DRAFT LAND USE PLANNING COMPANION PLAN

Fall 2015

CALIFORNIA DEPARTMENT OF FISH & WILDLIFE

SWAP
California State Wildlife Action Plan

Photo Credit:

Left:
Bixby Creek Bridge, The Big Sur, California
Date: 21 May 2010
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Right:
Jack Rabbit near Palm Desert, California
Date: 30 July 2011
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Prepared by Blue Earth Consultants, LLC

October 30, 2015

Disclaimer:

While we have made every effort to ensure that the information contained in this report accurately reflects SWAP 2015 companion plan development team discussions shared through web-based platforms, e-mails, and phone calls, Blue Earth Consultants, LLC makes no guarantee of the completeness and accuracy of information provided by all project sources. SWAP 2015 and associated companion plans are non-regulatory documents. The information shared is not legally binding nor does it reflect a change in the laws guiding wildlife and ecosystem conservation in the State. In addition, mention of organizations or entities in this report as potential partners does not indicate a willingness and/or commitment on behalf of these organizations or entities to partner, fund, or provide support for implementation of this plan or SWAP 2015.

The consultant team developed companion plans for multiple audiences, both with and without jurisdictional authority for implementing strategies and conservation activities described in SWAP 2015 and associated companion plans. These audiences include, but are not limited to, California Department of Fish and Wildlife leadership team and staff, California Fish and Game Commission, cooperating State, Federal, and local government agencies and organizations, California Tribes and tribal governments, and partners (such as non-governmental organizations, academic, research institutions, and citizen scientists).

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Acronyms and Abbreviations

AB	**Assembly Bill**
AFWA	**Association of Fish and Wildlife Agencies**
BLM	**U.S. Bureau of Land Management**
Blue Earth	**Blue Earth Consultants, LCC**
BMP	**Best Management Practice**
CalEPA	**California Environmental Protection Agency**
CBC	**California Biodiversity Council**
CCC	**California Coastal Commission**
CDFW/the Department	**California Department of Fish and Wildlife**
CEQA	**California Environmental Quality Act**
CESA	**California Endangered Species Act**
Ch.	**Chapter**
CNRA	**California Natural Resources Agency**
CVJV	**Central Valley Joint Venture**
DRECP	**Desert Renewable Energy Conservation Plan**
DOI	**U.S. Department of Interior**
DWR	**California Department of Water Resources**
EIR	**Environmental Impact Report**
EPS	**Economic and Planning Systems, Inc.**
ESA	**Endangered Species Act**
GIS	**Geographic Information Systems**
HCP	**Habitat Conservation Plan**
KEA	**Key Ecological Attribute**
LCC	**Landscape Conservation Cooperative**
LCD	**Landscape Conservation Design**
LCP	**Local Coastal Plan**
MPO	**Metropolitan Planning Organization**
NCCP	**Natural Community Conservation Planning**
NCCPA	**Natural Community Conservation Planning Act**
NCTC	**National Conservation Training Center**
NGO	**Non-governmental Organization**
NRCS	**National Resources Conservation Service**
OPC	**California Ocean Protection Council**
OPR	**Governor's Office of Planning and Research**
PPIC	**Public Policy Institute of California**
RAMP	**Regional Advance Mitigation Planning**
RCD	**Resource Conservation District**
SANDAG	**San Diego Association of Governments**
SB	**Senate Bill**
SBCAG	**Santa Barbara County Association of Governments**

SCC	**California State Coastal Conservancy**
SCAPOSD	**Sonoma Country Agricultural Preservation and Open Space District**
SCS	**Sustainable Community Strategies**
SCWRP	**Southern California Wetlands Recovery Project**
SGC	**Strategic Growth Council**
SGCN	**Species of Greatest Conservation Need**
SWAP	**State Wildlife Action Plan**
SWG	**State and Tribal Wildlife Grants**
SWRCB	**State Water Resources Control Board**
TBC3	**Terrestrial Biodiversity and Climate Change Collaborative**
TNC	**The Nature Conservancy**
UCCE	**University of California Cooperative Extension**
USDA	**U.S. Department of Agriculture**
USEPA	**U.S. Environmental Protection Agency**
USFS	**U.S. Forest Service**
USFWS	**U.S. Fish and Wildlife Service**
WCB	**Wildlife Conservation Board**
WRAMP	**Wetland and Riparian Area Monitoring Program**
WRP	**Wetlands Reserve Program**
WSFR	**Wildlife and Sport Fish Restoration**

1. Introduction

The California State Wildlife Action Plan 2015 Update (SWAP 2015) provides a vision and a framework for conserving California's diverse natural heritage. SWAP 2015 also recognizes the need and calls for developing a collaborative framework to manage ecosystems sustainably across the State in balance with human uses of the natural resources. To address the need for a collaborative framework, California Department of Fish and Wildlife (CDFW), Blue Earth Consultants, LLC (Blue Earth), and partner agencies and organizations began preparation of sector-specific companion plans. While this document reports on the progress made thus far on collaboration, the intent is to set a stage for achieving the State's conservation priorities through continued partnership and by mutually managing and conserving the State's natural and cultural resources. Text box 2 highlights important definitions to SWAP 2015 and the companion plan process (CDFW, 2015c; Chapter [Ch.] 1.5.4).

Text Box 1. What is a State Wildlife Action Plan?

In 2000, Congress enacted the State and Tribal Wildlife Grants (SWG) program to support state programs that broadly benefit wildlife and habitats, but particularly "Species of Greatest Conservation Need" (SGCN) defined by the individual states. Congress mandated each state and territory to develop a SWAP that outlined a comprehensive wildlife conservation strategy to receive federal funds through the SWG program. From 2005 through 2014, CDFW received approximately $37 million through the SWG program in matched with approximately $19 million in State government support for the wildlife conservation activities. The SWG program requires SWAP updates at least every 10 years. CDFW prepared and submitted SWAP 2015, the first comprehensive update of the California SWAP 2005, to the U.S. Fish and Wildlife Service (USFWS) on 10/1/2015. The update allows CDFW to expand and improve the recommended conservation activities addressed in the original plan by integrating new knowledge acquired since 2005.[1]

[1] For more information see: CDFW, "California State Wildlife Action Plan (SWAP)," 2015, 27 Oct. 2015.

Text Box 2. Definitions Important to SWAP 2015

Conservation Target: An element of biodiversity at a project site, which can be a species, habitat/ecological system, or ecological process on which a project has chosen to focus.

Goal: A formal statement detailing a desired outcome of a conservation project, such as a desired future status of a target. The scope of a goal is to improve or maintain *key ecological attributes* (defined below).

Key Ecological Attribute (KEA): Aspects of a target's biology or ecology that, if present, define a healthy target and, if missing or altered, would lead to the outright loss or extreme degradation of the target over time.

Objective: A formal statement detailing a desired outcome of a conservation project, such as reducing the negative impacts of a critical *pressure* (defined below). The scope of an objective is broader than that of a goal because it may address positive impacts not related to ecological entities (such as getting better ecological data or developing conservation plans) that would be important for the project. The set of objectives developed for a conservation project are intended, as a whole, to lead to the achievement of a goal or goals, that is, improvements of key ecological attributes.

Pressure: An anthropogenic (human-induced) or natural driver that could result in changing the ecological conditions of the target. Pressures can be positive or negative depending on intensity, timing, and duration. Negative or positive, the influence of a pressure to the target is likely to be significant.

Species of Greatest Conservation Need (SGCN): All state and federally listed and candidate species, species for which there is a conservation concern, or species identified as being vulnerable to climate change.

Strategy: A group of actions with a common focus that work together to reduce pressures, capitalize on opportunities, or restore natural systems. A set of strategies identified under a project are intended, as a whole, to achieve goals, objectives, and other key results addressed under the project.

Stress: A degraded ecological condition of a target that resulted directly or indirectly from negative impacts of pressures (e.g., habitat fragmentation).

(CDFW, 2015c; Ch. 1.5.4)

1.1 SWAP 2015 Statewide Goals

SWAP 2015 has three statewide conservation goals with 12 sub-goals, under which individual regional goals are organized (CDFW, 2015c; Ch. 4.1). These statewide goals set the context for the companion plans and SWAP 2015 implementation.

Goal 1 - Abundance and Richness: Maintain and increase ecosystem and native species distributions in California while sustaining and enhancing species abundance and richness.

Goal 2 - Enhance Ecosystem Conditions: Maintain and improve ecological conditions vital for sustaining ecosystems in California.

Goal 3 - Enhance Ecosystem Functions and Processes: Maintain and improve ecosystem functions and processes vital for sustaining ecosystems in California.

