

2025 Focus Area and Cross-Cutting Theme Statements

Scope

This document shares the initial drafts of the problem statements for the two anticipated 2025 focus areas (Reducing Ecosystem Impacts of Drought; Land Use Planning). It also includes the purpose statements for the cross-cutting themes (Climate Change Adaptation; Nature-Based Solutions). The content from the July 2024 Subject Matter Expert presentations and following DRIP Collaborative member discussion was used to develop these drafts. Their purpose is for the DRIP Collaborative to provide input and suggestions for further development. For clarity, the definition of focus areas, cross-cutting themes, problem statements, and purpose statements are provided below.

Focus areas are ideas, opportunities, and aspirations that DRIP Collaborative Members have identified as important to improved California drought resiliency. These were captured on [the Reference List](#) and are sequenced and prioritized based on member feedback.

Like focus areas, cross-cutting themes are identified areas of importance to members; however, cross-cutting themes include broad concepts that affect multiple focus areas, influencing the overall approach of proposed recommendations.

A problem statement is a concise description of the issue or challenge faced by a Focus Area. Developed by members, Problem Statements seek to capture the essential problems within each Focus Area, including identification of key sub-topics within each focus area. They are meant to help inspire recommendations that the DRIP Collaborative may make that address the stated problems.

Purpose statements articulate the key concepts behind a cross-cutting theme, demonstrate the need for incorporation in recommendations, and highlight related ongoing State strategies & actions. They may or may not inspire possible DRIP Collaborative recommendations.

Focus Area: Reducing Ecosystem Impacts of Drought

Working Problem Statement

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.

Focus Area: Land Use Planning

Working Problem Statement

Land use planning is crucial for guiding development in the State and protecting its economic viability, but it should also promote drought resiliency. As DWR stated in its [Land Use Planning and Management 2016 document](#), land use planning and management cuts across many water related strategies. These resource management strategies include water storage and conservation, watershed restoration, water use efficiency, surface and groundwater quality, flood management, parks and recreation, adaptive management of climate change, and stewardship of agricultural lands.

The importance of well-coordinated land use and water management is particularly urgent as California experiences a hotter and drier climate. As evident in our recent drought periods, hundreds of thousands of acres of California fertile farmland are often fallowed. The [California Water Resilience Portfolio](#) reflects the urgency of land use, as detailed in Action 3.2 (address the economic, environmental, and social impacts of changing land use) and 3.3 (support local planning efforts to address potential land use changes in regions implementing SGMA). From a longer-term perspective, the [USGS has also estimated](#) that, if past patterns of California land-use and water demands continue, projected water needs over time will increase beyond current supply and cause greater stress to California's water resources.

Despite these pressing challenges, current land use planning and practices do not always address the full picture of water supply and demand. To address this, in the upcoming General Plan Guidelines (GPG) Update, guidelines for an "optional Water Element" are proposed. Currently, water-related priorities are spread across a number of elements within a local jurisdiction's general plan. This includes land use, conservation, open space, and most importantly, the safety element, which is statutorily required to address drought-related priorities in the context of hazard and climate change impacts. General plan elements are often not well aligned with Urban Water Management Plans – as required for urban water suppliers serving more than 3,000 connections by CA Water Code §§ 10610-10656 and §10608 – or Groundwater Sustainability Plans that are overseen by Groundwater Sustainability Agencies.

In past DRIP Collaborative meetings, members have expressed an interest in stronger collaboration and connections between land use planners and water managers, in both short-term and long-term planning, to promote more efficient and effective land-use

patterns and integrated regional water management (IRWM) practices. Although there are important programs now underway, such as the [Multibenefit Land Repurposing Program \(MLRP\)](#), current efforts are perceived to be lacking and do not address the urgency to respond to a changing climate and its impacts. Improving coordination between land use and water management may necessitate a more holistic planning for the housing and economic development needs of a growing population, while providing for the efficient use of water, protection of water quality, increased production of energy, improved resilience against climate change impacts, and support of other resources.

