Appendix B California State Wildlife Action Plan 2015 Revision Summary

The California State Wildlife Action Plan (SWAP) 2015 is the first major revision of the first California SWAP, which was developed in 2005. California's approach to the SWAP is much more than meeting the requirements for federal grants eligibility. California's vision for SWAP 2015 is to be an overarching blueprint for conservation of fish and wildlife resources. The SWAP can be useful not just for California Department of Fish and Wildlife (CDFW) purposes as the state's trustee for fish and wildlife resources, but also for other natural resource agencies, hunters and anglers, conservation groups, landowners, and people who manage working landscapes. A summary of the revisions to SWAP 2015 is provided below.

New geographic boundaries are defined to organize the identification and discussion of conservation issues and to develop conservation strategies. SWAP 2015 uses three geographic scales to differentiate and organize California's terrestrial plant communities, freshwater aquatic habitats, and marine ecosystems. Three geographic scales are used to analyze key conservation factors and their influences on Species of Greatest Conservation Need (SGCN) and their habitats, as well as to identify conservation strategies. The three geographic scales in SWAP 2015 are, from largest to smallest in size: statewide, province, and regional conservation unit (see Section 1.5). Using vegetation and geophysical features to define boundaries, the provinces and conservation units are based on U.S. Department of Agriculture mapping of ecoregions and provinces (Bailey 1976) and adapted by CDFW. To address freshwater aquatic issues, watersheds based on U.S. Geologic Survey (USGS) hydrologic units are included. Marine conservation units were defined from Marine Life Protection Act (MLPA).

Revisions to the list of SGCN are comprehensive for SWAP 2015. For SWAP 2005, CDFW relied on a designated Special Animals List, also referred to as "species at risk" or "special-status species" to identify SGCN. The SGCN list in SWAP 2015 includes over 1,000 species, representing marine, aquatic, and terrestrial habitats, and includes birds, mammals, reptiles, amphibians, fish, invertebrates, and plants. It focuses not only on threatened and endangered species and species of special concern, but also other species that are rare or declining in numbers and that are vulnerable to climate change.

The SWAP 2015 technical team updated the list of SGCN for the SWAP 2015 using three criteria (see Section 2.4):

- Criterion 1 includes species listed as threatened, endangered or candidate species in California under the federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA). State and Tribal Wildlife Grants (SWG) discourages the use of funds solely on federally listed species and on species that already have dedicated funding. Although these species are included in the SGCN list, it does not imply a funding preference or prioritization.
- Criterion 2 includes species for which there is a conservation concern. The species under the second criterion are generally equivalent to the California Species of Special Concern (SSC) identified by CDFW; all the SSC are recognized as SGCN. Other conservation concern designations are described

under each category of species. The SSC designation carries no formal legal protection; the intent of the designation is to focus attention on animals of conservation risk, stimulate research on poorly known species, and achieve conservation and recovery of these animals before they meet criteria for listing as threatened or endangered. More information about CDFW's process of evaluating SSC, as well as their lists by taxa and life history accounts, including habitat association, population trends, and range maps, can be found online at http://www.dfg.ca.gov/wildlife/nongame/ssc/.

- Criterion 3 includes species that were identified by CDFW as being highly vulnerable to climate change. The methods used to identify SGCN are described in Appendix C for each category of species.

A multi-species, ecosystem approach was used as the guiding framework for developing SWAP 2015. An ecosystem approach to conservation is the broad management of natural resources using ecosystems as a unit to ensure that native plants and animals bound to the system are maintained at viable levels. It involves maintaining and enhancing the processes, structure, and conditions of an ecosystem, recognizing that all components are interrelated. Large-scale landscape approaches are generally the most reliable and preferred method to conserve ecological integrity, including biological diversity. The approach benefits both game and non-game (or harvested and non-harvested) wildlife species, and creates many co-benefits related to both natural values (such as enhanced water quality, soil retention, or resilience to the effects of climate change) and societal values (such as open space, scenic quality, or outdoor recreation opportunities). Ecosystem-based management is defined and mandated in the California Fish and Game Code (FGC Sections 43 and 703.3, see Section 8.1 "Adaptive Management" for more discussion).

