

Candidate Species Conservation:

Can the Tortoise Win the Race?



By Laura E. Huggins

Edited by Shawn Regan

This year marks the 40th anniversary of the Endangered Species Act. Unfortunately, there is little cause for celebration as only a handful of species have recovered and the price tag has been high.

Consider the desert tortoise in the southwestern United States. Among species protected by the Endangered Species Act, the desert tortoise is one of the top recipients of tax dollars. The U.S. Fish and Wildlife Service reports that the desert dweller received nearly \$190 million in tax-dollar support from 1996 to 2009, and millions more in private investment, with a negligible outcome for the species. More recently, the tortoise faces threats from the very source of its protection. Due to cuts in federal funding, officials announced plans to close the Desert Tortoise Conservation Center and euthanize the animals they have been guarding since the species was listed in 1990.

The Endangered Species Act (ESA) is expensive and ineffective

in its reactive approach to conservation, which tends to penalize property owners once a species is already in a tailspin. A system of incentives for environmental stewardship prior to formal listing under the ESA could maximize management options for landowners, minimize the cost of recovery, and reduce the potential for restrictive land use policies in the future.

CANDIDATE CONSERVATION BANKING

Conservation groups such as World Resources Institute, Defenders of Wildlife, and Advanced Conservation Strategies are developing a proactive path for candidate species. This approach builds on conservation banking—a

WHAT IS A CANDIDATE SPECIES?

Candidate species are plants and animals that are rare to the point that they qualify for protection under the ESA but have not been formally listed due to higher priorities and agency capacity constraints. Candidate status alerts landowners and resource managers of species in need of conservation and provides the motivation to adopt measures that could preclude the need to list the species as threatened or endangered. Candidate species receive no statutory protection under the ESA. The current list of nearly 200 candidate species is available at: www.fws.gov/endangered/what-we-do/index.html.

Featured below: dunes sagebrush lizard, western snowy plover, wood storks, eastern gopher tortoise



Candidate conservation banking offers an incentive-based approach for species that are headed toward formal listing under the ESA.

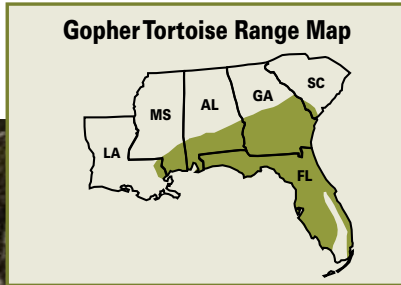
component of the current ESA framework available under Section 7 of the law. Although conservation banking has been used for more than a decade for listed species, it has not been applied to candidate species.

Under a candidate conservation banking model, private landowners who conserve, manage, or restore candidate species habitat on their properties receive credits that can be bought and sold in the marketplace. Buyers in that marketplace might include project developers who run the risk of negatively impacting a given species. Developers would voluntarily purchase credits as mitigation for potential future impacts. In exchange

for offsetting potential damages, developers receive regulatory predictability. In 2012, the Fish and Wildlife Service announced that it will provide developers with assurance that “in the event the species is listed, the benefits of appropriate voluntary conservation actions will be recognized as offsetting the adverse effects of activities carried out by that landowner or others after the listing.” This public notice of assurance is already advancing a framework that motivates early conservation efforts to help candidate species such as the dunes sagebrush lizard in the Southwest. Signs also look promising for the eastern gopher tortoise.

ALIGNING INTERESTS

By aligning the interests of project developers, private landowners, conservation advocates, and the U.S. Fish and Wildlife Service, candidate conservation banking can complement and improve the performance of existing ESA programs by mobilizing actions that achieve net conservation benefits for at-risk species.



If a voluntary, pre-compliance market can work for the gopher tortoise, the door will be open for other imperiled species seeking healthy habitat on private land.

THE RETURN OF THE GOPHER TORTOISE

Fire-maintained longleaf pine forests once occupied 90 million acres in the Southeast. Today, roughly three million acres remain. Many species that rely on longleaf pine habitat have experienced population declines, including the gopher tortoise.

Today, the gopher tortoise is listed as threatened under the ESA in the western portion of its range, and the Fish and Wildlife Service is considering listing the eastern population as well. With 80 percent of land in private ownership in the Southeast, the greatest potential

for conservation, restoration, and management of pine habitat for declining species lies in the hands of private landowners. If a voluntary, pre-compliance market can work for the eastern gopher tortoise, the door will be open for other imperiled species seeking healthy habitat on private land.

