



SACRAMENTO - SAN JOAQUIN

**DELTA CONSERVANCY**

*A California State Agency*

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## ***Delta Conservancy Climate Change Policy – 2017 Update***

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### **CLIMATE CHANGE GUIDELINES FOR THE CONSERVANCY**

The Conservancy is a primary state agency to implement ecosystem restoration in the Delta in collaboration and cooperation with local governments and a wide range of interested parties. The Conservancy Board developed the following climate change guidelines to assist it in determining what could increase the Delta's resiliency to the effects of climate change within the context of the co-equal responsibilities of advancing environmental protection and the economic well-being of Delta residents. Actions related to adapting to the effects of climate will be evaluated with the goal of promoting agriculture as a key industry in the Delta.

The Conservancy believes the regional economic and environmental health are linked to the Delta's vulnerability to potential climate change impacts, such as increased intensity of flooding or severity of drought, and that strengthening the Delta region's economy will help the Delta adapt to potential future conditions resulting from climate change.

The Conservancy is committed to establishing and maintaining partnerships with federal, state, and local governments, private business- and land-owners, and non-governmental organizations to develop and implement mitigation and adaptation strategies that address the needs and ability of the Conservancy to meet its mandates over time.

The Conservancy encourages projects that are resilient to climate change impacts. Such projects may be full-scale, pilot, or demonstration projects. Preferences will be given to projects containing effective or innovative adaptation measures and strategies that would minimize the effects of climate change. All projects should be consistent with state law and the Conservancy's enabling legislation and 2017-2022 Strategic Plan.

The Conservancy will recognize the consensus of the scientific community and use the best available science in identifying climate change risks, adaptation strategies, and mitigation opportunities. The Conservancy understands that data continue to be collected and that knowledge about climate change is evolving; therefore, the Conservancy's Climate Change Policy will be updated periodically to integrate relevant new information and data.

## **Carbon Management and Reduction/Avoidance of Greenhouse Gas Emissions**

The Conservancy sees carbon management as an integrated approach to reducing greenhouse gas emissions and climate change impacts in the Delta, using a variety of strategies, including, but not limited to, those described below.

### ***Carbon Offset Credits***

In 2017, the American Carbon Registry approved a new carbon offset methodology to scientifically quantify greenhouse gas (GHG) emissions reductions from the [restoration of California deltaic and coastal wetlands](#). Opportunities are abundant to enhance current land-use practices by restoring wetlands or converting to rice cultivation in the Sacramento-San Joaquin Delta, Suisun Marsh, and California coastal areas. Carbon offsets generated by the projects can be sold to corporations to meet their voluntary emissions-reduction goals. Additional sources of offsets are also being considered by California regulators for eligibility in the state's Cap-and-Trade Program, under which power plants, oil refineries, and other production and manufacturing facilities are mandated to reduce or offset their emissions. The new ACR methodology provides an incentive to landowners in the Sacramento-San Joaquin Delta, Suisun Marsh, and other historically natural wetland areas in California to convert their most subsidized and marginal agricultural lands to wetlands or to produce wetlands crops such as rice, which will stop land subsidence and reverse it over time.

### ***Climate Change Research***

When appropriate and consistent with the Conservancy's enabling legislation, the Conservancy may support research projects targeted to increasing understanding of climate change impacts to the Delta (e.g. agricultural, economic, environmental), quantify carbon sequestration benefits of habitat enhancement and restoration projects, promote agricultural practices that reduce greenhouse gas emissions, and support projects that demonstrate the effectiveness of adaptive management strategies. The Conservancy will incorporate climate change scenarios consistent with the data and modeling recognized as the best available science by the [Climate Action Team Research Working Group](#), including the [Biodiversity](#), [Agriculture](#), and [Coastal/Ocean Resources](#) Working Groups to ensure consistency across state agencies.

### ***Education, Outreach and Guidance***

The Conservancy will collaborate with others to provide up- to-date information and guidance on the latest climate change information pertinent to the Delta and best management practices for reducing greenhouse gas emissions. The Conservancy may collaborate with others to look for economic development opportunities in the Delta that result in reduced greenhouse gas emissions.

### ***Reduction/Avoidance***

Conservancy staff will work with applicants to identify, evaluate, and incorporate reasonable measures to reduce or avoid the greenhouse gas emissions of Conservancy-funded projects. The Conservancy will encourage use of best management practices and innovative designs that reduce or avoid greenhouse gas emissions and, as possible, will support developing these practices and designs through funding and other actions.

### ***Staff Operations***

Where feasible, staff will attempt to reduce their work-related greenhouse gas emissions from travel, through the use of public transportation, carpooling, bicycling, fuel-efficient vehicles, clustering meetings and events, and using phone- and web-based conferencing technologies.

### **Assessing Risk from Climate Change**

#### ***Sea-Level Rise.***

To meet the requirements of Executive Order S-13-08, the Conservancy will consider the current range of sea-level rise (SLR) projections presented in the [Rising Seas in California: An Update on Sea-Level Rise Science in 2017](#) (OPC, 2017). When assessing potential impacts, the Conservancy will consider the project's timeline and the project's capacity to adapt to SLR. Realized impacts depend on the extent to which a project integrates an accurate projection of SLR.

