

### **Wildlife Adaptation to Climate Change**

A growing body of scientific research indicates California's remarkable diversity of habitats and wildlife is threatened by climate change, making it a major challenge to the conservation of California's natural resources. Ecological changes, including changes in species' distributions, timing of life cycles and abundance, have already occurred in California over the past century in concert with increases in average temperature and changes in precipitation patterns. Existing stressors such as population growth and associated land use changes, water management conflicts, invasive species and other widespread stressors identified in California's Wildlife Action Plan will be exacerbated by climate change potentially increasing impacts beyond the effects of individual stressors. In addition, climate change will have direct impacts on existing coastal protected areas. Sea level rise and changes in the intensity of storm events could impact low lying coastal areas, and result in the loss or inundation of coastal wetlands and dune habitat resulting in salt water intrusion and loss of fresh water resources for fish and wildlife. Changes in ocean circulation and ocean warming will impact pelagic species distribution and community structure and ocean acidification could impact shellfish species as well as their prey base.

The Department of Fish and Game (DFG) is an important part of the climate change solution, and is aggressively confronting the many challenges associated with climate change and its impacts on wildlife and habitat. In keeping with its mission, DFG is committed to minimizing to the maximum extent practical the effects of climate change on the state's natural resources through the development of adaptation and mitigation measures, policies and practices that provide clear benefits to fish and wildlife. DFG recognizes that emerging climate change science brings uncertainty and is committed to a process that effectively addresses this uncertainty through the use of a variety of planning tools and strategic initiatives.

DFG has initiated efforts to develop and plan for climate change impacts by building an internal multi-disciplinary team, and bringing together stakeholders and conservation partners that have an interest or role in relation to fish, wildlife and habitats that would be affected by climate change. DFG has many targeted efforts under way focused on climate change research, monitoring and adaptation planning. Specifically, DFG has been meeting with stakeholders for the last two years to create a collective vision for natural resource adaptation planning across the state while also identifying the DFG programs and projects that will help implement the vision. Some of these programs and projects include California's Wildlife Action Plan, Natural Community Conservation Planning Program, Conservation and Mitigation Banking Program, Regional Advanced Mitigation Program, Areas of Conservation Emphasis and Essential Habitat Connectivity Project. In addition, DFG is in the process of creating an outreach document to articulate the role of biodiversity conservation in climate change adaptation planning efforts across disciplines, as well as the important role DFG plays as part of the climate change solution.