

Regional Conservation Investment Strategies **PROGRAM GUIDELINES**

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REGIONAL CONSERVATION INVESTMENT STRATEGIES PROGRAM GUIDELINES

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Section 1

Program Overview

1.1 Introduction

On September 22, 2016, Assembly Bill (AB) 2087 (Levine) was signed into law and became effective on January 1, 2017, officially creating the California Department of Fish and Wildlife's (CDFW's) Regional Conservation Investment Strategies Program (Program). The new Program encourages public agencies to develop regional conservation planning documents, using the best available science to identify regional conservation priorities and actions to help California's declining and vulnerable species by protecting, creating, restoring, and reconnecting habitat. The Program provides additional tools and mechanisms that will complement and enhance existing programs and increase options for project proponents, including public infrastructure agencies, to create compensatory mitigation that supports regional conservation priorities in advance of impacts. The goal of the Program is to achieve higher-quality conservation outcomes by guiding investments in conservation and compensatory mitigation that support regional conservation priorities and that enhance the resilience of species and their habitats to the impacts of climate change and other pressures.

This is a non-regulatory and voluntary Program that consists of three primary components: regional conservation assessments (RCAs), regional conservation investment strategies (RCISs), and mitigation credit agreements (MCAs). RCAs are assessments at the ecoregional scale that provide an overview of the area's conservation priorities, ecological processes, and the threats and pressures to those priorities and processes. RCAs are optional and not required to prepare an RCIS or MCA. RCISs are strategies to identify conservation priorities at the sub-ecoregion scale and identify conservation actions and enhancement actions for focal species and other conservation elements. Under an approved RCIS any entity may prepare MCAs as an advance mitigation tool to create credits. An RCIS must be in place before an MCA can be approved. Consultation, review, and approval of a specific RCA, RCIS, or MCA will be conducted through CDFW's Habitat Conservation Planning Branch in Sacramento. CDFW may approve RCAs, RCISs, and MCAs through December 31, 2019.¹

The Program will support but does not alter requirements of the California Environmental Quality Act (CEQA)², the California Endangered Species Act (CESA)³, the Natural Community Conservation Planning Act (NCCPA)⁴, or CDFW's Lake and Streambed Alteration (LSA)⁵ and Conservation and Mitigation Bank⁶ programs.

¹ Fish and Game Code section 1861.

² Public Resources Code sections 21000 – 21189.

³ Fish and Game Code sections 2080 – 2085.

⁴ Fish and Game Code section 2800 – 2835.

⁵ Fish and Game Code sections 1600 – 1617.

⁶ Fish and Game Code sections 1797 – 1799.

1.2 Purpose and Use of Guidelines

CDFW is providing these Regional Conservation Investment Strategies Program Guidelines (Guidelines) to implement Fish and Game Code sections 1850–1861. These Guidelines incorporate all relevant documents and Program guidance as of the date of these Guidelines.⁷ These Guidelines are intended to clarify and provide instructions or guidance related to the development, review, and approval of RCAs, RCISs, and MCAs to assist state and local public agencies, private entities, the public, and CDFW staff in implementing the Program. The Guidelines include instructions on where and how to submit individual Program documents and notices.

CDFW intends that these Guidelines will be a “living document” available on CDFW’s [website](#). The Guidelines are being provided as early as possible to enable entities to prepare and submit Program documents for CDFW’s review prior to the sunset date of January 1, 2020. CDFW, in coordination with interested parties, may update these Guidelines as additional relevant documentation or guidance becomes available.

Throughout sections of these Guidelines, explanations of the Program’s statutory requirements and regulations appear as plain text. Additional CDFW recommendations appear as *italicized text*. Terms defined in Section 2—Standard Terminology are bolded throughout the text of the Guidelines. The remainder of these Guidelines is divided into four main sections: Section 2—Standard Terminology, Section 3—Regional Conservation Assessments (RCAs), Section 4—Regional Conservation Investment Strategies (RCISs), and Section 5—Mitigation Credit Agreements (MCAs).

1.3 Fees

Fish and Game Code section 1857 authorizes CDFW to collect fees or other compensation to pay for all or a portion of CDFW’s costs relating to an RCA, RCIS, or MCA. The fee schedule for the Program’s components is posted on CDFW’s [website](#).

1.4 Program Contact

For general inquiries about the Program, contact Ron Unger, CDFW Landscape Conservation Planning Program Manager, by phone at 916-653-3779 or by email at rcis@wildlife.ca.gov.

⁷ Fish and Game Code section 1858.

Regional Conservation Investment Strategies Program Guidelines



Section 2 Standard Terminology

2.1 Terms, Abbreviations, and Definitions

Term/Abbreviation	Definition ⁸
AB	Assembly Bill
ACE—Areas of Conservation Emphasis	The biodiversity analysis completed by CDFW in 2010 ⁹ , or the latest update of that analysis.
adaptive management and monitoring strategy	A component of an RCIS that incorporates an adaptive management process that is informed by periodic monitoring of the implementation of both conservation actions and habitat enhancement actions. Adaptive management means using the results of new information gathered through a monitoring program to adjust management strategies and practices to help provide for the conservation of focal species and their habitats. A monitoring strategy is the periodic evaluation of monitoring results to assess the adequacy of implementing a conservation action or habitat enhancement action and to provide information to direct adaptive management activities to determine the status of the focal species, their habitats, or other natural resources. ¹⁰
administrative draft NCCP	A substantially complete draft of an NCCP that is released after January 1, 2016, to the general public, plan participants, and CDFW.
advance mitigation	Compensatory mitigation for impacts on ecological resources (species and their habitat) and other natural resources that contributes to the fulfillment of regional conservation priorities and that is implemented prior to impacts occurring.
biodiversity	The full array of living things considered at all levels, from genetic variants of a single species to arrays of species and arrays of genera, families, and higher taxonomic levels; includes natural communities and ecosystems.
California Climate Adaptation Strategy	The document summarizing climate change impacts and recommending adaptation strategies for the State of California. ¹¹
CCED	California Conservation Easement Database
CDFW	California Department of Fish and Wildlife

⁸ Unless cited otherwise, all definitions are excerpted or modified from AB 2087 or are modified from the State Wildlife Action Plan.

⁹ <https://www.wildlife.ca.gov/Data/Analysis/Ace>

¹⁰ Adapted from Fish and Game Code section 2805, subdivisions (a) and (g).

¹¹ <http://climatechange.ca.gov/adaptation/>

Term/Abbreviation	Definition⁸
CEHC—California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California	A statewide assessment ¹² of essential habitat connectivity completed by consultants and commissioned by CDFW and Caltrans; the assessment used the best available science, data sets, and spatial analysis and modeling techniques to identify large remaining blocks of intact habitat or natural landscape and model linkages between them that need to be maintained, particularly as corridors for wildlife.
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
climate change vulnerability	Refers to the degree to which an ecological system, habitat, or individual species is likely to be negatively affected as a result of changes in climate and is often dependent on factors such as exposure, sensitivity, and adaptive capacity.
CNDDB	California Natural Diversity Database ¹³
compensatory mitigation	Actions taken to fulfill, in whole or in part, mitigation requirements under state or federal law or a court mandate.
conservation	The use of habitat and other natural resources in ways such that they may remain viable for future generations. Compare with “land preservation.”
conservation action	Actions identified in an RCIS whose implementation through an MCA would create credits to be used as compensatory mitigation. Actions would preserve or restore ecological resources, including habitat, natural communities, ecological processes, and wildlife corridors, to protect those resources permanently, and would provide for their perpetual management so as to help to achieve one or more goals and objectives for one or more focal species or other conservation elements.
conservation easement	Any limitation in a recorded instrument that contains an easement, restriction, covenant, condition, or offer to dedicate, which is or has been executed by or on behalf of the owner of the land subject to that limitation and is binding upon successive owners of the land, and the purpose of which is to retain land predominantly in its natural, scenic, historical, agricultural, forested, or open-space condition. ¹⁴
conservation element	An element with ecological functions within an RCIS, including focal species and their habitats, wildlife corridors and linkages, and other natural resources.
conservation goal	Broad, guiding principle that describes a desired future condition for a focal species, other species, or other important conservation elements. Each conservation goal is supported by one or more conservation objectives.

¹² U.S. Fish and Wildlife Service. *California Essential Habitat Connectivity Project*. Available: <https://www.wildlife.ca.gov/conservation/planning/connectivity/CEHC>. Accessed: March 3, 2017.

¹³ <https://www.wildlife.ca.gov/Data/CNDDB>

¹⁴ “Conservation easement” includes a conservation easement as defined in Civil Code section 815.1, an open-space easement as defined in Civil Code section 51075, and an agricultural conservation easement as defined in Public Resources Code section 10211.

Term/Abbreviation	Definition⁸
conservation investment	Conservation actions or habitat enhancement actions that are implemented under an approved RCIS but the implementer does not create credits through an MCA with CDFW. Conservation investments are typically funded by public agencies and nonprofit or other philanthropic organizations.
conservation objective	A concise, measurable statement of what is to be achieved and that supports a conservation goal.
conservation priority	A conservation action (land acquisition, restoration, or habitat enhancement) that is ranked based on its importance for contributing to the conservation and recovery of focal species and their habitats, or other conservation elements within an RCIS area.
conservation purpose	Statement or statements in an RCIS that identify focal species and other natural resource conservation priorities within the RCIS area and which outline conservation actions or habitat enhancement actions that, if implemented, will sustain and restore these resources.
CPAD	California Protected Areas Database ¹⁵
creation (of natural community or focal species' habitat)	The creation of a specified resource condition where none existed before. Also see "establishment."
critical habitat	Habitat designated as critical ¹⁶ refers to specific areas occupied by a federally-listed species at the time it is listed, and that are essential to the conservation of the species and that may require special management considerations or protection. Critical habitat also includes specific areas outside occupied habitat into which the species could spread and that are considered essential for recovery of the species.
CWHR—California Wildlife Habitat Relationships	System that contains the life history, geographic range, habitat relationships, and management information for over 700 regularly occurring species of amphibians, reptiles, birds, and mammals in the state; allows users to produce queries to generate lists of species by geographic location or habitat type and provides information on expert opinion-based habitat suitability ranks for each species within each habitat type. ¹⁷
ecological integrity	The degree to which the components (types of species, soil, etc.), structures (arrangement of components), and processes (flows of energy and nutrients) of an ecosystem or natural community are present and functioning intact. Lands with low ecological integrity generally have been subject to significant human influences or disruption of natural processes, such as fire, floods, or nutrients and hydrological cycling.
ecological resources	Species, habitat, biological resources, and natural resources identified in an RCA or RCIS. See "conservation element" and "natural resources."

¹⁵ <http://www.calands.org/>

¹⁶ United States Code Title 16, section 1532, subdivision (5)(a).

