



Delta Conservation Framework

Partnerships and Planning Tools for 2050

Developing a framework for planning and implementing conservation in a dynamic place with close ties to native biodiversity, California history, agriculture, and statewide economies is a challenging task. Add to that consideration of the myriad existing plans and conservation initiatives that apply to California's Delta, and the task boggles the mind. Then consider the perils and uncertainties presented by climate change and the task becomes a very tall order.

This document, called the *Delta Conservation Framework*, is the product of three years of work (2016-2018) led by the California Department of Fish and Wildlife and developed in partnership with Delta stakeholders. These stakeholders included federal, state, and local government representatives, conservation practitioners, non-profit organizations, landowners, residents, and business owners.

Three primary sets of resources guided development of the Framework:

1. Feedback from a series of public workshops held in 2016
2. Prior plans focused on the people and ecosystems of the Delta
3. Best available science on ecosystem processes in the Delta

From this foundation emerged seven conservation goals, 26 strategies to reach those goals, 200 pages of details, seven appendices, and a 30-year vision for a healthier Delta for both humans and wildlife: the *Delta Conservation Framework*.

VISION 2050

In 2050, the Delta is composed of resilient natural and managed ecosystems situated within a mosaic of towns and agricultural landscapes, where people prosper and healthy wildlife communities thrive.

Hopes for the Delta Expressed by Various Stakeholders in 2016 Workshops

- **MULTI-BENEFIT OUTCOMES:** In 2050, the Delta is a network of multiple-use landscapes where agricultural productivity, economic vitality, and ecosystem conservation are achieved in a manner that mutually supports the needs of people and wildlife.
- **CONSIDERATION OF LANDSCAPE DYNAMICS:** In 2050, the Delta is recognized as part of a greater system that functions within the context of California's largest watersheds.
- **HEALTHY, RESILIENT ECOSYSTEMS:** In 2050, the Delta has healthy, resilient ecosystems with the capacity to adapt through time to impacts associated with climate change, sea level rise, and other environmental uncertainties.
- **COLLABORATION:** In 2050, state, federal, and local government agencies collaborate with each other and Delta stakeholders to achieve multi-benefit outcomes where possible.
- **DECISIONS BASED ON SCIENCE:** In 2050, policy decisions and desired conservation outcomes are informed and evaluated through coordinated Delta science endeavors.
- **LOCAL SUPPORT:** In 2050, Delta residents promote the management of healthy ecosystems as the basis of a healthy and economically thriving Delta region.
- **LOCAL BENEFITS:** In 2050, Delta residents and visitors actively enjoy the region's unique cultural and natural resource values through wildlife-friendly agricultural practices, tourism, outdoor recreation, and environmental education activities for all ages.
- **RELIABLE LOCAL WATER:** In 2050, effective integrated water management in the Delta promotes good water quality and a reliable water supply for users in the Delta.
- **MULTI-BENEFIT FLOOD MANAGEMENT:** In 2050, the Delta's flood management system provides both improved flood protection and increased habitat value for fish and wildlife, where possible.

History of the Push to Reframe Delta Conservation

The California Water Code recognizes the Delta as “the most valuable ecosystem on the west coast of North America and South America.” However, over the last century, the wildlife habitats and ecosystem services that the Delta provides have been impacted by environmental degradation, land use conversions, and economic shifts. Efforts to protect, enhance and restore the Delta’s natural riches and ecosystem services are ongoing. Indeed large-scale conservation of Delta aquatic and terrestrial habitats is called for in a wide variety of California state laws, mandates, plans, mitigation requirements, and initiatives, many of which are the result of decades-long debates, and reports based on scientific research.

The origins of the *Delta Conservation Framework* derive from changes in Delta conservation and water policies between 2006 and 2016. In 2006, Delta planning agencies began crafting the *Bay Delta Conservation Plan* (BDCP), intending to provide a comprehensive tool for planning and permitting conservation projects and new water conveyance infrastructure. The resulting 2013 BDCP public draft contained measures to protect 54 sensitive native species and specific actions to protect and restore habitat in the Delta. The BDCP also contained plans to add three new water intakes along the Sacramento River to divert water for the state and federal water projects. In spring 2015, the Brown administration announced a shift from the BDCP to two parallel but separate programs: California WaterFix, to pursue water supply infrastructure; and California EcoRestore, to implement focused restoration in the Delta.

