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DRAFT CONSUMPTIVE AND RECREATIONAL USES COMPANION PLAN

Fall 2015



Photo Credit:

Left:

Lake Tahoe at D.L. Bliss State Park

Date: 5 January 2012

Photographer: Rick Cooper via English Wiki Commons

Right:

Paradise Royale Mountain Bike Trail System in California

Date: 27 August 2015

Photographer: Leslie Kehmeier via flickr

Prepared by Blue Earth Consultants, LLC



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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).

Table of Contents

<i>Acronyms and Abbreviations</i>	<i>iii</i>
<i>1. Introduction.....</i>	<i>1</i>
1.1 SWAP 2015 Statewide Goals	2
1.2 SWAP 2015 Companion Plans	2
Need for Partnerships.....	2
Companion Plan Purpose and Sector Selection	2
Companion Plan Development	3
Companion Plan Content	4
<i>2. Consumptive and Recreational Uses Sector</i>	<i>4</i>
2.1 Consumptive and Recreational Uses in California	4
2.2 Current Management and Conservation Efforts Related to Consumptive and Recreational Uses in California	5
<i>3. Common Themes across Nine Sectors.....</i>	<i>8</i>
3.1 Climate Change Related Issues.....	8
3.2 Integrated Regional Planning.....	8
<i>4. Commonly Prioritized Pressures and Strategy Categories across Sectors</i>	<i>9</i>
4.1 Pressures across Sectors	10
4.2 Strategy Categories across Sectors	11
<i>5. Consumptive and Recreational Uses Priority Pressures and Strategy Categories</i>	<i>11</i>
5.1 Priority Pressures	12
5.2 Priority Strategy Categories	12
<i>6. Collaboration Opportunities for Joint Priorities</i>	<i>14</i>
6.1 Alignment Opportunities by Jurisdiction and Locality	14
6.2 Collaboration Opportunities and Potential Resources by Strategy Category	15
<i>7. Evaluating Future Collaboration Efforts.....</i>	<i>18</i>
7.1 Desired Outcomes and Outputs	18
7.2 Evaluating Implementation Efforts.....	19
<i>8. Next Steps</i>	<i>20</i>
<i>9. Closing</i>	<i>21</i>
<i>Appendices.....</i>	<i>22</i>



Appendix A: List of Potential Partners and Coordination Bodies	22
Appendix B: Plans, Strategies, and Documents Identified by the Development Team	25
Appendix C: CDFW Companion Plan Management Team	28
Appendix D: Consumptive and Recreational Uses Companion Plan Development Team Members and Affiliations.....	29
Appendix E: Glossary	30
<i>References.....</i>	33

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Acronyms and Abbreviations

AB	Assembly Bill
AFWA	Association of Fish and Wildlife Agencies
AIS	Aquatic Invasive Species
BLM	U.S. Bureau of Land Management
Blue Earth	Blue Earth Consultants, LLC
BMP	Best Management Practices
CAL FIRE	California Department of Forestry and Fire Protection
CalEPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CBC	California Biodiversity Council
CCC	California Coastal Commission
CDBW	California Division of Boating and Waterways
CDFA	California Department of Food and Agriculture
CDFG	California Department of Fish and Game
CDFW/the Department	California Department of Fish and Wildlife
Ch.	Chapter
CNRA	California Natural Resources Agency
DNA	Deoxyribonucleic Acid
DOI	U.S. Department of Interior
DRECP	Desert Renewable Energy Conservation Plan
DWR	California Department of Water Resources
EIP	Environmental Improvement Program
ER	Ecological Reserve
GIS	Geographic Information Systems
HCF	Habitat Conservation Fund Program
HCP	Habitat Conservation Plan
IMBA	International Mountain Biking Association
KEA	Key Ecological Attribute
LCC	Land Conservation Cooperative
MOU	Memorandum of Understanding
MPA	Marine Protected Area
NASA	National Aeronautics and Space Administration
NCCP	Natural Community Conservation Plan
NGO	Non-governmental Organization
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
NSF	National Science Foundation
OHV	Off-road Vehicle
QAQC	Quality Control/Quality Assurance
RAMP	Regional Advance Mitigation Planning



RCD	Resource Conservation District
RMEF	Rocky Mountain Elk Foundation
SACOG	Sacramento Area Council Governments
SANDAG	San Diego Association of Governments
SCAG	Southern California Association of Governments
SGC	Strategic Growth Council
SGCN	Species of Greatest Conservation Need
State Parks	California Department of Parks and Recreation
SWAP	State Wildlife Action Plan
SWG	State and Tribal Wildlife Grants
SWRCB	State Water Resources Control Board
TRPA	Tahoe Regional Planning Agency
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
WA	Wildlife Area
WCB	Wildlife Conservation Board



