



Department of Fish and Wildlife
Biogeographic Data Branch
1416 9th Street, Suite 1266
Sacramento, CA 95814

<http://atlas.dfg.ca.gov>

News Release: Scientists Map California's Biodiversity in New Book

Chamois Andersen
Information Officer, California Department of Fish and Game
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SACRAMENTO - A new guide to the Golden State's plant and animal life developed by California Department of Fish and Game's (DFG) scientists promises to become a landmark reference for the general public and researchers alike.

Atlas of the Biodiversity of California is a 112-page bound collection of full-color maps, photographs and written accounts about many of the state's diverse wildlife species and habitats. The Atlas also includes several illustrations by artist [Dugald Stermer](http://atlas.dfg.ca.gov). Sample pages and ordering information are available at <http://atlas.dfg.ca.gov>.

"The Atlas of the Biodiversity of California is a beautiful book," said Secretary for Resources Mary D. Nichols. "California is revered not only for its landscape and beauty - it is treasured for its richness of life."

Atlas of the Biodiversity of California details such richness. It discusses the state's remarkable geography, shows how we measure biodiversity, and provides samples of the complexity and unique qualities of many California habitats.

Deserts, mountain ranges, wetlands, woodlands, and 1,100 miles of coastline provide habitats for more than 580 bird species, 200 mammals, 130 reptiles and amphibians, 60 freshwater fishes, and 5,000 native plant species, many of which are found only in California.

"This guide provides a glimpse into how the Department, as stewards of the state's biological resources, works to know what, where and how many natural resources we have," said Director Robert C. Hight. "This book shows us that California's diversity is special and worth protecting. And I commend our staff for their work and continued efforts in mapping and conserving California's biodiversity."

Produced by DFG staff – edited by wildlife biologist Monica Parisi and botanist Diana Hickson, cartography by geographer Eric Kauffman, layout and editing by Joseph Vondracek, and text accounts written by many DFG experts – the guide is a good example of the Department's work in conserving wildlife.

"This book is a good representation of how our scientists contribute to gaining a better understanding of the richness in California's biodiversity," said Tom Lupo, branch chief of the Wildlife and Habitat Data Analysis Branch. "The biological information we gather and store in our computer systems is used for conservation planning and species recovery activities. Compiled information on wildlife populations and areas rich in these species is extremely useful to the Department as well as other resource managers."

The Atlas was developed as a user-friendly, educational tool. Scientists involved in the project relied heavily on the use of GIS (geographic information system) technology to create a visual representation - a layering effect used to create the maps - to illustrate the richness and rarity of the state's flora and fauna. Data were also combined and layered through a GIS to visually represent California's geography and biodiversity.

California's landscape - size, topography, climate and diverse habitats - is what provides for such a wide array of plant and animal life, unparalleled in any other state. California is a land of extremes where the oldest, largest, and tallest living things on earth thrive. It is also a place with the lowest point in North America, Badwater Basin in Death Valley, at 282 feet below sea level, and the highest point in the contiguous United States, Mount Whitney, at 14,494 feet.

Because of the state's diverse landscape as well as its many unique habitats, 40 percent of California's plants and a large number of animals are endemic, which is the scientific term for totally unique in the world. But many of the state's inhabitants did not evolve in California. Such things as noxious weeds like the yellow starthistle and predatory

fish like the Northern pike were introduced to the state, and their invasive abilities pose a serious threat to native plant and animal species - California's natural heritage.

This book discusses the threat of nonnative species as well as other imminent dangers to biodiversity. Human activities and population growth, for example, have in many cases led to the conversion or fragmentation of wildlife habitats and their migration corridors. This and other causes related to the health of the environment have dramatically impacted the state's richness in plant and animal life.

The Atlas describes how wildlife policies and collaborative management strategies seek to minimize the negative impacts to wildlife and the natural environment.

"This book is a good example of our collaborative efforts to manage the resource by knowing everything that's out there before we determine what needs to be saved or decide how to save it," Hight said. "I highly recommend this book to anyone with an interest in our state's treasured natural resources."

Atlas of the Biodiversity of California (Stock Order #7540-928-1200-0) can be purchased for \$20 (includes tax and shipping). Ordering information is available at <http://atlas.dfg.ca.gov>.

The following are examples by region of California's richness in animal and plant life.
To download a PDF map example log on to <http://atlas.dfg.ca.gov>.

The Klamath/North Coast Region - Richest in Amphibians

This area has the highest variety of amphibian species in the entire state. Amphibians such as the Del Norte salamander and tailed frog favor the region's wet climate.

The Mojave and Colorado Desert Regions (Southeastern California) - Richest in Reptiles

Although there are reptiles in nearly all of California, the areas richest in these species are the Mojave and Colorado Desert Regions. Reptiles like the desert iguana and desert tortoise are well adapted to the extreme environment found there.

Sacramento Valley and Bay/Delta Regions (Central California) - Richest in Freshwater Fishes

A very high density of fish species is present here because of the highly productive aquatic habitat along the Sacramento River, in the estuary where the Sacramento and San Joaquin rivers merge, and in the Suisun Marsh. Fishes such as the California roach and the prickly sculpin rely on the rivers' clean water and suitable spawning and rearing habitat.

Modoc and Sierra Regions (Northeast corner to southern border of Kern County) - Richest in Wide-Ranging Mammals

The distributions of 24 wide-ranging, native mammal species were compiled for this book. Animals found in this area include mule deer, coyote, black bear, and such rarely seen animals as the mountain beaver and fisher. These are regions of vast forests, mountains, desert, valleys and woodlands sparsely populated by humans.

California's Native Plants - Statewide Plant Richness Known Worldwide

California contains some of the highest plant diversity in the world and is the leader in the nation in the highest number of native plants. California also has an enormous number of endemic plants. The reasons for this diversity stem from the unique combination of the state's Mediterranean climate, topographic diversity, and geologic and soils diversity.