Since then, the California Department of Fish and Wildlife (CDFW) has continued to work to maintain and increase the momentum of conservation planning and implementation that began with the BDCP. To this end, CDFW started a new initiative in 2016 called the *Delta Conservation Framework*. The department began by holding a series of meetings with its state partners to

present the new initiative, gather feedback, and hear perspectives. The group collectively acknowledged two key points: 1) the need for a new approach to conservation planning after the BDCP and 2) the need to bring Delta stakeholders into the planning process early. Two years later, the result is the 200-page *Delta Conservation Framework* described in this executive summary.

Outside the variety of scientific resources, planning tools, and regional partnerships brought together under the umbrella of this new 30-year Framework, the strongest current state guidelines for overarching conservation and management of Delta aquatic and terrestrial ecosystems are the 2009 Delta Reform Act and subsequent 2013 *Delta Plan*, the 2014 *California Water Action Plan* as well as the 2006-2013 work to draft the *Bay Delta Conservation Plan* described above. Additionally, in 2016, the San Francisco Estuary Institute completed the last of three important reports establishing a strong foundation of science on the Delta’s historical ecology, transformation by humans, and future restoration prospects: *A Delta Renewed*. The latter is an important science basis for the *Delta Conservation Framework*.

What is not in the *Delta Conservation Framework*, however, are any conservation actions associated with changing flows into or through the Delta. Nor are there any acreage targets or maps showing where conservation should occur. Instead, the Framework offers a guide for how best to plan and implement conservation.

In the coming decades, this planning context for Delta conservation will be challenged by substantial additional changes to the region due to climate change. While California has long experienced droughts, floods, wildfires, and other climate-driven events, recent extremes and accelerated climate change clearly derive from human activities such as the burning of fossil fuels. As a result, Delta managers and residents must prepare for sea level rise, extreme droughts, and storms with associated flooding. These events will influence the evolution of the Delta landscape, ecosystems, and economy far into the future.

What is the Delta?

The Delta, once a vast freshwater marsh, drains the watersheds of California’s Sacramento and the San Joaquin Rivers. Combined with Suisun Marsh, this inland reach of the San Francisco Estuary spans six counties and 1,300 square miles of land and water. Nearly half of California’s surface water unites in the Delta, flowing through hundreds of miles of interconnected waterways west to San Francisco Bay. Ecologically rich and diverse prior to European settlement, the Delta is now largely a center for agricultural operations interspersed with small towns and communities, and bordered by larger cities including Stockton and West Sacramento. A vast levee system protects over 400,000 acres of

high-quality farmland, communities, and municipalities that are situated within the historic Delta floodplain.

The Delta plays a crucial role supporting California’s economic vitality as a central component of the state’s water supply infrastructure and contributor to the state’s substantial agricultural productivity. Statewide, more than 3 million acres of prime irrigated farmland and two-thirds of the state’s population depend on the Delta watershed for some portion of their water supply. The Delta is also home to a growing population of more than 550,000 people. Delta communities are primarily concentrated in the large and expanding cities around its fringes.



Framework Goals & Strategies

The *Delta Conservation Framework's* goals and strategies, used collaboratively, offer pathways to realizing the vision of the Delta as a place where people prosper and wildlife communities thrive by 2050.

Goals A, B and C underscore a growing recognition of the role people and communities must play as partners in conservation. Public agencies, restoration practitioners, and scientists can all benefit from working in collaborative partnerships with Delta residents, landowners, farmers, tribes and nongovernmental organizations, at the local and regional levels, to plan conservation projects. The intention of these partnerships is to overcome the current climate of guardedness and move toward sustained communication and collaboration. Mutual respect for, and a commitment to, evaluating challenges and opportunities together is essential to the success of conservation.

Goal D highlights the importance of conserving Delta ecosystems and ecological processes and functions, and is founded on a landscape-scale approach that directly aligns with recommendations in *A Delta Renewed*. Delta ecosystems have degraded substantially over time, and continue to do so, because of a host of factors including land use changes, poor water quality, reduced sediment supply, and invasive species. Populations of native fish and wildlife species have seriously declined in the past decade. The Delta's capacity to supply ecosystem services, drinking and irrigation water, and agricultural livelihoods to its residents and the state, while also sustaining its native fish and wildlife, continues to decrease. The novel, much altered, current Delta



Delta landscapes are a mixture of water, farms, wildlife habitats, and small towns. Photo: Amber Manfree

ecosystem is weak and climate change will exacerbate its weaknesses. Any conservation effort must embrace the importance of scale and ecosystem function to be resilient.

