

## Desert Foothills Land Trust: The Sustaining Power of Volunteers

**Project Summary:** "Bring Back Cave Creek" is a multi-year effort to restore this perennial desert stream with high biodiversity value to its former splendor. Riparian landowners, led by land trust volunteers, undertook a 10-year effort to remove non-native invasive species. The project is an example of land stewardship and planning opportunities available to smaller land trusts with constrained resources.

**Regional Setting:** The Sonoran Desert ecosystem of Arizona has more than 200 imperiled species and numerous unique plants, reptiles and fish. It is the most tropical of the three North American warm deserts (Chihuahuan, Mohave and Sonoran).

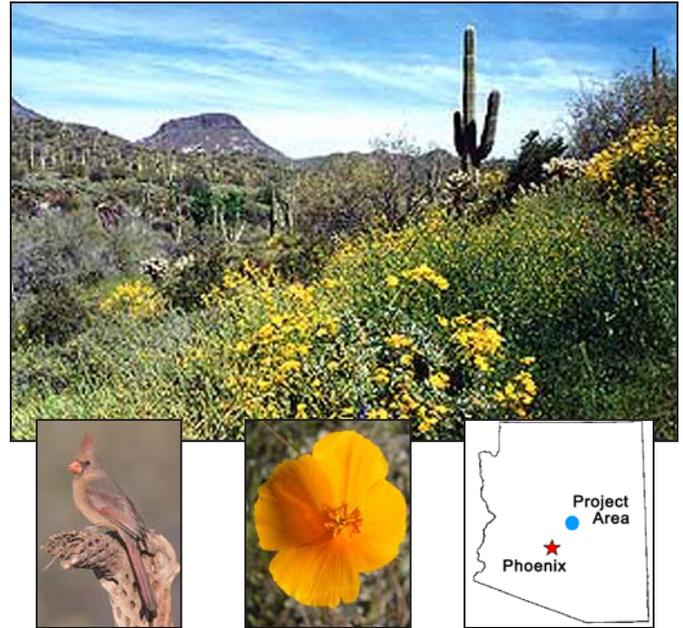
**Land Trust Mission:** The Desert Foothills Land Trust works with communities and partners to protect, preserve and steward sensitive lands and species for the survival of the fragile Sonoran Desert.

**Service Area:** Maricopa County, Arizona.

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### Biodiversity Values

Perennial desert streams and their adjacent riparian communities have the highest species diversity of any biotic community in the southwest United States. Species of fish, frogs, turtles, insects and plants found nowhere else occur in and near these streams. Neotropical migratory songbirds rely on these areas for food, water and rest while making their journeys between the Americas. Riparian corridors also provide habitat for resident mammals, birds and reptiles for part or all of their lives. Threats to the biological integrity of the riparian corridors include incompatible development practices, non-native invasive species and streambank erosion.



### Conservation Strategy

With assistance from multiple partners including the town of Cave Creek, Maricopa County, Tonto National Forest and The Nature Conservancy, the Desert Foothills Land Trust undertook a scientific "visioning" process, leading to the development of a conservation plan for the Desert Foothills region. The team assembled existing written and digital information and developed a geographic information system (GIS) database, which is the foundation of the plan.

Next, the team identified significant natural areas for protection and designed strategies to accomplish protection goals. Among the priority landscapes identified were native riparian communities, including Cave Creek watershed, a long-term land trust project area. With over 90% of Arizona's riparian communities lost or significantly altered, stewardship of remaining riparian areas took on new prominence.

Now, the land trust and its stewardship volunteers are working with creek-side landowners to develop permanent conservation and stewardship solutions to restore the native riparian woodland once found along the creek corridor.

## Bringing Back Cave Creek

Invasive salt cedar, or tamarisk (*Tamarix ramosissima*), was brought to the southwestern United States in the late 1800s and early 1900s to control erosion. The ecological impacts on the region's riparian communities have been high, resulting in miles of salt cedar monoculture choking out native plants and providing little cover for native wildlife.

By engaging private landowners, appropriate agencies and thousands of volunteer hours, the Desert Foothills Land Trust is making progress on a multi-year effort to restore the ecology of Cave Creek. The project was conceived and led by volunteers for the first six years. Now in its 10th year, the project has staff organizers, but continues to depend on volunteers. Salt cedar removal is a labor-intensive process involving hand-cutting vegetation, treating stumps with systemic herbicide and hauling brush.

Removal of salt cedar and other invasive species has expanded beyond land trust properties and now involves more than a dozen interested landowners adjoining Cave Creek, through special management agreements. Soon, the land trust will extend the project to the section of Cave Creek in the Tonto National Forest. To date, almost two miles of streamside areas have been restored, with species diversity increasing by more than 75% in restored areas.

New areas for revegetation have been identified and local native seed has been collected and prepared for planting and habitat restoration. Scottsdale Community College's Center for Native and Urban Wildlife grows restoration plant materials and the Desert Botanical Garden provides taxonomic and seed collection expertise.

The project's success depends on funding and support from local, state and federal agencies. The Arizona Game and Fish Department and the U.S. Fish and Wildlife Service have provided invasive species education funding. The Forest Health Program and the Wildlife Habitat Incentives Program provided restoration funds, as have private foundations and land trust members. The Town of Cave Creek loans equipment and provides in-kind services.

## Looking Ahead

A major wildfire in 2005 impacted the Cave Creek watershed, increasing the number and type of stewardship projects. Future projects include restoring the native fishery in Cave Creek, revegetation of abandoned and redundant roads and trails, stabilizing existing trails, cultivating native species for revegetation, protecting archaeological sites and providing

sanctuary to lowland leopard frogs (*Rana yavapaiensis*), a species of concern. The Desert Foothills Land Trust is also working with partners to develop a regional Desert Foothills Natural Resource Initiative, which will help partners leverage and target limited resources for the greatest impact.

## With a Lot of Help from Friends

The Desert Foothills Land Trust was a volunteer-led land trust until fairly recently. Yet they were able to lead the robust Cave Creek restoration project, which is in its 10th year. Extensive and ongoing volunteer efforts such as salt cedar management, trail stabilization and construction and planting have been the mainstay of the project. Land trust projects are increasingly coordinated with Volunteers for Outdoor Arizona, which recruits, trains and manages most volunteer labor for land trust restoration efforts. Volunteers for Outdoor Arizona designs and coordinates all trail, erosion control and stream channel improvement activities. In 2005, nearly 5,000 hours of volunteer labor were contributed to the land trust, providing on-the-ground work and a crucial local match for a \$10,000 grant from the U.S. Forest Service Forest Health Program. Desert Foothills Land Trust also has a dedicated group of preserve stewards who monitor the 15 land trust preserves and a docent group that provides conservation information to preserve visitors.

## For More Information

- **Forest Health Program (U.S. Forest Service):** [www.cals.arizona.edu/extension/fh](http://www.cals.arizona.edu/extension/fh)
- **Wildlife Habitat Incentives Program (Natural Resources Conservation Service):** [www.nrcs.usda.gov/programs/whip](http://www.nrcs.usda.gov/programs/whip)
- **Volunteers for Outdoor Arizona:** [www.voaz.org](http://www.voaz.org)



**Photo, left:** Salt cedar (*Tamarix ramosissima*) in bloom. **Below:** volunteers at work.



Salt cedar can be controlled by cutting, herbicide treatment, hauling, and chipping.

