

Western Ecological Research Center <http://www.werc.usgs.gov>

Las Vegas Field Station

Symbolized by vast expanses of playas, arid grasslands, shrublands, and woodlands, the deserts of North America support a wide diversity of plants and animals, many of which are found nowhere else. Changing land use patterns and the recent explosion of population growth in the southwestern United States threaten biodiversity and ecosystem integrity in this region.

Scientists at the Las Vegas Field Station conduct research that focuses on ecological patterns and processes of desert plants and animals, the effects of human impacts on these ecological characteristics, and the effectiveness of approaches to mitigate the negative effects of human impacts. Study sites occur in Nevada, California, Arizona, and Utah and range from below-sea-level to alpine habitats and isolated desert wetlands in the Mojave, Sonoran, and Great Basin deserts.

Current projects focus on translocation, reproduction, and survivorship of the desert tortoise; the impact of human disturbance on desert bighorn sheep populations and habitat modeling with geographic information systems; carnivore ranging behavior and sensitivity to human impacts; population status and reproductive ecology of western burrowing owls; interrelationships between invasive plants and wildfire, and their effects on native species and the availability of soil nutrients; impacts of dust deposition on endangered plants; plant-animal interactions related to disturbance and habitat restoration; and efficacy of arid land restoration practices.

Lead scientists and staff conduct research in desert ecosystems on federal lands managed by the Bureau



T. Esque, USGS

of Land Management, National Park Service, Department of the Army, Department of Energy, U.S. Marine Corps, and the U.S. Forest Service and on habitats and species of concern to U.S. Fish and Wildlife Service. They provide technical assistance to these agencies and also to state and local jurisdictions, such as the Nevada Division of Wildlife, California Department of Fish and Game, and the Clark County (Nevada) and Washington County (Utah) Desert Conservation Plans pertaining to threatened species. They collaborate with biologists, geologists, cartographers, and hydrologists within USGS, the USDA Agricultural Research Service, the University of Nevada, Las Vegas and University of Nevada, Reno, the University of California, Riverside and Berkeley, and Denver University.

See **Lead Scientists** on reverse side of this fact sheet.



L. DeFalco, P. Medica, K. Longshore, USGS



Lead Scientists

Erin Boydston, Ph.D., Research Ecologist

- Carnivore ecology
- Animal behavior and conservation

Matthew L. Brooks, Ph.D., Research Botanist

- Fire ecology
- Invasive plant ecology
- Effects of anthropogenic disturbance

Lesley A. DeFalco, Ph.D., Research Plant Ecologist

- Physiological ecology of desert plants
- Invasive and native plant interactions
- Ecological restoration of disturbed arid ecosystems

Todd C. Esque, Ph.D., Research Ecologist

- Conservation biology
- Plant-animal interactions
- Disturbance and restoration ecology in arid ecosystems

Kathleen Longshore, Ph.D., Research Wildlife Ecologist

- Behavior and ecology of desert bighorn sheep
- Ecology and conservation of threatened and endangered species
- Impact of anthropogenic disturbance on wildlife species

Philip A. Medica, M.S., Wildlife Biologist

- Habitat conservation plan coordination
- Desert tortoise ecology and natural history
- Ecology and population dynamics of desert lizards and small mammals

Kenneth E. Nussear, Ph.D., Research Wildlife Biologist

- Physiological ecology of desert reptiles
- Environmental and physiological constraints on desert tortoise ecology
- Conservation biology

For more information, contact:

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