

U.S. Fish & Wildlife Service

ENDANGERED

Species

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Fall 2010

Volume 35, No. 2

Tools for Conservation Partnerships



Tools for Conservation Partnerships



The owners and managers of land can and do play a vital role in conserving our nation's imperiled wildlife. Most threatened and endangered species, listing candidates, and species of concern depend at least in part on

private and other nonfederal lands. The Fish and Wildlife Service offers a variety of incentives for private property owners, federal agencies, state and local governments, tribes, and other nonfederal landowners and managers to engage in voluntary conservation partnerships. These tools benefit imperiled species while making it possible for landowners to continue to use their land.

This edition of the *Endangered Species Bulletin* illustrates the most important of these partnership tools: Safe Harbor Agreements, Candidate Conservation Agreements, Candidate Conservation Agreements with Assurances, Habitat Conservation Plans, Conservation Banking, and the assistance offered by the Partners for Fish and Wildlife Program. Increasingly, landowners are pooling their efforts and using partnership tools to conserve species at the landscape level.

Landowners overwhelmingly take pride in their property and appreciate the wildlife it supports. Incentive-based conservation tools are the foundation of our partnership between landowners and the Service.

We hope you find the tools described in this edition helpful.

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You can also call us at 703-358-2171.

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The Bulletin welcomes manuscripts on a wide range of topics related to endangered species. Please send an inquiry before drafting the article.

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◀ **On the cover:** Bob Long (left) and David Wolfe of the Environmental Defense Fund (EDF) evaluate wildlife habitat on Long's ranch. EDF was instrumental in reaching out to Long and provided funds for wildlife biologists to survey his property for Houston toad populations. As a conservation partner in the Safe Harbor program, Long has become an enthusiastic advocate for the endangered amphibian. ©John Rae



FEATURES

Safe Harbor Agreements

4 Building Trust for Prairie Dogs

Large-scale Approach Protects Habitats and Helps Communities



8 “We Flow With It”

A Champion for the Houston Toad



Candidate Conservation Agreements/Candidate Conservation Agreements with Assurances

12 Candidate Conservation, New Mexico Style

Combining Partnerships Tools Aids Imperiled Animals



Safe Harbor Agreements/Candidate Conservation Agreements with Assurances

20 A Gem in the Rough

Conserving Aquatic Treasures of the Little Red River



Habitat Conservation Plans

22 The Eastern Contra Costa County Habitat Conservation Plan

Large-scale Approach Protects Habitats and Helps Communities



Conservation Banking

28 Conservation You Can Take to the Bank

A Market-based Approach to Conservation



Partners for Fish and Wildlife

34 “Partnering Up”

