

The Sentinel Landscape Restoration Partnership brings parties together to conserve natural resources, protect working lands, and preserve the mission of Fort Huachuca in Cochise, Santa Cruz, and Pima counties, Arizona. This article introduces the concept of ecosystem services in this area (free stuff from nature).

Ecosystem services are benefits humans derive from nature. Nature provides goods that humans harvest and sell. Commercial fishermen sell their catch, nature restocks, and they catch and sell again next season. Loggers cut and sell timber, trees regrow, and the cycle continues.

In southeastern Arizona, nature grows grass, livestock graze and are sold, and grass is renewed. Grasslands also act as sponges that catch water and ultimately recharge springs and streams. Similarly, healthy forests on our mountains slow water that soaks into the ground, feeds the aquifer, and becomes available for human withdrawal. These same grasslands and forests support wildlife that provide opportunities for recreation but also do work. People may watch birds and hunt to relax, on the one hand, while birds and snakes are on the job eating insects and rodents.

As we develop our ability to convert nature's benefits into dollars, we are at the same time calculating the costs of impairing natural systems. We're also learning the value of conservation activities that help keep native species in place and ecosystems humming along.

It's hard to put price tags on some of nature's services (and also compute the value of restoring nature), but people at universities do such things. For example, private lands provide open spaces that have scenic value, serve as wildlife habitat, and allow natural hydrologic processes to take place. Both residents and visitors benefit, and visitors bring their wallets. Borderlands Restoration in Patagonia is planting thousands of food plants for native pollinators that are essential to keeping natural vegetation and crops flourishing. Programs run by the Arizona Antelope Foundation and the National Wild Turkey Federation bolstering game populations lead to hunting revenues that broadly support restoration projects statewide.

Pima County found in the 1980s that setting aside flood-prone properties was by far cheaper than paying for flood control infrastructure. Establishing the Cienega Creek Preserve upstream of Tucson on the northern frontier of the Sentinel Landscape provided protection from flooding as well as valuable services such as groundwater recharge, assurance of water quality, maintenance of rare riparian habitats, and open space for recreation. It was estimated that destructive flood peaks would increase 40% if upstream lands were developed.

On the Sentinel Landscape there is another kind of practical value to conserving our water supply, protecting open spaces, and caring for federally listed species. These actions remove obstacles to Fort Huachuca successfully accomplishing its mission which in turn provides jobs for thousands in southern Arizona. These workers spend money in the local economy which keeps other people employed.

Human activities that might reap gain in the short-term merit analyzing for their long-term effects on the services that functioning natural systems deliver to all of us. If we continue to invest in nature, nature continues to provide returns to all of us.



Apletion-Whitell Research Ranch

Intact grasslands act as sponges that catch water and recharge spring and streams.