Cross-Cutting Theme: Climate Change Adaptation

Working Purpose Statement

Climate change adaptation refers to the proactive measures taken to manage the risks of climate change impacts. These actions and processes are designed to address specific threats, such as extreme weather, rising sea levels, and increasing temperatures, by preparing systems to cope with these challenges. In California, this means adjusting our water management, land use practices, and environmental policies to withstand climate stressors like changing precipitation and hydrologic patterns, increasing temperatures, and sea level rise that can create more emergency weather events like flooding. Adaptation is proactive, focusing on modifying systems to reduce vulnerability and enhance resilience. In contrast to resilience, which is the state of readiness, adaptation involves concrete steps that lead to that readiness. Climate change mitigation is different from adaptation as it focuses on reducing or preventing the emission of greenhouse gases in order to limit the severity of future climate change.

Where applicable, incorporating climate change adaptation into solutions is critical as California faces severe climate impacts. Rising temperatures could increase heat waves and health risks, with daily maximum temperatures projected to rise by 5.6°F–8.8°F by late century. Water resources will be strained due to declining snowpack, (expected to drop by over 50% by 2100), extreme variable runoff and precipitation, and the growing need to modernize and increase storage capacity and conveyance around the state which will all be exacerbated by an increase in the frequency and intensity of droughts. Additionally, over the next two decades, the delivery capability and reliability of the State Water Project could decrease by 13% to as much as 23%, depending on the future climate scenario, due to shifts in precipitation and runoff and the increase in extreme weather conditions. The range of potential future delivery capability underscores the need for adaptive measures that can adjust to our realized future climate, regardless of its severity, to protect communities, ecosystems, and infrastructure.

It is essential that the recommendations from the DRIP Collaborative incorporate climate change adaptation, where applicable, to ensure they are relevant and effective. To do so, an explanation of a recommendation's connection to climate change adaptation will be prompted in future iterations (post-2024) of [the Recommendation Template](#). Examples of adaptation strategies include enhancing water use efficiency, increasing conservation efforts, expanding new water sources such as desalination and recycled water, implementing integrated water management plans, upgrading infrastructure resiliency and

flexibility to withstand extreme weather, and restoring ecosystems that provide essential services such as clean water and healthy soils. Adaptation also requires improving decision-making and planning processes, such as develop additional land use policies that account for drought resilience and long-term environmental sustainability. Please refer to [this document](#) for more examples of climate change adaptation strategies and metrics to measure their success; these are select strategies and actions identified from the [*California Climate Adaptation Strategy \(DRAFT\)*](#) to be of potential relevance to the DRIP Collaborative.

Cross-Cutting Theme: Nature-Based Solutions

Working Purpose Statement

Nature-Based Solutions (NBS) refer to strategies that use natural processes and ecosystems to address societal challenges. These solutions leverage the resilience and adaptability of natural systems to provide benefits like enhanced biodiversity, flood control, and carbon sequestration. In the context of drought resilience, NBS play a crucial role by enhancing the ability of landscapes to retain water and maintain ecosystem health during dry periods. Many examples of nature-based solutions are detailed in [the Priority Nature-Based Climate Solutions](#) from the California Natural Resource Agency. Listed below are NBS that are potentially most beneficial for enhancing drought resilience, with specific examples quoted from [the priority list](#):

1. Wetland restoration
 - a. Reconnect aquatic habitat within forests to help fish and wildlife endure drought and adapt to climate change.
 - b. Identify and prioritize wetland restoration near communities most vulnerable to climate change and where climate smart land management can improve groundwater and water quantity, protect communities from flooding, and increase access to nature.
2. Flood MAR
 - a. Increase managed groundwater recharge on working croplands that capture rain and storm runoff and redirect water during periods of extended high flows to allow water to sink into aquifers in a manner that does not exacerbate water quality issues and ensures diversions are protective of native fish and wildlife.
 - b. Reactivate flood plains on working croplands, including rice fields to improve flood management and aquifer recharge and enhance biodiversity and habitat.
3. Headwaters protection
 - a. Restore rivers, floodplains, and estuaries and facilitate their natural function and connectivity.
 - b. Protect and restore mountain meadow function and hydrology using site appropriate solutions, such as beaver reintroduction, to enhance water quality and reliability, biodiversity, carbon storage, and natural system connectivity.
4. Soil health
 - a. Scale up soil health practices for carbon storage, greenhouse gas emission reduction from soils, climate resiliency, soil water retention, improved water and air quality, and more, while supporting socially disadvantaged farmers. Practices include, but aren't limited to cover cropping; retention of crop residue;

production and application of organic amendments, such as compost and biochar; planting of hedgerows; grass filter strips; low or no-till; integrated pest management that utilizes natural pest-predator dynamics and supports biodiversity above and below ground; and others.