

Introduction

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Enacted in 1970, the California Endangered Species Act (CESA) is one of California's most recognized environmental laws and, to many, it is the most vexing of such laws. Along with the federal Endangered Species Act (passed in 1973 by President Richard Nixon), both laws were enacted to protect imperiled plant and wildlife species from extinction. CESA's notoriety generally stems from the relatively few instances where listed species have affected land use interests with resulting high-profile news stories. Spotted Owl, for example, garnered widespread news, ranging from a bellwether for lost old-growth forest habitat to a mechanism for restricting logging and other land use endeavors.

The Governor-appointed California Fish and Game Commission (Commission) is responsible for listing and delisting threatened/endangered species under CESA. The Department of Fish and Wildlife (Department) is charged with reviewing CESA petitions, preparing Status Review reports with recommendations, and providing expertise to inform the Commission's decision-making process (see flow chart on page 27 for more details). The Department is also responsible for issuing CESA-required permits and monitoring the condition of each listed species.

To date, 316 plant and animal species are protected under CESA or by preceding laws. These species range from those having very restricted geographic ranges to species inhabiting a large part of the state. For example, CESA-listed clades of foothill yellow-legged frog (*Rana boylei*) cover two-thirds of the state, while the plant species coast yellow leptosiphon (*Leptosiphon croceus*) currently occupies an area of coastal bluff roughly the size of a volleyball court.

Of California's 316 protected species, the vast majority involve plant taxa (i.e., 222 plants are currently listed under CESA or by preceding laws). These plant species do not often generate the news headlines or high-profile controversies of their animal counterparts; however, their preponderance within California's endangered species sphere dictates that plants will play a consequential role in CESA's future.

This special edition of the California Fish and Wildlife Journal follows other recently issued special editions; "Effects of Fire on California's Resources", "Impacts of Cannabis Cultivation on California's Fish and Wildlife Resources", and "Effects of Non-consumptive Recreation on Wildlife in California." While articles in these special Journal editions center on scientific research, a less predictable theme emerges, one that recognizes the importance and benefits of collaboration, finding common ground, and successfully engaging all affected interests. In truth, it has not been convention to fully embrace such elements when implementing science-based actions or regulations involving CESA. Perhaps it should if we hope to advance CESA into a more effective and valued program.

Last year marked the 150th anniversary for both the Commission and the Department. Over the past century and a half, these agencies have been tasked with implementing many new laws and responsibilities, CESA being one of the more significant of these tasks. As California's population grows, so will CESA-related challenges. For the sake of endangered

species and the future of California's natural history, it will be necessary to apply sound science and social imperatives in order to pioneer a pathway for success. Such a pathway will require partnerships comprised of diverse interests and a commitment to protect and recover endangered species while adequately responding to other interests including property rights and potential economic consequences. Property rights and economic impact concerns could conceivably be addressed by establishing a state-sponsored endowment or other funding mechanism that would serve to offset such burdens without undermining the integrity of protection and recovery measures for CESA-listed species. Without reliable and functioning partnerships along with adequate funding strategies, the future of many endangered species will remain in peril.

Recovery of CESA-listed species is an endeavor many Californians could get behind. For the conservation community, recovering imperiled species is an obvious aspiration as it aligns with important fundamentals in conservation biology. For other interests, including the regulated community, successful recovery of CESA-listed species would reduce the risk of higher project costs, prolonged construction timelines, and other burdens where affected properties support listed species. Ramping up recovery will require further commitments including funding and policy actions. Investing now in species recovery would be more convergent than today's focus which requires timely responses to listing petitions and the drafting of recommended protection measures for species that warrant CESA listing. Expanding our commitment to recovery would not only improve the condition of many imperiled species, it could also deliver what has alluded CESA's orbit thus far, common ground and a more comprehensive allegiance toward species recovery.

This issue of the *California Fish and Wildlife Journal* not only covers a wide spectrum of topics involving CESA, it also encompasses much of California's exceptional geography. Beginning with Policy and Regulations in Section 1, this issue follows with a plant section and sections covering several classes of animals: invertebrates, fish, amphibians, reptiles, birds, and mammals. Readers will also find varied reporting perspectives reflecting California's unparalleled species diversity. My gratitude to the authors of this special edition for their valuable contributions toward CESA and the imperiled species it safeguards.