Cooperative Conservation on the Rolling Stone Ranch



DEPARTMENTS

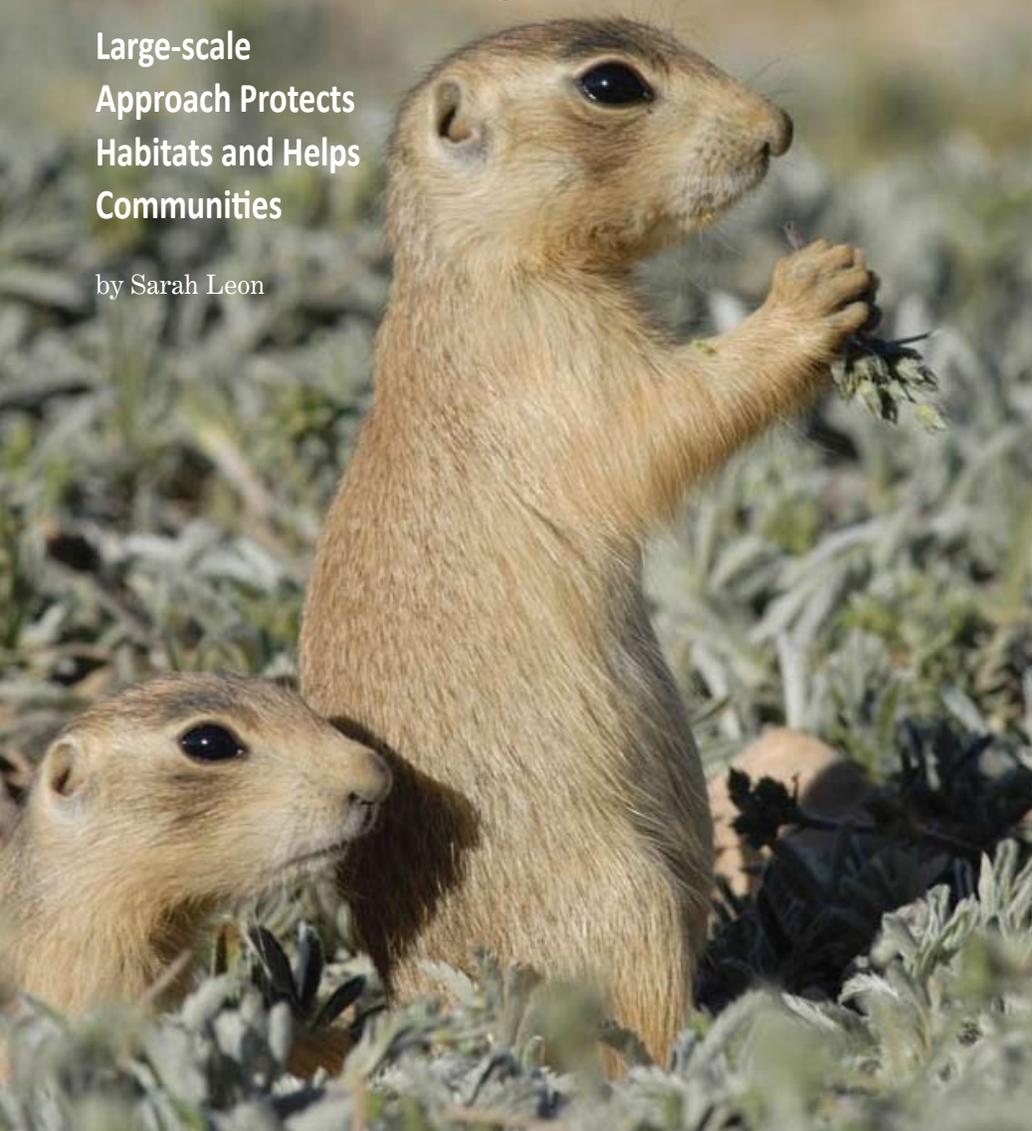
38 Frequently Used Terms

39 Endangered Species Contacts

Building Trust for Prairie Dogs

Large-scale Approach Protects Habitats and Helps Communities

by Sarah Leon



Unlike the prairie dogs most people are familiar with, the Utah prairie dog is a rare species restricted to a small area of the state. Photo by Laura Romin and Larry Dalton

A bad first impression is tough to overcome. Some private landowners in southern Utah say they can't decide what's worse—having the Utah prairie dog (*Cynomys parvidens*) on their property or having the federal government suggest how they should manage it.

Because the best remaining habitat for this threatened species is on private lands, recovery will depend on landowner cooperation. But finding

willing landowners may be easier said than done.

“The sentiment is that we are the big bad regulators,” explains Jennifer Fox, an ecologist for the U.S. Fish and Wildlife Service. “Landowners worry that we’re going to nail them if there is any ‘incidental take,’ or that we will somehow restrict them from carrying on their livelihoods or doing what they do to survive.”

If that impression weren't bad enough, many ranchers and farmers in the area see Utah prairie dogs as nothing more than destructive pests that dig burrows hazardous to livestock and expensive haying equipment.

Not so, say biologists. While Utah prairie dog conservation remains controversial, the ecological importance of these animals is not. According to Fox, prairie dogs are recognized as keystone species that play a critical role in their ecosystem.

“Utah prairie dogs are an important prey species for a variety of other animals, such as badgers and raptors. They also help shape the vegetation by foraging, and their burrow systems can be used as shelter for animals like burrowing owls and pygmy rabbits.”

It's true that Utah prairie dogs may never be the most popular critters, but the Service is determined to find solutions to help communities in southern Utah embrace this species.

“People tend only to focus on the negative aspects of having the species on their land,” says Fox. “The best thing to do is to try and approach landowners in a way that shows them how having this species on their property can actually benefit them.”

The Service, with the support of several conservation organizations like the local Resource Conservation and Development Councils, has developed two programs to help landowners see how opening their gates to Utah prairie dogs can be worthwhile.