Goal E highlights pre-existing and ongoing scientific research and adaptive management efforts necessary to successfully implement conservation in the Delta. Understanding the complexities, and reverberating impacts on the use of the Delta by both people and native species, requires collaborative multi-interest science, long-term monitoring, and adaptive management based on this research and monitoring. Without science-based conservation practices that support rapid responses to crises and provide long-lasting solutions, Delta conservation may not be successful in the long term.

Goals F and G recognize that there are major challenges to the timely and cost-effective implementation of conservation projects in the Delta related to permitting and funding. Even the most seasoned engineers, resource managers, biologists, and advocates for conservation projects struggle with the complexity and cost of moving projects through planning, permitting, compliance, and construction. The Framework offers strategies and tools for how facilitate permitting and funding for conservation.

Each section of the *Delta Conservation Framework* includes three parts: a description of goals and strategies; on-the-ground examples of regional-scale conservation planning efforts already underway; and reference guides introducing readers to the many existing plans and programs in the Delta, as well as useful tools, checklists, and models. The Framework also provides the basics on Delta science enterprise and adaptive management efforts. One section summarizes the most current landscape-scale science on how to implement conservation to support ecosystem function. Other sections provide an invaluable counterpart, describing how farm fields, pastures, and working lands can contribute to ecosystem health and conservation. By pulling it all together in one place, and by identifying all the latest policy, regulatory, science, and management resources available, the document is much more than another plan on the shelf.

Framework Goals

People: Communicating, engaging, educating

- GOAL A: Ensure that regular communication among stakeholders and socioeconomic considerations are integrated into all Delta conservation initiatives.
- GOAL B: Support and expand existing public outreach efforts advancing Delta conservation.
- GOAL C: Develop multi-benefit conservation and land management strategies and plans that balance environmental and human needs.

Ecosystem: Making science-based decisions

- GOAL D: Conserve Delta ecosystems and their ecological processes and functions to benefit society and wildlife, and to enhance resilience to climate change.
- GOAL E: Evaluate conservation progress and address climate change stressors and other drivers of change by implementing the science strategies and priorities of the Delta Science Program and Interagency Ecological Program, the adaptive management program for Biological Opinions related to state and federal water project operations, and adaptive management recommendations emerging from interagency integration teams.

Permits & Funds: Thinking ahead collectively

- GOAL F: Improve resource agency and regulatory capacity for permitting Delta conservation projects.
- GOAL G: Optimize use of existing short-term funding and support current and new mechanisms to secure long-term funding for continued conservation implementation and management.

An Emphasis on Regional Approaches

A strong thread throughout the *Delta Conservation Framework* is to focus on “regions” that make sense in terms of landscapes, watersheds, ecosystems, human history, or communities as an organizing principle for conservation work in the future.

The Framework references a number of different kinds of “regional” approaches:

- **Regional Conservation Partnerships** made up of diverse interests, public and private, that work together to achieve landscape level goals;
- **Regional Conservation Strategies** developed by regional partnerships that map out how conservation goals might be achieved in the regions with an eye toward fitting the regional pieces together across a larger landscape picture;
- **Conservation Opportunity Regions** roughly identified by Delta stakeholders where promising opportunities for major conservation and restoration successes exist;
- **Regional Conservation Investment Strategy (RCIS)**, a California Department of Fish and Wildlife program offering a structure for analysis, assessment, scenario-planning, investment and mitigation to regions interested in developing nonbinding, voluntary conservation and habitat enhancement actions around focal species and habitats (see also Section V).*