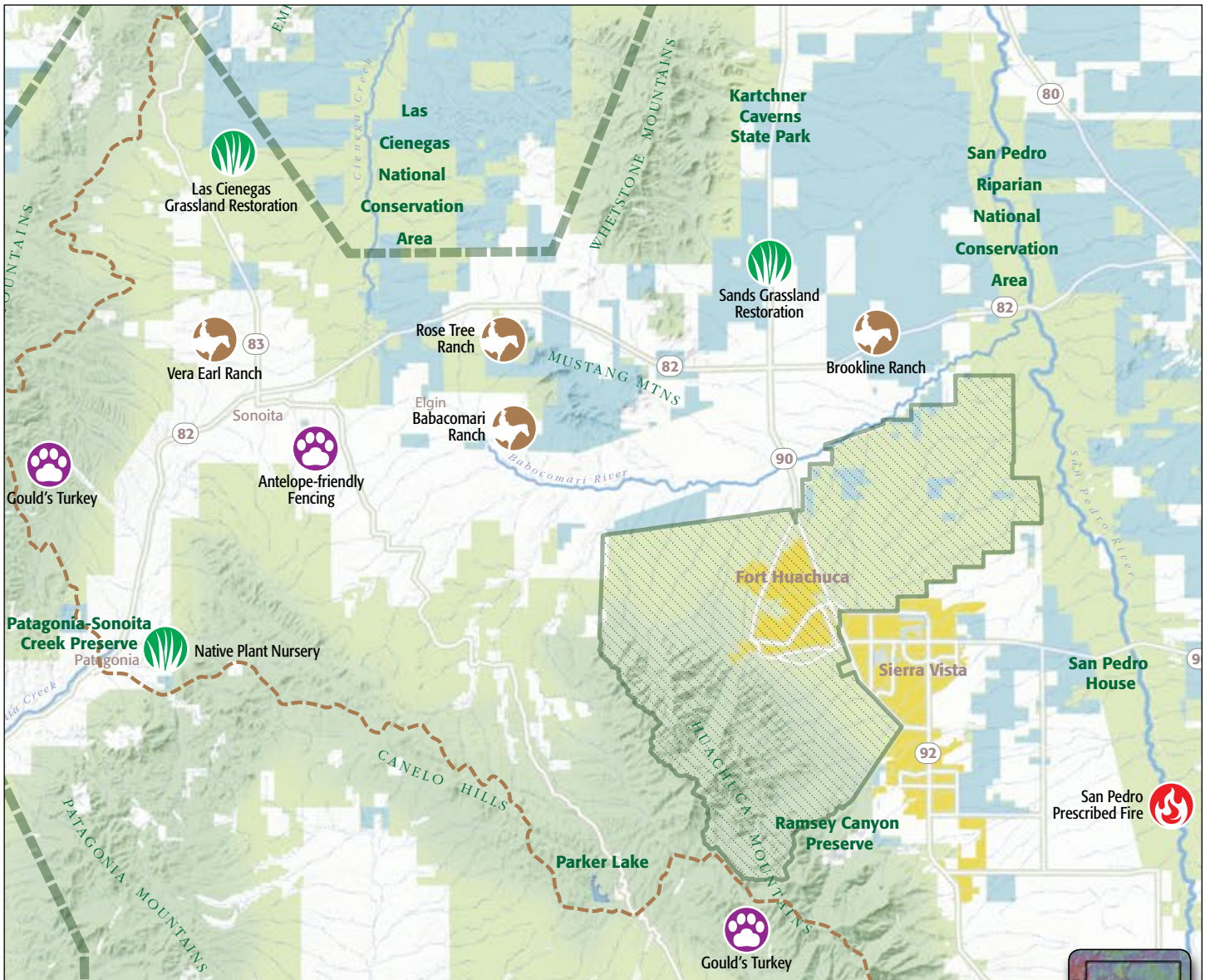
D. Caldwell

Beautiful and healthy ecosystems attract birdwatchers and their wallets to the Sentinel area.

Ecosystem Services

For decades, people have worked together to protect precious natural and cultural features of southeastern Arizona’s sky island region. In 2015, the Sentinel Landscape Restoration Partnership came together with an added twist—preserving the electromagnetically quiet area for the U.S. Army’s Fort Huachuca Buffalo Soldier Electronic Test Range. The **Fort Huachuca Sentinel Landscape Restoration Partnership** conserves grasslands and forests that provide habitat, water, livelihoods, and recreation in Cochise, Pima, and Santa Cruz counties, Arizona.

This “working landscape” hosts world-class biodiversity and offers recreation opportunities for residents and visitors. The diverse partnerships dedicated to maintaining these riches are made up of landowners, concerned citizens, scientists, and staff of local, state, and federal governments. This article introduces the concept of ecosystem services in this area.



Examples of Sentinel Landscape Ecosystem Services

Antelope-friendly Fencing (watchable/huntible wildlife), Babacomari Ranch (converting grass to food), Brookline Ranch (converting grass to food), Coronado National Forest Lands (shown in green—protecting upper watersheds that feed valley aquifers, ecotourism), Gould's Turkey (watchable/huntible wildlife), Las Cienegas Grassland Restoration (protecting grassland “sponge” in popular ecotourism area), Native Plant Nursery (growing plants for pollinators), Rose Tree Ranch (converting grass to food), Sands Grassland Restoration (converting grass to food), San Pedro Prescribed Fire (protecting grassland “sponge” in popular ecotourism area), Vera Earl Ranch (converting grass to food).