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, 2015b; 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, 2015b; 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, 2015b; 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

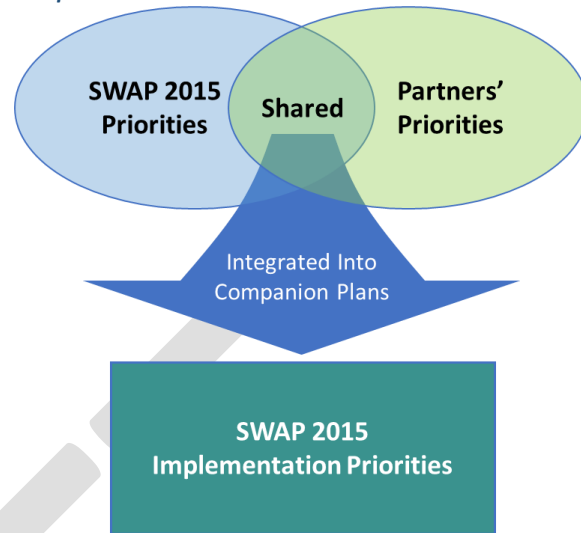
Companion Plan Purpose and Sector Selection

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 Strategy¹ 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

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.



CDFW staff and development team members, who represented a cross section of sector interests and 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. Consumptive and Recreational Uses Sector

2.1 Consumptive and Recreational Uses in California

California's natural heritage is a deeply valued part of most Californians' lives. Whether hunting, hiking, fishing, or exploring tide-pools, citizens of California recreate, meditate, and work in nature, in greater numbers than in any other state. Our Mediterranean climate and diversity of ecotypes and wildlife allow for year round use and enjoyment of our mountains, forests, deserts, beaches, oceans, grasslands, rivers, lakes, and streams. **Consumptive uses** of wildlife and natural resources include extractive uses

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.

such as fishing, hunting, mining, timber harvest, and water diversions, all of which utilize wildlife and natural resources by removing a certain amount of them from the environment (Chardonnet et al., 2002). **Recreational uses**, in contrast, are activities that do not extract a resource, such as nature and wildlife viewing, beach-going, kayaking, biking, wildlife photography, and hiking, where the activity allows for appreciation of the wildlife without removing the resource from the environment (Chardonnet et al., 2002). However, this definition does not preclude other impacts (such as disturbance during nesting seasons or displacement of animals during critical periods such as fawning or lambing) from occurring during strictly recreational uses.

The State's natural resources offer many diverse opportunities for consumptive and recreational uses. Some examples include State owned and/or operated parks, beaches, recreation areas, wildlife areas (WAs), ecological reserves (ERs), marine protected areas (MPAs) and off-highway vehicle (OHV) parks. At the Federal level there are national forests, wilderness areas, national parks, and wildlife refuges. In addition, there are hundreds of city and county parks, forests, and beaches. More than 60 million people visit the 279 parks, beaches, trails, WAs, marinas, open spaces, OHV areas, and historic sites managed by California Department of Parks and Recreation (State Parks) (State Parks, 2015). These areas provide convenient access to recreational activities that people value; thus, they also provide economic benefits to the State. In a 2011 survey, 7.8 million California residents and nonresidents 16 years and older spent \$7.5 billion on wildlife recreation, including fishing, hunting, and wildlife watching (U.S. Department of the Interior [DOI] et al., 2011). Although these numbers do not include commercial fishers or others who rely on California's wildlife and natural resources for their livelihoods, another 2012 report estimated California's commercial and recreational fishing industry total sales at \$25.7 billion, reflecting a total of 158,000 jobs (National Oceanic and Atmospheric Administration [NOAA] Office of Science and Technology, 2012). In addition to the extensive use of California's wildlife and natural resources, there is an associated need to conserve and protect the intrinsic value of these resources and ensure their sustainable use.

2.2 *Current Management and Conservation Efforts Related to Consumptive and Recreational Uses in California*

Many State partners place an emphasis on conserving natural and cultural heritage while simultaneously enhancing opportunities for recreation. For example, the mission of the State Parks is "to provide for the health, inspiration, and education of the people of California by helping to preserve the State's extraordinary biological diversity, protecting its most valued natural and cultural resources, and creating opportunities for high-quality outdoor recreation" (State Parks, 2010). The Management Plan for San Onofre's Trestles Wetlands Natural Preserve includes several examples of the consumptive, recreational, and cultural uses of the area. The plan accounts for use by the Juaneño or Acjachemen, who now identify as the Juaneño Band of Mission Indians and also currently monitors a few historic resources remaining in the area (State Parks, 2011). In addition, the plan highlights the historic popularity of surfing at San Onofre since the early 1930s, which continues today (State Parks, 2011).