¹⁷ <https://www.wildlife.ca.gov/Data/CWHR>

Term/Abbreviation	Definition⁸
ecoregion, sub-ecoregion	As used in this document, ecoregion means a USDA Section ¹⁸ and sub-ecoregion means a portion of the Section or USGS Hydrological Units (assigned hydrological unit codes; HUC). ¹⁹ The U.S. Department of Agriculture (USDA) describes four geographic levels of detail in a hierarchy of regional ecosystems including domains, divisions, provinces, and sections. Sections are subdivisions of provinces based on major terrain features, such as a desert, plateau, valley, mountain range, or a combination thereof.
ecosystem	A natural unit defined by both its living and non-living components; a balanced system of the exchange of nutrients and energy. Compare with “habitat.”
ecosystem function	The processes that sustain species and ecosystems such as the cycling of matter, energy and nutrients.
ecosystem services	The beneficial outcomes to humans from ecosystem functions such as supplying of oxygen, sequestering of carbon, supporting the food chain, harvesting of animals or plants, providing clean water, recharging groundwater, protecting from storms and floods, pollinating and fertilizing for agriculture, and providing scenic views.
endemic	A species, subspecies, or variety found only in a specified geographic region.
enhancement	A manipulation of an ecological resource or natural resource that improves a specific ecosystem function. An enhancement does not result in a gain in protected or conserved land, but it does result in an increase in ecological function.
essential connectivity areas	Those areas essential for ecological connectivity between natural landscape blocks, as depicted in the Essential Connectivity Map prepared as part of the California Essential Habitat Connectivity Project ²⁰ , or other connectivity report, plan, or map approved by the CDFW.
establishment	The manipulation of the physical, chemical, or biological characteristics present on a site to develop an aquatic or terrestrial habitat resource for Focal Species. Establishment will result in a gain in resource area and/or function. Also, see “creation.”
focal species	Species that are identified and analyzed in an RCIS that will benefit from conservation actions and habitat enhancement actions set forth in the RCIS.
GAP	Gap Analysis Program

¹⁸ Goudey, C.B., and D.W. Smith, eds. 1994. Ecoregions California07_3. McClellan, CA. Remote Sensing Lab. Updated with ECOMAP 2007: Cleland, D.T.; Freeouf, J.A.; Keys, J.E., Jr.; Nowacki, G.J.; Carpenter, C; McNab, W.H. 2007. Ecological Subregions: Sections and Subsections of the Conterminous United States [1:3,500,000] [CD-ROM]. Sloan, A.M., cartog. Gen. Tech. Report WO-76. Washington, DC: U.S. Department of Agriculture, Forest Service. Miles and Goudey 1997. *Ecological Subregions of California*. Technical Report R5-EM-TP-005, USDA Forest Service, Pacific Southwest Region, San Francisco, CA.

¹⁹ The United States Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS), the United States Geological Survey (USGS), and the Environmental Protection Agency (EPA). The Watershed Boundary Dataset (WBD) was created from a variety of sources from each state and aggregated into a standard national layer for use in strategic planning and accountability. <http://datagateway.nrcs.usda.gov>

²⁰ U.S. Fish and Wildlife Service. *California Essential Habitat Connectivity Project*. Available: <<https://www.wildlife.ca.gov/conservation/planning/connectivity/CEHC>>. Accessed: March 3, 2017.

Term/Abbreviation	Definition⁸
gap analysis	An analysis that identifies gaps between land areas that are rich in biodiversity and areas that are managed for conservation.
guidelines	Regional Conservation Investment Strategies Program Guidelines
habitat	The specific places where the environmental conditions (i.e., physical and biological conditions) are present that are required to support occupancy by individuals or populations of a given species. Habitat may be occupied (i.e., individuals or a population of the species are or have recently been present) or unoccupied.
habitat connectivity	The capacity of areas of intact habitat to facilitate the movement of species and ecological processes.
habitat enhancement action	An action identified in an RCIS that is intended to improve the quality of wildlife habitat, or to address risks or stressors to wildlife. It would have long-term durability but would not involve acquiring land or permanently protecting habitat. Examples of habitat enhancement actions include improving in-stream flows to benefit fish species, enhancing habitat connectivity, and controlling or eradicating invasive species. A habitat enhancement action that is implemented through an MCA would create credits to be used as compensatory mitigation.
habitat quality	The capacity of a habitat to support a species. The precise meaning of habitat quality varies by species and depends on the specific needs of a species in the context of a particular area. High-quality habitat for species may have only foraging and resting elements or it may include foraging, resting, and nesting elements. For other species, it may encompass all elements needed for the species to complete its lifecycle. Low-quality habitat has only the minimal elements to support occurrence of the species. High-quality habitat tends to support larger numbers of species than low-quality habitat.
HCP	Habitat conservation plan. A plan which outlines ways of maintaining, enhancing, and protecting a given habitat type needed to protect species. The plan usually includes measures to minimize impacts, and might include provisions for permanently protecting land, restoring habitat, and relocating plants or animals to another area. An HCP is required before an incidental take permit may be issued.
HUC	Hydrologic Unit Code ²¹
indicator species	A species, the presence or absence of which is indicative of a particular habitat, community, or set of environmental conditions. ²²

²¹ The United States Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS), the United States Geological Survey (USGS), and the Environmental Protection Agency (EPA). The Watershed Boundary Dataset (WBD) was created from a variety of sources from each state and aggregated into a standard national layer for use in strategic planning and accountability. <http://datagateway.nrcs.usda.gov>

²² Lincoln, R., G. Boxshall, and P. Clark. 1998. *A Dictionary of Ecology, Evolution and Systematics*. Second Edition. Cambridge University Press, Cambridge, UK.

Term/Abbreviation	Definition ⁸
invasive, nonnative species	A nonnative species that can spread into the ecosystems and displace native species, hybridize with native species, alter biological communities, and alter ecosystem processes and that has the potential to cause environmental or economic harm. ²³ According to the California Invasive Plan Council, nonnative species refers to any species introduced to California after European contact and as a direct or indirect result of human activity. ²⁴
keystone species	A species whose impacts on its community or ecosystem are much larger than would be expected from its abundance ²⁵ or a species whose loss from an ecosystem would cause a greater-than-average change in other species populations or ecosystem processes and whose continued well-being is vital for the functioning of a whole community.
land cover type	The dominant feature of the land surface defined by vegetation, natural features, water, or human uses.
land preservation	Generally, the preservation of natural resources by acquiring land in fee title or a permanent conservation easement. Compare with “conservation.”
LSA	Lake and Streambed Alteration ²⁶
MCA—mitigation credit agreement	Identifies the type and number of credits a person or entity proposes to create by implementing one or more conservation actions or habitat enhancement actions. An MCA includes the terms and conditions under which those credits may be used. The person or entity may create and use, sell, or otherwise transfer the credits upon CDFW’s approval that the credits have been created in accordance with the MCA. To enter into an MCA with CDFW, a person or entity shall submit a draft MCA to CDFW for its review, revision, and approval.
monitoring plan	The plan for monitoring a project. It includes information needs, indicators, and monitoring methods, spatial scale and locations, timeframe, and roles and responsibilities for collecting data.
natural community	A group of organisms living together and linked together by their effects on one another and their responses to the environment they share. ²⁷ A general term often used synonymously with habitat or vegetation type.
natural resources	Biological and ecological resources that are in addition to species and their habitats, including waters of the State, waters of the United States, wetlands, and natural communities. See “ecological resources” and “conservation element.”

²³ California Department of Fish and Wildlife. 2015. *California State Wildlife Action Plan, 2015 Update: A Conservation Legacy for Californians*. Edited by Gonzales, A. G. and Hoshi, J. Available: <<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=110399&inline>>. Accessed: March 16, 2017.

²⁴ California Invasive Plant Council. 2006 (Updates the 1999 CalEPPC List). *Cal-IPC Invasive Plant Inventory*. www.cal-ipc.org.

²⁵ Groom, M.J., G.K. Meffe, and R.C. Carroll, and contributing authors. 2006. *Principles of Conservation Biology, 3rd Edition*. Sinauer Associates: Sunderland, MA. 793 pages.

²⁶ Fish and Game Code section 1600 – 1617.

²⁷ Sawyer, J.O., T. Keeler-Wolf, and J.E. Evens. 2009. *A Manual of California Vegetation*. Second Edition. Sacramento, CA: California Native Plant Society.

Term/Abbreviation	Definition⁸
NCCP—natural community conservation plan	A plan developed pursuant to the Natural Community Conservation Planning Act. ²⁸
NCCPA	Natural Community Conservation Planning Act
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
performance standards	Observable or measurable physical or biological attributes that are used to determine if a conservation action or habitat enhancement action has met its objectives.
performance-based milestones	Identified steps in the implementation of a conservation action or habitat enhancement action, such as site protection, initiating implementation, completing implementation, or achieving performance standards.
permanently protect	Permanent protection means: (1) recording a conservation easement and (2) providing secure, perpetual funding for management of the land, monitoring, and legal enforcement.
population	The number of individuals of a particular taxon inhabiting a defined geographic area.
pressure	See “stressor, pressure.”
Program	Regional Conservation Investment Strategies Program
RCA—regional conservation assessment	An assessment that provides information and analyses that document the ecosystems, ecosystem processes, species, habitat, protected and conserved areas, and habitat linkages within an ecoregion to provide the appropriate context for nonbinding, voluntary conservation strategies and actions. These assessments include information for the identification of areas with the greatest probability for long-term ecosystem conservation success incorporating co-benefits of ecosystem services, such as carbon cycling, water quality, and agricultural benefits. An RCA may be used to provide context at an ecoregional or sub-ecoregional scale to assist with the development of an RCIS. RCAs are intended to provide scientific information for the consideration of public agencies and their preparation is voluntary.
RCA area	The geographic area encompassed by an RCA.
RCA or RCIS applicant	The public agency or group of public agencies developing an RCA or RCIS for review and approval by CDFW and who are responsible for the technical and administrative updates of an RCA or RCIS.
RCIS—regional conservation investment strategy	Information and analyses to inform nonbinding and voluntary conservation actions and habitat enhancement actions that would advance the conservation of focal species, habitat, and other natural resources and to provide nonbinding voluntary guidance for the identification of conservation priorities, investments in ecological resource conservation, or identification of priority locations for compensatory mitigation for impacts on species and natural resources. RCISs are intended to provide scientific information for the consideration of public agencies and are voluntary. RCISs are required if MCAs are to be developed.
RCIS area	The geographic area encompassed by an RCIS.

²⁸ Fish and Game Code sections 2800 – 2835.

Term/Abbreviation	Definition ⁸
RCIS state agency sponsor	The public state agency that submits the approval request letter to CDFW stating that the RCIS fulfills planning need for conservation and infrastructure or forestry.
recovery	The process by which the decline of an endangered or threatened species is halted or reversed or threats to its survival are neutralized, so that its long-term survival in nature can be ensured. Recovery entails actions to achieve the conservation and survival of a species ²⁹ including actions to prevent any further erosion of a population's viability and genetic integrity. Recovery also includes actions to restore or establish environmental conditions that enable a species to persist (i.e., the long-term occurrence of a species through the full range of environmental variation).
recovery area	Area identified in a draft or approved recovery plan for a federally listed species.
recovery goal	An established goal, usually quantitative, in a recovery plan that identifies when a listed species is restored to a point at which the protections of the federal Endangered Species Act or CESA are no longer required.
recovery plan	A document published by USFWS, the National Marine Fisheries Service, or CDFW that lists the status of a listed species and the actions necessary to remove the species from the endangered species list.
reestablishment	Manipulation of a piece of land with the goal of returning natural or historic ecosystem functions to a former resource. This results in rebuilding a former resource and increasing its area and ecosystem functions.
rehabilitation	Manipulation of a piece of land with the goal of repairing natural or historic ecosystem functions to degraded habitat or natural resources. This results in a gain in ecological functions but it does not result in a gain in area.
restoration	Manipulation of a site with the goal of returning species, habitat, and ecosystem functions to a site that historically supported such species, habitat, and functions, but which no longer does due to the loss of one or more required ecological factors or as a result of past disturbance.
SCV	Survey of California Vegetation ³⁰
sensitive species	Any special status species identified by a state or federal agency, usually a plant or animal species for which population viability is a concern.
SGCN	Species of Greatest Conservation Need ³¹

²⁹ U.S. Fish and Wildlife Service and National Marine Fisheries Service. 1998. *Recovery Plan for Upland Species of the San Joaquin Valley, California*. Portland, OR: Region 1.

³⁰ <https://www.wildlife.ca.gov/Data/VegCAMP/Mapping-Standards>

³¹ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109224&inline>

Term/Abbreviation	Definition ⁸
SSC	Species of Special Concern. ³² Species of Special Concern is an administrative designation and carries no formal legal status. The intent of designating SSCs is to: 1) focus attention on animals at conservation risk by the Department, other State, local and federal governmental entities, regulators, land managers, planners, consulting biologists, and others; 2) stimulate research on poorly known species; and 3) achieve conservation and recovery of these animals before they meet California Endangered Species Act criteria for listing as threatened or endangered.
stewardship	Land planning and ecological resources management with the goal of protecting and enhancing ecosystems and biodiversity.
stressor, pressure	Stressor is a degraded ecological condition of a focal species or other conservation element that resulted directly or indirectly from a negative impact of pressures such as habitat fragmentation. A pressure is an anthropogenic (human-induced) or natural driver that could result in changing the ecological conditions of the focal species or other conservation element. Stressors are negative by definition. 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.
sub-ecoregion	See “ecoregion, sub-ecoregion.”
SWAP	State Wildlife Action Plan ³³
threat	See “stressor, pressure”
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VegCAMP	Vegetation Classification and Mapping Program ³⁴
watershed	An area or ridge of land that contains a common set of streams and rivers that all drain into one location such as a marsh, stream, river, lake, or ocean.
working landscapes	An area where people live and work in a way that allows native ecosystems or ecosystem functions to be sustained. Business and social activities are done in a way that strive to minimize disturbance on native plants and animals while still retaining the working nature of the landscape.