Imperative for initiating a comprehensive approach to conservation in California, and in order to represent California in a spatially explicit manner, habitats have been categorized to represent terrestrial, freshwater, and marine ecosystems. Since SWAP 2015 has identified over 1,000 SGCN, applying a species-based conservation approach to develop SWAP 2015 was not feasible. However, it is recognized that dividing California's landscape into habitat categories may present limitations that must be balanced with species-specific efforts when needed to effectively address conservation of species.

The process for providing the required SWAP elements and for developing multi-species conservation strategies began by identifying the broad habitat categories of natural resource interest in California. These were defined as terrestrial, freshwater aquatic, and marine habitats. Within each of these resource categories there are strategies applicable to specific geographic regions, and others that apply more broadly across many regions or possibly statewide. To assess conservation needs at a manageable scale, the state was subdivided for each resource category using established and accepted units for analysis, as described above (i.e., ecoregions, hydrologic units, and marine conservation units), collectively referred to as conservation units. The conservation units were grouped into provinces.

Anadromous fishes are treated as a unique, statewide guild of fishes, and their ecological and management needs are addressed in a single chapter.

Plants are included in SWAP 2015, although they are not eligible for State Wildlife and Tribal Grant funds. Plants are addressed in the update in several important ways. The terrestrial conservation targets are based on plant communities, classified using the *Manual of California Vegetation*, based on the national vegetation classification standard. In addition, CDFW has been working with the California Department of Forestry and Fire Protection to refine a spatial map of California Wildlife Habitat Relationships habitat types (Mayer and Laudenslayer 1988) and then cross-walk them to major vegetation types. CDFW has also included plants on the SGCN list, and is working with California Native Plant Society (CNPS) to refine the list to identify conservation priorities.

A transparent and systematic planning framework was used to develop the conservation strategies. CDFW followed the *Open Standards for the Practice of Conservation,* which is an internationally accepted conservation planning framework that brings together common concepts, approaches, and terminology in conservation project design, management, and monitoring to help practitioners improve the practice of conservation. The *Open Standards* offers an adaptive management approach that helps conservation practitioners systematically design their conservation strategies and determine if their strategies are on track, why they are on track or not, and what adjustments they need to make. The five steps composing the adaptive project management cycle supported by *Open Standards* are: (1) conceptualizing the project vision and context; (2) planning actions and monitoring; (3) implementing actions and monitoring; (4) analyzing data, using the results, and adapting the project; and (5) capturing and sharing what has been learned.

Conservation targets were identified for each conservation unit. A conservation target is an element of biodiversity at a project site, which can be a species, habitat, or ecological system that a project has chosen to focus on. For SWAP 2015, conservation targets are plant communities, native freshwater aquatic species assemblages, and marine ecosystems. Conservation targets were selected based on a systematic assessment of biodiversity, rarity, endemism, along local expert knowledge and other considerations.

Systematic identification and ranking of stresses and pressures on conservation targets were articulated by regional teams. A stress is an impaired aspect of a conservation target that results directly or indirectly from human activities. Stresses are ranked by scope, the proportion of the target that can reasonably be expected to be affected by the stress, and severity, i.e., the level of damage to the target from the stress that can reasonably be expected within the next 50 years given the continuation of current circumstances and trends.

A pressure is a human induced or natural driver that could result in stress to the conservation target. Pressures were ranked by the contribution to degradation of the target and the irreversibility, the degree to which the degradation can be undone. Stresses and pressures were considered at both a local and statewide scale. Conservation strategies were developed to respond to the highest ranking stresses and pressures.