Under the SWG program, the Federal grant program associated with SWAP, CDFW investigated the interaction of recreation and ecosystems. One of the grant projects explored the effects of human use



on reptile and mammalian species within Natural Community Conservation Plan (NCCP) Reserves in San Diego County (CDFW, 2014). Another SWG project titled “California Species and Natural Communities Monitoring and Assessment Project” investigated species distribution and abundance changes due to anthropogenic factors throughout the State (CDFW, 2014). By better understanding the impacts of recreational activities on wildlife, recreational activities can be better managed and become more compatible with wildlife and habitat conservation.

Conservation activities addressed under the SWAP 2005 included improving recreation programs that promote wildlife resources. Under the Colorado Desert Region, there was a recommendation to develop a comprehensive Southern California Outdoor Recreation Program that integrated wildlife habitat needs and recreational access (California Department of Fish and Game [CDFG], 2005). Similarly, SWAP 2015 also includes a strategy to provide resources and coordinate efforts with partners to eradicate or control invasive species and prevent new introductions (CDFW, 2015b; Ch. 1.3.1). To support wildlife conservation programs, both SWAP 2005 and SWAP 2015 recommend implementation of recreation fees and taxes beyond fishing and hunting licenses that would allow non-consumptive recreationalists to contribute to conservation and management of the resources they use and enjoy (CDFG, 2005; CDFW, 2015b; Ch. 2.5.2). Many WAs are managed primarily for the benefit of hunting and fishing access, providing hunting opportunities for waterfowl and upland species. ERs are managed for protection of rare species and habitats, although both wildlife areas and ecological reserves provide opportunities for bird-watching, hiking, and canoeing.

Text Box 4. Collaborative Conservation Effort Examples in the Consumptive and Recreational Uses Sector

There are numerous collaborative conservation and management efforts found in California. Below we share three examples related to consumptive and recreational uses in the State. These examples demonstrate existing conservation efforts that align with SWAP 2015. The partners addressed in each description are indicated in **bold**.

- Collaborating with Local Communities to Protect Threatened Species:* **State Parks** is currently supporting local conservation projects under the Habitat Conservation Fund (HCF) Program. The program provides funds to California cities, counties, and districts to implement projects to protect threatened species, maintain wildlife corridors, create trails, and create new interpretative opportunities for public use (State Parks, 2013). For example, in 2014 the **City of Barstow** was approved for \$200,000 (with funds to be matched by the City) to acquire approximately 240 acres of Desert Tortoise protected habitat. The Desert Tortoise is a State- and Federally-designated threatened species that is being constrained by current and future urban development. The **City of Barstow** identified a parcel of land with high value tortoise habitat that was threatened by potential future property development, and used the HCF grant and matching funds to purchase this land from the property owner and designate it as an open space/resource conservation area (City of Barstow, 2014).
- Conserving Ranchland and Species while Creating Hunting Opportunities:* In FY 2014/2015, **CDFW** partnered with the **Rocky Mountain Elk Foundation (RMEF)** and the **California Rangelands Trust** to procure a conservation easement of the approximately 12,500 acre **Avenales Ranch** in San Luis Obispo County. The ranch is home to over 30 species of special concern, such as the yellow warbler, California spotted owl, and the Pacific pond turtle, and it also provides habitat for tule elk, black bears, and mule deer. **CDFW** supported the effort through a \$100,000 Big Game Management Account to assist in the purchase of the easement. The easement will help provide habitat for threatened species and preserve wildlife values for big game species present on the ranch, while also protecting the area from future development and demands on the water resources of the ranch (CDFW, 2014).
- Managing Aquatic Invasive Species in Lake Tahoe:* In 2014, the **Tahoe Regional Planning Agency (TRPA)** led a coordinated effort to update the Lake Tahoe Aquatic Invasive Species (AIS) Management Plan. AIS threaten the economic, environmental, and aesthetic value of this important resource to California and Nevada. To update the plan, the **TRPA** coordinated with the Lake Tahoe AIS Coordinating Committee, made up of multiple **State, Federal, and non-governmental** partners such as **CDFW, State Parks, Nevada Department of Wildlife, Nevada Division of State Lands, TRPA, USFWS**, and others. The main goals of the plan are to prevent new introductions of AIS to the region and to limit the spread of existing AIS (TRPA, 2014). The updated plan has been approved by the Federal interagency **Aquatic Nuisance Species Task Force** and endorsed by the **Governors of Nevada and California** and the **TRPA** executive director.

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, 2015b; 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, 2015b; 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, Habitat Conservation Plans (HCPs), Habitat Connectivity Planning for Fish and Wildlife,⁷ 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 Conservation⁸ process and applied it to each targeted ecosystem to identify strategies that could influence key ecosystem pressures (CDFW, 2015b; 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

⁷ For more information, see: CDFW, "Habitat Connectivity Planning for Fish and Wildlife," 2015. Web. 27 Oct. 2015. www.wildlife.ca.gov/Conservation/Planning/Connectivity.

