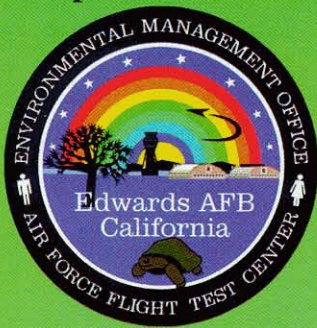


September 1997



Conservation  
**FACT SHEET**

# Natural Resources

Air Force Flight Test Center  
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AFFTC/PAE  
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EDWARDS AFB ENVIRONMENTAL MANAGEMENT OFFICE

## Protecting resources, **NATURALLY**



**I**f it wasn't for the desert's unique natural resources, Edwards Air Force Base may not even be here. Back in the 1930s, when the military sought a place to test experimental aircraft, no other area in the United States could compare to the remote natural runways offered by the dry lakebeds.

Because of the lakebeds and their importance to the Edwards mission, you might tend to overlook the diversity of plant, animal and bird communities that are also resources here. These communities make up several miniature habitats within the larger desert ecosystem.

Over the past 50 years, much has been discovered about how fragile and precious the desert really is. We now know there's much more to the natural resources at Edwards AFB.

Considering the starkness of the 301,000 acres of Edwards AFB, it's difficult to believe that more than 200 species of birds, more than 200 varieties of plants and 30 different kinds of mammals live here.

**The delicate beauty  
of the desert is  
especially evident  
in the springtime**

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### Common pests at Edwards AFB

A "pest" is an animal or plant which is not wanted. Whether they're ants, roaches, bees, fleas, mice, gophers, squirrels or dandelions, pests are annoying.

At Edwards, if you need help controlling invasion species such as squirrels, gophers or insects, contact the following offices: Housing residents call Family Housing Management, 277-4060. Commercial building residents call civil engineering, 277-2431. NASA call 258-3839.

At Edwards AFB, the pest management program strives to use methods that are as safe to humans and pets and as gentle to the environment as possible.

### Birds on the flightline

Birds can be pests, too. Especially on the flightline, flocks of birds can be a hazard to pilots and aircraft while in flight. The Natural Resources Section participates in the Bird Aircraft Strike Hazard (B.A.S.H.) program, which helps reduce this hazard through the training of personnel and research of Edwards' bird populations.

By studying the ecology and distribution of birds at Edwards, the Natural Resources Section can advise air operations how to reduce the chances for bird strikes.

As a responsible environmental steward, the Air Force considers the diversity of the ecosystems at all bases and has taken steps to manage these resources. In accordance with Air Force Instruction 32-7064, an Integrated Natural Resources Management Plan was developed as guidance for bases to properly manage these natural resources while ensuring the Air Force's defense mission requirements are met. Natural Resources management and mission operations are interdependent on one another, not mutually exclusive.

The management of natural resources at Edwards AFB is overseen by the Natural Resources Section, which falls under the Conservation Pillar of Environmental Management.

Among the section's responsibilities are the conservation and management of sensitive species, fish and wildlife, manmade ponds and seasonal waters, and other activities. In addition, the section also continues to increase its knowledge base of those resources through research.

### Sensitive species at Edwards

Edwards is one of approximately 40 Air Force installations that have federally-listed "threatened" or "endangered" species.

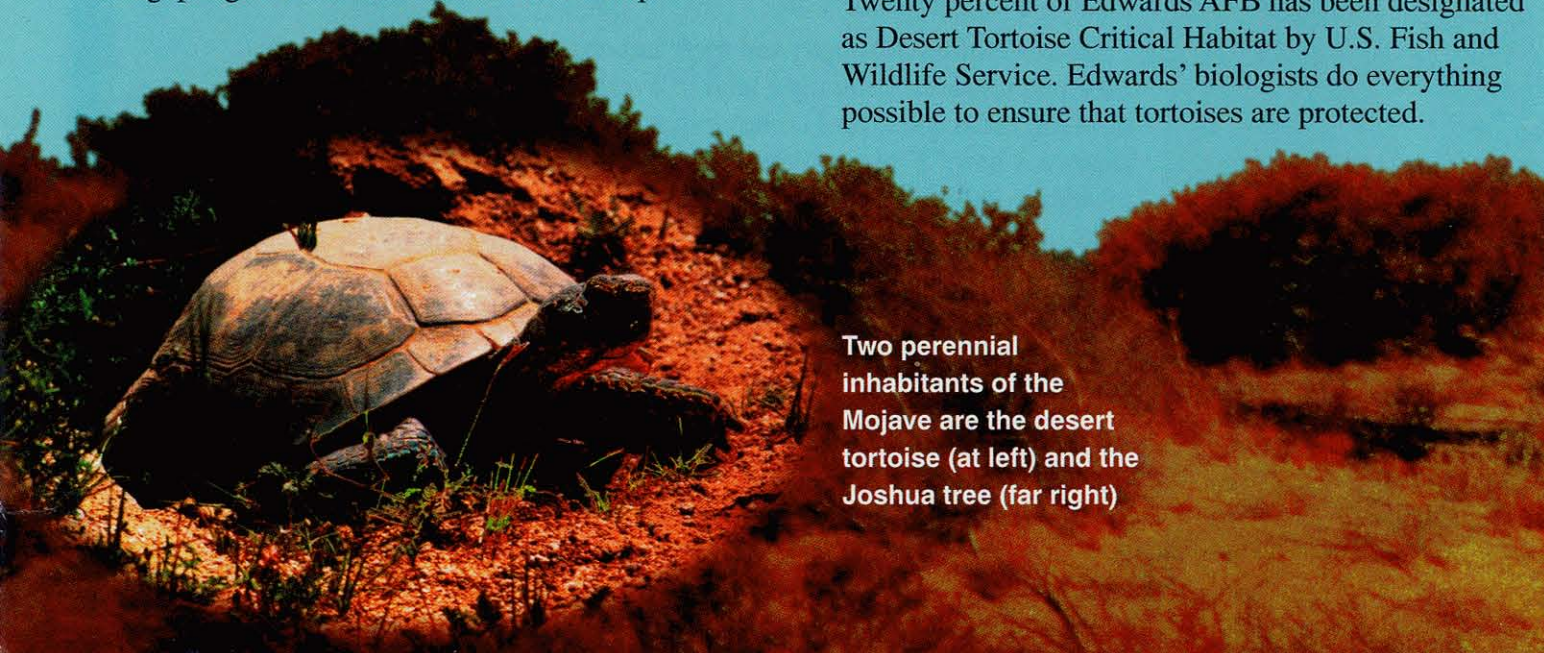
Because of its threatened status, the best-known animal species at Edwards is the desert tortoise. Edwards AFB participates actively in the conservation and recovery of listed species such as the tortoise.