³² <https://www.wildlife.ca.gov/Conservation/SSC>

³³ <https://www.wildlife.ca.gov/SWAP/Final>

³⁴ <https://www.wildlife.ca.gov/Data/VegCAMP>



Regional Conservation Assessment (RCA)

3.1 Introduction

This section provides an overview of the required information to develop a **regional conservation assessment (RCA)**, an optional tool that can provide valuable context for **regional conservation investment strategies (RCISs)**. Consistent with AB 2087, an RCA is not required for submitting an RCIS to CDFW for review and approval.³⁵ At an ecoregional scale, RCAs will identify areas with the greatest probability for long-term **ecosystem conservation** success with co-benefits of **ecosystem services** such as carbon sequestration, water quality, and agricultural benefits. An RCA includes information and analyses that document species, ecosystems, ecosystem processes, protected and conserved areas, and wildlife corridors and linkages within an **ecoregion**. RCAs shall be ecologically based³⁶ and are expected to conform to ecoregion geographic areas. RCAs will serve as a valuable tool for assessing conservation values in an ecoregional area.

Using geospatial information for species, the distribution of natural communities, standard vegetation classifications, and other standardized data, RCAs will identify and summarize relevant³⁷ regional conservation values, **pressures** and **stressors** including, but not limited to, conservation areas and **habitat connectivity** values, and **climate change vulnerability**. RCA applicants will consider existing conservation plans such as the State Wildlife Action Plan (SWAP) and approved or administrative draft **natural community conservation plans** (NCCPs). Approved RCAs will be used to provide context at an ecoregional scale to assist with the development of subsequent, finer-scale regional RCISs and mitigation credit agreements (MCAs).

RCAs shall be in compliance with all applicable state and local requirements. As a non-regulatory document, an RCA does not preempt the authority of local agencies to implement infrastructure and urban development in local general plans. An RCA may be proposed by CDFW or any other public agency. The public agency proposing and developing the RCA shall notify CDFW of its intent to develop an RCA.

3.2 Required Components of an RCA

The RCA shall identify and summarize the important species, ecosystems, ecosystem processes, protected areas, conservation areas, habitat connectivity, and the relevant regional pressures and stressors including **climate change vulnerability**. RCAs shall be prepared using information from,

³⁵ As per Fish and Game Code chapter 9, section 1853, unless otherwise noted.

³⁶ Fish and Game Code chapter 9, section 1851, subdivision (k).

³⁷ Relevance pertains to identifying the conservation values, pressures, and stressors that can help determine in an RCIS achievable conservation goals and objectives for sustaining **focal species** and their habitats and other conservation elements.

at a minimum, the SWAP³⁸ (and companion plans), approved NCCPs³⁹ that overlap the RCA, BIOS⁴⁰, and other information available from CDFW. Data availability, currency, and quality vary throughout the state. RCAs shall use the most current, detailed, and accurate data and information that is consistent across the **RCA area**. At a minimum, an RCA shall use the best available scientific information including, but not limited to, peer-reviewed literature and datasets identified in this section to identify and summarize relevant regional conservation values, pressures, and stressors.

3.2.1 Description of the RCA Area

The RCA applicant shall provide a concise description of the RCA's geographic area, state the rationale for why it was selected, and include the surrounding ecoregion(s) and any adjacent protected **habitat** areas or linkages that provide relevant context and rationale for the RCA's development.

Preparers shall use the following ecoregional classifications for terrestrial and aquatic data to enable and promote consistency among RCAs throughout California:

- USDA Ecoregion Sections—one or more U.S. Department of Agriculture (USDA) ecoregion Sections⁴¹
- U.S. Geological Survey (USGS) Hydrologic Units—four-digit (HUC-4) or eight-digit (HUC-8) units⁴²

3.2.2 Natural Communities Information

RCA applicants shall use CDFW's Natural Communities List⁴³ to enable and promote consistency with vegetation classifications in RCAs throughout California.

This list is based on [A Manual of California Vegetation, Second Edition](#), which is the California expression of the [U.S. National Vegetation Classification](#), and it is developed and maintained by CDFW's Vegetation Classification and Mapping Program (VegCAMP).⁴⁴ This list replaces all other

³⁸ California Department of Fish and Wildlife. 2015. *California State Wildlife Action Plan, 2015 Update: A Conservation Legacy for Californians*. Edited by Armand G. Gonzales and Junko Hoshi, PhD. Prepared with assistance from Ascent Environmental, Inc., Sacramento, CA. Available: <<https://www.wildlife.ca.gov/SWAP>>.

³⁹ <https://www.wildlife.ca.gov/Conservation/Planning/NCCP/Plans>

⁴⁰ BIOS is CDFW's data catalogue of spatial data, including other species observation, distribution, and habitat datasets. BIOS is accessible at <https://www.wildlife.ca.gov/Data/BIOS>

⁴¹ Goudey, C.B., and D.W. Smith, eds. 1994. *Ecoregions California07_3*. McClellan, CA. Remote Sensing Lab. Updated with ECOMAP 2007: Cleland, D.T.; Freeouf, J.A.; Keys, J.E., Jr.; Nowacki, G.J.; Carpenter, C; McNab, W.H. 2007. *Ecological Subregions: Sections and Subsections of the Conterminous United States [1:3,500,000]* [CD-ROM]. Sloan, A.M., cartog. Gen. Tech. Report WO-76. Washington, DC: U.S. Department of Agriculture, Forest Service. Miles and Goudey 1997. *Ecological subregions of California*. Technical Report R5-EM-TP-005, USDA Forest Service, Pacific Southwest Region, San Francisco, CA.

⁴² The United States Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS), the United States Geological Survey (USGS), and the Environmental Protection Agency (EPA). The Watershed Boundary Dataset (WBD) was created from a variety of sources from each state and aggregated into a standard national layer for use in strategic planning and accountability. <http://datagateway.nrcs.usda.gov>

⁴³ California Department of Fish and Game. 2010. *List of Vegetation Alliances and Associations*. September. Vegetation Classification and Mapping Program. Sacramento, CA. Available: <<https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities/List>>.

⁴⁴ <https://www.wildlife.ca.gov/Data/VegCAMP>

lists of terrestrial natural communities and vegetation types developed for the [California Natural Diversity Database \(CNDDDB\)](#).

The RCA applicant shall include lists of rare natural communities or high priority natural communities⁴⁵ that occur within the RCA area. Information on the distribution and mapped locations of rare or high priority natural communities is available through, but not limited to, SCV vegetation maps, the CNDDDB program, and the **Areas of Conservation Emphasis (ACE)** Sensitive Habitats dataset.

The RCA applicant shall check for the most recent version of the lists, associated vegetation descriptions, and any recent updates specific to the RCA area. Any vegetation information including maps developed for an RCA shall use this classification system and follow SCV standards.⁴⁶ If the RCA area has not been mapped to SCV standards, contact VegCAMP to determine the best available alternative vegetation map and associated descriptions.⁴⁷ If an approved NCCP in the RCA area uses a vegetation classification that differs from the Manual of California Vegetation, Second Edition, the RCA shall provide a cross-walk between the classifications to help ensure consistency between the RCA and the overlapping NCCP.

3.2.3 Biodiversity Information and Analysis

The RCA applicant shall identify and summarize areas of high biological value within an RCA area using information from the most recent version of ACE.⁴⁸ ACE is a compilation and analysis of the best available statewide spatial information on California's biological richness, including species diversity, rarity, endemism, and sensitive habitats. *In addition to ACE, RCA applicants may use other local or regional resources, as available.* The ACE datasets identify and map the following:

- **Species diversity:** The ACE Species Richness metric summarizes overall **biodiversity**, including sums of the total numbers of species potentially occupying each location, based on **California Wildlife Habitat Relationships (CWHR)** species ranges and models of species' predicted habitat.
- **Species rarity:** The ACE Rare Species Richness metric summarizes the total number of rare species occupying each location based on known species occurrence locations from CNDDDB and other BIOS data sources.
- **Endemism:** The ACE Rarity-weighted Richness metric depicts a measure of endemism across the landscape by summarizing the total number of rare species, weighted by the total area occupied by each species as mapped by its documented occurrence locations. This metric highlights locations occupied by species with restricted distributions and areas occupied by multiple **endemic** species.
- **Sensitive Habitats:** The ACE Sensitive Habitats data summarizes mapped locations of sensitive habitat data from multiple sources, including wetlands (palustrine, lacustrine, estuarine, and vernal pools), riparian areas, rare natural communities, and high-value salmonid **watersheds**. The Sensitive Habitats dataset also includes information on locations of flooded agricultural

⁴⁵ <https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities>

⁴⁶ <https://www.wildlife.ca.gov/Data/VegCAMP/Mapping-Standards>

⁴⁷ <https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities/Other-Info>

⁴⁸ <https://www.wildlife.ca.gov/Data/Analysis/ACE>

fields. The dataset can be used to identify generalized locations of sensitive habitats and provide additional information on original-source datasets with sensitive habitat maps.

3.2.4 Species Information

To identify and analyze the distribution of species, at a minimum, RCA applicants shall use the following information, as practicable:

- Information from NCCPs that overlap the RCA area.
- When available, existing species distribution models published by CDFW or in peer-reviewed literature. Any species distribution models otherwise used by or developed for an RCA should use modeling best practices including, at a minimum, documentation of the modeling process and methods and model evaluation metrics. Models developed for an RCA shall also be submitted to CDFW's Biogeographic Data Branch for inclusion in BIOS. The submittal shall include a description of the modeling process, methods, and metadata that meet CDFW's minimum metadata standards.⁴⁹
- RCAs shall reference the Lists of wildlife species found in the RCA area using the Complete List of Amphibian, Reptile, Bird, and Mammal Species in California;⁵⁰ lists of terrestrial vertebrates generated by queries of the California Wildlife Relationships Program (CWHR);⁵¹ and lists of special-status species. Special-status species lists include plant and animal species that are listed under the federal Endangered Species Act or CESA,^{52,53} CDFW animal Species of Special Concern,⁵⁴ California Fully Protected Animals,⁵⁵ SWAP Species of Greatest Conservation Need (SGCN)⁵⁶, and additional special-status species identified by the CNDDDB special plants and special animal lists.^{57,58} The CWHR contains life history, geographic range, and habitat suitability information for regularly occurring species of amphibians, reptiles, birds, and mammals in the state. The CWHR allows users to produce queries to generate lists of species by geographic location (e.g., ecoregion, HUC) and/or by habitat type and provides information on expert opinion-based habitat suitability ranks for each species within each habitat type.
- Geospatial information on special-status species and their habitats in the RCA area. Reported information on the distribution of many of these species is available through, but not limited to, the CNDDDB program and BIOS map viewer from CDFW's Biogeographic Data Branch.⁵⁹ The CNDDDB is an inventory of GIS-mapped occurrence locations of special-status species in California. The BIOS spatial data catalog⁶⁰ includes additional geospatial information on the distributions of wildlife species (e.g., occurrence location data and species distribution models).