⁸ 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/>.

discussion themes (for pressures) and by counting the frequency of the prioritization (for strategy categories) across the sectors.

4.1 Pressures 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, 2015b 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, 2015b; Ch. 1.5.4). Table 1 lists the 29 standard pressures addressed under SWAP 2015 (CDFW, 2015b; Ch. 1.5.4).

Table 1. SWAP 2015 Pressures

<ul style="list-style-type: none"> • Agricultural and forestry effluents • Air-borne pollutants • Annual and perennial non-timber crops • Catastrophic geological events • Climate change • Commercial and industrial areas² • 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 areas² • Industrial and military effluents^{4, 5} • Introduced genetic material • Invasive plants/animals 	<ul style="list-style-type: none"> • Livestock, farming, and ranching • Logging and wood harvesting • Marine and freshwater aquaculture • Military activities • Mining and quarrying • Other ecosystem modifications⁶ • Parasites/pathogens/diseases • Recreational activities • Renewable energy • Roads and railroads • Shipping lanes⁷ • Tourism and recreation areas • Utility and service lines • Wood and pulp plantations
<p>Pressures include the following:</p> <ol style="list-style-type: none"> 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, 2015b; 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 consumptive and recreational uses sector, please refer to Section 5.1 below.

4.2 Strategy Categories 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, 2015b; 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, 2015b; Ch. 4.2).

Table 2. SWAP 2015 Conservation Strategy Categories

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

(CDFW, 2015b; 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 consumptive and recreational uses sector are described in Section 5.2 below.

5. Consumptive and Recreational Uses Priority Pressures and Strategy Categories

There are many challenges to conservation and management of California’s wildlife and natural resources. Declining budgets, outdated administrative systems and technologies, and maintenance needs are some examples of challenges the sector faces. As identified in SWAP 2015, the pressure from excessive and uncontrolled recreational activities in tourism and recreation areas affects this sector (CDFW, 2015b; Ch. 2.5.2). Likewise, stresses such as habitat fragmentation, changes in spatial distribution of habitat types, and ecosystem impacts from invasive species can drive the need for conservation activities within this sector. Each of these challenges can also be seen as a future opportunity for improvement and offer leveraging efforts outlined in SWAP 2015 to achieve mutual successes (Parks Forward, 2015). Activities and strategies to address these challenges may include data gathering and analysis, integrated resource management, and partnership establishment.

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, 2015b; 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

Recreational activities – Recreational activities such as hiking, picnicking, mountain biking, off-highway vehicle driving, and horseback riding involve a large number of users, including both residents and visitors. For sensitive species, even a few visitors can lead to habitat degradation or loss. Uses that may result in habitat degradation or loss include people spending time in nature or travelling in vehicles outside of established transport corridors, usually for recreational reasons, which include motorboats, jet-skis, snowmobiles, ultralight planes, dive and whale watching boats, birdwatchers, skiers, pets in recreational areas, temporary campsites, caving, and rock-climbing. The potential ecological impacts of these activities are diverse, including direct kill of species, soil compactification, erosion, and water, light, and noise pollution.

Tourism and recreation areas – Concentrated recreational activities in highly sensitive areas such as streams, coastal habitats, and riparian zones by tourists and recreationalists can damage these systems by reducing vegetative cover, compacting soil, disturbing biotic soil crusts (i.e., cryptogams), increasing soil destabilization and erosion, disturbing breeding and foraging areas, contaminating natural lands and waterways through inappropriate disposal of trash and human waste, and introducing non-native species. Indirect impacts may also occur to natural areas through increased development of recreational access points and supporting infrastructure such as roads, visitor facilities, and campgrounds. This includes tourism and recreation sites with a substantial footprint such as ski areas, golf courses, beach resorts, cricket fields, county parks, and campgrounds.

5.2 Priority Strategy Categories

Highlighted below are the top three strategy categories the development team selected and are listed in alphabetical order – **Data Collection and Analysis**, **Management Planning**, and **Partner Engagement**. 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, 2015b; 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 includes data compilation, management, synthesis, analysis, and reporting of spatial and non-spatial data. It also includes stand-alone research conducted to fill basic knowledge gaps and does not include research that is a minor component of implementing another action. Robust data and thorough analysis can help facilitate more effective implementation of conservation strategies under other categories.

- Example strategies include: collecting baseline and long-term data for conservation targets; conducting research to design more effective conservation strategies; and conducting comprehensive ecological assessments on individual species, guilds, and ecosystems.
- Conservation activities include: collecting geographic information system (GIS) data; estimating game populations through DNA analysis; and integrating mutual data parameters for web portal databases.

