



CONSUMPTIVE AND RECREATIONAL USES COMPANION PLAN

December 2016



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



December 2016

Disclaimer:

Although 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 the California Department of Fish and Wildlife leadership team and staff; the California Fish and Game Commission; cooperating state, federal, and local government agencies and organizations; California Tribes and tribal governments; and various partners (such as non-governmental organizations, academic research institutions, and citizen scientists).



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Acronyms and Abbreviations

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	California Department of Fish and Wildlife
CDPR	California Department of Parks and Recreation
CDWR	California Department of Water Resources
Ch.	Chapter
CNRA	California Natural Resources Agency
DNA	Deoxyribonucleic Acid
DOI	U.S. Department of Interior
DRECP	Desert Renewable Energy Conservation Plan
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-highway 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
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; see Text Box 1) provides a vision and a framework for conserving California’s diverse natural heritage. SWAP 2015 also calls for the development of a collaborative framework to sustainably manage ecosystems across the state in balance with human uses of 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 undertook the preparation companion plans for SWAP 2015. While this document reports

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) as defined by 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, matched with approximately \$19 million in state government support for 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). 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

on the progress made thus far on collaboration, the intent is to set a stage for achieving the conservation priorities through continued partnerships and by mutually managing and conserving the state’s natural and cultural resources. Text Box 2 highlights important definitions for SWAP 2015 and the companion plan process.

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): An aspect of a target’s biology or ecology that, if present, defines a healthy target and, if missing or altered, would lead to 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.

Target: Same as *conservation target* defined above.

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 as defined in SWAP 2015.

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 2015)



1.1 SWAP 2015 Statewide Goals

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

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, that affect 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 (see Text Box 3) were created collaboratively with partners and will be instrumental in implementing SWAP 2015 (See Appendix D).

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

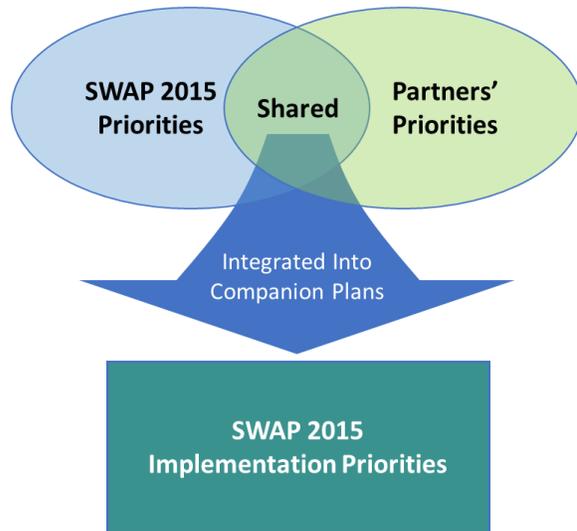
Companion plans present shared priorities identified among SWAP 2015 and partners involved in the companion plan development. Figure 1 illustrates how, through collaboration with partner organizations, shared priorities come together in the companion plans and become elevated as implementation priorities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

The companion plans respond to feedback from many sources, including CDFW staff and partners involved in 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 are also aligned with the National Fish, Wildlife, and Plants Climate Adaptation Strategy (U.S. Fish and Wildlife Service [USFWS] 2012), which emphasizes increased partner engagement as a best practice in climate change adaptation. Developing the companion plans also

directly helps CDFW comply with recently enacted legislation, 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” (CDFW 2015b).

CDFW selected sector categories based on the department’s needs as well as the themes identified in other existing plans, including the 2009 California Climate Adaptation Strategy (California Natural Resources Agency [CNRA] 2009), the 2014 Safeguarding California Plan (CNRA 2014), The President’s Climate Action Plan (Executive Office of the President 2013), and the National Fish, Wildlife, and Plants Climate Adaptation Strategy (USFWS 2012).