⁴⁹ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=108504&inline>

⁵⁰ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87155&inline>

⁵¹ <https://www.wildlife.ca.gov/Data/CWHR>

⁵² <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109405&inline>

⁵³ <http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109390&inline>

⁵⁴ <https://www.wildlife.ca.gov/Conservation/SSC>

⁵⁵ http://www.dfg.ca.gov/wildlife/nongame/t_e_spp/fully_pro.html

⁵⁶ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109224&inline>

⁵⁷ <http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline>

⁵⁸ <http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline>

⁵⁹ <https://www.wildlife.ca.gov/Explore/Organization/BDB>

⁶⁰ The BIOS spatial data catalog can be searched by species name, or searched spatially by location.

3.2.5 Habitat Connectivity Values

RCA applicants shall conduct analyses or use existing analyses designed to identify areas for habitat connectivity. Habitat connectivity is important to maintaining viable **ecosystem function**, healthy wildlife **populations**, and gene flow. Habitat connectivity is a critical consideration when evaluating the location and juxtaposition of protected lands within an RCA, and when determining how to provide for wildlife movement at different scales. Wildlife movement entails searches for food, shelter, and mates; dispersal as young find new territories; seasonal migration; and shifts to new ranges, when feasible, in response to climate change. Wildlife movement can also be important to maintaining healthy gene flow of plants through pollination and seed dispersal. RCA applicants shall use habitat connectivity data and information including, but not limited to:

- **The California Essential Habitat Connectivity Project (CEHC)**⁶¹, a statewide assessment of essential habitat connectivity. The project identified large remaining blocks of intact, contiguous natural habitat (natural landscape blocks) and modeled linkages between them to best maintain habitat connectivity across the landscape.
 - Natural Landscape Blocks identify remaining intact lands across the state, independent of ownership. These lands contribute to habitat connectivity and are expected to have high conservation and climate resilience value because of their size, intactness, and connectedness with other natural habitats.
 - Modeled Linkages represent coarse-scale, generalized habitat connections between natural landscape blocks. These connections provide a broad-scale view of habitat connectivity needs at the statewide scale, but they should be supplemented with or superseded by fine-scale connectivity analyses at a regional scale, when available.
- Regional, fine-scale connectivity analyses are refinements of the CEHC at a regional scale using finer-scale datasets and based on species movement needs. Regional, fine-scale connectivity analyses have been completed for several ecoregions in the state. When available, these spatial datasets⁶² and project reports⁶³ shall be used by an RCA. These datasets can be used to identify overall fine-scale habitat connections between landscape blocks within an ecoregion, as well as critical movement corridors for individual species that may be of high priority for conservation.
- CDFW's Guidance for Fine-Scale Wildlife Connectivity Analysis⁶⁴ is a report that provides guidance to complete a fine-scale wildlife connectivity analysis that meets CDFW standards. The report includes information on species selection criteria, landscape block identification, and details the model development process using examples from CDFW's case study analysis of wildlife connectivity across the northern Sierra Nevada foothills that was conducted after the completion of the CEHC project. *RCA applicants are not required to develop a fine scale connectivity analysis; however, if RCA applicants choose to develop this type of analysis, CDFW's guidance should be used.*

⁶¹ <https://www.wildlife.ca.gov/conservation/planning/connectivity/CEHC>

⁶² Available in BIOS

⁶³ <https://www.wildlife.ca.gov/Conservation/Planning/Connectivity>

⁶⁴ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=93018&inline>

3.2.6 Existing Conservation Areas

RCA applicants shall conduct analyses or use existing spatial analyses to identify ecological relationships between existing conservation areas and other existing protected areas. The spatial analysis should identify the degree to which conserved and protected areas occur in the RCA area including, but not limited to, the percent of the RCA area currently in conservation protection and the percent of important species habitat, ecosystems, ecosystem processes, and habitat linkages⁶⁵ currently in conservation protection. The analysis should consider the location, size, and characteristics of the protected areas including species, habitats, natural communities, and habitat connectivity. At a minimum, the analysis shall include the following:

- Reserve networks within any NCCPs that overlap the RCA area
- The California Protected Areas Database (CPAD)⁶⁶
- CDFW-owned/managed lands
- Federally owned/managed lands including National Forests, National Parks, National Monuments, Bureau of Land Management lands, and other federal lands.
- California Department of Parks and Recreation–owned/managed lands
- California Conservation Easement Database (CCED)⁶⁷

*While not required, it is recommended that the protected land's management strategy be taken into consideration by the RCA applicant when evaluating the level of conservation protection on existing protected lands. The management strategy is captured by the **Gap Analysis Program (GAP) Status Rank**⁶⁸ as provided in CPAD. The GAP Status Rank, when available, gives an indication of the level of conservation protection afforded to various lands based on the management strategy.*

3.2.7 Pressures and Stressors

RCA applicants shall identify the pressures and stressors for the ecoregion(s) included in the RCA area. RCAs are not required to include pressures and stressors for each identified species in the RCAs. An RCA shall identify and summarize relevant regional pressures and stressors including climate change vulnerability and invasive species. As a starting point, RCA applicants shall use the SWAP and any approved NCCPs to identify and summarize the ecoregion's pressures and stressors.

3.2.7.1 Climate Change Vulnerability Assessments

RCA applicants shall conduct analyses or use existing analyses and information to identify exposure of the RCA area to climate change (e.g., magnitude of projected changes in temperature and precipitation, sea level rise), climate vulnerable resources in the RCA (e.g., vulnerable fish, wildlife, and plants), and areas that may be resilient to the impacts of climate change.

⁶⁵ Fish and Game section 1851, subsection (k)

⁶⁶ <http://www.calands.org/>

⁶⁷ <http://www.calands.org/cced>; additional **conservation easement** information may be available from local land trusts

⁶⁸ <https://gapanalysis.usgs.gov/padus/data/>

For existing information on climate vulnerability of California species and habitats and links to associated datasets, please refer to CDFW's climate change vulnerability assessment website.⁶⁹ This website will be maintained to provide relevant resources that will aid applicants in developing content for this section of the RCA in accordance with the list of requirements below.

At a minimum, RCAs shall include summaries of the following relevant existing data, when available:

- Lists of climate-vulnerable species or species groups and natural communities developed or supported by CDFW, as identified by climate vulnerability assessments for vegetation, birds, mammals, reptiles, amphibians, fish, and plants in California or included on the SWAP SGCN list.⁷⁰
- Other factors that may contribute to climate resilience such as diverse land facets⁷¹ (geophysical features expected to support biodiversity in a changing climate) and high levels of connectivity (corridors to facilitate movement as species move in response to climate change). Where available, data or information should be included that demonstrate how land facets and/or corridors within the RCA may promote climate resilience.
- Geospatial information on climate exposure with respect to species, including information from existing projected range shift models for wildlife species developed for CDFW climate vulnerability analyses, where available.
- Geospatial information on landscape-scale climate exposure, such as:
 - High-climate-exposure **natural community** areas as identified by the Climate Change Vulnerability Assessment of California's Terrestrial Vegetation.⁷² These represent habitats that are expected to experience major changes in composition, such as type conversion, due to changes in temperature and water availability.
 - Coastal areas expected to be impacted by sea level rise. Tools such as Cosmos,⁷³ CalAdapt,⁷⁴ and the NOAA Sea Level Rise viewer⁷⁵ may assist in identifying risks associated with sea level rise.
- Geospatial information on landscape-scale climate resilience, such as:
 - Climate-resilient natural community areas, representing habitats expected to remain stable in the face of climate change (i.e., potential climate refugia).

⁶⁹ <https://www.wildlife.ca.gov/Conservation/Climate-Science/Resources/Vulnerability>

⁷⁰ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109224&inline>

⁷¹ [https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/oregon/science/Documents/PNW Terrestrial Climate Resilience Report March3 2015.pdf](https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/oregon/science/Documents/PNW%20Terrestrial%20Climate%20Resilience%20Report%20March3%202015.pdf)

⁷² <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=116208&inline>

⁷³ https://walrus.wr.usgs.gov/coastal_processes/cosmos/

⁷⁴ <http://cal-adapt.org/sealevel/>.

⁷⁵ <https://coast.noaa.gov/slr/beta/#/layer/slr>.

3.2.7.2 Invasive Species

RCA applicants shall consider invasive species within the RCA area. Information is available from CDFW's Invasive Species Program,⁷⁶ California Department of Food and Agriculture,⁷⁷ Invasive Species Council of California,⁷⁸ California Invasive Plant Council online inventory,⁷⁹ and county agricultural commissioner offices.⁸⁰

3.2.8 Other Considerations

RCA applicants shall consider existing major water, transportation, and transmission infrastructure facilities in the assessment area and account for reasonably foreseeable development of major infrastructure facilities including, but not limited to, renewable energy and housing.⁸¹ RCA applicants should consider the following sources:

- Renewable energy projects—information from the county or the California Energy Commission
- Infrastructure projects—identified in local, state, and federal agencies' plans and in CEQA and National Environmental Policy Act (NEPA) documents
- Housing and other development—identified in city and county general and specific plans and in CEQA and NEPA documents

3.3 Data Sharing and Access

All spatial data created during RCA development shall be submitted to CDFW's Biogeographic Data Branch for inclusion in BIOS. The RCA applicant shall compile input and summary data in a consistent format.

RCA applicants may choose to upload this information onto an Internet map-based Web portal for interactive use to allow CDFW, other public agencies, the general public and other stakeholders to generate queries of regional conservation values within the RCA area. The web portal should clearly display the process-related steps used to compile, develop, and derive RCA information. All spatial data included in the web portal shall have metadata meeting CDFW's minimum metadata standards⁸² and be available for download in an industry-standard geospatial format.⁸³ Examples of an interactive platform include the Desert Renewable Energy Conservation Plan Gateway portal⁸⁴ and the Bay Area Conservation Lands Network Explorer Tool.⁸⁵

⁷⁶ <https://www.wildlife.ca.gov/Conservation/Invasives>

⁷⁷ <http://www.cdfa.ca.gov/plant/>

⁷⁸ <http://www.iscc.ca.gov/species.html>

⁷⁹ <http://cal-ipc.org/paf/>

⁸⁰ http://www.cdfa.ca.gov/exec/county/county_contacts.html

⁸¹ Fish and Game Code chapter 9, section 1853, subdivision (c)(7).

⁸² <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=108504&inline>

⁸³ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=108504&inline>

⁸⁴ Desert Renewable Energy Conservation Plan (DRECP) Gateway: <https://drecp.databasin.org>

⁸⁵ <http://www.bayarealands.org/explorer/>

3.4 Consistency with other Documents

Whenever practicable, RCAs shall be consistent with and complement **administrative draft NCCPs**, approved NCCPs, and federal habitat conservation plans (HCPs), and approved state or federal **recovery plans** within the USDA ecoregion or **sub-ecoregions** that overlap the RCA by including important conservation values, conservation elements, and conservation and other protected areas in the RCA as identified in these plans.

3.5 Public Review Process for RCAs

A public input and review process is not required prior to the approval of an RCA or any subsequent amendments. *While not required, CDFW recommends that the public agency consider public review of the draft RCA prior to submitting it to CDFW for approval.*

3.6 Process to Update an RCA

RCAs are not required to be updated. *However, CDFW recommends that an RCA be updated at least every 10 years with current scientific information.* The updated RCA shall include an explanation of the updates and whether, and to what extent, the RCA is consistent with the previously approved RCA or amended RCA. *Upon completion of the update, the public agency responsible for updating the RCA shall submit it to CDFW for review and approval.*

3.7 Fee Schedule for RCAs

The current fee schedule for RCAs is available on CDFW's [website](#).



Regional Conservation Investment Strategies (RCISs)

4.1 Introduction

This section provides guidance on the information needed to develop a **regional conservation investment strategy (RCIS)**.⁸⁶ RCISs will include information and analysis of **conservation elements** at a sub-ecoregional scale, including **focal species** and their associated **habitats**, wildlife corridors and linkages, and other relevant **natural resources** within the **RCIS area**. The intent of the RCIS program (Program) is to identify high-value **conservation** and **habitat enhancement** opportunities within the RCIS area. When implemented, RCIS-directed **conservation actions** will aid in species **recovery**, adaptation to climate change, and resiliency in the face of wildlife **population pressures** and **stressors**.