The Safe Harbor Agreement (SHA) Program and Habitat Credit Exchange Program (HCEP) encourage landowners to participate in the restoration of threatened and endangered species by offering a suite of incentive-based tools and regulatory assurances.

Safe Harbor Agreements

The objective of the SHA approach is to provide incentives for private landowners to restore and manage habitat, provide regulatory assurances to private landowners under the Endangered Species Act, and ultimately recover and delist the species.

Aside from these motivations, landowners may realize another benefit.

“We are actually fortunate with the Utah prairie dog in that the landscape they rely on is similar to what cows and other livestock like,” says Fox. “So if a landowner does things to improve the habitat for the prairie dog, it simultaneously helps improve the grazing conditions for their livestock.”

Verl Bagley, a landowner who has enrolled 70 acres (28 hectares) in an SHA, can attest to this.

“It’s a win-win situation,” he says. “I win by getting some rangeland improved and the prairie dog wins by gaining habitat.”

Bagley was one of the first landowners in Utah to take part in the Safe Harbor program. He agreed to convert alfalfa to pasture and spot-seed fallow areas with a seed mixture compatible with habitat needs for the Utah prairie dog. Bagley also agreed to install fencing to help improve his grazing management.

While Bagley is quick to note the benefits, he is just as willing to point out the program’s flaws. He says that several landowners he recruited lost interest during the long and drawn out process of organizing an agreement. “Once the interest is gone, it’s hard to pick back up.”

At the time, completing an individual SHA was a process that could take

What is a Safe Harbor Agreement?

“Safe Harbor Agreements” or SHAs are voluntary agreements that provide incentives for landowners to help recover endangered or threatened species.

What is the landowner’s role?

The landowner agrees to manage the property in ways that contribute to the recovery of a listed species for a specified period of time. He or she works with the Service to develop the agreement and management plan.

What are the benefits?

For the landowner: The Service authorizes “incidental take” coverage for routine and ongoing activities on the property, which ensures that the landowner can continue with these activities despite the presence of listed species. (Incidental take is a term that means any unintentional take of a listed species — such as killing, capturing, collecting, or otherwise harming — that results from, but is not the purpose of, an otherwise lawful activity. For example, individuals of a listed species may be taken by permit during lawful timber management activities if the take is unintentional.)

The landowner also receives regulatory assurances that, at the end of the agreement, he or she can choose to alter or modify the property enrolled in the SHA and return it to its originally agreed-upon “baseline” conditions (even if this leads to incidental take). SHAs can be renewed by mutual agreement.

For the species: The species benefits from conservation activities on private lands that might not otherwise have taken place during period of the time specified in the agreement.

Who can participate?

Any non-federal property owner can participate in the Safe Harbor program. The owner can enroll the entire property in the SHA or just a portion of it.

Property owners can also enroll in an existing programmatic or “umbrella” SHA that may have already been designed for prospective participants in a region or even an entire state. Such programmatic SHAs are administered by a sponsoring state or local agency or some other entity.

It is important to emphasize the SHAs are authorized only when a net conservation benefit to a listed species will result from the landowner’s stewardship.



up to one year or more. To make it easier on landowners, the Service entered into a programmatic SHA with the Panoramaland Resource Conservation and Development Area (a group comprised of six Utah counties) last summer. This “umbrella” agreement encompasses the Utah prairie dog’s entire range. It allows multiple property owners to sign onto the agreement by means of certificates of inclusion, which makes the process quicker and easier.

“I wouldn’t recommend everyone with a patch of land run out and sign onto this sort of thing,” says Bagley. “But I do encourage landowners to learn about the program, both the benefits and consequences, to see if it is something they would be interested in.”

While an SHA may not be right for everyone, Bagley tells those in his area to explore other avenues to help push the Utah prairie dog towards recovery.