Figure 1: Aligning SWAP 2015 and Partner Priorities



Companion Plan Development

Because the companion plans focused on teamwork during their development, they inherently help set a stage for implementing SWAP 2015 through future collaborations. Together, SWAP 2015 and the associated companion plans describe the context and strategic direction of integrated planning and management efforts that are crucial for sustaining California’s ecosystems. The SWAP 2015 companion plan management team, composed of CDFW and Blue Earth staff, provided general direction to the companion plan development teams to develop each sector plan (See Appendix F). To form sector teams, CDFW sought statewide representation from public and private partners with topic expertise and who were heavily involved in natural resource conservation and management (see Appendix C).¹

Beginning in early 2015, Blue Earth facilitated a series of four web-based collaboration meetings for each sector. A kickoff meeting provided development teams with an overview of SWAP 2015 and the companion plan development process, followed by three sector-specific meetings. During these sector meetings, 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 joint priorities, as well as collaboration opportunities for achieving those mutual interests.

Two internal drafts of the companion plans were reviewed by the development teams prior to the public release of the third draft companion plans in the fall of 2015. The final nine companion plans were published incorporating responses to public comments.

¹ Although the management team sought to engage a broad range of partners, CDFW recognizes that there are many other partners who play important roles in conserving and managing natural resources in California who were not involved in developing the companion plans.



Companion Plan Content

Each companion plan addresses the following components:

- SWAP 2015 overview
- Companion plans overview—approach, purpose, development process, and content
- Sector overview
- Common themes across sectors
- Common priority pressures and strategies across sectors
- Priority pressures and strategies for the sector
- Potential collaboration activities
- Potential partners and resources
- Evaluating implementation
- Desired outcomes
- Next steps

2. Consumptive and Recreational Uses Sector

2.1 *Consumptive and Recreational Uses in California*

California’s natural heritage is deeply valued by the majority of people who live in or visit the state. Whether hunting, fishing, hiking, or exploring tide pools, people in California recreate, meditate, and work in nature in greater numbers than in any other state. The Mediterranean climate and diversity of ecotypes and wildlife allow for year-round use and enjoyment of the state’s mountains, forests, grasslands, deserts, beaches, bays, lakes, rivers, and streams. Consumptive uses of wildlife and natural resources include extractive uses such as commercial fishing, mining, timber harvest, and water diversions, all of which remove resources from the environment (Chardonnet et al., 2002). Recreational uses, in contrast, 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 indirect or unintended impacts (such as disturbing nests during the nesting seasons, disturbing spawning or redds, displacing animals during fawning or lambing periods, and roadkill or injuries) from recreational users.

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. California offers hundreds of city and county parks, forests, and beaches that offer consumptive and recreational opportunities. More than 60 million people a year visit the 279 parks, beaches, trails, WAs, marinas, open spaces, OHV areas, and historic sites managed by California Department of Parks and Recreation (CDPR 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 the DOI numbers do not include commercial fishers or others who rely on California’s wildlife and natural resources for their livelihoods, another 2012 report estimated total sales from California’s commercial and recreational fishing industry at \$25.7 billion, with a total of 158,000 jobs (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 CDPR 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” (CDPR 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. This CDPR plan accounts for cultural use of the area by the Juaneño or Acjachemen, who now identify as the Juaneño Band of Mission Indians and currently monitor a few historic resources remaining in the area (CDPR 2011). In addition, the plan highlights the historic popularity of surfing at San Onofre since the early 1930s, which continues today (CDPR 2011).

By better understanding the impacts of recreational activities on wildlife, recreational activities can be effectively managed and become more compatible with wildlife and habitat conservation. For example, under the USFWS’ State Wildlife Grants (SWG) program that is associated with SWAP, CDFW investigated the interaction of recreation and ecosystems. One grant project explored the effects of human use on reptile and mammalian species within Natural Community Conservation Plan (NCCP) Reserves in San Diego County (CDFW 2015b). Another SWG project entitled “California Species and Natural Communities Monitoring and Assessment Project” investigated changes in species distribution and abundance due to anthropogenic factors throughout the state (CDFW 2015b).

Conservation activities addressed under the initial 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 (CDFG 2005). Similarly, SWAP 2015 includes a strategy to provide resources and coordinate efforts with partners to eradicate or control invasive species and prevent new introductions from recreational activities (CDFW 2015b). To support wildlife conservation programs, both SWAP 2005 and SWAP 2015 recommended 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 2015). 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. While many proposals and recommendations exist, funding and implementation have presented major barriers to moving forward with improving consumptive and recreational opportunities that promote the state’s wildlife and natural resources. Working together with partners as envisioned in the companion plan process, it is possible for progress to be made in California.