Introduction—continued

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California's Endangered Species Act (CESA) was passed in 1970, three years before President Nixon signed the federal ESA. For half a century, both laws have helped stem the tide of species extinctions, raise public awareness about the plight of wildlife, and underscore the need to balance species conservation with economic development. During the 21st century, advances in conservation science and innovative land-use policies have augmented species protection laws like CESA to better address our growing climate and biodiversity crises. California has shifted away from single-species protection to conserving networks of functional, sustainable, ecological communities—with all their constituent species—despite rapidly shifting baselines. This more holistic and forward-looking approach requires even more sophisticated science to deal with a non-analog future. Perhaps most important it requires even greater collaboration among all parties with a stake in healthy ecosystems.

As in so many policy arenas, California has led the nation in developing innovative strategies for conserving wildlife. As early as 1909, California passed a law protecting nongame bird nests and eggs from human exploitation. In 1957, the state began preventing “take” of certain protected animals and plants, except for scientific and educational purposes—where “take” was defined as removing, harming, or killing the species. During the 1960s the state began creating lists of Fully Protected species to identify and provide additional protection to those animals that were rare or faced possible extinction.

In 1970, California passed two landmark laws that broadened the scope of species protections: the [Species Preservation Act](#), which tasked the California Department of Fish and Game with creating an inventory of all fish and wildlife species that could be considered rare or endangered, and CESA, which defined rare and endangered species and provided some means of protecting them. In addition to prohibiting take of listed species, CESA established that protecting a species might include protecting its environment. CESA states that “All native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants, *and their habitats* [emphasis added], threatened with extinction... will be protected or preserved.” Those three key words: “and their habitats” formalized a fundamental principle of habitat conservation planning: We must protect species' homes to protect their lives.

CESA is more comprehensive than other state wildlife protection acts and has been amended several times. In addition to providing a mechanism for listing and protecting rare and endangered species, including plants, it also requires species recovery plans and agency consultation on state projects that may impact state-listed species. Many, if not most, counties in California have now enacted their own ordinances for protection of rare and endangered species based on CESA guidelines.

In the early 1990s conflicts between endangered species and economics ramped up, with the northern spotted owl (*Strix occidentalis caurina*) disrupting forest economies in the Pacific Northwest and the California gnatcatcher (*Polioptila californica*) stopping housing developments in southern California. The US Department of the Interior began promoting Habitat Conservation Plans (HCP) under Section 10 of the ESA to resolve conflicts for federally listed species, and the State of California passed the Natural Communities Conservation Planning (NCCP) Act (1991) to both complement and help implement CESA by encouraging landscape-scale, multi-species plans.

Often coupled, HCP/NCCP planning in California brought a new collaborative approach to species protection, in which federal and state wildlife agencies work with local jurisdictions to develop land use plans that accommodate both species conservation and economic concerns. NCCPs must be prepared at an ecologically meaningful, landscape scale, and be guided by science to conserve, manage, and monitor an interconnected and functional set of ecological reserves. The process replaces project-by-project permitting by the wildlife agencies with an “incidental take” permit issued to the local jurisdiction, which in turn can issue permits for projects consistent with their conservation plan. Thus, local jurisdictions retain their authority over local land-use decisions that may affect state or federally listed species. In return, the permitted jurisdictions implement ordinances or other local controls to help achieve the plans’ species and habitat goals.

There are now at least 19 HCP/NCCPs being planned or implemented across the state. The first of these, which received national attention during the Clinton Administration and was touted as a model for the rest of the nation, was the San Diego Multiple Species Conservation Program (MSCP). Covering large portions of the County of San Diego and 11 other jurisdictions in a global hotspot of species endemism and endangerment, the MSCP was completed in 1997 after 6 years of intensive planning and negotiation. It covers scores of both listed and unlisted species within a comprehensive reserve system that is now being implemented through a cooperative management and monitoring program.

Building on and expediting this grand experiment in conservation planning, the California Department of Fish and Wildlife recently created the Regional Conservation Investment Strategy (RCIS) program (2017). RCIS does not regulate land uses or involve species permitting. Rather, it focuses on ecosystem services—such as carbon sequestration, water conservation, and preservation of agricultural land—that may contribute to species recovery, resiliency, and adaptation to climate change.

Thus, CESA is a landmark law in a history of progressive wildlife conservation in California. What began as a safety net for the most imperiled of species has helped spur the growth of a holistic, multidisciplinary approach to understanding and conserving ecological resilience. Collaboration, partnerships, and shared responsibilities, guided by multi-disciplinary science, are key to sustaining California’s wildlife legacy. The papers assembled for this special issue on CESA policy and regulation highlight the diversity of taxa, topics, and ideas influenced by the act, including some considerations for sustaining conservation progress into the future.