#### ***Other Impacts from Climate Change.***

Potential climate change impacts in the Delta include, but are not limited to, increased air, soil and water temperature; loss of agricultural land; flooding; drought; severe storms; increased salinity; degraded water quality; declining crop yields; decreased biodiversity; new disease or pest invasion; invasive species; and loss of life. For those projects that have the potential to be impacted by climate change, the Conservancy will weigh the risk of climate change impacts upon the project with the economic benefit of the project in the region. There may be cases where the known near-term benefits of the project outweigh the uncertain long-term risks from climate change.

### **Adaptation Strategies**

The Conservancy will encourage programs and funded projects that are consistent with our co-equal responsibilities to advance environmental protection and the economic well-being of Delta residents and contain strategies, such as the ones listed in the project examples below, that can assist the Delta in adapting to climate change.

- Innovative projects pertaining to any of the Conservancy's mandates that incorporate features that are resilient to climate change impacts or increase the area's ability to adapt to potential impacts from climate change.

- Delta island subsidence reversal and land accretion (e.g., rice cultivation) projects to reduce the risk of levee failure.
- Projects that reduce flood impacts through levee maintenance and improvement and other measures to protect farmland and reduce damages to Conservancy investments and meet the Conservancy's legislative mandates.
- Projects that protect or restore habitats (e.g., floodplain, riparian) that can lessen flood flows to reduce flooding in the Delta.
- Projects that create buffer zones adjacent to tidal wetlands to allow tidal wetlands to move toward land in response to SLR.
- Projects that conserve, restore, and enhance habitats and land that sequester carbon.
- Projects that incorporate and contribute to overall ecosystem health and viability through preserving or reestablishing movement corridors for terrestrial and aquatic species.
- Projects which incorporate efforts to prevent the introduction or spread of invasive species or control invasive species populations.

### **Adaptive Management**

Given the uncertainties associated with climate change related impacts on natural resources, restoration that can accommodate or adapt to climate change impacts is more likely to have longer-term success. A science-based adaptive management plan and long-term monitoring will be key components to successfully carrying out restoration and economic development that can adapt to the effects of climate change. The Delta Reform Act requires that ecosystem restoration actions in the Delta include a formal adaptive management strategy (Water Code section 85308(f)). The Delta Plan describes a nine-step adaptive management framework (Delta Stewardship Council 2013). The three broad phases and their respective steps are described below.

- Plan (define/redefine the problem; establish goals and objectives; model linkages between objectives and proposed actions; select and evaluate research, pilot, or full-scale action and develop performance measures).
- Do (design and implement action; design and implement monitoring plan).
- Evaluate and Respond (analyze, synthesize, and evaluate; communicate current understanding; adapt).

All implementation projects that include an action that is likely to be deemed a covered action, pursuant to California Water Code (CWC) Section 85057.5, are responsible for ensuring consistency with the Delta Plan, which includes developing a formal Adaptive Management Plan.

## **SUPPORTING INFORMATION FOR RESOLUTION AND GUIDELINES**

The State of California has adopted a wide variety of laws and policies targeted at reducing GHG emissions and addressing the potential impacts from climate change. Below is a summary of key California climate change laws, policies, and resources pertinent to the Delta (by type and entity).

### **Governor's Executive Orders**

The Governor's Executive Orders related to climate change are summarized in a table available at [http://www.climatechange.ca.gov/state/executive\\_orders.html](http://www.climatechange.ca.gov/state/executive_orders.html).

#### ***Governor's Executive Order B-30-15***

In 2015, [Governor's Executive Order B-30-15](#) set a greenhouse gas (GHG) emissions target for 2030 at 40 percent below 1990 levels. Additionally, B-30-15 requires state agencies to "take climate change into account in their planning and investment decisions" and directs state agencies to follow general principles acknowledged within sections of the policy, including:

- Giving priority to actions that both build climate preparedness and reduce greenhouse gas emissions;
- Where possible, flexible and adaptive approaches should be taken to prepare for uncertain climate impacts;
- Actions should protect the state's most vulnerable populations; and
- Natural infrastructure solutions should be prioritized.

### **Legislation and Plans**

#### ***Assembly Bill (AB) 32 (2006)***

The [California Global Warming Solutions Act of 2006 \(AB 32\)](#) set the 2020 GHG emission reduction goal into law. It directed the Air Resource Board (ARB) to develop a scoping plan to identify how to best reach the 2020 limit. AB 32 also directed the ARB to adopt regulations requiring the mandatory reporting of GHG emissions and to identify and adopt regulations for discrete early actions to reduce GHG that could be enforceable on or before January 1, 2010. On October 20, 2011, the ARB adopted the final cap-and-trade regulation. Rules for quantifying offset credits have been developed for livestock projects, ozone depleting substances projects, urban forest projects, and U.S. forest projects.