Text Box 4: Examples of Collaborative Conservation Efforts

There are numerous collaborative conservation management efforts found in California. Below are three such examples related to consumptive and recreational uses. The partners addressed in each description are indicated in **bold**.

- *Collaborating with Local Communities to Protect Threatened Species*: **CDPR** 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 (CDPR 2015a). For example, in 2014 the **City of Barstow** was approved for \$200,000 (with funds to be matched by the City) to acquire and protect approximately 240 acres of Desert Tortoise 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, CDPR, 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 are the common themes across all sectors. This section summarizes the two major overarching themes discussed through the course of developing the nine companion plans: climate change and integrated regional planning.

3.1 *Climate Change-related Issues*

Climate change continues to be one of the major pressures forcing us to examine the relationship between modern society and nature. Describing climate science, however, has been difficult due to its inherent complexity. Because of this and other factors, our society has not been able to fully embrace the seriousness of the implications of climate change. In the most recent analyses, the global average temperature is projected to increase in the range of 0.3–4.8°C (0.5–8.6°F) by 2100, and in California, the increase is projected to be 1.5°C (2.7°F) by 2050 and 2.3–4.8°C (4.1–8.6°F) by 2100 (IPCC 2014; CNRA 2014).

The effects of climate change are already present. Global sea level rise over the past century has exceeded the mean rate of increase during the previous two millennia, and the earth’s surface temperature over each of the last three decades has been successively warmer than any previous decade since 1850. The evidence of these observed climate change impacts is manifested the strongest and most comprehensively in natural systems where many species of terrestrial, freshwater and marine organisms have shifted their geographic ranges, migration patterns, abundances, and life cycle activities in response to ongoing climate change (IPCC 2014).

As climate conditions are inextricably linked to the welfare of environments and societies, even the most conservatively projected increase in global mean temperatures would trigger significant changes to socio-economic and ecosystem conditions. Food production, energy and water development, and preparation and response to catastrophic events are examples of human systems that would be negatively affected by climate change. Pressures and stresses to ecosystems identified in SWAP 2015 will likely increase in magnitude and severity through the compounding effects of climate change (SWAP 2015).

Accordingly, the potential far-reaching effects on California’s natural resources induced or exacerbated by climate change were a common concern among sectors, and cross-sector collaboration was considered critical for ecosystem adaptation while avoiding disasters.

Two key discussion points amongst sectors were to strategically assess the state’s climate change vulnerabilities and implement adaptation actions. These actions included, but were not limited to: establishing a well-connected reserve system to increase ecosystem integrity (e.g. habitat resilience and mobility); incorporating climate change related factors (e.g. carbon sequestration, habitat shifts and sea level rise) into natural resource management; improving regulations to reduce greenhouse gas emissions; developing research guidelines to comprehensively evaluate climate change effects; and raising awareness of climate change.



3.2 Integrated Regional Planning

California presents a landscape that is ecologically, socioeconomically, and politically intricate. The current status of the state’s ecosystems reflects not only the interactions between biological and abiotic components, but also among ecosystems and diverse human activities that are further controlled by mandates imposed on regulated activities.

The concept of integrated regional planning arises from the realization that addressing only one aspect of a complicated human/nature system is not sustainable. Paraphrased from the definition in the California Water Plan, integrated regional planning 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 (CDWR 2014). Expected outcomes of adopting an integrated regional planning approach include; maximizing limited resources to meet diverse demands, receiving broader support for natural resource conservation, and sustaining and improving ecosystem conditions, both for intrinsic and resource values.

Integrated regional planning begins with accepting diverse priorities and values articulated by the stakeholders of a region. With this mutual understanding, attempts are made, often through intense negotiations, to integrate various activities associated with multiple interests occurring in the region. Expected tasks under integrated regional planning include: identifying conflicting or redundant activities occurring in a region, minimizing redundant activities by aligning similar efforts, streamlining and integrating needed processes across different priorities, and collaborating and complementing efforts to effectively achieve mutual and/or diverse interests. As an example, integrated regional planning could result in zoning a region and limiting activities within each zone to avoid or reduce incompatible activities occurring in the region, or deferring timing to reduce negative consequences of interactive activities occurring in a region. In sum, integrated regional planning requires trust, open-mindedness, transparency, patience, strategic thinking, and collaboration among partners who seek to use the same or similar resources from different perspectives.