Preparation of an RCIS by public agencies is voluntary. The use of an RCIS by any organization, entity, or individual is also voluntary. Each RCIS will incorporate the best available scientific data and information to identify **conservation goals** and measurable objectives for focal species and to identify conservation actions and habitat enhancement actions that, if implemented, will further those goals and objectives. The conservation actions and habitat enhancement actions will benefit the conservation of focal species, their habitats, and other conservation elements by addressing or responding to pressures and stressors affecting these resources. These actions may inform **conservation investments** or they may be used as the basis for developing **advance mitigation opportunities** through the creation of credits (*see Section 5—Mitigation Credit Agreements*).

In addition to the above, it is also the intent of the Program that RCISs inform infrastructure planning and provide project proponents with additional mechanisms for identifying and developing **compensatory mitigation**. Development of an RCIS does not create, modify, or impose regulatory requirements or standards, regulate land use, establish land use designations, or affect the land use authority of a public agency. Implementation of RCIS-based actions shall be in compliance with all applicable state and local requirements. As a non-regulatory document, an RCIS does not preempt the authority of local agencies to implement or regulate infrastructure and urban development. Project proponents in need of compensatory mitigation are not required to use or implement any action described in an RCIS. Only entities that are a party to a **mitigation credit agreement (MCA)** will be required to adopt, implement, or otherwise adhere to RCIS goals, objectives, and conservation and habitat enhancement actions that form the basis for the MCA⁸⁷. Additionally, the preparation or approval of an RCIS does not alter the requirements of the California Environmental Quality Act (CEQA),⁸⁸ the California Endangered Species Act (CESA)⁸⁹, the Natural Communities Conservation Planning Act (NCCPA)⁹⁰, or the California Department of Fish

⁸⁶ Fish and Game Code section 1861.

⁸⁷ Fish and Game Code section 1855 subsection (a) and (c).

⁸⁸ Public Resources Code sections 21000 – 21189.

⁸⁹ Fish and Game Code sections 2080 – 2085.

⁹⁰ Fish and Game Code section 2035.

and Wildlife's (CDFW's) Lake and Streambed Alteration (LSA)⁹¹ and Conservation and Mitigation Bank⁹² programs.

An RCIS may be proposed by CDFW or any other public agency⁹³ and CDFW will consider and, under current statutory limitations, review all RCISs submitted prior to December 1, 2019. CDFW shall approve no more than eight RCISs submitted before January 1, 2020.⁹⁴ The public agency proposing and preparing the RCIS shall notify CDFW of its intent to develop an RCIS. CDFW may approve an RCIS for an initial period of up to 10 years.⁹⁵

4.2 Required Components of an RCIS

Unless otherwise indicated, the information below outlines required RCIS components pursuant to Fish and Game Code section 1852, subdivision (c).

4.2.1 Explanation of the RCIS's Conservation Purpose

An RCIS's **conservation purpose** shall align with the goals and objectives of the State Wildlife Action Plan (SWAP) and any approved **regional conservation assessment (RCA)** encompassing the RCIS area. It shall also be consistent with and complement any **natural community conservation plans (NCCPs)** or federal habitat conservation plans (HCPs) that overlap the RCIS area. Generally, an RCIS's conservation purpose is to identify conservation priorities within the RCIS area and develop conservation actions or habitat enhancement actions that, if implemented, will sustain and restore the RCIS's conservation elements including focal species and their habitats and other natural resources.

The RCIS's conservation purpose shall be included in the **RCIS's state agency sponsor**⁹⁶ letter. This letter shall briefly state the purpose of the RCIS from both a conservation perspective and an infrastructure planning perspective, and it shall be a brief, one-page document. RCIS applicants should identify the state agency sponsor and consider working with that agency during the early stages of the RCIS development process.

4.2.2 Description of the RCIS Area

The geographic area encompassed by an RCIS is the **RCIS area**. The RCIS focal species and key **ecological resources**—collectively called conservation elements—shall be considered when determining the RCIS area. The RCIS applicant shall provide a concise description of the geographic area, state the rationale for why it was selected, and include the surrounding **ecoregion(s)** and any adjacent protected habitat areas or linkages that provide relevant context and rationale for the RCIS.

⁹¹ Fish and Game Code sections 1600 – 1613.

⁹² Fish and Game Code sections 1797 – 1799.

⁹³ Fish and Game Code section 1852, subdivision (a).

⁹⁴ Fish and Game Code section 1861.

⁹⁵ Fish and Game Code section 1854, subdivision (a).

⁹⁶ Fish and Game Code section 1852, subdivision (a).

Criteria for selecting and defining the RCIS area shall be based on ecological considerations⁹⁷ and shall conform to prescribed subdivisions of one or more U.S. Department of Agriculture (USDA) ecoregions⁹⁸ or United States Geological Survey hydrologic unit codes (HUCs).⁹⁹ RCISs may also be further confined by administrative boundaries such as county lines or jurisdictional boundaries of the RCIS' applicant or the public agency sponsor.

There is no minimum or maximum size for an RCIS area; however, multiple RCISs shall not overlap one another. Where multiple RCISs are adjacent or in close proximity, the RCISs need not address the same conservation elements but they should complement and be compatible with one another. At a minimum, the provisions of two RCISs that are adjacent or in close proximity shall not conflict nor shall the provisions of one RCIS undermine or be incompatible with the conservation purpose of another RCIS.

Further criteria to determine the RCIS area may include, but are not limited to:

- *Areas of resilient habitat (to climate change or other stressors and pressures), U.S. Fish and Wildlife Service (USFWS)-defined designated **critical habitat** or recovery units for one or more focal species, or distinct population segments or ecological significant units (e.g., NMFS equivalent for fish).*
- *Areas where conservation actions or habitat enhancement actions, when implemented, may contribute to species recovery or sustain focal species populations.*
- *Areas where NCCPs and HCPs have not been developed and are unlikely to be developed or where conservation or mitigation banks have not been established.*

An RCIS may be amended or updated any time after its initial approval to incorporate additional geographical areas, ecological resources, or new information (see information below in this section on how to update an RCIS). *While not required, RCIS applicants are encouraged to work with CDFW early in the process when developing RCIS areas.*

4.2.3 Focal Species Information and Analysis

It is the Program's intent that an RCIS will provide an overview of the RCIS area's important conservation elements including focal species and their habitats and key ecological resources. RCIS applicants shall use information on focal species and other conservation elements to develop the RCIS's goals, measurable objectives, and conservation actions and habitat enhancement actions. *RCIS applicants should be flexible when developing focal species lists, creating a list that captures the ecoregion's SWAP's Species of Greatest Conservation Need (SGCN), Species of Special Concern (SSC), and the species in the RCIS area for which compensatory mitigation may be needed to offset future*

⁹⁷ Fish and Game Code section 1851, subdivision (k).

⁹⁸ Goudey, C.B., and D.W. Smith, eds. 1994. Ecoregions California07_3. McClellan, CA. Remote Sensing Lab. Updated with ECOMAP 2007: Cleland, D.T.; Freeouf, J.A.; Keys, J.E., Jr.; Nowacki, G.J.; Carpenter, C; McNab, W.H. 2007. Ecological Subregions: Sections and Subsections of the Conterminous United States [1:3,500,000] [CD-ROM]. Sloan, A.M., cartog. Gen. Tech. Report WO-76. Washington, DC: U.S. Department of Agriculture, Forest Service. Miles and Goudey 1997. *Ecological subregions of California*. Technical Report R5-EM-TP-005, USDA Forest Service, Pacific Southwest Region, San Francisco, CA.

⁹⁹ The United States Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS), the United States Geological Survey (USGS), and the Environmental Protection Agency (EPA). The Watershed Boundary Dataset (WBD) was created from a variety of sources from each state and aggregated into a standard national layer for use in strategic planning and accountability. <http://datagateway.nrcs.usda.gov>

project impacts. Including a wide range of focal species would offer more opportunities to identify conservation investments, conservation actions, and habitat enhancement actions—many of which could support the development of credits through MCAs. However, as an RCIS is intended to establish conservation priorities, RCIS applicants should consider a range of focal species that would establish these priorities based on focal species exhibiting the most pronounced declines or acute vulnerability regardless of their regulatory status.

To create credits through an MCA to offset future impacts to a specific species, that species must be an approved RCIS' focal species or a species whose conservation need was analyzed or otherwise provided for in the RCIS. *Species with anticipated compensatory mitigation needs from public infrastructure or other projects in the next 10 years should be included as focal species.*

At a minimum, RCIS applicants shall select focal species using the following criteria:

- Species of Greatest Conservation Need—The SWAP identifies SGCN for the state by ecoregion province.¹⁰⁰ These species represent CDFW's current understanding of species conservation concerns statewide. Selection criteria for SGCN include species with special legal status including candidate status, Species of Special Concern as designated by CDFW, and climate-sensitive species. Terrestrial SGCN are summarized in a list for each ecoregion. As a starting point to selecting focal species, RCIS applicants shall consider including SGCNs in the ecoregions that fully or partially overlap the RCIS area.
- Native Species—All focal species shall be native species. RCIS should consider native species that are exhibiting declines in abundance or distribution, that are vulnerable to pressures such as climate change or habitat loss, and/or that provide other conservation benefits in the RCIS area.
- Indicator Species—RCIS applicants shall select focal species that may serve as **indicator species**. These species may not be declining or vulnerable; however, including them may help inform RCIS conservation actions and habitat enhancement actions in ways that declining or vulnerable species may not. Including indicator species may enable the development of conservation actions and habitat enhancement actions that effectively and efficiently cover numerous other focal species sharing the same habitat conditions and areas. *For example, the presence of an indicator species in a given area might be correlated to habitat (certain environmental or ecological conditions) suitable for a group of other species. Implementing actions for these species may indirectly conserve multiple other species dependent on the same or similar ecological conditions.*
- Wide-ranging Species—Species that require large, contiguous, or connected blocks of habitat, whereby these species could effectively inform habitat enhancement actions involving **habitat connectivity** and other important ecological processes within RCIS areas.
- Special Status Species—RCIS applicants shall use CDFW's lists of special-status species, including plants and animals that are listed under the federal Endangered Species Act or CESA^{101,102} CDFW animal Species of Special Concern,¹⁰³ California Fully Protected Animals,¹⁰⁴

¹⁰⁰ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109224&inline>

¹⁰¹ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109405&inline>

¹⁰² <http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109390&inline>

¹⁰³ <https://www.wildlife.ca.gov/Conservation/SSC>

¹⁰⁴ http://www.dfg.ca.gov/wildlife/nongame/t_e_spp/fully_pro.html

SWAP SGCN¹⁰⁵, and additional special-status species identified by CNDDDB special plants and special animals lists.^{106,107}

4.2.3.1 Required Focal Species Information

RCIS applicants shall utilize the best available scientific resources (see below for CDFW information and datasets) and, at a minimum, include the following information for each focal species:

- The current known or estimated status and occurrence data within the strategy area¹⁰⁸
- Life history and habitat information
- A summary of historic, current, and projected threats, stressors, and pressures in the RCIS area, including **climate change vulnerability**, with respect to the focal species.¹⁰⁹

To organize species information, RCIS applicants may prepare focused summaries that sufficiently inform the RCIS's goals, species' measurable objectives, and the development of the RCIS's conservation actions and habitat enhancement actions. These species summaries may be provided as appendices and shall be properly cited using the best-available science resources described in the next subsection. Species summaries shall be sufficiently detailed so that CDFW and RCIS users will understand the rationale for conservation actions and habitat enhancement actions.

