

DRIP Collaborative Focus Area: Reducing Ecosystem Impacts of Drought

Materials for DRIP Collaborative Workgroup on Reducing Ecosystem Impacts of Drought

Workgroup Meeting: Tuesday March 18, 2025 at 1:00PM-2:30PM

Zoom Registration here: <https://ca-water-gov.zoom.us/meeting/register/qx8LV7-iTr2kCUCTWtTiiA>

Event information here: <https://water.ca.gov/News/Events/2025/Mar-25/Meeting-of-DRIP-Reducing-Ecosystems-March-18-2025>

Contents

Working Problem Statement.....	2
Past DRIP Collaborative Member Comments on Reducing Ecosystem Impacts.....	3
Related State Bodies and Ongoing Actions, Programs, Initiatives.....	5

Working Problem Statement

DRIP Collaborative – Draft Problem Statement for Focus Area 2025 on Reducing Ecosystem Impacts of Drought, October 2024

Increased freshwater withdrawals and continued loss of wetlands and riparian habitats have disrupted California's freshwater dependent ecosystems. Significantly altered river flow regimes have caused over 90% of vital habitats to diminish. This change has seriously impacted fish and wildlife, with approximately half of the state's listed endangered freshwater plants and animals now considered at risk of extinction. Many of California's rivers also lack environmental flow protections crucial for species like salmon, smelt, steelhead, trout, and sturgeon, which depend on specific environmental flow conditions for their life cycles.

Even during wetter periods, water management in California often fails to prioritize ecosystem health. This makes it harder for the state's native species, that have adapted to the State's arid Mediterranean climate to recover from water shortages and impacts from climate change. Rising temperatures, prolonged dry periods, increased evapotranspiration rates, and diminishing snowpack exasperate conditions, further damaging ecosystems that provide essential services such as clean water, healthy soils, and climate regulation.

These ecological changes directly affect human communities, impacting water availability, agricultural productivity, diversity of fauna and flora, and the overall quality of our environment. Restoring, enhancing, and protecting wetlands, riparian zones, and river flows can strengthen the resilience of both natural ecosystems and the communities that depend on them. Recommendations for this focus area will improve pre-drought planning and emergency response strategies to enhance habitat quality, preserve biodiversity, and improve water dependability.

Past DRIP Collaborative Member Comments on Reducing Ecosystem Impacts of Drought

A. Comments from early 2024 (before October 2024 in-person meeting)

2025 Focus Area Primers excerpt of Ecosystem Impact comments:

Ideas previously mentioned by DRIP Members

- Implement habitat restoration and preservation projects
- Reconnect waterways to floodplains through restoration
- Advance instream flow requirements to protect fish, wildlife, and ecological functions
- Develop environmental water plans at the watershed-scale
- Incorporate nature-based solutions in water resource planning
- Integrate climate change projections into drought planning for ecosystems
- Support multi-benefit recharge projects (including groundwater ecosystems and instream)
- Integrate fire and forest management (especially tribal knowledge) into drought planning

Potential Ecosystem Impact Discussion Questions

- Where would habitat restoration most improve ecosystem resilience to drought?
- Which projects have shown success in mitigating drought and can these be scaled up?
- What partnerships are needed to coordinate drought mitigation efforts for ecosystems?
- What policies can be enforced or amended to ensure better protection of ecosystems?
- What legislative changes are necessary to improve drought mitigation for ecosystems?
- How can resources be allocated effectively to prioritize high-impact areas and actions?

B. Comments during Oct 2024

DRIP Collaborative Fall 2024 Meeting Summary excerpt of Ecosystem Impacts comments:

Scope

- Make sure that, in addition to the motivations listed, we also link to the importance of healthy ecosystems for humans (i.e., safe drinking water supply).
- In the context of repurposing formerly agricultural lands into habitat, we should consider its water quality impacts and think of how to roll out these kinds of projects in a unified manner.

- Interested in credit for domestic well users for groundwater recharge efforts. We should also consider conservation easements.

Expertise:

- Further development of this focus area would benefit from outside expertise. This especially applies to the legal interplay between water supply and environmental needs. For example, modifying the "place of use" for a surface water diversion, often requires compliance with Habitat Conservation Plans (HCPs) and other regulatory approvals.
- The CalTrout and the California Department of Fish and Wildlife members will bring great expertise to this focus area.