#### ***AB 32 Climate Change Scoping Plan***

The [2008 plan](#) outlines actions to reach the GHG reduction goals required in AB 32. For agriculture, the plan encourages investments in methane capture systems at dairies and increasing carbon sequestration. ARB subsequently proposed the [2017 Climate Change Scoping Plan Update](#) in January 2017.

**AB 1482 (2015)**

This [bill](#) requires updates to the state's climate adaptation strategy every three years.

**AB 2800 (2016)**

This [legislation](#) requires state agencies to take into account the current and future impacts of climate change when planning, designing, building, operating, maintaining, and investing in state infrastructure through July 1, 2020. It also requires the Natural Resources Agency to establish a Climate-Safe Infrastructure Working Group by July 1, 2017 that will make recommendations to the Legislature by July 1, 2018.

**Senate Bill (SB) 97 (2007)**

[SB 97](#) required the Governor's Office of Planning and Research to develop recommended amendments to State CEQA Guidelines for addressing GHG emissions. These amendments were to provide guidance on how to determine significance and mitigate the effects of GHG emissions. The CEQA Guidelines were amended in March 2010 to incorporate these provisions.

**SB 32 (2016)**

This [bill](#) requires the state board to ensure that statewide greenhouse gas emissions are reduced to 40% below the 1990 level by 2030.

**SB 1386 (2016)**

[SB 1386](#) declares it to be state policy that the protection and management of natural and working lands, as defined, is an important strategy in meeting the state's greenhouse gas reduction goals, and would require all state agencies, departments, boards, and commissions to consider this policy when revising, adopting, or establishing policies, regulations, expenditures, or grant criteria relating to the protection and management of natural and working lands.

**California Natural Resources Agency**

The California Natural Resources Agency has led the state's climate change adaptation strategy since 2008. The associated strategy documents are identified below (as summarized in the *Safeguarding California Plan: 2017 Update*):

**[2009 California Adaptation Strategy](#)**

- Overview of climate science and statewide hazard-based climate assessment
- Four comprehensive statewide adaptation strategies
- Vulnerability assessments and adaptation strategies for seven sectors

**[2014 Safeguarding California: Reducing Climate Risk plan](#)**

- Update information on climate science
- New information on vulnerabilities and activities for nine sectors
- Update general policy recommendations

### **2016 Safeguarding California Implementation Action Plans**

- High-level vulnerability assessments and overview of recommendations from 2014 plan
- Explanation of ongoing actions and next steps implementing 2014 recommendations
- Addition of “Land Use and Community Development” sector

### **Safeguarding California Plan: 2017 Update**

- Update of comprehensive statewide adaptation strategies and relevant implementation actions
- New framework to better integrate sectors and link ongoing research to state adaptation action
- Update high-level recommendations for all 10 sectors
- Outline annual reporting structure for next steps and adaptation actions
- Increase focus on vulnerable populations, environmental justice concerns, and equity
- Propose conceptual metrics to track and measure climate impacts and the adaptation responses of state government over time

### ***Amendments to the CEQA Guidelines (2010)***

On March 18, 2010, the Natural Resource Agency adopted [CEQA Guidelines Amendments](#), implementing SB 97. The Governor’s Office of Planning and Research summarized the amendments as follows.

- “Lead agencies must analyze the greenhouse gas emissions of proposed projects, and must reach a conclusion regarding the significance of those emissions.
- When a project’s greenhouse gas emissions may be significant, lead agencies must consider a range of potential mitigation measures to reduce those emissions.
- Lead agencies must analyze potentially significant impacts associated with placing projects in hazardous locations, including locations potentially affected by climate change.
- Lead agencies may significantly streamline the analysis of greenhouse gases on a project level by using a programmatic greenhouse gas emissions reduction plan meeting certain criteria.
- CEQA mandates analysis of a proposed project’s potential energy use (including transportation- related energy), sources of energy supply, and ways to reduce energy demand, including through the use of efficient transportation alternatives.”

### **California Ocean Protection Council**

The State of California *Sea-Level Rise Guidance Document*, initially adopted in 2010 and updated in 2013, provides guidance to state agencies for incorporating sea-level rise projections into planning, design, permitting, construction, investment and other decisions (see <http://www.opc.ca.gov/climate-change/updating-californias-sea-level-rise-guidance>). A

Working Group of the California Ocean Protection Council Science Advisory Team supported and convened by the California Ocean Science Trust produced [\*Rising Seas in California: An Update on Sea-Level Rise Science in 2017\*](#) (OPC, 2017).

### **Central Valley Flood Protection Board**

The [\*2017 Central Valley Flood Protection Plan \(CVFPP\) Update\*](#) (Page 2-4 of CVFPB, 2017) incorporates climate change analyses consistent with Executive Order B-30-15 and AB 1482.

### **REFERENCES**

California Natural Resources Agency. 2017. DRAFT REPORT Safeguarding California Plan: 2017 Update. California's Climate Adaptation Strategy. May 2017. Available from: <http://resources.ca.gov/wp-content/uploads/2017/05/DRAFT-Safeguarding-California-Plan-2017-Update.pdf>.

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