Climate change influences are integrated into the development of conservation strategies in SWAP 2015. The revised list of SGCN includes a criterion of species that are vulnerable to climate change. CDFW engaged University of California, Davis researchers to conduct a habitat-based climate vulnerability study. CDFW integrates climate stress data when developing strategies for conservation targets. CDFW also aligns conservation actions recommended in SWAP 2015 to be consistent with recommendations and goals set in the state and federal climate adaptation strategies.

Consistency with other statewide and national plans and initiatives is foremost in SWAP 2015 (see Section 7.1). Since approval of SWAP 2005, several new plans and initiatives have been completed or are in progress that have relevance to strategies and priorities for managing the state's natural resources.

These plans and initiatives include but are not limited to the following:

- California Natural Resources Agency's 2009 Climate Change Adaptation Strategies
- California Natural Resources Agency 2014 Safeguarding California Report
- U.S. Fish and Wildlife Service (USFWS) 2012 National Fish, Wildlife and Plant Climate Adaptation Strategy
- CDFW and Caltrans 2011 California Essential Habitat Connectivity Project
- CDFW 2011 Areas of Conservation Emphasis Mapping Model Phase II
- Implementation of the Marine Life Protection Act
- Wildlife Conservation Board Strategic Plan 2014
- State Water Plan 2013
- Water Action Plan 2014
- Forest and Rangeland Assessment 2015
- California Transportation Plan
- California State Parks Strategic Action Plan
- Forest Plans using new Forest Planning Rule
- Ecoregional Assessments from the Bureau of Land Management
- Strategic Habitat Conservation (USFWS)
- Development of a large-scale conservation planning effort in the Sacramento-San Joaquin Rivers Delta (This effort was known previously as Bay Delta Conservation Plan (BDCP). The conservation components under BDCP were replaced by California EcoRestore in April 2015.)
- Development of a large-scale conservation planning effort in the southern California deserts region (Desert Renewable Energy Conservation Plan)
- California Fish and Wildlife Strategic Vision Plan
- Adoption of CDFW's Policy for Quality in Science and Key Elements of Scientific Work

Emphasis on partnerships and collaboration is one of the keys to successful implementation of the conservation strategies in SWAP 2015 (see Section 7.4). CDFW recognizes that land is a shared entity and successful conservation strategies cannot be implemented without partnerships, especially with limited budgets and staff. CDFW is seeking through implementation of SWAP 2015 to engage in high-

value, highly leveraged conservation planning efforts with other agencies and organizations. The goal for partnerships is to share information, expertise, and vision for building a robust natural resource conservation infrastructure that supports California's unparalleled wildlife diversity.

Development of Companion Plans is included in SWAP 2015 to identify common goals and actions for specific sectors, so that agencies and organizations can work together towards achieving conservation goals within those sectors (see Section 7.2). The Companion Plans are economic and resource-sector focused plans and have been developed in collaboration with partners in each of these sectors:

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

Monitoring the effectiveness of conservation actions is built into an adaptive management framework for SWAP 2015 (see Section 8.3). CDFW has entered the conservation strategies, performance objectives, indicators, and metrics into a database called *Miradi* that will allow tracking of their success at implementation of the actions and allow for adaptive management to adjust actions and improve success. Monitoring plans will be presented and reviewed at regional public scoping meetings.

SWAP 2015 is a dynamic, online resource. As new information is developed, new research is completed, or a new issue emerge, it will be necessary to update the SWAP periodically to address these new issues. As an electronic, online document, SWAP 2015 can be efficiently and frequently updated, as needed (see Sections 7.6 and 7.7). In addition the timeframe for assessment of pressures to conservation targets and the strategies and actions to address these pressures will be from one year to 50 years to take into account the effects of climate change and the need for a long view towards climate change adaptation. As such, monitoring and evaluation of progress towards goals and objectives will need to take place over a long timeframe to allow for adaptive management as understanding is improved regarding the effects of climate and influences of pressures on fish and wildlife. The SWAP update process will continue to be an iterative, adaptive management process, where information gaps, uncertainties, and planning and research needs will be recognized and incorporated.

References

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