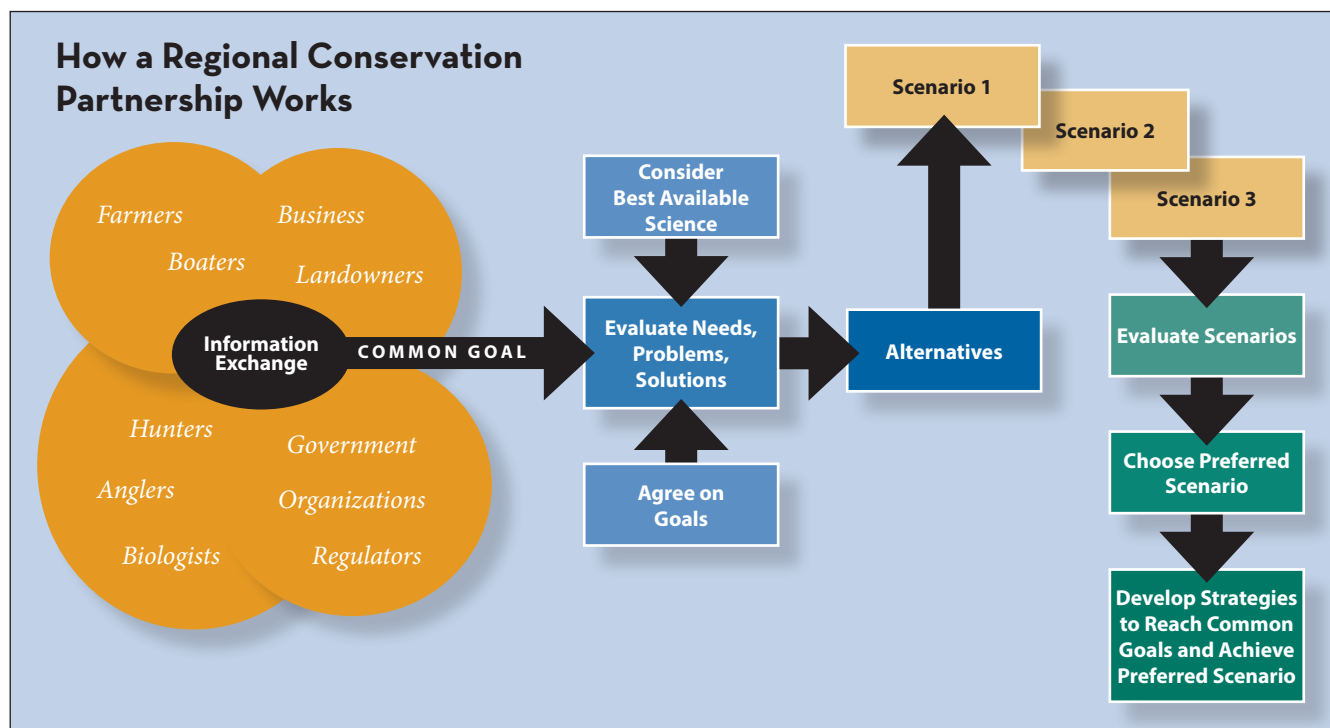
Of the above, the “regional conservation strategy” is a central organizing idea for implementation of the

Delta Conservation Framework. A regional strategy might be an existing plan, such as the *Suisun Marsh Habitat Restoration and Management Plan*, or may be the result of a new effort.

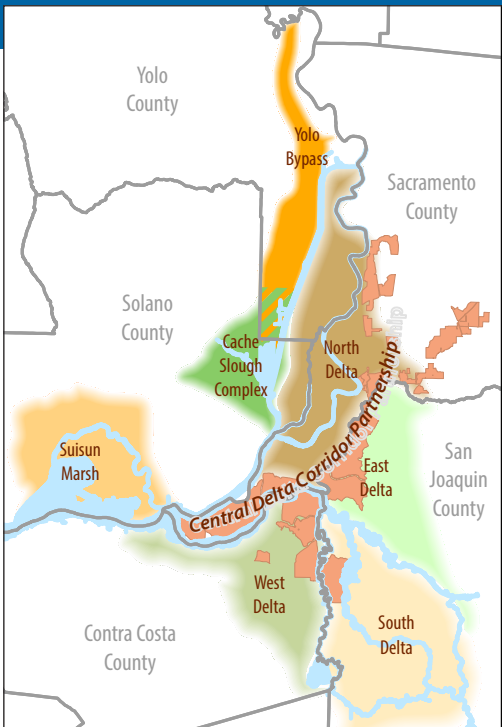
The main idea is to develop non-regulatory, long-term, broadly-supported regional conservation action plans. These would be developed collaboratively by regional planning partnerships comprised of public agencies, Delta community stakeholders, representatives of existing regional partnerships and tribes, other interest groups, scientists, restoration practitioners, non-governmental organizations, and interested citizens.