Management Planning – Management planning is the development of management plans for species, habitats, natural processes, or for infrastructures or socio-economic activities that have influence on the ecosystem health. Consideration of ecosystem needs in the management plan could lead to enhance ecological conditions or reduce negative impacts when the actual management occurs based on the specifications in the management plan.

- An example strategy is developing and implementing existing management plans and integrating them into resource management.
- Conservation activities include: holding public meetings for all general management plans; coordinating with other partners for funding and implementation of land management plans; updating invasive species plans; and implementing best management practices (BMPs).

Partner Engagement – Partner engagement is the process for engaging and developing collaboration among State and Federal agencies, Tribes and tribal communities, non-governmental organizations, private landowners, and other partners to achieve shared objectives and enhance coordination across jurisdictions and areas of interest.

- Example strategies include establishing partnerships and maintaining partnership presence.
- Conservation activities include: developing memorandums of understanding (MOUs) with other partners; expanding numbers and types of partnerships; and working with adjacent landowners.

Text Box 5. Identified Pressures and Strategies for Future Consideration

SWAP 2015 describes in describes the potential impacts of the 29 major pressures (Table 1) on the State’s ecosystems (CDFW, 2015b; 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 the top priorities under SWAP 2015 in regards to consumptive and recreational uses sector.¹ At this time, the team did not identify additional strategies for consideration.

Pressures

- Demographic change and population growth
- Development and land use change
 - Renewable energy development
- Financial resources for recreation facilities
- Fuel and timber management
- Illegal activities (e.g., marijuana growing)
- Irresponsible recreation
 - Off-highway vehicle restrictions and impacts
 - Shrinking activities/opportunities
- Water quality

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.⁹ 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, 2015b; 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.

Federal

Plans identified in this category typically draw upon national guidance reflecting the goals and strategies of Federal agencies and organizations. For example, the U.S. Forest Service (USFS) has several types of conservation and management plans such as the *Land Management Plan for the Lake Tahoe Basin Management Unit* and the *2012 Planning Rule Directives* and the U.S. Marine Corps Base Camp Pendleton has the *Integrated Natural Resources Management Plan*. The Bureau of Land Management (BLM) has several types of plans that help guide actions in the State, including its *Resource Management Plans for California's Public Lands* and *West Mojave Plan*. Although these plans guide Federal agency interventions, they also play a key role in how these agencies engage 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, resources 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* and *California Aquatic Invasive Species Management Plan*, State Parks' *General Planning Handbook* and *Natural Parks Report*, and California Natural Resources Agency's (CNRA) *California Water Action Plan*.

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

⁹ This is not an exhaustive list of sector plans and strategies in alignment with SWAP 2015 goals.

companion plan and SWAP 2015. At a regional level, NCCPs, HCPs, and county general plans 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. 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 areas, zoning such areas as open space, or identifying key habitat areas characterizing 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 International Mountain Bicycling Association's (IMBA) *Managing Mountain Biking: IMBA's Guide to Providing Sweet Riding* and Shimano's *Planning & Managing Environmentally Friendly Mountain Bike Trails*.

6.2 Collaboration Opportunities and Potential Resources by Strategy Category¹⁰

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.¹¹ 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.

¹⁰ 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.

¹¹ **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		
<p><u>Regional</u></p> <ul style="list-style-type: none"> Collect field data with a regional focus Conduct species surveys to inform regional efforts Rewrite management plans based on new data and regional focus <p><u>Local/Site-specific</u></p> <ul style="list-style-type: none"> Analyze data in ecological restoration projects Assess water quality and benthic parameters Collect GIS information and develop an evaluation methodology for improving ecological conditions Consider recreational pressures when developing conservation strategies Focus on water quality and seasonal invasive species data Integrate a quality control/quality assurance (QAQC) strategy for web portal databases Manage property and site conditions, roads and trails, and water and ecological monitoring Meet water quality standards for multiple water uses Survey recreational efforts Use deoxyribonucleic acid (DNA) analysis to estimate game populations 	<p><u>Federal</u></p> <ul style="list-style-type: none"> Military Groups National Aeronautics and Space Administration (NASA) U.S. Department of Agriculture (USDA) <p><u>State</u></p> <ul style="list-style-type: none"> CA Department of Food and Agriculture (CDFA) CA Environmental Protection Agency (CalEPA) CA State University, Sacramento CA Tahoe Conservancy CDFW CNRA Delta Conservancy Delta Protection Commission Delta Stewardship Council University of California, Davis WCB <p><u>Local/County</u></p> <ul style="list-style-type: none"> The Nature Reserve of Orange County <p><u>NGO/Foundation</u></p> <ul style="list-style-type: none"> Citizen science groups Consultants IMBA 	<p><u>Federal</u></p> <ul style="list-style-type: none"> BLM Bureau of Reclamation National Science Foundation (NSF) U.S. Army Corps of Engineers (USACE) <p><u>State</u></p> <ul style="list-style-type: none"> CDFW Grant Programs (e.g., Big Game Management Account, Upland Game Bird Account, and California Duck Stamp) Proposition 1 Proposition 84 SWRCB <p><u>Non-governmental</u></p> <ul style="list-style-type: none"> Berryessa Snow Mountain Campaign Bodie Hills Conservation Partnership CA Deer Association CA Waterfowl Association Deserts Forever Ducks Unlimited IMBA National Wild Turkey Association Rocky Mountain Elk Foundation
Priority Strategy: Management Planning		
<p><u>Local/Site-specific</u></p> <ul style="list-style-type: none"> Develop management plans for different needs (e.g., vegetation, cultural resources) Engage with local groups for park resource conservation Hold public meetings for all general plans 	<p><u>Federal</u></p> <ul style="list-style-type: none"> NOAA Fisheries USDA Invasive Weeds Task Force USFS USFWS <p><u>State</u></p> <ul style="list-style-type: none"> CA Coastal Commission (CCC) CA Tahoe Conservancy 	<p><u>Federal</u></p> <ul style="list-style-type: none"> BLM Federal Task Forces USACE USFS USFWS Urban Wildlife Refuge Initiative Team <p><u>State</u></p>