Establishing a framework for integrated regional planning was considered as one of the state’s top priorities across sectors. Related topics included: preparing, approving, and implementing regional and landscape-level conservation plans; systematically pursuing necessary resources to implement conservation strategies; coordinating effective partnerships; adapting to emerging issues; and reviewing and revising the plans. Several existing plans were recognized as ongoing integrated regional planning efforts: Natural Community Conservation Plans (NCCPs), Habitat Conservation Plans (HCPs), Habitat Connectivity Planning for Fish and Wildlife (CDFW 2015), the Master Plan for Marine Protected Areas, individual species management plans, and SWAP 2015 and related endeavors, including this companion plan.

SWAP 2015, Chapter 7 describes implementation and integration opportunities, and identifies where partners can engage in cooperative implementation. Such opportunities include programs under various state and federal agencies such as Regional Advance Mitigation Planning (RAMP) by Caltrans and CDWR; California Water Plan, California Water Action Plan, and the Central Valley Flood System Conservation Strategy by CDWR; Fire and Resource Assessment Program by CALFIRE; and federal programs under



regulations such as the Central Valley Project Improvement Act, and the National Forest Management Act (CDFW 2015).

4. Commonly Prioritized Pressures and Strategy Categories across Sectors

SWAP 2015 adopted the Open Standards for the Practice of Conservation (Conservation Measures Partnership 2013), a conservation planning framework, and applied the process to select actions needed to conserve focal ecological components (conservation targets). The process started with examining the status of targets by identifying and evaluating their key ecological attributes, factors influencing their compromised conditions (stresses), and the sources of these stresses (pressures). Based on the situational analysis, conservation strategies (sets of actions) were selected for each target, either to improve the conditions of key ecological attributes, or to reduce the negative impacts from the stresses and pressures (CDFW 2015).

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”. 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. Table 1 below lists the 29 standard pressures addressed under SWAP 2015.

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 events¹ • Climate change¹ • 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> <ul 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 2015)

4.2 Strategy Categories across Sectors

SWAP 2015 outlines 11 categories of conservation strategies (Table 2) under which regional strategies are organized, similar to the manner in which the regional goals are tiered under the statewide conservation goals (CDFW 2015). These regional strategies, grouped in various categories, are meant to work synergistically to achieve the statewide goals and priorities



Table 2: SWAP 2015 Conservation Strategy Categories

<ul style="list-style-type: none"> • Data Collection and Analysis • Direct Management • Economic Incentives • Environmental Review • Land Acquisition, Easement, and Lease • Land Use Planning 	<ul style="list-style-type: none"> • Law and Policy • Management Planning • Partner Engagement • Outreach and Education • Training and Technical Assistance
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(CDFW 2015)

The three most common priority strategy categories across the nine sectors were Data Collection and Analysis (7 sectors prioritized this strategy), Management Planning (7 sectors), and Partner Engagement (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

As described in SWAP 2015, the pressure from excessive and/or uncontrolled recreational activities in tourism and recreation areas could directly or indirectly affect biodiversity and natural resources in the state. Although key challenges exist, these seemingly negative aspects of pressures present opportunities for improving ecological health through collaborative conservation work.

For the purpose of developing companion plans, CDFW went through the pressures and strategy categories that were selected for various conservation targets under SWAP 2015 (CDFW 2015). Those elements considered relevant to each sector were collected from the document and prioritized by importance to the sector. Section 5.1 and 5.2 provide the results of this prioritization, and Text Box 5 lists pressures and strategies considered important but not included in this plan (for future consideration).

5.1 Priority Pressures

Recreational activities – Recreational activities and opportunities such as hiking, skiing, mountain biking, off-highway vehicle driving, and horseback riding attract 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 compaction, erosion, pollution/contamination 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

The top three strategy categories for this sector are the following: data collection and analysis, management planning, and partner engagement. Each of these categories are described below.

Data Collection and Analysis – Data collection and analysis is fundamental to science-driven conservation, that is, the utilization of a wide range of data and analysis to more effectively plan, implement, and adaptively manage conservation actions. 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.