Crediting Methodology

The “currency” involved in the gopher tortoise exchange model is habitat credits. A credit is a unit of trade that places monetary value on population estimates weighted for habitat size and quality. Credits are sold to offset impacts to species and/or species’ habitats. The relationship

between credits and debits reflects the value of the new habitat provided compared to the habitat impacted and is expressed as a mitigation or trading ratio. A 2:1 trading ratio, for example, could represent 200 acres of restored habitat for every 100 acres of negatively impacted land.

A crediting methodology has been designed by the World Resources Institute, Advanced Conservation Strategies, American Forest Foundation, and Long Leaf Alliance, with input from leading experts in tortoise biology, the Fish and Wildlife Service, landowners, and prospective buyers. Input from diverse groups helps ensure uptake by buyers and sellers.



The “currency” involved in the gopher tortoise exchange model is habitat credits.

The methodology begins by conducting a gopher tortoise population survey to determine the size of the resident population. A habitat quality assessment is also performed to determine whether the parcel meets minimum eligibility requirements and to calculate a habitat quality score. By preserving and managing the tortoise habitat, the landowner may generate one credit for each resident gopher tortoise weighted by the habitat quality score.

A percentage of generated credits must be held in reserve as “risk deposit credits” and cannot be sold until the population is surveyed again five years later and shown to

be equal to or greater than the initial population. Scaling the credit score by habitat quality rewards high-quality habitat and helps mitigate for the higher risk of “credit default” (i.e., tortoise declines due to marginal habitat). A landowner may be eligible for additional credit allocations if the habitat score improves over time. Surveys are conducted periodically to ensure performance. An adaptive management plan is triggered if surveys indicate declines in population or habitat quality.

ESA Meets DOD

Military installations cover nearly 30 million acres of land in the United States. This area includes

significant parcels where species are listed as endangered or threatened under the ESA. The eastern gopher tortoise is known to burrow below military land, but thus far has eluded federal protection.

The Department of Defense identifies the gopher tortoise as a priority species and encourages proactive habitat protection with the hope of avoiding formal protection—and the regulations that come with it—under the ESA. Military bases are concerned that listing could result in a loss of mission training land. The need for military readiness and training flexibility on installations as well as development pressure around military bases are driving the search for innovative solutions and partnerships.

Candidate conservation banking for the gopher tortoise is scheduled to begin in 2014 (see figure 1).

MEET THE PLAYERS

Regulating Agency

The Fish and Wildlife Service, and in some cases the state wildlife agency, is responsible for enforcing internal or external policy that brings firms into compliance with

environmental statutes. Ecosystem markets represent opportunities for regulated entities to achieve compliance more cheaply.

Brokers

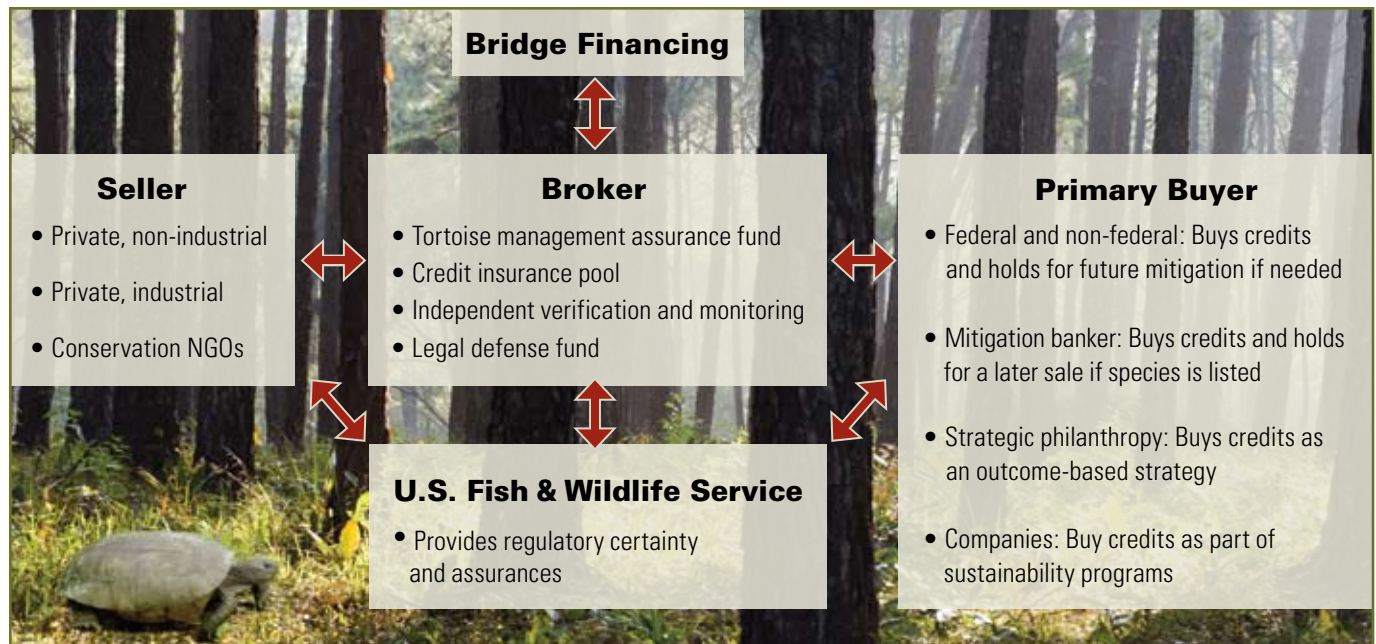
Implementing organizations provide funds that are used to establish agreements with local landowners to create compliance-grade credits. They also facilitate