1.2 SWAP 2015 Companion Plans

Need for Partnerships

The state of California supports tremendous biodiversity. However, the State also has a large and growing human population and faces many challenges, such as climate change, which affects biodiversity and natural resources in general. To balance growing human activities with conservation needs for sustaining the State's ecosystems, collaboratively managing and conserving fragile natural resources is a necessity. As many desirable conservation actions identified under SWAP 2015 are beyond CDFW's jurisdiction, the Department determined that more detailed coordination plans are needed in line with and beyond the recommendations presented in SWAP 2015. Called "companion plans," these sector-specific plans (Text Box 3) were created collaboratively with partners and will be instrumental in implementing SWAP 2015 (See Appendix D for a list of partners that informed development of this companion plan).

Text Box 3. Companion Plan Sectors:

- Agriculture
- Consumptive and Recreational Uses
- Energy Development
- Forests and Rangelands
- Land Use Planning
- Marine Resources
- Transportation Planning
- Tribal Lands
- Water Management

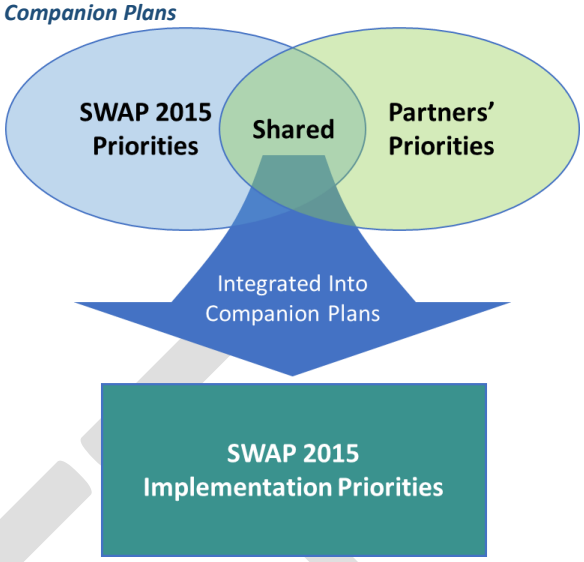
Companion Plan Purpose and Sector Selection

Companion plans present shared priorities identified among SWAP 2015 and partners involved in the companion plan development. Figure 1 illustrates how, through collaboration with partner organizations, priorities for SWAP 2015 have come together in the companion plan and will be elevated as high implementation priorities for SWAP 2015.

The companion plans respond to feedback from many sources, including CDFW staff and partners who support natural resources management and conservation. This includes the California Biodiversity Council (CBC), under which a resolution to promote interagency alignment within the State was signed

in 2013. The companion plans also fulfill the strong suggestion from the Association of Fish & Wildlife Agencies (AFWA) and the National Fish, Wildlife, and Plants Climate Adaptation Strategy[1] to incorporate increased partner engagement as a best practice in wildlife conservation planning. This effort also directly helps CDFW comply with recently added provisions to the Fish and Game Code under Assembly Bill (AB) 2402, specifically under Section 703.5(b), which states that CDFW shall "seek to create, foster, and actively participate in effective partnerships and collaborations with other agencies and stakeholders to achieve shared goals and to better integrate fish and wildlife resource conservation and management with the natural resource management responsibilities of other agencies" (California Fish and Game Code, 2015).

Figure 1: Alignment of SWAP 2015 and Partner Priorities in Companion Plans



CDFW selected sector categories based on the needs for the Department as well as the themes and subjects identified in other existing plans including the California Climate Adaptation Strategy,[2] 2014 update to the Safeguarding California: Reducing Climate Risk,[3] The President's Climate Action Plan,[4] and the National Fish, Wildlife, and Plants Climate Adaptation Strategy.[5]

Because each companion plan focused on teamwork during its development phase, they inherently help set a stage for implementing SWAP 2015 through future collaborations. Together, SWAP 2015 and associated companion plans describe the context and strategic direction of integrated planning and management efforts that will help sustain California's ecosystems.

Companion Plan Development

The SWAP 2015 companion plan **management team** (see Appendix C for a list of members), comprised of CDFW staff with support from Blue Earth staff, provided general direction to the **development team** (see Appendix D for a list of members). Blue Earth facilitated sector-specific discussions among the CDFW staff and development team members, who represented a cross section of sector interests and

[1] For more information, see: USFWS and National Oceanic Atmospheric Administration (NOAA), "National Fish, Wildlife, and Plants Adaptation Strategy," 2012. Web. 27 Oct. 2015. http://www.wildlifeadaptationstrategy.gov/.
[2] For more information, see: California Natural Resources Agency (CNRA), "Climate Adaptation Strategy," 2009. Web. 27 Oct. 2015. http://resources.ca.gov/docs/climate/Statewide_Adaptation_Strategy.pdf.
[3] For more information, see: CNRA, "Safeguarding California: Reducing Climate Risk – Update," 2014. Web. 27 Oct. 2015. http://resources.ca.gov/docs/climate/Final_Safeguarding_CA_Plan_July_31_2014.pdf.
[4] For more information, see: Executive Office of the President, "The President's Climate Action Plan," 2013. Web. 27 Oct. 2015. https://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf.
[5] For more information, see: USFWS and NOAA, "National Fish, Wildlife, and Plants Adaptation Strategy," 2012.

mandates. Team members were selected based on their positive response to outreach efforts by CDFW to seek participation and representation from public and private partners heavily involved in the conservation and management of the State's natural resources.[6]

Beginning in early 2015, a series of four planning and collaboration meetings were held for each sector. The meetings consisted of an initial kickoff session with participation from all sectors followed by three sector-specific meetings. During these meetings, development team participants discussed their ongoing and potential future efforts that would benefit wildlife and habitat conservation in the State. The development teams and CDFW then identified collaboration opportunities and joint priorities or overlaps among SWAP 2015 and partners' strategies and actions. Blue Earth and CDFW organized the feedback from the facilitated development team discussions into nine companion plan documents. In addition, the management team led a review process between CDFW and development team partners, along with a subsequent public review phase for the nine companion plan documents.

Companion Plan Content

Each companion plan addresses:

- SWAP 2015 priorities - statewide goals and strategies;
- companion plan overview - approach, purpose, development process, and content;
- description of the sector;
- common themes across the sectors;
- common priority pressures and strategies across the sectors;
- SWAP 2015 components that best align with the priorities of the participants' organizations under each sector;
- collaboration opportunities identified for joint priorities under each sector – alignment opportunity and potential resources by jurisdiction, locality, and strategy;
- considerations for evaluating future collaboration efforts and desired outcomes/outputs; and
- next steps relevant to the sector.

2. Land Use Planning Sector

2.1 Land Use Planning in California

California is the most populous State in the U.S. with more than 38 million people as of 2013 (Public Policy Institute of California [PPIC], 2015). By 2050, California's population is estimated to reach 50 million people (PPIC, 2015). With the continued population increase, the State's land use planning sector needs to be equipped for managing this growth while still prioritizing ecosystem conservation efforts. Nature is a significant part of Californian's culture, from both a recreational and economic perspective, as well as because of its aesthetic and inspirational values. The State's rich landscape diversity, size, and

[6] Disclaimer: Although the management team sought to engage a broad range of partners in the development team process, CDFW recognizes that there are many other partners that will play important roles in implementing SWAP 2015 and companion plan.

variation offer a unique opportunity to integrate natural resource considerations into land use planning. Within the State's nearly 156,000 square miles of land, there are currently 53 incorporated cities and counties that are required to adopt "a comprehensive, long-term general plan for [their] physical development" (U.S. Census Bureau, 2010; California Office of Planning and Research [OPR], 2001). These general plans outline the city's and/or county's policies and help guide implementation regarding development such as housing, commercial industry, roads, and parks (OPR, 2001). In addition, these plans highlight areas of concern including environmental hazards and natural resource conservation opportunities (OPR, 2001). State law also requires that each general plan incorporate the following seven components: land use, circulation, housing, conservation, open-space, noise, and safety; however, cities and counties can adopt additional elements, such as recreation and urban design (OPR, 2001).

Land use planning also occurs in different jurisdictional units, notably through Metropolitan Planning Organizations (MPOs) serving the most populous areas throughout California. Under the Sustainable Communities Act (Senate Bill [SB] 375), MPOs produce sustainable community strategies (SCS) that outline coordinated efforts in reducing greenhouse gas emissions through planning for transportation, land use, and housing. These strategies are reviewed by the California Environmental Protection Agency (CalEPA) and the Air Resources Board to confirm that, if implemented, the SCS would meet regional greenhouse gas reduction targets (CalEPA Air Resource Board, 2015).