Example Conservation Activities	Example Potential Partners	Example Potential Financial Resources
<ul style="list-style-type: none"> Identify appropriate survey protocols and analysis procedures Identify habitat management practices beneficial to specific species Implement aquatic invasive species management plans Implement strategic and operational plans with goals, objectives, and deliverables Manage SGCN in different service aspects of waterways (e.g., environmental, public health, and economic areas) Package BMPs to be readily available for managers Revise plans for mobilizing recreation community to increase support and lessen conflicts through understanding and collaboration Support working groups on adaptive management actions 	<ul style="list-style-type: none"> CDFW County Fish and Game Commissions Delta Plan Implementation Committee Invasive Species Council of CA State Parks State Water Resources Control Board (SWRCB) <p><u>Local/County</u></p> <ul style="list-style-type: none"> Resource Conservation Districts (RCDs) <p><u>NGO/Foundation</u></p> <ul style="list-style-type: none"> Consultants 	<ul style="list-style-type: none"> CA Division of Boating and Waterways (CDBW) CA State Lands Senate Bill 630 Operational support budget CDFW Grant Programs (e.g., Big Game Management Account, Upland Game Bird Account, and CA Duck Stamp) Proposition 1, 84 SWRCB <p><u>Non-governmental</u></p> <ul style="list-style-type: none"> Berryessa Snow Mountain Campaign Bodie Hills Conservation Partnership CA Deer Association CA Waterfowl Association Deserts Forever Ducks Unlimited IMBA National Wild Turkey Association Park Associations Rocky Mountain Elk Foundation
Priority Strategy: Partner Engagement		
<p><u>Statewide</u></p> <ul style="list-style-type: none"> Drive partnerships with statewide leadership Partner with national entities <p><u>Regional</u></p> <ul style="list-style-type: none"> Coordinate at the regional level <p><u>Local/Site-specific</u></p> <ul style="list-style-type: none"> Collaborate with local regulatory water managers Collect public input during management plan development Engage in working groups to optimize regional actions Expand numbers and types of partnerships Implement general MOUs to achieve common goals Prioritize partnership roles Report to advisory committees Work with adjacent landowners 	<p><u>State</u></p> <ul style="list-style-type: none"> CA Tahoe Conservancy CBC CDFW CNRA Delta Protection Commission Delta Stewardship Council DWR Sacramento Delta-San Joaquin Conservancy State Parks SGC <p><u>Local/County</u></p> <ul style="list-style-type: none"> Sacramento Area Council Governments (SACOG) San Diego Association of Governments (SANDAG) Southern CA Association of Governments (SCAG) <p><u>NGO/Foundation</u></p> <ul style="list-style-type: none"> Berryessa Snow Mountain Campaign 	<p><u>Federal</u></p> <ul style="list-style-type: none"> USACE USFWS <p><u>State</u></p> <ul style="list-style-type: none"> CA Department of Transportation (Caltrans) CA Tahoe Conservancy CDBW Coastal Beach Erosion Grant CDFW Grant Programs (e.g., Big Game Management Account, Upland Game Bird Account, and CA Duck Stamp) <p><u>Non-governmental</u></p> <ul style="list-style-type: none"> Berryessa Snow Mountain Campaign Bodie Hills Conservation Partnership CA Deer Association CA Waterfowl Association Deserts Forever Ducks Unlimited IMBA National Wild Turkey Association Rocky Mountain Elk Foundation