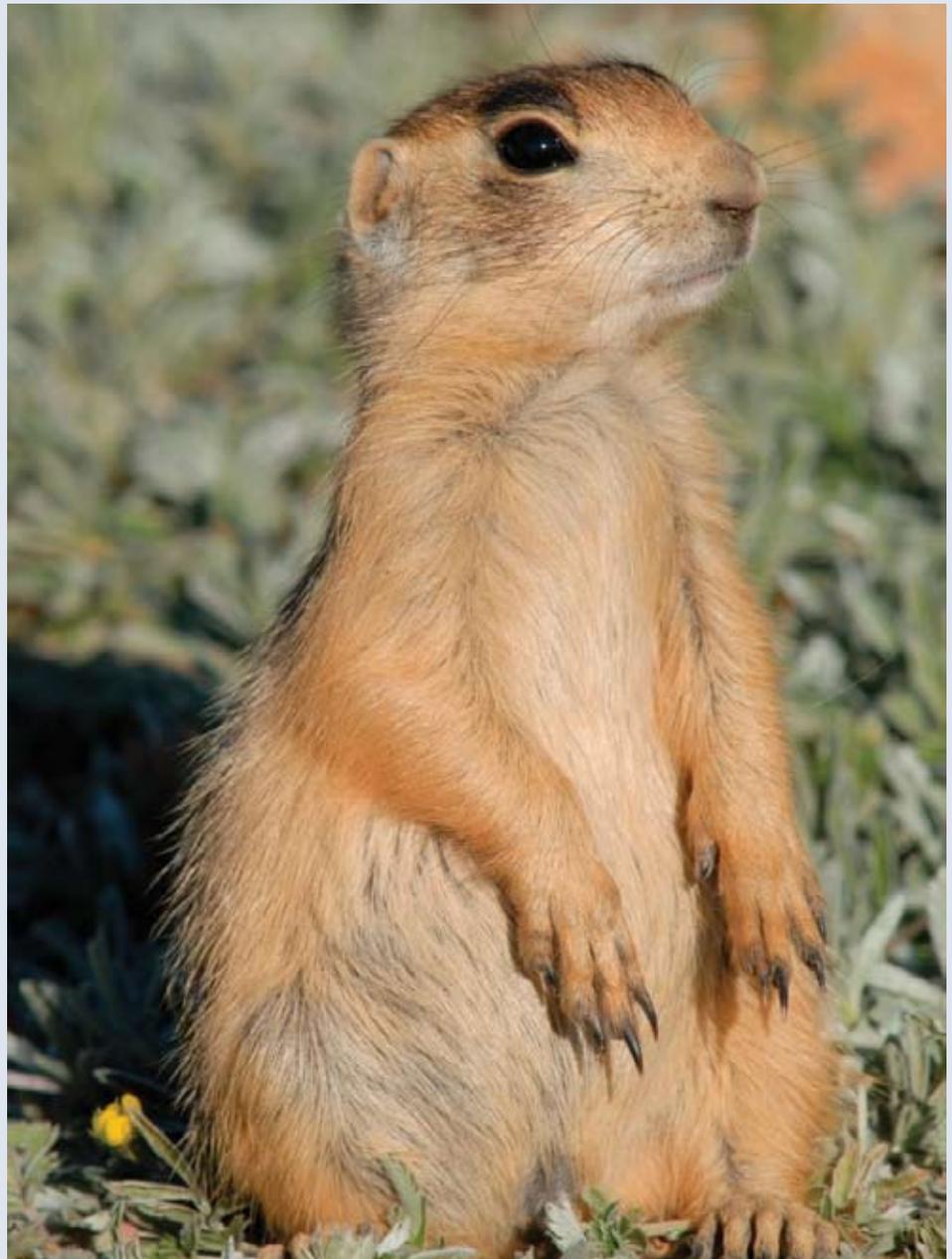
“It’s important to do what we can as a community to see the species is successfully recovered,” said Bagley.

Habitat Credit Exchange Program

Another option available to landowners is the Utah prairie dog HCEP. Like the Safe Harbor program, the HCEP is designed to help win support for species conservation on private lands.

According to Erica Wightman, the HCEP coordinator, this program will provide an avenue for private land development while conserving important Utah prairie dog habitat in ways that benefits both landowners and species recovery.

Wightman says the HCEP will mirror a market-based brokerage system, connecting developers (credit buyers) who need to mitigate the loss of Utah



Laura Romin and Larry Dalton

prairie dog with private landowners (credit sellers) willing to preserve the species on their properties.

This program is still in its pilot stage, but according to Wightman, the HCEP will start purchasing habitat credits from private landowners with viable Utah prairie dog colonies on their property and selling them to developers this summer.

The Panoramaland and Color Country Resource Conservation and Development Councils oversee the

program and determine which land is best suited for inclusion.