Another important land use planning framework unique to the State is the Natural Community Conservation Planning Act (NCCPA), which establishes the program and process for development of Natural Community Conservation Plans (NCCPs) (California Fish and Game Code, 2012). Wider in its scope than the California and Federal Endangered Species Acts (CESA[7] and ESA[8]), the NCCPA asks for a broad-based ecosystem approach to planning and adaptive management not only to protect listed species, but also to sustain ecosystem integrity, including biodiversity and key ecological processes. Though strictly voluntary, approval of each NCCP plan requires conducting a scientifically sound ecosystem assessment and impact analysis of anticipated activities that may occur within the planning area. An NCCP identifies and provides for the regional protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity. Working with landowners, environmental organizations, and other interested parties, a local agency oversees the numerous activities that compose the development of an NCCP.

Along with these programs, land use plan components may include community issues (e.g., new growth, environmental protection), future demand for services (e.g., sewer, water, and roads), potential problems (e.g., overloaded sewer facilities or crowded roads), and goals and policies for directing and managing growth (OPR, 2001). Given expected population increases and development of associated infrastructure, together with predicted climate change impacts, there is a greater need for creating well-designed land use plans to positively benefit the State's natural resources.

[7] For more information, see: CDFW, "California Endangered Species," 2015. Web. 29 Oct. 2015. http://www.dfg.ca.gov/habcon/cesa/.

[8] For more information, see: USFWS, "Endangered Species," 2015. Web. 29 Oct. 2015. http://www.fws.gov/endangered/.

2.2 Current Land Use Planning Management and Conservation in California

Many State land use planning agencies have incorporated required and voluntary ecosystem conservation elements focused on conserving California's natural and wildlife resources into their planning programs. The California Environmental Quality Act (CEQA) requires local and State governments to analyze environmental impacts expected from major projects and to identify measures to avoid or mitigate significant impacts to a non-significant level (OPR, 2001).

Balancing land use with the conservation of natural resources and cultural heritage is an important goal for California, and a number of State agencies have embraced this concept. For example, the mission of the California Natural Resources Agency (CNRA) is "to restore, protect, and manage the State's natural, historical, and cultural resources for current and future generations using creative approaches and solutions based on science, collaboration, and respect for all the communities and interests involved" (CNRA, 2015a). The CNRA has explored ways to achieve their mission including protecting pristine forestlands from logging activities and preserving habitat for species adapted to unique or extreme conditions (e.g., the Salton Sea) (CNRA, 2015b).

Between 2007 and 2014, CDFW led several conservation projects related to land use planning funded through SWG. One of the projects called "Effects of Human Use of NCCP Reserves on Reptile and Mammal Species in San Diego County, California" systematically reviewed studies that observed recreation impacts on wildlife, developed a geographic information system (GIS) database to help identify field site selection and analysis, and created a digitalized aerial image database of recreational trails (CDFW, 2014). All of these outputs could help land use planning by linking recreational impacts to wildlife.

Similarly, the 2013-2014 "Inland Deserts Region 6 South Lands Management Project" sought to improve habitat for SGCN through active management (e.g., integrating wildlife conservation into local land use decisions) of natural resources on CDFW-managed lands (CDFW, 2014). The 2007 "Department of Fish and Game Lands Resource Assessment and Monitoring Project" conducted an inventory of and monitored SGCN and habitats on CDFW and nearby lands, in addition to developing monitoring strategies to identify species conservation goals for future land management (CDFW, 2014).

An evaluation report of SWAP 2005 implementation found how CDFW has incorporated information, research, and knowledge into regional plans such as the San Joaquin Multi-Species Habitat Conservation Plan (HCP), Placer County HCP/NCCP, Yolo County HCP/NCCP, Butte County HCP/NCCP, Bay- Delta HCP/NCCP, Yuba-Sutter HCP/NCCP, and Western Riverside County Multi-species HCP (CDFW, 2015b). CDFW Western burrowing owl data, for example, were used to analyze the expected impacts from the activities under the Butte County HCP/NCCP and to design the conservation strategy, including avoidance and mitigation measures for the species (CDFW, 2015b).

Another example of this sector's engagement in restoration is the San Francisco Estuary Project's "Comprehensive Conservation and Management Plan." The plan includes goals to establish and implement land use patterns and best management practices, as well as adopt land use policies that

offer active stakeholder participation in cooperative efforts for watershed conservation (San Francisco Estuary Project, 2007).

By continuing to manage land use planning effectively, CDFW and its partners can protect and conserve the State's natural and wildlife resources while also providing new opportunities to increase sustainable land use development.

Text Box 4. Collaborative Conservation Effort Examples in the Land Use Planning Sector

There are numerous collaborative conservation and management efforts found in California. Below we share two examples related to land use planning in the State. These examples demonstrate existing conservation efforts that aligned with SWAP 2015. The partners addressed in each description are indicated in **bold**.

- *Linking Land Conservation Strategies to Transportation Planning*: The **Santa Barbara County** *2040 Regional Transportation Plan & Sustainable Communities Strategy* applied a Regional Greenprint approach to catalog open space, habitat, and farmland as constraints to urban development. Using a variety of existing GIS data layers from diverse partners (e.g., **U.S. Forest Service (USFS)**, **California Geoportal**, and **CDFW's** California Natural Biodiversity Database), the Regional Greenprint identified habitat and agriculture priorities and assessed future transportation and community growth scenario options based on impacts to habitat and agriculture. The Regional Greenprint provides a mechanism for the **Santa Barbara County Association of Governments (SBCAG)** to collaborate with **local governments**, **Federal**, **State**, and **regional** partners to consider impacts of planning on sensitive habitat and design mitigation activities to offset the impacts of transportation projects and development (SBCAG, 2013).
- *Applying an Ecosystem Approach to Conserve Natural Communities*: **CDFW's** NCCP program offers a mechanism to use an ecosystem approach for biodiversity protection and balance conservation with compatible land use activities. Each NCCP is led by a **local agency** who collaborates with **CDFW**, **USFWS**, and **environmental organizations**, **landowners**, and other **interested stakeholders** to develop landscape-scale conservation plans. There are currently 22 NCCPs statewide, which protect over 9 million acres (CDFW, 2015a). NCCPs are often created in conjunction with regional HCPs, plans required under the Endangered Species Act as part of incidental take permits. HCPs have evolved from single-species plans to regional planning documents that address multiple species and habitats and allow for the alignment of conservation priorities with compatible economic activities (Economic & Planning System, Inc. [EPS], 2014). Regional HCPs and NCCPs have resulted in economic benefits to both the public and private sectors. For example, the private sector has benefited from streamlined permitting processes that result in cost savings and reduced uncertainty during project development phases. For the public sector, regional HCPs/NCCPs reduce time required to evaluate and implement permitting decisions (EPS, 2014). The economic and environmental benefits of the NCCPs demonstrate how **Federal**, **State**, **regional**, and **local** partners can use collaborative conservation planning to balance land use and ecosystem conservation.

3. Common Themes across Nine Sectors

Equally important to discussion topics unique to each sector is the common themes considered across all sectors. This section shares overarching themes identified through the development of the nine companion plans within the scope of SWAP 2015. As described below, the top two most commonly discussed topics were: 1) climate change and 2) integrated regional planning.

3.1 Climate Change Related Issues

All sectors highlighted the potential far-reaching effects on California's natural resources induced or exacerbated by climate change as a major issue. The negative impacts to the State's ecosystems described in SWAP 2015 may increase in their magnitude and severity by the compounding effects of climate change (CDFW, 2015c; Ch. 2.5.3). The implications of climate change are likely to be profound and influence many facets of the State's natural resources. Therefore, development teams considered collaboration across sectors related to natural resource management and conservation essential to assist ecosystem adaptation effectively and minimize negative effects from the shifting climate.

The suggested collaborative activities under various sector discussions that relate to climate change include a comprehensive assessment of the State's climate change vulnerability and implementation of appropriate adaptation actions (CDFW, 2015c; Ch. 2.5.3). Detailed activities addressed during the discussions include, but are not limited to: establishing a sustainable habitat reserve system to reduce other habitat threats and increase habitat resilience to climate change; incorporating climate change impacts (e.g., habitat shifts and sea level rise) into the management of watersheds, habitats, and vulnerable species; improving regulation of greenhouse gas emissions; developing comprehensive research guidelines to evaluate climate change effects; and engaging in education and outreach activities to raise awareness of climate change.

3.2 Integrated Regional Planning

California hosts a landscape that is ecologically, socio-economically, and politically intricate. The current status of the State's ecosystems reflects the synergistic interactions among ecological conditions and processes, as well as diverse human activities and conflicting needs and the regulations imposed on those activities.

The concept of integrated regional planning arises from the recognition that addressing only one aspect of such a multi-faceted, dynamic human and natural system would not be sustainable. Integrated regional planning in the context of SWAP 2015, paraphrased from the definition in the California Water Plan, is an approach to prepare for effective management, including conservation activities, while concurrently achieving social, environmental, and economic objectives to deliver multiple benefits across the region and jurisdictional boundaries (California Department of Water Resources [DWR], 2014). The expected outcomes of adopting an integrated regional planning approach are to 1) maximize limited resources to provide for increased public well-being, and 2) receive broader support for natural resource conservation beyond the conservation community while systematically improving ecosystem conditions that sustain the ecological integrity of the region.