Example Conservation Activities	Example Potential Partners	Example Potential Financial Resources
	<ul style="list-style-type: none"> • Bodie Hills Conservation Partnership • CA Deer Association • CA Waterfowl Association • Deserts Forever • Ducks Unlimited • IMBA • National Wild Turkey Association • Rocky Mountain Elk Foundation 	

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 consumptive and recreational uses 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, 2015b; 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

- Quantifiable, reportable, and defensible data collection and analysis increased for activities related to the goals and objectives of SWAP 2015 and companion plans. Performance measures, questions, and scope identified for and applied to all data collection and analysis activities (e.g., What is the question we are trying to ask? What previous or existing condition are we trying to restore to? What are we trying to achieve?); results shared with decision-makers and funders.
- Adaptive management framework incorporated into data collection efforts and trends identified to allow for adapting future management activities.
- Uniform assessment standards for reporting data on existing ecosystem function and conditions implemented to encourage consistent standardized data collection across agencies and increase availability of comparable data across watersheds (e.g., efforts of the California Biodiversity Council).

- Data on relative recreational use levels collected and analyzed to promote consideration of the impacts of external forces on species and habitats.

Management Planning

- Various management plans aligned to identify consistency among goals and priorities that contribute to achieving the goals and objectives of SWAP 2015 and companion plans.
- Implementation and work plans developed and agreed upon by partners (e.g., State Parks and CDFW) to ensure implementation and BMPs of conservation activities.

Partner Engagement

- Partnerships across all sectors leveraged to promote collaborative resource management and common goals (e.g., the boating community and the water management community) and existing partnerships highlighted and supported through commitments, documents, and management plans.
- Mechanisms for sustaining partnerships (e.g., performance measures) identified and implemented so that partnerships transcend and are sustained beyond changes in personnel and organizational leadership (e.g., through agreed upon messages/goals that are formalized within partnerships).

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, 2015b; 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, 2015b; 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, 2015b; 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 four categories which were used to organize the information: Partnership and Collaboration; Human and Financial Resources; Communication and Outreach; and Monitoring, Evaluation, and Adaptive Management.

Partnership and Collaboration

- Institute mechanisms to keep development team members in contact and engaged (e.g., quarterly meetings, conference calls, sharing lists of members' contact information).
- Encourage partners to use the companion plans as a reference to help prioritize and integrate projects and form partnerships of mutual benefit and support.
- Encourage partners to share data on project progress and activities through grant programs that support data sharing platforms (e.g., TRPA Environmental Improvement Program [EIP] website that includes accountability and progress reporting or through designing a pilot project for partnership on data collection and analysis, brief website updates and chat rooms). Support existing platforms for data sharing and coordination (e.g., CBC efforts on shared indicators and the DRECP).

Human and Financial Resources

- Identify and implement mechanisms to incorporate the companion plans into the budget planning cycle to ensure partners' ability to request funds to carry out projects and activities.
- Engage and strengthen internal support for grant writers across agencies to ensure SWAP 2015 and companion plan goals are addressed and reflected in grants and projects for funding.
- Identify potential funding sources for partners with limited financial resources (e.g., State Parks and WAs).

Communication and Outreach

- See 3rd bullet under Partnership and Collaboration.

Monitoring, Evaluation, and Adaptive Management

- Coordinate annual review meetings focused on assessing the progress toward the companion plans' desired outcomes and outputs to ensure continued review of the plans and allow for plan updates.

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.

DRAFT

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	Management Planning	Partner Engagement
American Federation of Mineralogical Societies			✓
American Whitewater			✓
Aquatic Centers			✓
Berryessa Snow Mountain Campaign			✓
Bodie Hills Conservation Partnership			✓
CA Association of 4WD Clubs			✓
CA Biodiversity Council (CBC)			✓
CA Coastal Commission (CCC)		✓	✓
CA Council of Land Trusts			✓
CA Deer Association			✓
CA Department of Fish and Wildlife (CDFW)	✓	✓	✓
CA Department of Food and Agriculture (CDFA)	✓		✓
CA Department of Forestry and Fire Protection (CAL FIRE)			✓
CA Department of Parks and Recreation (State Parks) <ul style="list-style-type: none"> Roads and Trails Program Division of Boating and Waterways Off Highway Vehicle Association 	✓	✓	✓
CA Department of Water Resources (DWR)			✓
CA Environmental Protection Agency (CalEPA)	✓		✓
CA Federation of Mineralogical Societies			✓
CA Four Wheel Drive Association, Inc.			✓
CA Natural Resources Agency (CNRA)	✓		✓
CA Off-Road Vehicle Association			✓
CA State Lands Commission			✓
CA State University – Water Department	✓	✓	✓
CA Tahoe Conservancy	✓	✓	✓
CA Waterfowl Association			✓
Caltrout	✓		✓
County Fish and Game Commissions		✓	✓
Delta Conservancy	✓		✓

