

cient landscape. As the sand fans out from the mouth of the canyons, winds lift and sweep it through the valley, placing heavier sand on the valley floor and finer sand farther away. The flat windblown sand deposits on the valley floor are vital wildlife habitat but are also in strong demand for agriculture and urbanization.

The Coachella Valley is located in southeastern California at the northern end of the Colorado Desert, and is bordered by the Salton Sea to the south and the Little San Bernardino Mountains to the north. The "blowsand" ecosystem of the Coachella Valley supports a variety of unique animals and plants adapted to living in the harsh desert environment. Species such as the Coachella Valley fringe-toed lizard (Uma inornata), Coachella Valley milk-vetch (Astragalus lentiginosus var. coachellae), triple-ribbed milk-vetch (Astragalus tricarinatus), and a variety of other endangered, threatened, and sensitive plants and animals depend on the dynamic blowsand ecosystem for their survival.

From prehistoric times to the early twentieth century, the Cahuilla Indians were the sole inhabitants of the Coachella Valley. As a hunter-gatherer society, the Cahuilla established a number of permanent and semipermanent settlements within the valley. Beginning in the early 1900s, settlers established travel routes throughout the area and built permanent settlements. Agriculture, housing developments, offhighway vehicle recreation, and the introduction of non-native, invasive plant species (especially Russian thistle and tamarisk) have resulted in the decline of sand dunes and blockage of natural sand transport corridors. Today, more than 200,000 people reside in the Coachella Valley, and more than 1 million others visit the area each year. By 2010, the number of permanent residents is expected to double. The continuing development of the Coachella Valley will have significant effects on the long-term sustainability of the ecosystem. Without a concerted effort to conserve the sand transport system, the remaining blowsand habitat will become increasingly fragmented and could even disappear within 50 to 100 years.

In 1982, the Endangered Species Act was amended to allow for the development and implementation of habitat

conservation plans (HCPs). These plans are designed to reduce conflicts between conservation and economic growth by fostering creative partnerships that address the conservation needs of listed species and continued economic prosperity. Although rarely used until the early 1990s, the HCP process has proven to be an effective conservation tool. In 1991, the state of California initiated its own version, the Natural Community Conservation Planning (NCCP) program. This program is a voluntary, cooperative approach that fosters economic growth by allowing development in certain areas while preserving key habitats for the longterm survival of native species. It has been widely applauded by developers, landowners, planners, and others. The NCCP program's primary goal is the protection of rare habitat types within a 6,000-square-mile (15,500-squarekilometer) area that covers portions of five southern California counties: San Diego, Orange, Los Angeles, Riverside and San Bernardino. This approach marks a departure from the traditional project-by-project review of impacts on sensitive species toward a more comprehensive landscape-based effort to conserve species and their habitat.

One of several large-scale HCPs underway within the southern California NCCP planning area is the Coachella Valley Multiple Species Habitat Conservation Plan (MSHCP). This plan is being developed through a collaboration among government agencies and partners in the private, public, and nonprofit sectors, including the County of Riverside, nine cities, the Coachella Valley Association of Governments, California Department of Fish and Game, U.S. Forest Service, National Park Service, Bureau of Land Management, and Fish and Wildlife Service. This groundbreaking HCP will promote the protection of desert ecosystems on approximately 1.3 million acres (0.5 million hectares) in Riverside County.Initiated in 1993, the Coachella Valley MSHCP aims to preserve

biodiversity by focusing on the needs of entire ecosystems, including their range of inhabitants, rather than on individual species. The goal of the plan is to conserve natural desert communities before their native species have declined to the point that protection under the federal and/or state endangered species acts is necessary. The plan would provide for the creation of a preserve system that protects sensitive desert habitat types such as riparian and desert dry wash woodland, blowsand habitat, mesquite hummocks, palm oases, and a mosaic of other native vegetation communities. The preserve system would provide for the long-term biological needs of 30 species, including the endangered peninsular bighorn sheep (Ovis canadensis), desert slender salamander (Batrachoseps aridus), least Bell's vireo (Vireo bellii pusillus), southwestern arroyo toad (Bufo microscaphus californicus), and other listed and sensitive plants and animals.

Participating federal, state, and local agencies will cooperate in implementing the conservation strategies outlined in the plan once it is adopted. Large-scale, long-term cooperative efforts such as the Coachella Valley MSHCP will become more important as human populations in and around the Coachella Valley increase.

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Coachella Valley fringe-toed lizard USFWS photo above and opposite page