Integrated regional planning begins with the acceptance of diverse natural resource management priorities associated with the region and the accompanying activities necessary to pursue those interests. Based on this understanding and philosophy, attempts by natural resource management agencies to integrate activities often include negotiations during regional planning processes. Expected efforts under integrated regional planning processes include: planning to reduce conflicts among priorities and activities; minimizing overlapping efforts by aligning similar activities; streamlining and integrating needed processes across the priorities; and collaborating to complement efforts and pursue mutual priorities and interests. As an example, integrated planning could occur by zoning larger planning regions, coordinating multiple needs for the region, and limiting activities within each zone to avoid incompatible activities, or at least reduce unintended negative consequences of isolated but interactive activities. In sum, integrated regional planning requires open-mindedness, transparency, patience, and comprehensive and strategic planning between natural resource management priorities and regional and/or local jurisdictions through coordination.

In developing the companion plans, all sectors considered an integrated regional planning framework as one of the State's top priorities. The needs and tasks related to integrated regional planning and expressed through the discussion among the sector groups were: preparing, approving, and implementing regional- and landscape-level conservation plans; pursuing necessary resources systematically for conservation strategy implementation; coordinating effective partnerships; adapting to emerging issues; and reviewing and revising the plans. Existing efforts recognized for supporting integrated regional planning include NCCPs, HCPs, Habitat Connectivity Planning for Fish and Wildlife,[9] the Master Plan for Marine Protected Areas, and individual species management plans. SWAP 2015 also addresses those activities and plans.

In addition, SWAP 2015 highlights where partners can potentially integrate SWAP with other agency conservation programs, including the efforts by California Wildlife Conservation Board (WCB), identified and discussed among the companion plan development teams.

4. Commonly Prioritized Pressures and Strategy Categories across Sectors

Below is an overview of pressures and strategy categories considered important across the nine sector teams. SWAP 2015 adopted the Open Standards for the Practice of Conservation[10] process and applied it to each targeted ecosystem to identify strategies that could influence key ecosystem pressures (CDFW, 2015c; Ch. 1.5.4). During development team meetings, CDFW shared lists of those identified pressures and strategy categories that are considered relevant to each sector. Through voting, each development team prioritized the pressures and strategy categories by the importance to the sector. The commonly prioritized pressure and strategy categories described below were identified by synthesizing overarching discussion themes (for pressures) and by counting the frequency of the prioritization (for strategy categories) across the sectors.

[9] For more information, see: CDFW, "Habitat Connectivity Planning for Fish and Wildlife," 2015. Web. 27 Oct. 2015. www.wildlife.ca.gov/Conservation/Planning/Connectivity.

[10] For more information on the Open Standards for the Practice of Conservation, see: Conservation Measure Partnership, "The Open Standards," 2015. Web. 28 Oct. 2015. http://www.conservationmeasures.org/.

4.1 Pressures Identified across Sectors

A pressure, as defined in SWAP 2015, is "an anthropogenic (human-induced) or natural driver that could result in impacts to the target (i.e., ecosystem) by changing the ecological conditions" (CDFW, 2015c; Ch. 1.5.4, 26). Pressures can have either positive or negative effects depending on their intensity, timing, and duration, but they are all recognized to have strong influences on the well-being of ecosystems (CDFW, 2015c; Ch. 1.5.4). Table 1 lists the 29 standard pressures addressed under SWAP 2015 (CDFW, 2015c; Ch. 1.5.4).

Table 1. SWAP 2015 Pressures

- Agricultural and forestry effluents
- Air-borne pollutants
- Annual and perennial non-timber crops
- Catastrophic geological events
- Climate change
- Commercial and industrial areas[2]
- Dams and water management/use
- Fire and fire suppression
- Fishing and harvesting aquatic resources
- Garbage and solid waste
- Household sewage and urban waste water [3,4]
- Housing and urban areas[2]
- Industrial and military effluents[4, 5]
- Introduced genetic material
- Invasive plants/animals
- Livestock, farming, and ranching
- Logging and wood harvesting
- Marine and freshwater aquaculture
- Military activities
- Mining and quarrying
- Other ecosystem modifications[6]
- Parasites/pathogens/diseases
- Recreational activities
- Renewable energy
- Roads and railroads
- Shipping lanes[7]
- Tourism and recreation areas
- Utility and service lines
- Wood and pulp plantations

Pressures include the following:

1 Volcano eruption, earthquake, tsunami, avalanche, landslide, and subsidence
2 Shoreline development
3 Urban runoff (e.g., landscape watering)
4 Point discharges
5 Hazardous spills
6 Modification of mouth/channels; ocean/estuary water diversion/control; and artificial structures
7 Ballast water

(CDFW, 2015c; Ch. 1.5.4)

As described under Section 3.1, the climate change pressure was one of the common themes discussed across the sectors. There were no other standardized pressures listed under Table 1 that were commonly prioritized across all sectors. For more information on pressures prioritized for the land use planning sector, please refer to Section 5.1 below.

4.2 Strategy Categories Identified across Sectors

SWAP 2015 outlines 11 categories of statewide conservation strategies under which regional strategies are organized, similar to the manner in which the regional goals are tiered under the statewide conservation goals (CDFW, 2015c; Ch. 4.2). The statewide and regional strategies are meant to work synergistically to achieve the statewide goals and priorities. Table 2 lists the 11 standardized statewide strategy categories addressed under SWAP 2015 (CDFW, 2015c; Ch. 4.2).

Table 2. SWAP 2015 Conservation Strategy Categories

- Data Collection and Analysis
- Direct Management
- Economic Incentives
- Environmental Review
- Land Acquisition, Easement, and Lease
- Land Use Planning
- Law and Policy
- Management Planning
- Partner Engagement
- Outreach and Education
- Training and Technical Assistance

(CDFW, 2015c; Ch. 4.2)

Of these 11 strategies, the three most commonly prioritized strategy categories across the nine sectors were: **Data Collection and Analysis** (78% or 7 sectors prioritized this strategy), **Management Planning** (78% or 7 sectors), and **Partner Engagement** (56% or 5 sectors). The strategy categories identified as most relevant to the land use planning sector are described in Section 5.2 below.

5. Land Use Planning Priority Pressures and Strategy Categories

The land use planning sector faces many challenges to address the conservation and management of California's natural and wildlife resources. Challenges include water supply and quality, mining and quarrying, and garbage and solid waste (CDFW, 2015c; Ch. 2.5.2). Pressures such as commercial and industrial area development and housing and urban development to meet California's growing population can also affect the land use planning sector (CDFW, 2015c; Ch. 2.5.3). Likewise, stresses such as changes in community structure and composition, changes in biotic interactions, and habitat fragmentation can drive the need for conservation activities in this sector. Although key challenges exist, each can be seen as future opportunities and recommendations to support, improve, and enhance the implementation of SWAP 2015. Activities and strategies to address these pressures and stresses may include development of integrated data rich platforms, land acquisitions and easements, and management plan implementation.

During companion plan development meetings held in early 2015, the top pressures and strategies (described below in Section 5.1) were prioritized through ranking and voting by the development teams. The list drew upon efforts undertaken between 2013 and 2014 to identify province- and state-scale pressures and strategies for SWAP 2015 (CDFW, 2015c; Ch. 1.5). Through facilitated discussions, the development team prioritized pressures and strategies based on member knowledge and involvement in the sector. Below is a list of the prioritized pressures and strategies.

5.1 Priority Pressures

Commercial and industrial areas – Economic and population growth, which are drivers to development, lead to an increasing need for commercial/industrial activities such as agricultural development (e.g., grape production) and its associated services, transportation, and infrastructure needs. These needs place pressure on the State's land, water, and other natural resources across scales (upland, shoreline, and marine). Commercial and industrial areas include factories and other commercial centers such as manufacturing plants, shopping centers, office parks, military bases, power plants, train and ship yards, and airports.

Housing and urban areas/development – Economic and population growth also lead to an increasing need for housing development and its associated services, transportation, and infrastructure needs. These needs place pressure on the State's land, water, and other natural resources across scales (upland, shoreline, and marine). Additionally, demographic shifts are predicted to result in a decreased demand for traditional single-family homes and an increased demand for transit-oriented or walkable, dense, multi-family communities. This includes housing and non-housing development that typically integrates with housing in cities, towns, and settlements. This may also include development of other non-agricultural land uses with substantial footprints. More specifically, these developments include urban areas, suburbs, villages, vacation homes, shopping areas, offices, schools, and hospitals.