Potential Partners/Coordination Bodies	Data Collection and Analysis	Management Planning	Partner Engagement
Delta Plan Implementation Committee		✓	✓
Delta Protection Commission	✓		✓
Delta Stewardship Council	✓		✓
Ducks Unlimited			✓
Foundation for North American Wild Sheep			✓
Invasive Species Council of CA		✓	✓
Local Counties/Cities	✓	✓	✓
Local/Regional Gem and Mineralogical Societies <ul style="list-style-type: none"> • Rock Hounds 			✓
Marina Recreation Association			✓
Mule Deer Association			✓
National Aeronautics and Space Administration (NASA)	✓		✓
National Oceanic and Atmospheric Administration (NOAA) Fisheries		✓	✓
National Off-Highway Vehicle Conservation Council			✓
National Park Service (NPS)			✓
National Science Foundation (NSF)	✓		✓
National Wild Turkey Association			✓
Nonprofits related to bike trails/mountain bike group	✓	✓	✓
Outdoor Alliance			✓
Pheasants/Quail Forever			✓
Private Agencies			✓
Recreational Boaters of CA			✓
Resource Conservation Districts (RCDs) <ul style="list-style-type: none"> • Tahoe RCD 		✓	✓
Rocky Mountain Elk Foundation			✓
Sacramento Area Council Governments (SACOG)			✓
Sacramento Delta-San Joaquin Conservancy			✓
San Diego Association of Governments (SANDAG)			✓
Sierra Nevada Conservancy			✓
Southern CA Association of Governments (SCAG)			✓
Southern CA Coastal Water Research Project	✓		✓
State Water Resources Control Board (SWRCB)	✓	✓	✓
Aquatic Invasive Species (AIS) Working Group	✓	✓	✓
Tahoe Yellow Cress Adaptive Management Working Group	✓	✓	✓
Upper Truckee River Watershed Advisory Group	✓	✓	✓
Strategic Growth Council (SGC)			✓
Tahoe Regional Planning Agency - Environmental Improvement Program (EIP)	✓	✓	✓

Potential Partners/Coordination Bodies	Data Collection and Analysis	Management Planning	Partner Engagement
U.S. Army Corps of Engineers (USACE)			✓
U.S. Bureau of Land Management (BLM)			✓
U.S. Coast Guard			✓
U.S. Department of Agriculture (USDA) <ul style="list-style-type: none"> • Agriculture Research Center • Invasive Weeds Task Force 	✓	✓	✓
U.S. Fish and Wildlife Service (USFWS)		✓	✓
U.S. Forest Service (USFS)	✓	✓	✓
University of CA, Davis - Center for Watershed Studies	✓	✓	✓
Water Districts			✓
Wildlife Conservation Board (WCB)	✓		✓

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

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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

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Appendix D: Consumptive and Recreational Uses Companion Plan Development Team Members and Affiliations

Affiliation	Participant
California Department of Boating and Waterways	Edward Hard
California Department of Fish and Wildlife	Craig Stowers
California Department of Parks and Recreation	Laurie Archambault
California Department of Parks and Recreation - Orange Coast District	Julie Tobin
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Appendix E: Glossary

Most terms in this section originate from the glossary in the Conservation Measures Partnership's Open Standards for the Practice of Conservation (Version 2.0). These definitions are based on current usage by many Conservation Measures Partnership 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.

adaptive management: the incorporation of a formal learning process into conservation action. Specifically, it is the integration of project design, management, and monitoring, to provide a framework to systematically test assumptions, promote learning, and supply timely information for management decisions.

anthropogenic: resulting from the influence of humans on nature.

biodiversity: the full array of living things.

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.

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.

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

fragmentation: the process by which a contiguous land cover, vegetative community, or habitat is broken into smaller patches within a mosaic of other forms of land use/land cover; e.g., islands of an older forest age class immersed within areas of younger-aged forest, or patches of oak woodlands surrounded by housing development.

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.

invasive: an introduced species which spreads rapidly once established and has the potential to cause environmental or economic harm. Not all introduced species are invasive.

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.

objective: a formal statement detailing a desired outcome of a conservation project, such as reducing a critical pressure. 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. A good objective meets the criteria of being: results oriented, measurable, time limited, specific, and practical. If the project is well conceptualized and designed, realization of a project's objectives should lead to the fulfillment of the project's goals and ultimately its vision. Compare to vision and goal.

opportunity: a factor identified in an analysis of the project situation that potentially has a positive effect on one or more targets, either directly or indirectly. Often an entry point for conservation actions. For example, "demand for sustainably harvested timber." In some senses, the opposite of a threat.

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.

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.

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.

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).

watershed: defined here as a stream or river basin and the adjacent hills and peaks which "shed," or drain, water into it.

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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