The resulting strategies or plans would focus on public lands or collaborations with willing private landowners in a given “conservation opportunity” region. The Framework identifies seven conservation opportunity regions of the Delta that include public lands, existing conservation lands, or existing planning partnerships (see map next page). This sub-regional division of the Delta, derived from stakeholder discussions during the 2016 *Delta Conservation Framework* public workshops, reflects variation in local land use, communities, ecosystem types, and public lands.

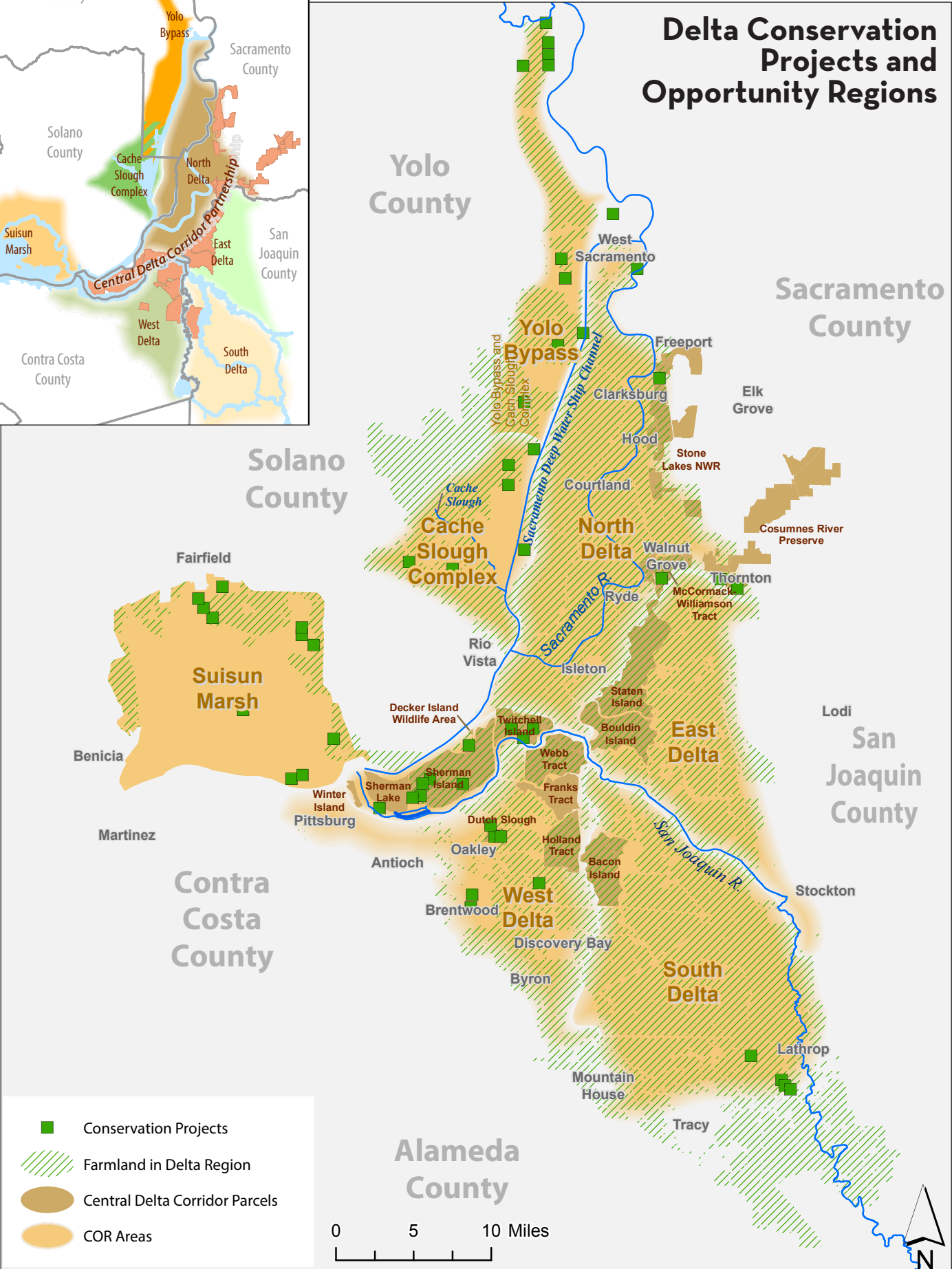
Each resulting regional conservation strategy would tailor a set of conservation objectives, specific actions, and an adaptive management framework to the needs of each sub-region. To achieve multiple, landscape scale benefits, however, these strategies would also be aligned with the overarching goals and strategies of the *Delta Conservation Framework*.*