5.2 Priority Strategy Categories

Highlighted below are the top five strategy categories the development team prioritized in alphabetical order – **Data Collection and Analysis; Economic Incentives; Land Acquisition, Easement, and Lease; Management Planning;** and **Training and Technical Assistance**. The information below is combined into a more comprehensive table shared in Section *6. Collaboration Opportunities and Potential Resources by Strategy Category* (Table 3). The strategy category definitions described below include information from SWAP 2015 with additional insights gathered during the sector development team meetings (CDFW, 2015c; Ch. 4.2). The example strategies and conservation activities were prioritized by development team members early in the companion plan process.

Data Collection and Analysis – Data collection and analysis is the utilization of robust data and thorough analysis to facilitate more effective implementation of conservation strategies under other categories.

- Example strategies include providing information via integrated data rich platforms and seeking funding for technical assistance and research.
- Conservation activities include: making information accessible and translatable for natural resource managers through a digital library; determining wetland statuses and trends; and developing a sea level rise planning database.

Economic Incentives – Economic incentives are available and deployable resources for private landowners and other stakeholders to implement responsible stewardship and enhancement of landscapes, ecological conditions, and species.

- Example strategies include: developing and providing economic incentives and assurances and seeking funding though grants; cooperating with other agencies; and identifying other opportunities that could serve as sources for economic incentives.
- Conservation activities include: offsetting mitigation impacts using stewardship dollars through foundations/endowments; providing incentives to farmers to allow their fields to be flooded for bird benefits; and helping private landowners implement conservation projects through grants.

Land Acquisition, Easement, and Lease – Land acquisition, easement, and lease are types of transactions and agreements that help set aside or obtain land or water rights, which support conservation of the land, water, or habitat that species depend upon.

- Example strategies include: purchasing land and/or acquiring easements; acquiring grasslands/riparian areas; and designating conservation areas.
- Conservation activities include: acknowledging working lands through investments and carbon offsets; prioritizing conservation locations based on multiple benefits; and providing science support on climate change for decision-making.

Management Planning – Management planning is the development of management plans or processes for species, habitats, and natural processes/conditions that will lead to implementation of more effective conservation strategies.

- Example strategies include developing and implementing existing management plans and providing input on local planning.
- Conservation activities include: focusing on climate adaptation planning; implementing coastal resilience approaches; and looking at plant conservation planning in larger landscapes.

Training and Technical Assistance – Training and technical assistance enhance resource conservation efforts of managers, scientists, stakeholders, or others by building capacity for implementing effective conservation activities and techniques.

- Example strategies include: developing training materials and information; conducting training and technical assistance; and providing science-based applications and tools that are useful for conservation activities.
- Conservation activities include: conducting ongoing education and workshops on climate adaptation planning and vulnerability assessments; developing a conservation module for urban footprints and green printing; and preparing a technical guidance document on sediment augmentation.

Text Box 5. Identified Pressures and Strategies for Future Consideration

SWAP 2015 describes the 29 major pressures (Table 1) on the State's ecosystems (CDFW, 2015c; Ch. 2.5.2). The list below provides additional pressures and strategies the development team identified as important for this sector that should be considered during future SWAP updates. These pressures and strategies were not highlighted as top priorities for the land use planning sector under the main SWAP 2015.[1]

Pressures

- Habitat type and extent change
- Water supply

Strategies

- Improve monitoring and evaluation of:
  - Habitat change (type and extent) at multiple scales
  - Climate change impacts and mitigation options
  - Urban growth and land use change
- Identify funding for technical assistance and financial incentives

[1] Note: Some additional pressures identified by development teams may already be addressed in SWAP 2015.

6. Collaboration Opportunities for Joint Priorities

This section describes the potential alignment opportunities for SWAP 2015 with existing plans and strategies from other sector agencies and organizations that development team members have identified. Section 6.1 introduces the four categories that are used to organize such opportunities; they are based on jurisdiction and locality of plans and strategies. Following Section 6.1, collaboration opportunities and resources identified by each strategy category are shared in Table 3, *Collaboration Opportunities and Potential Resources by Strategy Category.* For a more extensive list of plans, strategies, and documents identified through the companion plan development process, please see Appendix B.[11] SWAP 2015 integration with other partners' programs is an integral part of balancing the needs of wildlife with the needs of society and is explored in SWAP 2015 (CDFW, 2015c; Ch. 7.1.2).

6.1 Alignment Opportunities by Jurisdiction and Locality

The section below describes four categories of locality and jurisdiction broadly where potential alignment opportunities typically fit: Federal, State, Regional and Multi-partner, and Non-governmental. These categories are based on jurisdiction and locality of the management and conservation efforts. Example opportunities for each category are also provided here.

[11] This is not an exhaustive list of sector plans and strategies in alignment with SWAP 2015 goals.

Federal

Plans identified in this category typically draw upon national guidance reflecting the goals and strategies of Federal agencies and organizations. For example, the USFWS has several types of conservation and management plans such as the *National Wildlife Refuge Comprehensive Conservation Plans* and *Rising to the Urgent Challenge, Strategic Plan for Responding to Accelerating Climate Change*. The U.S. Department of Agriculture (USDA) has several types of strategic programs that help guide actions in the State, including its Natural Resources Conservation Service (NRCS) *Agricultural Conservation Easement Program* and the *Wetlands Reserve Program*. Although these plans guide Federal agency interventions, they also play a key role in how these agencies collaboration with states and other partners.

State

Plans identified in this category reflect numerous State agency priorities, strategies, and conservation actions of California. These plans and strategies guide decision-making, resource allocation, and implementation priorities of the State agencies. Examples of key statewide plans and strategies include, but are not limited to, CDFW's *SWAP 2015*, a joint strategy developed by the CDFW and California Department of Transportation called the *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California,* San Francisco Bay Subtidal Habitat Goals Project's *Subtidal Habitat Goals Report,* and the DWR *Final California Water Plan Update 2013*. In addition, DWR developed several regional flood management plans such as the *Upper and Mid-Sacramento River Region Flood Atlas* and *Feather River Region Flood Atlas*.

Regional and Multi-partner

Numerous regional and multi-partner plans help guide conservation efforts across the State. These plans and strategies, like those at the Federal level, describe strategies and activities that align with this companion plan and SWAP 2015. At a regional level, NCCPs and HCPs can be used to inform a wide array of conservation planning efforts. Many of the large-scale, multispecies HCPs and NCCPs are habitat-based plans that encourage future development to occur in already developed areas, while setting up a system of large contiguous protected lands based on a comprehensive landscape-level conservation strategy designed for the planning area. Planning at this scale provides regional protection for plants, animals, and their habitats, while allowing compatible and appropriate economic activity. In addition, many of the Joint Ventures based in California have developed plans that describe regional conservation interventions such as the Central Valley Joint Venture's *Implementation Plan*, as well as county general plans. Sustainable community plans, such as those funded through the California Strategic Growth Council (SGC), often include regional and local plans and policies that benefit natural resources in ways consistent with conservation goals outlined in SWAP 2015. Examples of such policies include restricting urban boundaries adjacent to key forest/rangeland areas, zoning areas as open space, and/or identifying key habitat areas that characterize the community for management or restoration as natural areas (SGC, 2014).

Non-governmental

Like the plans described above, private landowners and non-governmental organizations (NGOs) also play a key role in wildlife conservation, and they have plans that describe their desired future conservation outcomes and management priorities compatible with those of SWAP 2015. Examples include, but are not limited to, the Tricolored Blackbird Working Group's *Conservation Plan for the Tricolored Blackbird (Agelaius tricolor)* and San Francisco Estuary Project's *Comprehensive Conservation and Management Plan*.

6.2 Collaboration Opportunities and Potential Resources by Strategy Category[12]

For each prioritized strategy category described in Section 5 above, Table 3 below shares example conservation activities that are, will, or might be implemented in the next 5-10 years. These conservation activities are listed adjacent to example potential partners and financial resources that development team members identified. Although the table below shares examples of potential activities where partnerships could occur at different spatial scales (statewide, regional, and local/site-specific), other activities addressing priority strategies should be considered as this is not a comprehensive list.[13] Similarly, while the identified example conservation activities could apply across many spatial scales and jurisdictions, the current table highlights the most relevant scale of implementation. As described earlier in this document, Table 3 does not indicate a willingness and/or commitment on behalf of these organizations or entities to partner, fund, or provide support for the strategy implementation.

[12] Disclaimer: Please note this is not an exhaustive list of potential partners and financial resources. The organizations listed in Table 3 were identified through this companion plan process, but their identification here does not indicate agreement to partner and/or provide financial resources for the conservation activities.

[13] **Statewide** indicates actions occurring across the state. **Regional** indicates efforts that occur at a smaller than statewide scale and across more than one locality or site. **Local/Site-specific** indicates activities occurring at a specific location (e.g., city or park unit) or site (e.g., Morro Bay Estuary or Mojave Desert).

