sustainability goals and generate multiple community and ecosystem benefits.

→ Suggested pathway: Inform or Lead.

Land2. Housing-Supply Nexus: Seeks to better align housing and water supply planning to reduce risks of water shortages in new developments, addressing disconnects in timelines and coordination between the two sectors.

→ Suggested pathway: Lead.

Land3. Integrated Water Planning: Aims to assess how land use and water plans intersect, support LCI's General Plan Guidance update, and produce alignment resources that enhance drought resilience planning across sectors.

→ Suggested pathway: Complement.

Focus Area: Water Infrastructure and Planning

Infra1. Supporting Vulnerable and Small Water System Infrastructure: Proposes creating regional forums and guidance to enhance coordination among regional and local water entities to develop solutions on small and vulnerable water systems to take advantage of the scale of regional size, identifying critical vulnerabilities, and improving access to technical and financial assistance.

→ Suggested pathway: Complement or Lead.

Infra2. System and Regulatory Flexibility: Recommends reducing permitting hurdles and increasing implementation of water infrastructure projects like interties and recharge to improve system flexibility to react to changing conditions and opportunities, including advancing the use of new CEQA exemptions for water infrastructure that support DAC communities and streamlining support for shovel-ready projects.

→ Suggested pathway: Inform.

Infra3. Groundwater Recharge Infrastructure Program: Encourages the development of a program to support local and regional groundwater recharge efforts through outreach, education, and collaboration by sharing technical tools like Bulletin 118 and the Basin Characterization Program and reports like the San Joaquin Flood-MAR Watershed Studies as well as seek alignment of available water for groundwater recharge with infrastructure needs.

- Suggested pathway: Inform or Complement.

Next Steps and Closing Comments

Paul Gosselin, Deputy Director of Sustainable Water Management- California
Department of Water Resources [5:07:42 – 5:11:42, slides 109-112]

Next steps and activities in preparation for DRIP Collaborative meeting in October include:

- The Development Team will summarize the discussions and share with the DRIP Collaborative to inform upcoming workgroup meetings to advance the ideas ahead of the October meeting.
- DWR will schedule the next series of workgroup meetings in August.
- Work will continue on recommendations and bring draft templates to share at the October DRIP Collaborative meeting.

Deputy Director Gosselin closed by thanking everyone for their time and engagement. He noted these topics are complex and long-term challenges which require sustained effort and more input from subject matter experts, emphasizing that collaboration is key to progress. Looking ahead to the October meeting, the group will continue diving deeper into these important issues.

Appendix A. Meeting Participation

Drought Resilience Interagency Partnership & Collaborative Members

Present

- Analise Rivero, CalTrout – Alternate for Redgie Collins
- Anna Naimark, California Environmental Protection Agency
- Anna Schiller, Environmental Defense Fund
- Caitlin Loventhal, California State Association of Counties
- Carolina Hernandez, Los Angeles County Public Works
- Cyril Barmore, Rural Community Assistance Corporation
- Jason Colombini, Jay Colombini Ranch, Inc.
- Joaquin Esquivel (member) & Andrew Altevogt (alternate), State Water Resources Control Board
- Josué Medellín-Azuara, University of California, Merced – Alternate for Alvar Escriva Bou
- Katie Ruby, California Urban Water Agencies
- Kija Rivers, Community Water Center – Alternate for Kelsey Hinton
- Laura Ramos, California Water Institute at Fresno State
- Lawrence Grodeska, Governor's Office of Land Use and Climate Innovation – Alternate for Natalie Kuffel
- Nate Ortiz, Governor's Office of Emergency Services
- Paul Gosselin (Chair), California Department of Water Resources – Alternate for Karla Nemeth
- Samantha Arthur, California Natural Resources Agency
- Sierra Ryan, Santa Cruz County
- Suzanne Pecci, Domestic Well Planning Group South American Subbasin
- Tami McVay, Self Help Enterprises
- Tim Worley, CalMutuals
- Virginia Jameson, California Department of Food and Agriculture

Absent

- Brent Hastey, Plumas Lake Self Storage
- Emiko Burchill, California Department of Fish and Wildlife
- Emily Rooney, Agricultural Council of California
- Joshua Cahill, Yurok Tribe
- Matessa Martin, Buena Vista Rancheria of Me-Wuk Indians