Management Planning – Management planning is the development of management plans for species, habitats, natural processes, or for human activities that have influence on ecosystem health. Consideration of ecosystem needs in the management plan could lead to enhanced ecological conditions or reduced negative impacts when subsequent management activities occur based on the specifications in the management plan. An example strategy is developing and implementing existing management plans and integrating them with resource management.

Partner Engagement – Partner engagement is the process for engaging and developing collaboration among state and federal agencies, tribes and tribal communities, non-governmental organizations (NGOs), 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.

Text Box 5: Additional Pressures and Strategies for Future 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
 - OHV restrictions and impacts
 - Water quality

6. Collaboration Opportunities for Joint Priorities

Conservation programs in California are managed by diverse partners, including state and federal agencies, local governments, and NGOs. Because SWAP 2015 is a comprehensive conservation plan, integrating their work into SWAP is crucial for impactful conservation outcomes for the state (SWAP 2015 Chapter 7). While the full array of relevant efforts is too extensive to list here, potential alignment opportunities were identified below. Conservation activities considered most relevant to each prioritized strategy category (as described in Section 5.2) are summarized in Table 3. Potential partners and financial resources for implementing these conservation activities are listed in the Appendix D and E. Together, Table 3 and Appendix D and E summarize the key findings for this sector.

Alignment Opportunities and Potential Resources

Table 3 highlights conservation activities by the strategy categories that the team considered important for collaboration, and which could be implemented over the next 5–10 years. While some activities are applicable across many spatial scales and jurisdictions, they are assigned only to the most relevant scale and jurisdiction. The information in Table 3 is not comprehensive, and does not obligate any organization to fund or provide support for strategy implementation.

Table 3: Collaboration Opportunities by Strategy Category

Data Collection and Analysis
Potential Conservation Activities
<p>Regional</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>Local/Site-specific</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 DNA analysis to estimate game populations

Priority Strategy: Management Planning

Potential Conservation Activities

Local/Site-specific

- 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
- 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

Priority Strategy: Partner Engagement

Potential Conservation Activities

Statewide

- Drive partnerships with statewide leadership
- Partner with national entities

Regional

- Coordinate at the regional level

Local/Site-specific

- 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



7. Evaluating Implementation Efforts

Implementing SWAP 2015 and its nine companion plans is a complex undertaking. This section (and SWAP 2015 Chapter 8), emphasizes the importance of adaptive management based on performance monitoring and evaluation during the implementation stage.

SWAP 2015 sets a stage for adaptive management by developing the plan based on the Open Standards for the Practices of Conservation. SWAP 2015 implementation will be monitored over time in concert with other conservation activities conducted by CDFW and partners. SWAP 2015 recognizes three types of monitoring:

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 for adaptive management; and
3. effects monitoring, which addresses if and how the target conditions are being influenced by strategy implementation.

Monitoring and evaluating SWAP 2015 implementation are critical steps to demonstrate and account for the overall progress and success achieved by the plan. By incorporating lessons learned through monitoring conservation activities and evaluating for future actions, CDFW and partners have opportunities to improve performance and adapt emerging needs that were not previously considered. For stakeholders including decision-makers, partners, and funders, the resulting data would be useful for not only understanding the status of SWAP 2015 and companion plan implementation, but also to prioritize resource allocations necessary for managing natural resources in the state.

SWAP 2015 developed performance measures for each strategy category (SWAP 2015 Chapter 8). These measures are critical in assessing SWAP 2015 performance and will be used for estimating the plans' overall contributions to natural resource conservation in California.

8. Desired Outcomes

Desired outcomes for this sector over the next 5–10 years, within the context of SWAP 2015, were identified and are provided below. These outcomes are organized by the selected strategy categories described in Section 5.2, and are not listed in order of priority.

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? To what previous or existing condition are we trying to restore? 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., CDPR 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).

9. Next Steps

The key next steps identified to ensure successful implementation of the companion plans over the next five years are: partnerships 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., CDPR and WAs).

Communication and Outreach

- 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).

Monitoring, Evaluation, and Adaptive Management

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

10. Acknowledgements

This companion plan was developed in collaboration with many partners who deserve special recognition for their time and commitment. (Please see Appendix C for a list of consumptive and recreational uses development team members.) CDFW and Blue Earth express our warmest gratitude to those who were involved in the plan's development, as well as to the organizations that generously offered their staff time. As an initial step toward building a collaborative approach for implementing SWAP 2015 and the nine sector-focused companion plans, CDFW will develop an operational plan that describes logistics for moving forward.