Table 3. Collaboration Opportunities and Potential Resources by Strategy Category

Example Conservation Activities	Example Potential Partners	Example Potential Financial Resources
Priority Strategy: Data Collection and Analysis		
Statewide • Standardize data collection to create reports of statewide trends ***Regional*** • Develop an eco-regional plan on solar development, agricultural value, and climate analysis • Develop regional green prints • Fund planning and data collection to expand metrics and include multi-benefit processes/larger scales ***Local/Site-specific*** • Collect and share spatial data (e.g., GIS) • Conduct climate change vulnerability analyses • Conduct monitoring and research to enhance conservation and land management in response to climate change • Create a statewide network of UC researchers and educators dedicated to the creation, development, and application of knowledge in agricultural, natural, and human resources • Disseminate data to private landowners • Determine wetlands status and trends • Develop a sea level rise planning database • Develop accounting tools to leverage incentives • Develop a climate adaptation strategy for coastal salt marsh ecosystems • Encourage database developers to communicate and streamline formats • Incorporate data into urban footprint scenario models • Invest in research on existing efforts with high conservation potential • Look at carbon sequestration values and integrate with water, habitat, and farm land • Share assessment results though digital databases accessible to and translatable for managers • Undertake conservation land use assessments	***Federal*** • Bureau of Land Management (BLM) • U.S. Environmental Protection Agency (USEPA) • USFWS • USFS ***State*** • CA Coastal Conservancy • CA Landscape Conservation Cooperative (LCC) • CA Water Quality Monitoring Council • CDFW • State Universities (e.g., UC Santa Cruz, UC Berkeley, UC Davis) • State Water Resources Control Board (SWRCB)/Regional Water Quality Control Boards • University of California Cooperative Extension (UCCE) ***Local/County*** • Resource Conservation Districts (RCDs) ***NGO/Foundation*** • Central Valley Joint Venture (CVJV) • GreenInfo Network • Santa Cruz Puma Project • Sonoma County Agricultural Preservation and Open Space District (SCAPOSD) • Terrestrial Biodiversity and Climate Change Collaborative (TBC3)	***Federal*** • USDA NRCS (e.g., Conservation Stewardship Program) • USEPA Clean Water Act 104(b) grants • USFWS Wildlife and Sport Fish Restoration (WSFR) grants ***State*** • AB 32 cap and trade • CA State Coastal Conservancy (SCC) • CDFW • Proposition 1 • State Universities (e.g., UC Santa Cruz)

Example Conservation Activities	Example Potential Partners	Example Potential Financial Resources
• Work with ranchers, agencies, and others to foster good stewardship practices for rangeland watersheds		
Priority Strategy: Economic Incentives		
Statewide • Engage in USFWS' Conservation Easement Program • Participate in State technical advisory committees ***Local/Site-specific*** • Ensure protected areas have adequate stewardship funding for management planning and actions • Help private landowners implement conservation projects through grants • Look for innovative financing solutions for conservation focused investors • Provide incentives to farms to allow their fields to be flooded for bird benefits (e.g., BirdReturns Project) • Support water quality trading and riparian area restoration • Work on forest-to-farm marketing strategies	***Federal*** • USFWS Partners for Fish & Wildlife Program ***State*** • CDFW • CA Water Quality Monitoring Council ***NGO/Foundation*** • Freshwater Trust • NatureVest	***Federal*** • NRCS • USFWS Partners of Fish & Wildlife Program ***State*** • Traditional Williamson Act ***Non-governmental—*** *Participants identified non-governmental organizations and funding programs from a range of agencies including the following:* • Gordon & Betty Moore Foundation • NatureVest
Priority Strategy: Land Acquisition, Easement, and Lease		
Local/Site-specific • Acknowledge value of working lands and derive revenue for land use type to support conservation (e.g., loan/private investment, carbon offsets, sustainable forestry) • Evaluate potential threats or pressures (e.g., coastal resilience planning) • Identify multi-benefit conservation values that include other land use priorities for management purpose • Prioritize conservation locations • Provide science support in relation to climate change for decision-making	***State*** • CA LCC • CA Water Quality Monitoring Council • CDFW • DWR • Southern CA Wetlands Recovery Project (SCWRP) • State Conservancies (e.g., Coastal Conservancy's San Francisco Bay Program, Delta Conservancy, San Joaquin River Conservancy) ***NGO/Foundation*** • Gordon & Betty Moore Foundation – San Francisco Bay Area Program • Local land trusts (e.g., The Land Trust for Santa Barbara County) • Joint Ventures • The Great Valley Center	***Federal*** • Migratory Bird Act ***Non-governmental*** • Gordon & Betty Moore Foundation Bay Area Program • Land & Water Conservation Fund

Example Conservation Activities	Example Potential Partners	Example Potential Financial Resources
Priority Strategy: Management Planning		
Statewide • Develop plans through USFWS's Comprehensive Conservation Plans for National Refuge lands • Focus research and extension on solving priority problems in the management of the State's agriculture, natural resources, and human development • Propose new refuge lands through USFWS Preliminary Project Proposals • Support the bird habitat conservation goals of the CVJV Implementation Plan ***Regional*** • Ensure local actions contribute a landscape-level vision for a large geographic area that has many habitats, conditions, and human uses ***Local/Site-specific*** • Encourage multi-benefit conservation through natural infrastructure • Explore better management avenues for natural resources, threats, or pressures within infrastructure planning • Focus on climate adaptation planning • Implement coastal resilience approaches • Participate in management and conservation planning efforts with partners • Plan local efforts to be consistent with Landscape Conservation Design (LCD) • Update local coastal plans (LCPs)	***Federal*** • USFWS ***State*** • CA Coastal Commission (CCC) • CA LCC • CA Ocean Protection Council (OPC) • CA Water Quality Monitoring Council • CDFW • Delta Protection Commission • SCWRP • State Conservancies (e.g., Coastal Conservancy's San Francisco Bay Program, Delta Conservancy, San Joaquin River Conservancy) ***Local/County*** • City and county planning departments • Local land trusts (e.g., The Land Trust for Santa Barbara County) ***NGO/Foundation*** • Ducks Unlimited • Joint Ventures • The Nature Conservancy (TNC)	***Federal*** • US EPA ***State*** • SCC • CCC • OPC ***Non-governmental*** • The Land Trust for Santa Barbara County
Priority Strategy: Training and Technical Assistance		
Statewide • Focus trainings on board development, implementation capacity on statewide conservation efforts, and technical literacy improvement of RCDs and landowners • Help reduce soil erosion, enhance water supplies, improve water quality, increase wildlife habitat, and reduce damages caused by floods and other natural disasters ***Regional*** • Utilize Regional Water Quality Control Boards wetlands training (e.g., CA Rapid Assessment Method) ***Local/Site-specific***	***Federal*** • National Conservation Training Center (NCTC) • USDA NRCS • USFWS ***State*** • CA LCC • CA Water Quality Monitoring Council • CDFW • SWRCB/Regional Water Quality Control Boards ***Local/County*** • RCDs	***Federal*** • USEPA ***Local/County*** • RCDs ***Non-governmental*** • TNC

Example Conservation Activities	Example Potential Partners	Example Potential Financial Resources
• Conduct ongoing education and workshops • Conduct outreach and technical assistance in context of assessment methods for riparian and wetlands • Develop a conservation module for urban footprints and green printing • Develop tools to help with infrastructure and land use decisions • Increase capacity to implement resources available to private landowners • Hold training sessions on structured decision-making, vulnerability assessments, and climate adaptation planning (e.g., Climate-Smart Conservation) • Prepare technical guidance document for work on sediment augmentation • Utilize tools that share multiple benefits and carbon value	***NGO/Foundation*** • CA Council of Land Trusts • TNC	

6.3 Potential Financial Resources for Joint Implementation

The list below provides additional potential financial resources identified for implementing sector conservation activities addressed under SWAP 2015 and the companion plans. The list is similar to the third column of Table 3, but the funding could be applied to more than one strategy category considered under the sector discussion.

Development team participants suggested a range of potential funding sources; however, this information is intended to serve as a starting point for outreach and potential engagement and does not represent a comprehensive list of all potential funding sources.