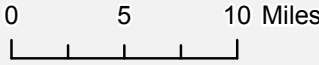
* While the core ideas of regional partnerships, strategies, and conservation opportunity regions presented here are the foundation of the Framework, they appear largely without capitalization throughout these pages to underscore an intent of inclusivity and collaboration.



Delta Conservation Projects and Opportunity Regions



- Conservation Projects
- ▨ Farmland in Delta Region
- Central Delta Corridor Parcels
- COR Areas



Source: CDFW, 2018

Building on Existing Plans and Partnerships

Any evaluation of conservation opportunities in the Delta requires consideration of the many existing planning documents, programs, and related regulatory requirements. The *Delta Conservation Framework* does not supersede these individual planning efforts, but instead connects and integrates them into the larger landscape-scale perspective. It also suggests them as important references for consideration as part of ongoing or future regional conservation strategies and individual projects. To make this integration more transparent, the Framework provides summarized guides to related plans and programs.



The tricolored blackbird, a threatened species with diminishing habitat in the Delta.

Photo: Matt Elyash, CDFW

Current Major Initiatives Aligned with the Delta Conservation Framework

Agricultural Lands Stewardship Framework

and Toolkit: A working group launched by the Department of Water Resources in 2014 to develop a list of strategies to provide project proponents and those affected by proposed conservation projects with an integrated and collaborative approach to address protecting and changing uses of agricultural land.

California Department of Fish and Wildlife Grant

Solicitation Guidelines: Draft 2018 Proposition 1 solicitation guidelines make it a priority to fund the development of regional planning partnerships and to facilitate the collaborative development of regional conservation strategies or plans in the Delta.

Central Delta Corridor Partnership: A partnership launched in 2017 to coordinate planning and restoration on a network of roughly 50,000 acres of publicly-owned or funded lands in the central Delta.

Delta Plan Interagency Implementation Committee: A committee established in 2013 to facilitate *Delta Plan* implementation through increased coordination and integration among local, state and federal agency participants. The committee has encouraged the development of programmatic permitting tools for conservation projects.

Delta Science Program Social Science Task Force: The Delta Science Program is coordinating a Social Science Task Force tasked with developing a strategic plan to strengthen and integrate social sciences into the science, management, and policy landscape of the Delta. Composed of individuals with a diverse set of expertise in the social sciences, the task force's key goal will be to develop a set of recommendations that can be acted upon by the Delta science community.

Franks Tract Feasibility Study: A study led by the California Department of Fish and Wildlife aimed at restoring portions of Frank's Tract to tidal marsh. This effort solicited feedback from local residents, boaters, and anglers and includes a locally proposed design.

Yolo Bypass Cache Slough Partnership: A partnership of representatives from local, state, federal agencies who signed a memorandum of understanding to oversee collaborative implementation of conservation in this region, all before initiation of the Framework in 2016.

Additional Important Regional Plans & Partnerships

Central Valley Joint Venture Implementation Plan, outlines objectives for Central Valley habitats that support shorebirds, waterbirds, and riparian songbirds.

Delta Working Landscapes Program, coordinated through the Delta Protection Commission, provides examples of what wildlife friendly agriculture and wetland restoration measures private landowners could adopt on larger scales throughout the Delta.

Habitat Conservation Plans & Natural Community

Conservation Plans: The *Delta Conservation Framework* defers to the species and acreage targets outlined in HCPs and NCCPs, or relevant Conservation Strategies, where they overlap with the Delta planning region. These include: the East Alameda Conservation Strategy; the East Contra Costa County HCP/NCCP; the South Sacramento HCP/NCCP; the Solano Multispecies HCP; the San Joaquin County Multi-Species HCP and Open Space Plan; and the Yolo HCP/NCCP.