4.2.4 Information and Analysis of Other Important Conservation Elements

RCISs should include other conservation elements within the RCIS area such as important ecological resources and processes, natural communities, existing protected areas, and other conservation elements, along with an explanation of the criteria, data, and methods used to identify those important conservation elements.¹¹⁰

RCIS applicants shall use the information on ecological resources and processes and other conservation elements to develop the RCIS's goals, measurable objectives, and conservation actions and habitat enhancement actions for focal species. *When considering which ecological resources, processes, and other conservation elements to include, RCIS applicants should focus on those elements that best enable optimal resilience and long-term **ecosystem function** in the areas to be conserved and enhanced.*

At a minimum, RCIS applicants shall select ecological resources and other conservation elements for inclusion in the RCIS by using the following criteria:

- Natural Communities—Natural communities that provide habitat for focal species, non-focal species, or both, and that may have other conservation benefits. These should all be largely characterized by native species. *Native natural communities should be considered if they have conservation concerns (i.e., declining in abundance or distribution; associated with SGCN, indicator*

¹⁰⁵ <https://www.wildlife.ca.gov/SWAP/Final> (see appendix C)

¹⁰⁶ <http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline>

¹⁰⁷ <http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline>

¹⁰⁸ Fish and Game Code section 1852, subdivision (c)(3).

¹⁰⁹ Fish and Game Code section 1852, subdivision (c)(5).

¹¹⁰ Fish and Game Code section 1852, subdivision (c)(4).

*species, and wide-ranging species; vulnerable to pressures such as climate change or habitat loss) and if they provide **ecosystem services** benefits such as carbon sequestration, flood protection, open space and park values, and agriculture and cultural values.*

- Water Resources—Wetlands, Waters of the United States, and Waters of the State should be included. *Water resources should be considered if they provide ecological functions to wildlife, including focal species, and ecosystem services to people such as drinking water quality, surface water, and groundwater recharge. RCIS applicants should consider water resources if they are likely to incur permitting needs that may be covered through an MCA.*

4.2.4.1 Required Ecological Resource and Natural Communities Information

RCIS applicants shall utilize the best available scientific resources (see below for CDFW information and datasets) and, at a minimum, include the following information for ecological resources, natural communities, and other important conservation elements:

- The current known or estimated extent within the strategy area
- Ecological functions
- Ecosystem services

The RCIS shall also include a summary of historic, current, and projected future threats, stressors, and pressures on the habitat and other natural resources in the RCIS area, including climate change vulnerability.¹¹¹

4.2.5 Conservation Goals and Measurable Objectives

Conservation goals and measurable objectives for the focal species and conservation elements identified in the RCIS shall address or respond to the identified pressures on focal species and important conservation elements¹¹². *Goals and objectives may be grouped by species, ecological resources, and other conservation elements if a goal or objective addresses multiple conservation elements and their pressures.*

The RCIS's goals shall reflect broad, desired outcomes for focal species and other conservation elements within the RCIS area. *Examples of potential conservation goals would be achieving sustainable native species populations and **natural community** persistence in the RCIS area, supporting stability and recovery of focal species, restoring and enhancing habitat, reconnecting fragmented habitat blocks, and improving connectivity by increasing permeability for wildlife movement and migration corridors.*

A conservation objective is a concise, measurable statement of a target outcome for a focal species or an important conservation element. Measurable objectives in the RCIS should include a description of how they may provide for adaptation opportunities to offset the effects of climate change on focal species.¹¹³ They should also be achievable through either conservation investments or implementing actions to create credits through an MCA in the next 10 years.

¹¹¹ Fish and Game Code section 1852, subdivision (c)(5).

¹¹² Fish and Game Code section 1852, subdivision (c)(8).

¹¹³ Fish and Game Code section 1852, subdivision (c)(13).

An RCIS's conservation priorities identified in the goals and objectives generally are those that may be fully or partially-achieved within the next 10 years through implementation of the conservation actions and habitat enhancement actions.

4.2.6 Conservation Actions and Habitat Enhancement Actions

An RCIS shall identify conservation actions or habitat enhancement actions that support the RCIS's conservation goals and objectives for focal species and conservation elements. RCIS applicants shall include a description of how these actions were selected in relation to the goals and objectives, the general amounts (e.g., RCIS area percentages or estimated number of acres) and types of habitat that, if preserved or restored and **permanently protected**, could achieve the conservation objectives.¹¹⁴ *Examples of these actions may include, but are not limited to, **creation or establishment** of habitat, **restoration or rehabilitation** of habitat and conservation elements on public or private land, installation of wildlife crossings, and removal of fish barriers.* Once identified, conservation actions and enhancement actions shall be prioritized by focal species or other conservation elements' needs within areas of high conservation value.

To create mitigation credits through an MCA (*See Section 5—Mitigation Credit Agreements*), the RCIS shall also include¹¹⁵:

- An **adaptive management and monitoring framework** for focal species, conserved habitat, and other conserved natural resources
- Identification of a public or private entity that will be responsible for updates
- A process for updating the scientific information pertaining to, tracking the progress of, and evaluating the effectiveness of conservation actions and habitat enhancement actions to offset the identified stressors and pressures to focal species and achieving the RCIS's goals and objectives at least once every 10 years, until all mitigation credits are used.

4.2.7 Summary of Mitigation and Conservation Banks within an RCIS Area

RCIS applicants shall provide a summary of mitigation banks and conservation banks approved by CDFW,¹¹⁶ USFWS,¹¹⁷ and the U.S. Army Corps of Engineers that are located within the RCIS area or whose service area overlaps the RCIS area. The summary shall include information on the types of credits available and where information can be found on the number of available credits.

4.2.8 Consistency with Other Documents and Programs¹¹⁸

Whenever practicable, RCISs shall be consistent with and complement **administrative draft NCCPs**, approved NCCPs, and federal HCPs, and approved state or federal **recovery plans** within the USDA ecoregion or **sub-ecoregions** overlapping the RCIS area. This can be accomplished by including important information about the conservation priorities and conservation areas that are identified

¹¹⁴ Fish and Game Code section 1852, subdivision (c)(9).

¹¹⁵ Fish and Game Code section 1856, subdivision (b).

¹¹⁶ <https://www.wildlife.ca.gov/Conservation/Planning/Banking/Approved-Banks>

¹¹⁷ https://ribits.usace.army.mil/ribits_apex/?p=107:2

¹¹⁸ Fish and Game Code section 1862, subdivision (c).

in these plans. If a CDFW-approved RCA encompasses a proposed RCIS area, the RCIS shall explain how and to what extent it has incorporated the RCA's information and analysis.¹¹⁹ *RCISs are not required to include pressures and stressors for each of the focal species identified in these plans, but should use the SWAP and any approved RCAs to identify the pressures and stressors for the ecoregion(s) included in the RCIS area. If a species occurs entirely within a NCCP boundary that overlaps with the RCIS area, and the NCCP is charged with the recovery of the species, the RCIS applicant may incorporate the NCCP's information and analysis for that species.*

In addition, an RCIS shall consider the conservation benefits of preserving working lands for agricultural uses. It shall also consider existing major water, transportation, and transmission infrastructure facilities in the RCIS area and account for reasonably foreseeable development of major infrastructure facilities including, but not limited to, renewable energy and housing as identified in city and county general plans, state water and transportation plans, and regional transportation plans. Information on renewable energy projects may be obtained from the county or the California Energy Commission.

As non-regulatory documents, species, habitat and other natural resource impacts that may be associated with these developments are not required to be included in RCISs. Developers that identify future projects and determine their likely compensatory mitigation needs may choose to use an RCIS for identifying suitable mitigation opportunities and to voluntarily implement specific conservation actions or habitat enhancement actions to create mitigation credits through MCAs.

4.2.9 Best Available Scientific Information

RCIS applicants shall incorporate and cite the best existing scientific information for the RCIS area to develop a transparent, repeatable, and scientifically rigorous process for identifying and summarizing conservation priorities, focal species, habitats, and other conservation elements in the RCIS area. This information includes, but is not limited to, peer-reviewed literature and datasets identified in this section and a brief description of gaps in relevant scientific information.

For information regarding focal species, their habitats, and other conservation elements, the RCIS applicant shall use, at a minimum, the SWAP,¹²⁰ the SWAP's companion plans, approved NCCPs¹²¹ that overlap the RCIS area, and CDFW data resources found in BIOS¹²² (CDFW's map-based spatial data warehouse) or otherwise published by CDFW. In addition to CDFW data, RCIS applicants may use other local or regional resources, as available. Data vary throughout the state, and the most current, detailed, and accurate data shall be used, as practicable. RCIS applicants are not required to create new and independent species models but shall briefly explain the criteria and methods used to determine the focal species and other conservation elements.

The RCIS applicant shall provide a brief explanation of the criteria and methods used to identify the focal species. The RCIS applicants are not required to create new and independent species models, but shall provide information on each focal species shall include their current known or estimated

¹¹⁹ Fish and Game Code section 1853.

¹²⁰ California Department of Fish and Wildlife. 2015. *California State Wildlife Action Plan, 2015 Update: A Conservation Legacy for Californians*. Edited by Armand G. Gonzales and Junko Hoshi, PhD. Prepared with assistance from Ascent Environmental, Inc., Sacramento, CA. Available: <<https://www.wildlife.ca.gov/SWAP>>.

¹²¹ <https://www.wildlife.ca.gov/Conservation/Planning/NCCP/Plans>

¹²² <https://www.wildlife.ca.gov/Data/BIOS>

population status (e.g., as found in CDFW SSC reports,¹²³ periodic status reports on threatened and endangered species, California Natural Diversity Database (CNDDB) occurrence information, other published literature) within the RCIS area, and a summary of historic, current, and future **pressures** and stressors including **climate change vulnerability** on the focal species, their habitats, and other important conservation elements.

4.2.9.1 Standard Ecoregional Classifications for Terrestrial and Aquatic Data

RCIS applicants shall use the following classifications for terrestrial and aquatic data to enable and promote consistency among RCAs and RCISs throughout California:

- USDA Ecoregional Section or Sub-ecoregions
- U.S. Geological Survey (USGS) Hydrologic Units (HUC 10 or HUC 12)

4.2.9.2 Use of Standard Vegetation Classifications

RCIS applicants shall incorporate CDFW's Natural Communities List¹²⁴ to enable and promote consistency with vegetation classifications in RCISs throughout California. This list is based on [Manual of California Vegetation, Second Edition](#) or MCVII, which is the California expression of the [National Vegetation Classification](#), and is developed and maintained by CDFW's Vegetation Classification and Mapping Program (VegCAMP).¹²⁵ This list replaces all other lists of terrestrial natural communities and vegetation types developed for the [CNDDB](#). Currently included in this list are 350 alliances, 2,140 associations, 82 provisional alliances, 66 provisional associations, 96 semi-natural stands, 15 stand types (within semi-natural category), and 15 special stands.

The RCIS applicant shall check for the most recent version of the list, associated vegetation descriptions, and any recent updates specific to the RCIS area. Any vegetation information including maps developed for an RCIS shall use this classification system and follow the Survey of California Vegetation (SCV) standards.¹²⁶ If the RCIS area has not been mapped to SCV standards, applicants shall contact VegCAMP to determine the best available vegetation map.¹²⁷ If an approved NCCP in the RCIS area uses a vegetation classification that differs from the Manual of California Vegetation, Second Edition, the RCIS shall provide a cross-walk between the classifications to help ensure consistency between the RCIS and the overlapping NCCP.

¹²³ <https://www.wildlife.ca.gov/Conservation/SSC>

¹²⁴ California Department of Fish and Game. 2010. *List of Vegetation Alliances and Associations*. September. Vegetation Classification and Mapping Program. September. Sacramento, CA. Available: <https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities/List>.