Federal Funding Programs

- USEPA - Clean Water Act Section 104(b) Wetland Development Grants
- USFWS
    - Partners of Fish & Wildlife Program
    - USFWS Coastal Grant Program

State Funding Programs

- CDFW – cap-and-trade funds for carbon sequestration and wetland restoration
- County/Region - financial resources (some grant based)
- OPC- bonds and grants (mainly Proposition 1 funds)
- State Coastal Conservancy - bonds and grants (mainly Proposition 1 funds)
- SWRCB - Wetland and Riparian Area Monitoring Program (WRAMP)

Non-governmental Funding Programs

- Gordon & Betty Moore Foundation Bay Area Program
- TNC
    - "Water Flows for Nature" project incentives
    - Nature Vest - innovative financing solutions

7. Evaluating Future Collaboration Efforts

Implementation of SWAP and its nine companion plans is a complex undertaking. The first section below describes the desired outcomes and outputs of the land use planning companion plan implementation identified through the development team discussions. A desired outcome is an improved (and intended) future state of a conservation factor due to implementation of actions or strategies (CDFW, 2015c; Ch. 11). Through the companion plan process, the management team defined a desired output as a deliverable that can be measured by the activities and processes that will contribute to accomplishing the desired outcomes and goals. The list of desired outcomes and outputs in the sub-section below is followed by a high-level description emphasizing the importance of adaptive management to SWAP 2015 and the companion plans, and how their implementation effectiveness would be evaluated by applying the adaptive process addressed under the main document.

7.1 Desired Outcomes and Outputs

Participants were asked what the sector's top desired outcomes and outputs are in the next 5-10 years, based on the development team discussions, their knowledge of the sector, and within the context of SWAP 2015. The identified outcomes and outputs for each strategy category, not listed in order of priority, are provided below.

Data Collection and Analysis

- Increased collection and utilization of climate change data, analysis, and modeling to inform land use planning decisions and permitting, as well as general city and county plans.
- Integrated activities coordinated and focused efforts brought together (e.g., risk assessments and vegetation surveys).
- Improved data sources and metrics for uniformly evaluating conservation impacts across ecosystems identified and implemented (e.g., ecosystem services, land use trends, habitat value, access, recreation benefits) and metrics used to inform land use planning decisions, permitting, conservation actions (e.g., avoided conversion, enhancement), and climate change adaptation.
- Success stories (e.g., species recovery) that demonstrate the positive potential of working landscapes identified and emphasized (e.g., recovery of the Aleutian goose through efforts between dairy ranchers managing their land to allow for and accommodate goose use).

Economic Incentives

- Private landowners' motivation for conservation actions increased through obtaining sources of funding that promote conservation behavior.

- Public lands have stewardship mechanisms and adequate economic incentives in place to meet the needs of stewardship requirements.

Land Acquisition, Easement, and Lease

- Broader sources of funding for land protection secured, and all available sources of funding used (e.g., funding for development of conservation programs by regional transportation agencies through SB325).
- Numerical goals for the amount of land acquired, put under easement agreements, and protected status defined; leases developed; and appropriate funding sources for protection and management of these lands secured.
- Application of best management practices (BMPs) increased on working lands to demonstrate their potential positive conservation impacts.

Management Planning

- Natural infrastructure incorporated as a goal and potential solution in management planning and acquisition.
- *See 1st bullet under Data Collection and Analysis.*
- *See 2nd bullet under Land Acquisition, Easement, and Lease.*

Training and Technical Assistance

- Decision support and conservation stewardship tools necessary for different sectors (e.g., land managers, transportation, and SB 375) determined, and tools and trainings provided to relevant sectors (e.g., technical trainings on assessment methods for riparian and wetlands) to increase understanding of how tools can be implemented.
- New conservation stewardship tools (e.g., tools to help with infrastructure and land use decisions) developed that incorporate existing county planning agency conservation plans.
- Citizen science encouraged that augments data collection efforts and reduces data collection costs through creation of mobile applications.

7.2 Evaluating Implementation Efforts

SWAP 2015 sets a stage for adaptive management, including implementation evaluation, by developing the plan based on the Open Standards for the Practices of Conservation (CDFW, 2015c; Ch. 1.5.4). SWAP 2015 implementation will be monitored over time in concert with other conservation activities conducted by CDFW and its partners. SWAP 2015 recognizes three types of monitoring (CDFW, 2015c; Ch. 8.3):

1. Status monitoring, which tracks conditions of species, ecosystems, and other conservation factors (including negative impacts to ecosystems) through time
2. Effectiveness monitoring, which determines if conservation strategies are having their intended results and identifies ways to improve actions that are less effective (i.e., adaptive management)

3. Effect monitoring, which addresses if and how the target conditions are being influenced by strategy implementation

Monitoring the SWAP and companion plan implementation and evaluating the monitoring results are critical steps for CDFW and partners to demonstrate and account for the overall progress and success achieved by SWAP 2015. By incorporating lessons learned through monitoring and evaluation into future actions, CDFW and its partners have opportunities to improve performance on coordination and collaboration and to adapt emerging needs that were not considered during the time of the plan development into future actions. Similarly, monitoring and the evaluation results could help inform stakeholders, including decision-makers, partners, and funders, about the status of the plan implementation, as well as where to best deploy resources to achieve desired outcomes and outputs effectively.

SWAP 2015 developed performance measures for each strategy category (CDFW, 2015c; Ch. 8.3). These measures are critical in helping guide the Department and partners in assessing the effects and effectiveness of SWAP 2015 and the companion plans, as well as the level of the companion plan's contribution to the conservation of California's ecosystem.

8. Next Steps

During the third and final companion plan development team meeting, participants were asked to identify key next steps to ensure successful implementation of the companion plan, ideally within the next one to five years. The feedback fell into three primary categories which were used to organize the information: Partnership and Collaboration, Human and Financial Resources, and Communication and Outreach.

Partnership and Collaboration

- Facilitate application of SWAP 2015 and companion plan by land use planners for development of environmental impact reports (EIR), CEQA processes, or general plan updates.
- Coordinate existing and potential partners, such as the California Association of Councils of Governments, to support implementation of SWAP 2015 and companion plan.
- Integrate and coordinate planning activities and plans that incorporate preservation and wildlife protection considerations (e.g., RCD plans, regional green prints, and local plans).
- Broaden scope of land use planning to include aquatic resources.

Human and Financial Resources

- Identify and engage development team members and additional potential partners willing to support the SWAP 2015 and companion plan implementation with human and/or financial resources.
- Work with partners to identify ways to integrate SWAP 2015 and companion plan language into organizational plans as appropriate.

Communication and Outreach

- Identify key intended audiences (e.g., members of the land use planning sector) and conduct routine outreach activities at the local and regional level (e.g., local road shows and presentations at the California Planning Association annual conference) to promote awareness and application of SWAP 2015 and companion plan. Show how land use planning recommendations and strategies can be applied at the local level, integrated into general plans and sustainable communities strategies, and used to promote climate adaptation.
- Use SWAP 2015 and companion plan text to create a user-friendly framework that fosters understanding of the complex information presented within each document, outlines how conservation activities can be achieved, and highlights successful activities.
- Develop a graphic or visual framework that describes how different sector conservation actions fit together to address SWAP 2015 and companion plan goals, strategies, and desired outcomes.
- Make SWAP 2015 and companion plan available online and include hyperlinks to other relevant information and sources, and update document as new relevant information becomes available.

9. Closing

This companion plan was developed in collaboration with many partners who deserve special recognition for their time and commitment (please see Appendix D for a list of development team members). As an initial step towards building a collaborative approach for implementation of SWAP 2015 and the nine sector-focused companion plans, CDFW will develop a work plan that describes actions to implement the plans and address the next steps identified.

Appendices

Appendix A: List of Potential Partners and Coordination Bodies

Disclaimer: Please note this is not an exhaustive list of potential partners. The organizations listed in here were identified through this companion plan process, but their identification here does not indicate agreement to partner and/or provide financial resources for the conservation activities. Furthermore, the strategy categories checked off for each organization were completed to the best knowledge of the development team members; some organizations' efforts were unknown (blank cells).