Support:

- River flow improvements and the wetlands and riparian zone restoration are critical for everybody, and so I think this one's great.
- I'm very happy to see this as a focus area and I'm excited to see where this goes.

C. July 2024 DRIP Collaborative in-person meeting

Presentation by Sandi Matsumoto (pages 119-125): [July 12 2024 DRIP Collaborative meeting slides](#)

Related State Bodies and Ongoing Actions, Programs, Initiatives

- [30 x 30 California](#): a state goal of conserving 30% of California's lands and coastal waters by 2030. The 30x30 goal is intended to help accelerate conservation of our lands and coastal waters to meet three objectives: conserve and restore biodiversity, expand access to nature, and mitigate and build resilience to climate change.
- [DWR - Watershed Resilience Program](#): offers financial and technical support to enhance watershed health, improve water quality, and increase climate resilience across California's diverse landscapes. The program is conducting five pilot planning projects to test and apply the watershed resilience approach in various representative regional settings in the state and lay the foundation for future efforts.
- [Healthy Watersheds Partnership](#): provides objective and unbiased science and technical resources centered on watershed process and function, aquatic ecosystem biodiversity, and integrated assessment data and information.
- [California Environmental Flows Framework](#): provides technical guidance for managers to employ a functional flows approach to develop scientifically accurate and defensible environmental water flow recommendations throughout the state.
- [CDFW - Landscape Conversation Planning Program](#): proactively identifies priority mitigation and conservation areas before impacts occur, with the goal of preserving larger areas of higher habitat quality and increasing wildlife connectivity.
- [CDFW – State Wildlife Action Plan](#): examines the health of wildlife and prescribes actions to conserve wildlife and vital habitat. In the latest update, the California Department of Fish and Wildlife incorporated climate change impacts and adaptation, including dozens of strategies and targets for California's ecoregions.
- [Department of Conservation - Watershed Coordinator Program](#): supports State-funded coordinators to develop plans and projects to improve watershed health and to achieve State and local natural resources goals.
- [Department of Conservation – Working Lands and Riparian Corridors Program](#): funds watershed restoration projects and conservation projects on agricultural lands.
- [Agreements to Support Healthy Rivers and Landscapes](#): voluntary agreements, if approved by the State Water Board, are a means to implement an updated Bay-Delta Plan. These agreements would help restore 45,000 acres of aquatic habitat for fish and other animals.
- [Forest Management Task Force - California Wildfire and Forest Resilience Action Plan](#): designed to strategically accelerate efforts to: restore the health and resilience of California forests, grasslands and natural places; improve the fire safety of our communities; and sustain the economic vitality of rural forested areas.
- [Tahoe Conservancy - Climate Adaptation and Biodiversity Program](#): integrates activities to conserve biodiversity, adapt to climate change, and reduce greenhouse gas emissions via the Conservancy's Landscape Resilience Program.
- [CDFA – Pollinator Habitat Program](#): works directly with farmers and ranchers to install habitat and implement management practices that support pollinators.
- [California Biodiversity Collaborative](#): unites key environmental experts and community leaders to conserve California's globally renowned natural heritage. This effort is a key partner of the 30x30 conservation initiative.

- [California Water Commission - Water Storage Investment Program](#): Proposition 1 of 2014 dedicated \$2.7 billion for investments in water storage projects. The California Water Commission is administering the Water Storage Investment Program to fund public benefits associated with the eight selected projects, such as flood control, ecosystem improvement, water quality improvement, emergency response, and recreation.
- [California Rice Commission - Bid4Birds Program](#): incentivizes habitat for early migrating waterbirds this late summer and early fall.
- [California Fish Passage Forum](#): a collaborative entity formed among federal and state agencies, and non-profits to explore, develop, and share effective methodology and resources to restore and recover anadromous fish populations by improving fish passage at man-made barriers.
- [San Joaquin River Restoration Program](#): a comprehensive, long-term effort to restore flows to the San Joaquin River from Friant Dam to the confluence of Merced River and restore a self-sustaining Chinook salmon fishery in the river while reducing or avoiding adverse water supply impacts from Restoration Flows.
- [Wildlife Conservation Board](#)