¹²⁵ <https://www.wildlife.ca.gov/Data/VegCAMP>

¹²⁶ <https://www.wildlife.ca.gov/Data/VegCAMP/Mapping-Standards>

¹²⁷ <https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities/Other-Info>

4.2.9.3 Water Resources

RCIS applicants should use the best available data sources which may include USGS topographic maps, local wetland delineation reports, USFWS National Wetlands Inventory,¹²⁸ and the State Water Resources Control Board's marine Areas of Special Biological Significance.¹²⁹

4.2.9.4 Distribution of Focal Species and Natural Communities

RCIS applicants shall identify and describe the distribution of focal species and natural communities using, at a minimum, the following information:

- Geospatial information on the special-status species. Reported information on the distribution of many of these species is available through, but not limited to, the CNDDDB program and BIOS map viewer from CDFW's Biogeographic Data Branch.¹³⁰ The CNDDDB is an inventory of GIS-mapped occurrence locations of special-status species in California. BIOS is CDFW's data catalogue of spatial data, including other species observation, distribution, and habitat datasets (e.g., USFWS critical habitat datasets, fish distribution maps for some salmonids).
- Geospatial information on the distribution of the focal species in the RCIS area. The CWHR¹³¹ contains life history, geographic range, and habitat relationship information on regularly occurring species of amphibians, reptiles, birds, and mammals in the state. The CWHR can be used to generate lists of species by geographic location (e.g., ecoregion, HUC) and/or by habitat type. The CWHR provides 1) geographic range data representing the maximum, current (within the past 20 years) extent of a species distribution for most regularly occurring vertebrates in the state and 2) predicted habitat distributions, showing areas of potentially suitable habitat within each species' range based on CWHR habitat suitability ranks. The BIOS spatial data catalog¹³² includes additional geospatial information on the distributions of wildlife species (e.g., occurrence location data and species distribution models).
- When available, RCIS applicants may incorporate existing species distribution models published by CDFW or in peer-reviewed literature. Any species distribution models otherwise developed for an RCIS shall use modeling best practices including, at a minimum, full documentation of the modeling process and methods, model evaluation metrics, and review by a recognized expert¹³³ on the focal species. If habitat distribution models are developed for the focal species, the modeling methods and analysis major assumptions shall be described and the modeling details included in the RCIS as an appendix. Any models developed for an RCIS shall be submitted to BIOS along with modeling process, methods, expert review documentation, and metadata meeting CDFW's minimum metadata standards.¹³⁴
- Lists of rare natural communities or high priority natural communities¹³⁵ that occur within the RCIS area. Information on the distribution and mapped locations of rare or high priority natural

¹²⁸ <https://www.fws.gov/wetlands/>

¹²⁹ http://www.waterboards.ca.gov/water_issues/programs/ocean/asbs_map.shtml

¹³⁰ <https://www.wildlife.ca.gov/Explore/Organization/BDB>

¹³¹ <https://www.wildlife.ca.gov/Data/CWHR>

¹³² The BIOS spatial data catalog can be searched by species name, or searched spatially by location.

¹³³ As shown by peer-reviewed publication record or oversight responsibilities at CDFW, USFWS, or NMFS.

¹³⁴ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=108504&inline>

¹³⁵ <https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities>

communities is available through, but not limited to, SCV vegetation maps, the CNDDDB program, and the **Areas of Conservation Emphasis (ACE)** sensitive habitats dataset.

- Information on the RCIS's focal species, natural communities, or conservation elements from any NCCPs that overlap the RCIS area.

4.2.9.5 Habitat Connectivity

RCIS applicants shall incorporate existing analyses or data that identify areas for **habitat connectivity**, which are needed to maintain **ecosystem function**, wildlife populations, and gene flow. Habitat connectivity is a critical consideration when evaluating the location and juxtaposition of protected lands within an RCIS, when determining how to provide for wildlife movement at different scales including daily movements to find food cover and mates, dispersal by young to find new territories, seasonal migration, and movement in response to climate change. RCISs shall use habitat connectivity data and information including but not limited to:

- **The California Essential Habitat Connectivity Project (CEHC)**¹³⁶ a statewide assessment of essential habitat connectivity. The project identified large remaining blocks of intact, contiguous natural habitat (natural landscape blocks) and modeled linkages between them to best maintain habitat connectivity across the landscape and includes:
 - Natural Landscape Blocks identify remaining intact lands across the state, independent of ownership. These lands contribute to habitat connectivity and are expected to have high conservation and climate resilience value because of their size, intactness, and connectedness with other natural habitats.
 - Modeled Linkages represent coarse-scale, generalized habitat connections between natural landscape blocks. These connections provide a broad-scale view of habitat connectivity needs at the statewide scale, but they should be supplemented with or superseded by fine-scale connectivity analyses at a regional scale, when available.
- Regional, fine-scale connectivity analyses are refinements of the CEHC at a regional scale using finer-scale datasets and based on species' movement needs. Regional, fine-scale connectivity analyses have been completed for several ecoregions in the state. When available, these spatial datasets¹³⁷ and project reports¹³⁸ shall be used by an RCIS. These datasets can be used to identify overall fine-scale habitat connections between landscape blocks within an ecoregion, as well as critical movement corridors for individual species that may be of high priority for conservation.
- CDFW's Guidance for Fine-Scale Wildlife Connectivity Analysis¹³⁹ is a report that provides guidance to complete a fine-scale wildlife connectivity analysis that meets CDFW standards. The report includes information on species selection criteria, landscape block identification, and details the model development process using examples from CDFW's case study analysis of wildlife connectivity across the northern Sierra Nevada foothills that was conducted after the completion of the CEHC project. *RCIS applicants are not required to develop a fine scale*

¹³⁶ <https://www.wildlife.ca.gov/conservation/planning/connectivity/CEHC>

¹³⁷ Available in BIOS.

¹³⁸ <https://www.wildlife.ca.gov/Conservation/Planning/Connectivity>

¹³⁹ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=93018&inline>

connectivity analysis; however, if RCIS applicants choose to develop this type of analysis, CDFW's guidance should be used.

4.2.9.6 Existing Protected or Conserved Areas

Use spatial analysis to identify ecological relationships between existing and protected areas and conservation areas. The spatial analysis should identify the degree to which conservation elements are captured in existing protected areas, including but not limited, to the percent of the RCIS area currently in conservation protection and the percent of each conservation element currently in conservation protection. The analysis should consider the area and juxtaposition of existing protected areas with respect to conservation elements including species, habitats, natural communities, and habitat connectivity. At a minimum the analysis shall include the following sources:

- Reserve networks within any NCCPs that overlap the RCIS area
- The California Protected Areas Database (CPAD)¹⁴⁰
- CDFW-owned/managed lands
- Federally owned/managed lands including National Forests, National Parks, National Monuments, Bureau of Land Management, and other federal lands
- California Department of Parks and Recreation–owned/managed lands
- California Conservation Easement Database (CCED)¹⁴¹

*While not required, a protected land's management strategy should be considered by the RCIS applicant when evaluating the level of conservation protection on existing protected lands. Management of protected lands varies widely and is captured by the USGS National **Gap Analysis Program** (GAP) Status Rank.¹⁴² The GAP Status Rank, when available, is provided in CPAD and gives an indication of the level of conservation protection afforded to various lands based on management strategy.*

4.2.9.7 Climate Change Vulnerability Assessment

RCIS applicants shall incorporate existing analyses and information to identify climate change vulnerability of the RCIS focal species and natural communities, exposure of the RCIS area to climate change (e.g., magnitude of projected changes in temperature and precipitation, sea level rise), and areas that may be resilient to the impacts of climate change. The climate vulnerability information assembled for the RCIS should include climate change threats at mid-century (2050) and end-of-century (2100) for both a hotter and drier future climate scenario and a warmer and wetter future climate scenario where possible. The future climate scenarios used in existing studies may vary, and these differences and their implications should be explicitly indicated and addressed in the RCIS.

Climate science and modeling is a rapidly evolving field, and the best available, most current information should be identified for each RCIS. For all new analyses, global climate models selected

¹⁴⁰ <http://www.calands.org/>

¹⁴¹ <http://www.calands.org/cced>; additional **conservation easement** information may be available from local land trusts.

¹⁴² <https://gapanalysis.usgs.gov/padus/data/>.

for the state's most recent California Climate Change Assessment¹⁴³ should be used. For existing information on climate vulnerability of California species and habitats and links to associated datasets, please refer to CDFW's climate change vulnerability assessment website.¹⁴⁴ This website will be maintained to provide relevant resources that will aid applicants in developing the RCIS. At a minimum, an RCIS shall be informed by:

- Lists of climate-vulnerable species and natural communities developed or supported by CDFW, as identified by climate vulnerability assessments for vegetation, birds, mammals, reptiles, amphibians, fish, and plants in California or included on the SWAP SGCN list.¹⁴⁵
- Other factors that may contribute to climate resilience such as diverse land facets¹⁴⁶ (geophysical features expected to support **biodiversity** in a changing climate) and high levels of connectivity (corridors to facilitate movement as species move in response to climate change). Where available, data or information should be included that demonstrate how land facets and/or corridors within the RCIS area may promote climate resilience.
- Geospatial information on climate exposure with respect to species, including projected range shift models for wildlife species developed for CDFW climate vulnerability analyses where available.
- Geospatial information on landscape-scale climate exposure, such as:
 - High-climate-exposure natural community areas as identified by the Climate Change Vulnerability Assessment of California's Terrestrial Vegetation.¹⁴⁷ These represent habitats that are expected to experience major changes in composition, such as type conversion, due to changes in temperature and water availability.
 - Coastal areas expected to be impacted by sea level rise. Tools such as Cosmos,¹⁴⁸ CalAdapt,¹⁴⁹ and the NOAA Sea Level Rise viewer¹⁵⁰ may assist in identifying risks associated with sea level rise.
- Geospatial information on landscape-scale climate resilience, such as:
 - Climate resilient natural community areas, representing habitats expected to remain stable in the face of climate change (i.e., potential climate refugia).

4.2.10 Other Considerations

RCIS applicants shall consider existing major water, transportation, and transmission infrastructure facilities in the assessment area and account for reasonably foreseeable development of major infrastructure facilities including, but not limited to, renewable energy and housing.¹⁵¹ RCIS

¹⁴³ http://climatechange.ca.gov/climate_action_team/reports/climate_assessments.html

¹⁴⁴ <https://www.wildlife.ca.gov/Conservation/Climate-Science/Resources/Vulnerability>

¹⁴⁵ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109224&inline>

¹⁴⁶ https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/oregon/science/Documents/PNW_Terrestrial_Climate_Resilience_Report_March3_2015.pdf

¹⁴⁷ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=116208&inline>

¹⁴⁸ https://walrus.wr.usgs.gov/coastal_processes/cosmos/

¹⁴⁹ <http://cal-adapt.org/sealevel/>

¹⁵⁰ <https://coast.noaa.gov/slr/beta/#/layer/slr>

¹⁵¹ Fish and Game Code chapter 9, section 1853, subdivision (c)(7).

applicants should consider the following sources:

- Renewable energy projects—information from the county or the California Energy Commission
- Infrastructure projects—identified in local, state, and federal agencies’ plans and in CEQA and NEPA documents
- Housing and other development—identified in city and county general and specific plans and in CEQA and NEPA documents

4.3 Data Sharing and Access

All spatial data created during RCIS development shall be submitted to the CDFW Biogeographic Data Branch for inclusion in BIOS. The RCIS applicant shall compile input and summary data in a consistent format.

RCIS applicants may choose to upload this information onto an Internet map-based Web portal for interactive use to allow CDFW, other public agencies, the general public and other stakeholders to generate queries of regional conservation values within the RCIS area. The web portal should clearly display the process-related steps used to compile, develop, and derive RCIS information. All spatial data included in the web portal shall have metadata meeting CDFW’s minimum metadata standards¹⁵² and be available for download in an industry-standard geospatial format.¹⁵³ *Examples of an interactive platform include the Desert Renewable Energy Conservation Plan Gateway portal¹⁵⁴ and the Bay Area Conservation Lands Network Explorer Tool.¹⁵⁵*

4.4 Public Notice Requirements for RCISs

This section provides an overview of the responsibilities of public agency (RCIS applicant) including submitting a notification to the Governor’s Office of Planning and Research, conducting and advertising public meetings, and publishing notices and draft RCISs on the public agency’s website.¹⁵⁶ *To assist RCIS applicants, CDFW created a graphical representation or flowchart of the RCIS public notice and input requirements (Figure 1). Footnotes in the flowchart provide clarification and references to the applicable Fish and Game Code sections.*

4.4.1 Notice of Intent

The public agency developing the RCIS shall publish notice of its intent to create an RCIS. This *Notice of Intent* shall be filed with the Governor’s Office of Planning and Research and the county clerk of each county in which the RCIS area overlaps (in part or in whole); additionally, a copy of the Notice of Intent shall be emailed to CDFW at rcis@wildlife.ca.gov.