Migratory Bird Conservation Partnership – comprised of Audubon California, Point Blue Conservation Science, and the Nature Conservancy – works with a broad array of partners to develop multi-benefit conservation solutions for birds, wildlife, and human communities to address issues concerning bird habitat and biological needs.

Nature Conservancy BirdReturns, a pilot project combining crowd-sourced data, hard science and economic incentives, provides pop-up habitats for birds on rice fields in the Sacramento Valley.

North Delta Habitat Arc, a reconciled ecosystem strategy, creates an arc of habitats connected by the Sacramento River to benefit native fish and other wildlife.

Suisun Marsh Habitat Management, Preservation and Restoration Plan, established in 2013, provides a structure for conservation planning and implementation in the Suisun Marsh region.

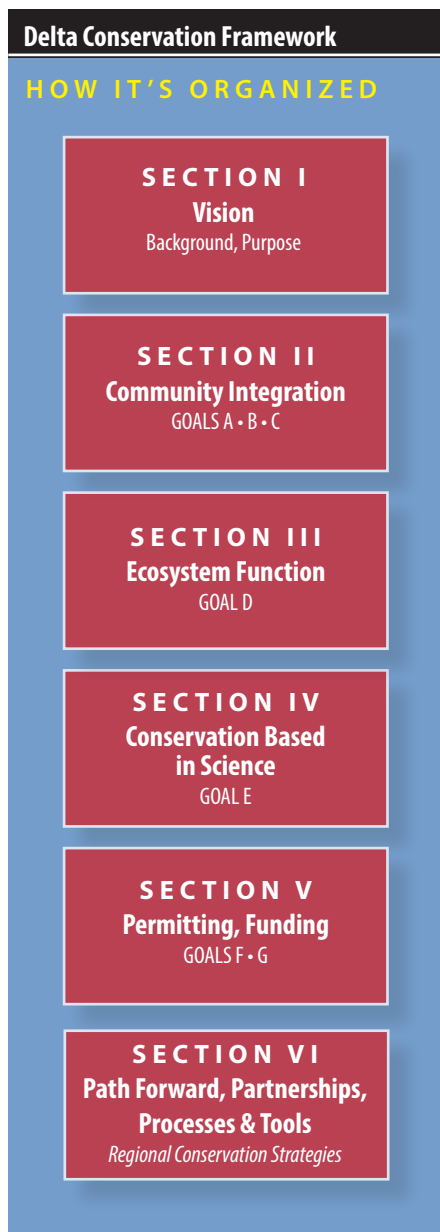
Permitting, Funding & Planning Tools – The Implementation Questions

Whether it's restoring a few acres of wetland or planting riparian vegetation on levees or removing invasive weeds, most conservation projects on Delta landscapes, let alone infrastructure upgrades, require permissions and permits from government regulators.

Myriad regulations reflect federal, state, regional and local goals for environmental quality, wildlife protection, public safety, land use, and other areas of public interest and common good. Faced with the many layers of regulatory oversight governing Delta projects – not to mention sometimes conflicting definitions and directives – even the most seasoned practitioners struggle with the

complexity and cost of moving projects through planning, permitting, compliance, and construction. By the time projects are approved and shovel-ready, the dollars and equipment required to do the job may have already evaporated.

The *Delta Conservation Framework*, as an overarching framework for coordinating large-scale conservation, recognizes that these are major challenges to the timely and cost-effective implementation of conservation projects in the Delta. The Framework offers strategies and solutions for how to facilitate permitting and funding for conservation, as well as how to develop conservation plans on project, local and regional scales with the Framework in mind.



Permitting Strategies

The Framework recommends supporting and increasing the capacity of regulatory agencies to review and approve conservation projects. It also supports the development of easily accessible online resources to explain permitting guidelines and requirements clearly, as well as the development of more regional and programmatic permitting frameworks for the Delta. The Framework also includes various examples of how to tackle permitting challenges.

Funding Strategies

The Framework explores both short-term and long-term funding challenges. It underscores the need to shift from the parcel-by-parcel, project-by-project thinking that pervades short term funding models to landscape scale, regionwide, longer-term models. It also advocates for the development of more long term funding opportunities for Delta conservation and adaptive management, ranging from direct budget allocations and environmental trust funds to emerging carbon markets.