agreements with credit purchasers and serve as supply and risk aggregators.

Buyers

Buyers consist of commercial firms, government agencies, utilities, or philanthropic organizations that purchase offset credits from the broker or directly from the landowner. They are the

Figure 1: Gopher Tortoise Marketplace Structure



Source: Gartner and Donlan 2011.

Featured below: greater sage-grouse, lesser prairie chicken



Pre-listing conservation programs represent a promising development of voluntary exchange through a market-like approach that can mobilize environmental stewardship on private lands.

consumers for species advance mitigation credits and the primary source of ongoing investment in ecosystem services.

Sellers

Sellers are credit generators; they are landowners who have entered into agreements with a broker or directly with a commercial firm, utility, or public agency with the intent of generating and selling offset credits.

SCALING OUT

A candidate conservation banking framework can motivate significant pre-listing conservation efforts

nationwide. West of longleaf pine country, the Great Plains states and energy developers are also facing uncertainty as they make massive infrastructure investments in areas critical to the lesser prairie chicken's survival. And in the Rocky Mountain West, legal protections for the greater sage-grouse threaten many development projects.

In 2010, citing threats from energy development as well as invasive plants, the Fish and Wildlife Service determined that the greater sage-grouse is warranted for protection under the ESA but delayed listing. The agency will

review its decision in 2015. If significant progress is not made, the species will likely be listed, requiring substantial changes in the management of public and private lands.

In announcing the species status as warranted for listing, former Interior Secretary Ken Salazar highlighted voluntary conservation actions and positive incentives as important components of a common-sense approach to recover the sage-grouse and enable responsible development of energy resources. A candidate species conservation marketplace could lower the costs to recover the greater sage-grouse and lessen the impacts to rural communities.

MOVING FORWARD

Changes in land use have sparked new challenges in balancing wildlife management with residential and commercial development, national security, and energy production. Some of these challenges can be addressed by testing pilot programs similar to the gopher tortoise project. Most notably, interest is rapidly growing in the private, public, and nongovernmental organization sectors to apply candidate conservation banking for protection of the lesser prairie chicken and greater sage-grouse. Experience from additional pilot projects will help inform public policy and could create program designs that successfully promote private landowner participation and meet species conservation objectives.

Incentivizing conservation of at-risk species prior to ESA

regulatory action represents a promising development in how we think about conservation. By creating habitat exchange markets for candidate species, environmental protection becomes a matter of private ordering between suppliers and beneficiaries. A system of incentives offers an attractive and effective complement to traditional regulations and can encourage landowners to view their property in a new light—revealing streams of income, such as the provision of biodiversity, that may not have been recognized before.

This arrangement is not a silver bullet. There are conditions for candidate conservation markets to work. Absent regulatory predictability, a sufficient supply of habitat, and an active trading market, it is unlikely that candidate conservation banking will flourish.

That said, pre-listing conservation programs have the potential to mobilize environmental stewardship on private lands through a market-like approach to help keep the gopher tortoise and other imperiled species off the extinction path.

REFERENCE:

Gartner, Todd, and Josh C. Donlan. 2011. Insights from the Field: Forests for Species and Habitat. Southern Forests for the Future Incentives Series. *Issue Brief*: World Resource Institute 10: 1–9.

LAURA E. HUGGINS is a research fellow and director of outreach with PERC as well as a research fellow at the Hoover Institution at Stanford University. She may be reached at laura@perc.org.

Special thanks to Todd Gartner, World Resources Institute, and to the Conservation Leadership Council. For a longer version of this case study visit: www.leadingwithconservation.org/reports/