Appendices

Appendix A: References

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Appendix C: Consumptive and Recreational Uses Companion Plan Development Team

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
California Tahoe Conservancy	Stuart Roll Whitney Brennan
California Travel Association	Barb Newton
Hillier Consulting and Management	Gerald Hillier
International Mountain Bicycling Association	Laurel Harkness



Appendix D: Potential Partners and Coordination Bodies

Please note that the following table does not provide an exhaustive list of potential partners. The organizations listed here were identified through the sector discussions, but the listing does not imply that they have agreed to partner or to implement SWAP 2015. Also note that the table was completed to the best of the team’s knowledge. Where specific organizational efforts or orientations were unknown to the team, corresponding cells were left blank. An asterisk (*) indicates a new opportunity added by CDFW after the team discussions; therefore it was not addressed by the sector team.

Potential Partners	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 (CDPR) <ul style="list-style-type: none"> • Roads and Trails Program • Division of Boating and Waterways • Off Highway Vehicle Association 	✓	✓	✓
CA Department of Water Resources (CDWR)			✓
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	✓		✓
City and County Governments	✓	✓	✓
County Fish and Game Commissions		✓	✓
Delta Conservancy	✓		✓

Potential Partners	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		✓	✓
Landowners	✓	✓	✓
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)			✓

Potential Partners	Data Collection and Analysis	Management Planning	Partner Engagement
Tahoe Regional Planning Agency - Environmental Improvement Program (EIP)	✓	✓	✓
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 E: Potential Financial Resources:

Potential Financial Resources	Data Collection and Analysis	Management Planning	Partner Engagement
<i>(Note: this information is intended to serve as a starting point for outreach and potential engagement, and does not represent a comprehensive list of all the potential funding sources)</i>			
Berryessa Snow Mountain Campaign	✓	✓	✓
Bodie Hills Conservation Partnership	✓	✓	✓
CA Deer Association	✓	✓	✓
CA Department of Boating and Waterways Coastal Beach Erosion Grant			✓
CA Department of Fish and Wildlife (CDFW) - grant programs (examples)			
<ul style="list-style-type: none"> • Big Game Management Account • Upland Game Bird Account • California Duck Stamp 	✓	✓	✓
CA Department of Transportation (Caltrans)			✓
CA Division of Boating and Waterways		✓	
CA State Lands Senate Bill 630 operational support budget		✓	
CA Tahoe Conservancy			✓
CA Waterfowl Association	✓	✓	✓
Deserts Forever	✓	✓	✓
Ducks Unlimited	✓	✓	✓
Federal Task Forces		✓	
International Mountain Biking Association	✓	✓	✓
National Science Foundation (NSF)	✓		
National Wild Turkey Association	✓	✓	✓
Park Associations		✓	
Proposition 1	✓	✓	
Proposition 84	✓	✓	
Rocky Mountain Elk Foundation	✓	✓	✓
State Water Resources Control Board (SWRCB)	✓	✓	
U.S. Army Corps of Engineers (USACE)	✓		✓
U.S. Bureau of Land Management (BLM)	✓	✓	
U.S. Bureau of Reclamation	✓		
U.S. Fish and Wildlife Service (USFWS)			
<ul style="list-style-type: none"> • Urban Wildlife Refuge Team 		✓	✓
U.S. Forest Service (USFS)		✓	



Appendix F: Companion Plan Management Team

Name	Title
Armand Gonzales	SWAP 2015 Project Lead, CDFW
Junko Hoshi	SWAP 2015 Assistant Project Lead, CDFW
Kurt Malchow	SWAP 2015 Companion Plan Development Lead, CDFW
Tegan Hoffman	Project Director and Facilitator, Blue Earth Consultants
Sarah Eminhizer	Project Manager and Facilitator, Blue Earth Consultants
Jennifer Lam	Associate, Blue Earth Consultants
Diana Pietri	Associate, Blue Earth Consultants



Appendix F: Glossary

The definitions found here are referenced from SWAP 2015, and are mostly adopted from the glossary in the Conservation Measures Partnership's (CMP) Open Standards for the Practice of Conservation (Version 2.0). Some terms have been added or refined to clarify their use by CDFW.

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.