The desert tortoise, also listed by the state of California as threatened, is native to the Mojave Desert, living on sandy flats and rocky hillsides. Twenty percent of Edwards AFB has been designated as Desert Tortoise Critical Habitat by U.S. Fish and Wildlife Service. Edwards' biologists do everything possible to ensure that tortoises are protected.

Two perennial inhabitants of the Mojave are the desert tortoise (at left) and the Joshua tree (far right)

*Continued from page 1*

The plants exist in five distinct communities: mesquite forests, Joshua Tree woodland, creosote brush scrub and two kinds of saltbush scrublands. These communities are also home to a variety of mammals, reptiles and birds. Nestled within the plant communities, several aquatic habitats can be found, including playa lakes, claypans and pools. At certain times of the year, these "watering holes" host a hodgepodge of birds and freshwater shrimp.



Desert tortoises have a hard shell, elephant-like skin, claws for burrowing and an estimated lifespan of nearly a century. Their young are very vulnerable to predators, because their shells don't harden for five to seven years after they hatch.

Another resident of Edwards AFB is the Mohave ground squirrel (see photo on page 4), which is considered a sensitive species by the state of California. Other sensitive animal and plant species indigenous to the area include the desert kit fox, the American badger, the Barstow woolly sunflower, the desert cymopterus and the alkali mariposa lily, to name a few. A variety of rare birds also spend time at Edwards, including several species of hawks, falcons, owls and eagles.

### **Project support**

Each year, many on-base projects are undertaken for the benefit of the Air Force or one of its tenants. The Natural Resources Section is present during each step of a project's planning and accomplishment. The section supports infrastructure, test programs, Phillips Laboratory and NASA, and all other base associates.

When a project may adversely affect threatened or endangered species, a document called a "biological opinion" must be obtained from the U.S. Fish and Wildlife Service. This document tells the project proponent what measures must be taken to protect the sensitive species. If a project occurs in a particularly sensitive area for the desert tortoise or other wildlife and plant species, adjustments that won't impact the operation are sometimes made to the project plans. The project manager usually chooses to coordinate these adjustments with a base biologist.

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Edwards' biologists do everything possible to guide project managers through all the legal guidelines established for protecting the environment.

### Education

Educating base employees, residents, students and visitors how to live and work among our local natural resources is an important function of the Natural Resources Section. To accomplish this education, the section distributes information; briefs units, squadrons and newcomers; and, in conjunction with the public affairs office, makes presentations to schools and youth groups, and also participates in other outreach events.

A cost effective management tool, education also helps foster an appreciation for the fragile desert ecosystem.

### Research

Research is an important part of the management approach of the Natural Resources Section.

Studies on the population of the animal and plant species and the habitats in which they live help biologists understand what impacts the human presence is having on them. Sensitive species are indicators of the health of the ecosystem.



Research efforts include an inventory of wildlife and sensitive plants, an examination of the lakebed and clay pan and sand dune system, and the correlation of the methods determining desert tortoise density.

Using this research, the Natural Resources Section is able to better understand the health of the



ecosystem and manage the resources at a more comprehensive level.

### Mojave Desert Ecosystem Initiative

The Department of Defense is sponsoring a program known as the Mojave Desert Ecosystem Initiative in an effort to improve ecosystem management in the desert.

A partnering effort between many federal, state and public agencies, the Mojave Desert Ecosystem Initiative is compiling information about topographical features, plants and wildlife, soil composition and land usage. This multi-agency cooperative effort will make it easier to coordinate resource management and land use among various agencies.

Using high-end mapping software, the data is entered into a Geographic Information System. Through computer networks and the Internet, the information is made available to those involved in the project, as well as to the public.

The Mojave Desert Ecosystem Initiative is available on the Internet at the website <http://mojave.army.mil>.

### Further information

Natural Resources  
Environmental Management  
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Pictured  
counterclockwise  
from top are the  
coyote, the yellow-  
headed blackbird and  
the Mohave ground  
squirrel