¹⁵² <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=108504&inline>

¹⁵³ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=108504&inline>

¹⁵⁴ Desert Renewable Energy Conservation Plan (DRECP) Gateway: <https://drecp.databasin.org>

¹⁵⁵ <http://www.bayarealands.org/explorer/>

¹⁵⁶ Fish and Game Code section 1854.

If preparation of the RCIS was initiated before January 1, 2017, this *Notice of Intent* is not required.¹⁵⁷

4.4.2 Public Meeting Requirements

The public agency preparing an RCIS or amended RCIS shall hold a public meeting to allow interested persons and entities to receive information about the RCIS or amended RCIS early in the preparation process and to have adequate opportunity to provide written and oral comments. The public meeting shall be held at a location within or near the RCIS area. *While not required, the public meeting requirement may be supplemented by holding an online meeting.*

There are differences in the public meeting requirements depending on when preparation of the RCIS was initiated.

- Public meeting requirement for an RCIS initiated after January 1, 2017. The public agency preparing an RCIS or amended RCIS shall hold a public meeting to allow interested persons and entities to receive information about the RCIS or amended RCIS early in the preparation process and to have at least 30 days to provide written and oral comments. Prior to submitting the final RCIS or amended RCIS to CDFW for its review and approval, the RCIS applicant shall include responses to written public comments submitted during the public comment period.
- Public meeting requirement for an RCIS initiated before January 1, 2017.¹⁵⁸ If preparation of an RCIS was initiated before January 1, 2017, and a public meeting that was consistent with the requirements of Fish and Game Code section 1854 was held before January 1, 2017, an additional public meeting shall not be required. If preparation of an RCIS was initiated before January 1, 2017, and a public meeting was not held before January 1, 2017, the public meeting required under by Fish and Game Code section 1854 may be held after January 1, 2017, if it is held at least 30 days before the RCIS is submitted to CDFW for review and approval.

4.4.3 Notice of Public Meetings

Public agencies shall notify entities within the RCIS area about public meetings and public comment periods. At least 30 days before holding a public meeting to distribute information about an RCIS or amended RCIS, the RCIS applicant shall provide the public meeting notice as follows:

- To CDFW via email at rcis@wildlife.ca.gov
- On the public agency's website and any relevant LISTSERV
- To each city council and county boards of supervisors within or adjacent to the RCIS area
- To the Implementing Entity of each NCCP or federal HCP that overlaps the RCIS area

To each public agency, organization, or individual who has filed a written request for the notice, including any agency, organization, or individual who has filed a written request to CDFW for notices of all RCIS public meetings.

¹⁵⁷ Fish and Game Code section 1854, subdivision (c)(1).

¹⁵⁸ Fish and Game Code section 1854, subdivision (c)(3)(C-D).

4.5 CDFW Review and Approval Process

Below is an overview of CDFW's review and approval process¹⁵⁹ including information related to review timelines. *To assist RCIS applicants, CDFW created a graphical representation or flowchart of the submittal and CDFW review process for an RCIS (Figure 1). Footnotes in the flowchart provide clarification and references to the applicable Fish and Game Code sections.*

CDFW may only approve an RCIS if one or more state agencies act as the RCIS's state agency sponsor. To request review and approval of an RCIS, the state agency sponsor shall submit a letter to CDFW. The letter shall describe the RCIS's conservation purpose and confirm that the RCIS would contribute to meeting stated goals of both conservation and public infrastructure or forest management.¹⁶⁰

After an RCIS or an amendment to an RCIS is submitted to CDFW for its review and approval, CDFW shall have 30 days to determine the RCIS or an amendment complete or provide the RCIS applicant with a written explanation of the information needed to complete the RCIS or amendment.¹⁶¹ Within 30 days of CDFW determining an RCIS or amended RCIS is complete, CDFW shall make the RCIS or amended RCIS available to the public for review and comment on CDFW's website for a period of at least 30 days. At that time, CDFW shall notify any public agency, organization, or individual who has filed a written request¹⁶² to CDFW to receive notices regarding submitted RCISs. CDFW shall make all approved RCISs available on its website.¹⁶³

¹⁵⁹ Fish and Game Code section 1856.

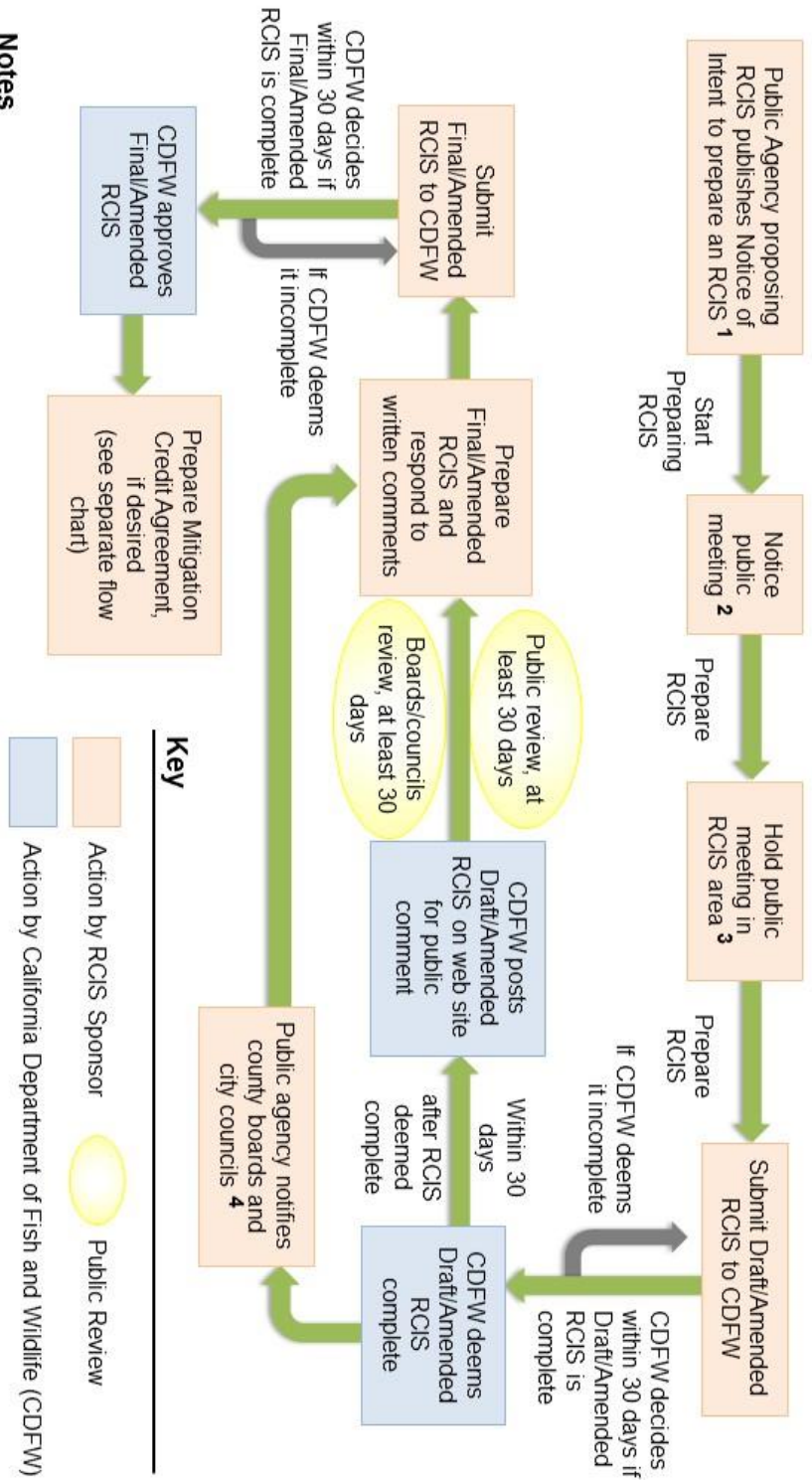
¹⁶⁰ Fish and Game Code section 1852, subdivision (a).

¹⁶¹ Fish and Game Code section 1854, subdivision (c)(2).

¹⁶² Written requests may be submitted by email to rcis@wildlife.ca.gov

¹⁶³ Fish and Game Code section 1854, subdivision (d).

Figure 1. Process for Regional Conservation Investment Strategy (RCIS) Approval



1. File with Governor's Office of Planning and Research and county clerk of all overlapping counties (filing not required if RCIS started before Jan. 1, 2017).
2. Notice public meeting to 1) each city or county within or adjacent to the RCIS, 2) each implementing entity for overlapping HCPs or NCCPs, and 3) each agency, organization, or individual who has filed a request for such notices, including those who have filed a general request with CDFW to receive all RCIS notices.
3. Hold public meeting "early" in the process of preparing it to allow adequate opportunity for the public to provide written and oral comments. If RCIS started before January 1, 2017, the public meeting can occur anytime as long as occurs at least 30 days before submitting draft RCIS to CDFW.
4. Notify county boards of supervisors and city councils in RCIS area at least 60 days prior to submitting final RCIS to CDFW for approval, and allow them at least 30 days to submit written comments.

4.6 Finalizing an RCIS

At least 60 days before submitting a final RCIS or amended RCIS to CDFW for its review and approval, the RCIS preparer or public agency amending the RCIS shall notify the board of supervisors and the city councils in each county within the RCIS area and provide the board of supervisors and the city councils an opportunity to submit written comments for at least 30 days (Figure 1).

The RCIS preparer shall incorporate public comments and any written responses into the RCIS prior to submitting the final RCIS draft to CDFW.

After a final RCIS or a final amendment to an RCIS is submitted to CDFW for its review and approval, CDFW shall have 30 days to find the final RCIS or final amendment complete or provide the RCIS applicant with a written explanation of the information needed to complete the RCIS or amendment. If the final RCIS or final amended RCIS is complete, CDFW will approve the RCIS or amended RCIS.

4.7 Process for Updating or Amending an RCIS

Only the public agency that prepared the current RCIS version shall be allowed to update the RCIS, unless another qualifying agency receives written permission from the original public agency applicant to submit an amendment or update. A copy of the written approval shall be provided to CDFW prior to submitting an updated or amended RCIS. An RCIS shall be updated at least every ten years.¹⁶⁴

An updated RCIS means updates to an RCIS's best available scientific information; it does not include updates or amendments to the geographic area, focal species, or other conservation elements. An amended RCIS means a complete RCIS prepared by a public agency to substantially amend and to replace an approved RCIS.¹⁶⁵ An amended RCIS shall include the reason(s) for the amendment, a summary of the amended information, and the extent to which the RCIS is consistent with an approved or amended RCA covering the RCIS area, as applicable. Upon completion of the amendment, the RCIS shall be submitted to CDFW for review and approval. *See the fee schedule for fees associated with updating or amending an RCIS. The fee schedule is available on CDFW's [website](#).*

CDFW may extend the duration of an approved or amended RCIS for additional periods of up to 10 years after the RCIS is updated with new scientific information and CDFW finds that the RCIS continues to meet the requirements of Fish and Game Code section 1852. An amended RCIS is an RCIS prepared by a public agency that substantially amends and replaces an approved RCIS previously submitted by the public agency.¹⁶⁶ CDFW shall make available on its website all updates to scientific information and analyses used in an RCIS and any amendments of the RCIS.¹⁶⁷

CDFW recommends the RCIS applicant work closely with stakeholders and other public agencies early in the RCIS development process to discuss and possibly determine which entity will be responsible for updating the RCIS within 10 years of the initial approval.

¹⁶⁴ Fish and Game Code section 1856, subdivision (b)(3).

¹⁶⁵ Fish and Game Code section 1854, subdivision (a).

¹⁶⁶ Fish and Game Code section 1854, subdivision (a).

¹⁶⁷ Fish and Game Code section 1854, subdivision (d).

4.8 RCIS Fee Schedule

The current fee schedule for RCISs is available on CDFW's [website](#).

Regional Conservation Investment Strategies Program Guidelines



Section 5 **Mitigation Credit Agreements (MCAs)**

The Guidelines will be updated to include this section.