Potential Partners/Coordination Bodies	Data Collection and Analysis	Economic Incentives	Land Acquisition, Easement, and Lease	Management Planning	Training and Technical Assistance
Association of Bay Area Governments					
Biodiversity Council					
Bureau of Land Management (BLM)	✓				
CA Department of Fish and Wildlife (CDFW)	✓	✓	✓	✓	✓
CA State Coastal Conservancy (SCC)	✓	✓	✓	✓	✓
CA Department of Water Resources (DWR)		✓	✓		
CA Landscape Conservation Cooperative (LCC)	✓		✓		✓
CA Council of Land Trusts					✓
CA Coastal Commission (CCC)				✓	
CA Ocean Protection Council (OPC)				✓	
CA State Conservancies					
CA Water Quality Monitoring Council				✓	✓
CA Department of Fish and Wildlife (CDFW) • Permanent Wetland Easement Program	✓		✓		
City and County Planning Departments					
Civic Spark Program				✓	
Delta Conservancy			✓	✓	
Delta Protection Commission				✓	
Ducks Unlimited				✓	
Freshwater Trust		✓			
Gordon & Betty Moore Foundation – San Francisco Bay Area Program			✓		
Governor's Office of Planning and Research					
GreenInfo Network	✓				
Great Valley Center			✓		
Land Trusts • Land Trust for Santa Barbara County)			✓	✓	
Migratory Bird Joint Ventures • Central Valley	✓		✓	✓	

Potential Partners/Coordination Bodies	Data Collection and Analysis	Economic Incentives	Land Acquisition, Easement, and Lease	Management Planning	Training and Technical Assistance
• Intermountain West • Pacific Coast					
National Conservation Training Center (NCTC)					✓
Natural Resources Conservation Service (NRCS) • Agricultural Conservation Easement Program • Wetlands Reserve Program (WRP)	✓	✓			✓
NatureVest		✓			
Resource Conservation Districts (RCDs)	✓				✓
Rivers and Mountains Conservancy		✓		✓	
San Diego Association of Governments (SANDAG)					
San Diego Climate Science Alliance					
San Joaquin River Conservancy		✓		✓	
Santa Cruz Puma Project	✓				
Sonoma County Agricultural Preservation and Open Space District (SCAPOSD)	✓				
Southern CA Wetlands Recovery Project (SCWRP)			✓	✓	
State Water Resources Control Board (SWRCB) and Regional Water Quality Control Boards	✓			✓	
Strategic Growth Council					
Terrestrial Biodiversity and Climate Change Collaborative (TBC3)	✓				
The Nature Conservancy (TNC)				✓	✓
University of CA, Berkeley	✓				
University of CA Cooperative Extension (UCCE)	✓				
University of CA, Davis	✓				
University of CA, Santa Cruz	✓				
U.S. Department of Agriculture (USDA) • Conservation Reserve Program • Conservation Technical Assistance Program • Watershed Surveys and Planning Program • Watershed and Flood Prevention Operations Program					✓
U.S. Department of the Interior (DOI)					
U.S. Environmental Protection Agency (USEPA)	✓				
U.S. Fish & Wildlife Service (USFWS) • Conservation Easement Program • Partners for Fish & Wildlife Program	✓	✓	✓	✓	✓
U.S. Forest Service (USFS)	✓				

Appendix B: Plans, Strategies, and Documents Identified by the Development Team

Bay Area Open Space Council. *The Conservation Lands Network - San Francisco Bay Area Upland Habitat Goals Project Report*. 2011. Print. http://www.bayarealands.org/.

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Lower Sacramento River and Delta North Region Flood Atlas

Lower San Joaquin River and Delta South Region Flood Atlas

Mid-San Joaquin River Region Flood Atlas

Upper and Mid-Sacramento River Region Flood Atlas

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Appendix C: CDFW Companion Plan Management Team

Name	Title
Armand Gonzales	**SWAP 2015 Project Lead**
Junko Hoshi	**SWAP 2015 Assistant Project Lead**
Kurt Malchow	**SWAP 2015 Companion Plan Development Lead**

Appendix D: Land Use Planning Companion Plan Development Team Members and Affiliations

Affiliation	Participant
California Association of Resource Conservation Districts	Chris Gardner Karen Buhr
California Coastal Conservancy	Sam Schuchat
California Council of Land Trusts	Darla Guenzler
California Department of Fish and Wildlife	Kari Lewis Mark Wheetley
California Natural Resources Agency	Chris Potter
California Office of Planning and Research	Louise Bedsworth Michael McCormick
California State Association of Counties	Cara Martinson
California Strategic Growth Council	Denny Grossman
Defenders of Wildlife	Kim Delfino
Gordon and Betty Moore Foundation	Dan Winterson
The Nature Conservancy	Elizabeth O'Donoghue
U.S. Fish and Wildlife Service	Sandy Osborn Victoria Touchstone Winnie Chan
U.S. Fish and Wildlife Service - Land Conservation Cooperatives	Andrea Graffis Rebecca Fris

Appendix E: Glossary

Most terms in this section originate from the glossary in the Conservation Measures Partnership's (CMP) Open Standards for the Practice of Conservation (Version 2.0). These definitions are based on current usage by many CMP members, other conservation organizations, and planners in other disciplines. Some terms have been added or refined to clarify how CDFW uses them.

activity: a task needed to implement a strategy, and to achieve the objectives and the desirable outcomes of the strategy.

biodiversity: the full array of living things.

climate change vulnerability: refers to the degree to which an ecological system, habitat, or individual species is likely to be negatively affected as a result of changes in climate and often dependent on factors such as exposure, sensitivity, and adaptive capacity.

conservation: the use of natural resources in ways such that they may remain viable for future generations. Compare with preservation.

distribution: the pattern of occurrences for a species or habitat throughout the state; generally more precise than range.

driver: a synonym for factor.

ecosystem function: the operational role of ecosystem components, structure, and processes.

ecosystem health: the degree to which a biological community and its nonliving environmental surroundings function within a normal range of variability; the capacity to maintain ecosystems structures, functions, and capabilities to provide for human need.

ecosystem processes: the flow or cycling of energy, materials, and nutrients through space and time.

ecosystem: a natural unit defined by both its living and non-living components; a balanced system for the exchange of nutrients and energy. Compare with habitat.

endangered species: any species, including subspecies or qualifying distinct population segment, which is in danger of extinction throughout all or a significant portion of its range.

estuary: an area in which salt water from the ocean mixes with flowing fresh water, usually at the wide mouth of a river.

evaluation: an assessment of a project or program in relation to its own previously stated goals and objectives.

geographic information system (GIS): an organized assembly of people, data, techniques, computers, and programs for acquiring, analyzing, storing, retrieving, and displaying spatial information about the real world.

goal: a formal statement detailing a desired outcome of a conservation project, such as a desired future status of a target. The scope of a goal is to improve or maintain key ecological attributes. A good goal meets the criteria of being linked to targets, impact oriented, measurable, time limited, and specific.

habitat: where a given plant or animal species meets its requirements for food, cover, and water in both space and time. May or may not coincide with a single macrogroup, i.e., vegetated condition or aquatic condition. Compare with ecosystem.

impact: the desired future state of a conservation target. A goal is a formal statement of the desired impact.

landscape: the traits, patterns, and structure of a specific geographic area, including its biological composition, its physical environment, and its anthropogenic or social patterns. An area where interacting ecosystems are grouped and repeated in similar form.

listed: general term used for a taxon protected under the federal Endangered Species Act, the California Endangered Species Act, or the California Native Plant Protection Act.

monitoring: the periodic collection and evaluation of data relative to stated project goals and objectives. Many people often also refer to this process as monitoring and evaluation (abbreviated M&E).

native: naturally occurring in a specified geographic region.

outcome: an improved (and intended) future state of a conservation factor due to implementation of actions or strategies. An objective is a formal statement of the desired outcome.

output: a deliverable that can be measured by the activities and processes that will contribute to accomplishing the desired outcomes and goals.

population: the number of individuals of a particular taxon in a defined area.

preservation: generally, the nonuse of natural resources. Compare with conservation.

pressure: an anthropogenic (human-induced) or natural driver that could result in impacts to the target by changing the ecological conditions. Pressures can be positive or negative depending on intensity, timing, and duration. See also direct pressure and indirect pressure.

private land: lands not publicly owned, including private conservancy lands.

program: a group of projects which together aim to achieve a common broad vision. In the interest of simplicity, this document uses the term “project” to represent both projects and programs since these standards of practice are designed to apply equally well to both.

project: a set of actions undertaken by a defined group of practitioners – including managers, researchers, community members, or other stakeholders – to achieve defined goals and objectives. The basic unit of conservation work. Compare with program.

public: lands owned by local, state, or federal government or special districts.

result: the desired future state of a target or factor. Results include impacts which are linked to targets and outcomes which are linked to threats and opportunities.

riparian: relating to rivers or streams.

Species of Greatest Conservation Need (SGCN): all state and federally listed and candidate species, species for which there is a conservation concern, or species identified as being highly vulnerable to climate change.

stakeholder: any individual, group, or institution that has a vested interest in the natural resources of the project area and/or that potentially will be affected by project activities and have something to gain or lose if conditions change or stay the same. Stakeholders are all those who need to be considered in achieving project goals and whose participation and support are crucial to its success.

strategy: a group of actions with a common focus that work together to reduce pressures, capitalize on opportunities, or restore natural systems. A set of strategies identified under a project is intended, as a whole, to achieve goals, objectives, and other key results addressed under the project.

stress: a degraded ecological condition of a target that resulted directly or indirectly from pressures defined above (e.g., habitat fragmentation).

upland: referring to species, habitats, or vegetation types in non-flooded or non-saturated areas.

wetland: a general term referring to the transitional zone between aquatic and upland areas. Some wetlands are flooded or saturated only during certain seasons of the year. Vernal pools are one example of a seasonal wetland.

wildlife: all species of free-ranging animals, including but not limited to mammals, birds, fishes, reptiles, amphibians, and invertebrates.

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