

## Challenges Affecting Natural Resources and the Environment

- Population growth, urbanization, land conversion, and increasing water demand threaten Texas' natural resources.
- Environmental factors such as drought, nonpoint source water pollution, and exotic species invasion have placed the state's water supply under tremendous stress.

## AgriLife Extension's Response

The Texas A&M AgriLife Extension Service delivers a wide range of researched-based educational resources and programs on water quality, water-use efficiency, wildlife and fisheries practices, ecosystem and parks management, tourism, and open-space planning to improve habitat.

- Programs aimed at water resources focus on watershed health and protection, onsite wastewater treatment systems, water-use efficiency, and private water well and soil nutrient management.
- Programs for enhancing and managing wildlife and fisheries focus on restoration and conservation of wildlife habitat, disease and predator control, harvest management practices, and aquaculture and pond management tools.
- Land and ecosystem programs address the ecology and restoration of rangeland and coastal wetlands, including best practices for brush, pasture, rangeland, and weed management.
- Programs for community and economic development bolster parks tourism, including open-space planning, and outreach to support planned development and growth as well as the \$28 billion outdoor recreation and tourism industry.
- AgriLife Extension assists the Texas Parks and Wildlife Department in coordinating the Texas Master Naturalist Program. The program encompasses 11,694 volunteers who help with

research and provide stewardship education at nature centers, parks, and other nature-based sites totaling more than 226,000 acres.

- These programs delivered more than 4,300 educational events, planning meetings, and workshops in 2017 to more than 475,000 educational and other contacts.
- AgriLife Extension's Texas 4-H Youth Development Program engaged 82,144 youth in natural resource and environmental learning activities.

## Economic Impacts

The following highlights demonstrate the economic impact of selected natural resource programs in 2017:

- Wildlife management programs led to estimated economic gains of \$12.7 million by reducing property damages from feral hogs and improving quail biology and habitat.
- Texas Master Naturalists contributed 437,000 hours of volunteer service in 2017, which was valued at \$10.5 million.
- Water conservation programs produced estimated cost savings of \$7.6 million. Groundwater protection education led to over \$1 million in economic benefits for private well owners.
- Participants in ecosystem management programs reported anticipated economic benefits of \$40 million on 2.8 million managed acres.