Planning Scales – Regional or Individual

The Framework recognizes two approaches to future conservation. The first approach is to continue, or form, independently facilitated, multi-stakeholder regional partnerships in each suggested conservation opportunity region. These partnerships would then work together to develop recommendations and project lists relevant to their region. The second approach allows for individual project implementation in areas without an established regional partnership.

Planning Tools

The Framework describes a number of well-established planning tools to aid decision-making by regional partnerships and individual project proponents. These include: the Open Standards for the Practice of Conservation; scenario planning; and structured decision-making. These tools are specifically designed to bring unconscious prejudices to the surface, tackle complexity, move through uncertainty, weigh alternatives, consider trade offs and arrive at priority conservation actions and strategies.

The Path Forward – A More Resilient Delta in 2050

The path toward more ecologically functional Delta ecosystems within a thriving Delta community remains controversial. Despite mitigation requirements for infrastructure projects and the state and federal water projects, and a long history of public investment in Delta ecosystems through bond funds, few projects have been initiated and managed over the long term. Implementing conservation in the Delta will continue to stall unless Delta stakeholders are willing to work collaboratively, knowing they may have to be open to considering and accepting tradeoffs. If no solutions can be found, Delta ecosystem conservation will remain on hold, or occur in a piecemeal fashion. In the meantime, Delta ecosystems and their important services to humans and wildlife will continue to decline.

Multi-benefit projects that float all boats may seem like an impossible dream. But in reality, what local landowners, hunters, farmers, anglers, and boaters want may not be that far off from what species need to survive and what public infrastructure projects need to provide the greatest good for the lowest price. Every interest – both human and wild – faces the common uncertainty of drought, fire, earthquakes, and political change. There is an equally common reverence, however, for the Delta landscape and a desire to renew the riches of the past in the future.

The *Delta Conservation Framework* is an invitation to all interested stakeholders to come to the table. It is a call to continue the work of improving ecosystem health, supporting and recovering Delta wildlife, and growing the science capacity to learn from conservation actions. It is a warning of the urgency of facing the challenges of climate change, drought, and flooding head on.

Find your place, your region, your partners, review the goals and tools provided in the *Delta Conservation Framework*, and set out to make positive progress.

It's up to each and every one of us to build the conservation commons of the future within the unique landscape, and among the unique people, that comprise the Delta.



Photo: Bassmaster Elite, CDFW

What Does the Framework Mean to Me?

- **For farmers** – ideas and support for wildlife friendly agriculture, and a seat at the conservation planning table.
- **For landowners** – opportunities to participate in bottom-up conservation planning, and affirmation that conservation goals focus on public lands first.
- **For residents** – ideas for how your way of life may be preserved, and protected from floods and climate change.
- **For policymakers** – a concrete glimpse of how multi-benefit projects and regional conservation partnerships can optimize conservation spending.
- **For scientists** – briefs on the most current recommendations, science initiatives, and adaptive management programs designed to nurture species resilience and ecosystem processes.
- **For birders, hunters, and anglers** – avenues for protecting and improving the habitats, migration routes, and food supplies of the Delta's fish, birds, and wildlife.
- **For boaters** – improved access to Delta waterways due to conservation activities that often support invasive weed management.
- **For regulators** – a call to consider common delta guidelines and regional permits, and support for these efficiencies. Opportunities to shift away from time-consuming project-by-project approvals to more landscape scale conservation.
- **For conservation and resource managers** – Pathways for going beyond single species management, a way to work together at larger scales, and a guide to navigate permitting.
- **For you** – a way to fit in with all of the above and cherish your Delta.

The *Delta Conservation Framework* Online
wildlife.ca.gov/DeltaConservationFramework

The California Department of Fish and Wildlife acknowledges and appreciates the support of the Sacramento-San Joaquin Delta Conservancy beginning with the 2016 public workshops. The Delta Conservancy facilitated communication with Delta stakeholders through the use of its Delta Interests contact list, funding for professional facilitation services, and engagement in each of the public workshops.

The Delta Conservation Framework.
 California Department of Fish and Wildlife
 Publication Date: Version 12/31/18

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