According to Wightman, eligible landowners must have at least 40 acres (16 ha) and a spring count of 20 adult Utah prairie dogs to participate. But the program isn’t just looking for land with high quality habitat. Rather, it’s looking for landowners interested in long-term commitments to conservation.

“It’s important that management is ongoing,” says Wightman. “We



Landowners participating in the Safe Harbor program removed brushy vegetation, reseeded the property, and improved livestock grazing practices to manage stubble height desirable for Utah prairie dogs. The work was accomplished under a cost-share agreement with funding through the Service's Utah Partners for Fish and Wildlife program. USFWS



may establish an agreement with a landowner now, but we like to see that management will continue on down the road, even if the species is delisted.”

It's still too early to see how these two programs are moving the needle towards recovery, but there's no question both the SHA and HCEP programs have generated a great deal of landowner interest in Utah prairie dog conservation. At the same time, perceptions that these animals are agricultural and development nightmares are beginning to decrease.

Members of the Utah Prairie Dog Recovery Team are encouraged to see this small turn around. With increased landowner support, the species stands a far better chance for recovery.

“Because landowners weren't too happy with them being on their land, translocation from private lands to public land was what we had focused on in the past,” Fox says. “But we just can't rely on this any longer for the main source for protection and main focus for reaching recovery goals.” Most Utah prairie dogs occur on private land, and until recently the success rate for trapping and translocation to public lands has not been promising.

“We are starting to see more success with translocation, but our main focus now is to work more closely with private landowners on their land,” says Fox. “We feel pretty confident these programs will help us reach our recovery goals a lot faster than how we have been focusing things in the past.”

Sarah Leon, a communications specialist with the Service's Endangered Species Program headquarters office in Arlington, Virginia, can be reached at sarah_leon@fws.gov or 703-358-2229.



“We Flow With It”

A Champion for the Houston Toad

by Sarah Leon

For breeding, including egg and tadpole development, Houston toads require still or slow-flowing bodies of water, such as this shallow pond. Paige Najvar/USFWS

In the deep sandy soils and pine-oak forests of east-central Texas hides an elusive and critically endangered amphibian. Each spring, Houston toads (*Bufo houstonensis*) emerge and the males sound their beautiful breeding choruses. Even so, an unsuspecting landowner would never guess these soft trilling calls came from such a rare ecological gem.

This is how the story went for Bob Long, who runs a modest cow-and-calf operation on his property near Bastrop, Texas. To Long’s surprise, not only did he have the toad, but his property happens to contain some of its best known habitat.

“It really was shocking because none of us even knew we had an endangered species,” said Long. “If it were an 800-pound gorilla I might feel different, but the toad is easy to deal with in comparison to a larger species. [Helping the toad] is part of our entire operation now, we flow with it.”

For 8 years Long has been working with the U.S. Fish and Wildlife Service and other partners like the Texas Parks

and Wildlife Department and Environmental Defense Fund to improve Houston toad habitat. He was the first private landowner in Texas to take part in a Safe Harbor program.

During the winter and early spring, Long keeps his cattle fenced away from the wetlands that are so vital to the toad. He has also voluntarily reduced the size of his herd and he continues to rotate his grazing patterns. With help from the Environmental Defense Fund, he has also overseen a series of prescribed burns and has been active in brush removal and other habitat improvement projects.

“We’re kind of excited about our conservation efforts,” says Long. “When our 10-year agreement is up, we’ll either start over with another 10 years, or we’ll take it a step further and go into a conservation easement with more acreage involved.”

While Long is now dead-set on committing his land in perpetuity to conservation, he wasn’t always so sure of the

idea. Of course, he wasn't the first landowner to feel initial apprehension when asked to provide room for an endangered species, and he's certainly not the last.

"People like us are concerned about the federal government coming and putting a foot down on our property," says Long. "The community thought I had lost my mind because no one makes a deal with the federal government in our area."

According to U.S. Fish and Wildlife Service biologist Paige Najvar, many landowners—especially in Texas—are fearful of working with the Service and the requirements that such cooperation entails. Toward that end, the Safe Harbor program was designed to be flexible and provide incentives for landowners. This makes SHAs not only a great tool for the species but a great tool for landowners looking to take that first step into a conservation partnership.

"Each landowner has specific needs and specific desires for his or her property," Najvar explains. "That's why we give landowners a say in what conservation activities they want to do. If they don't feel comfortable doing something, we don't push it—we try and help them reach the standard another way."

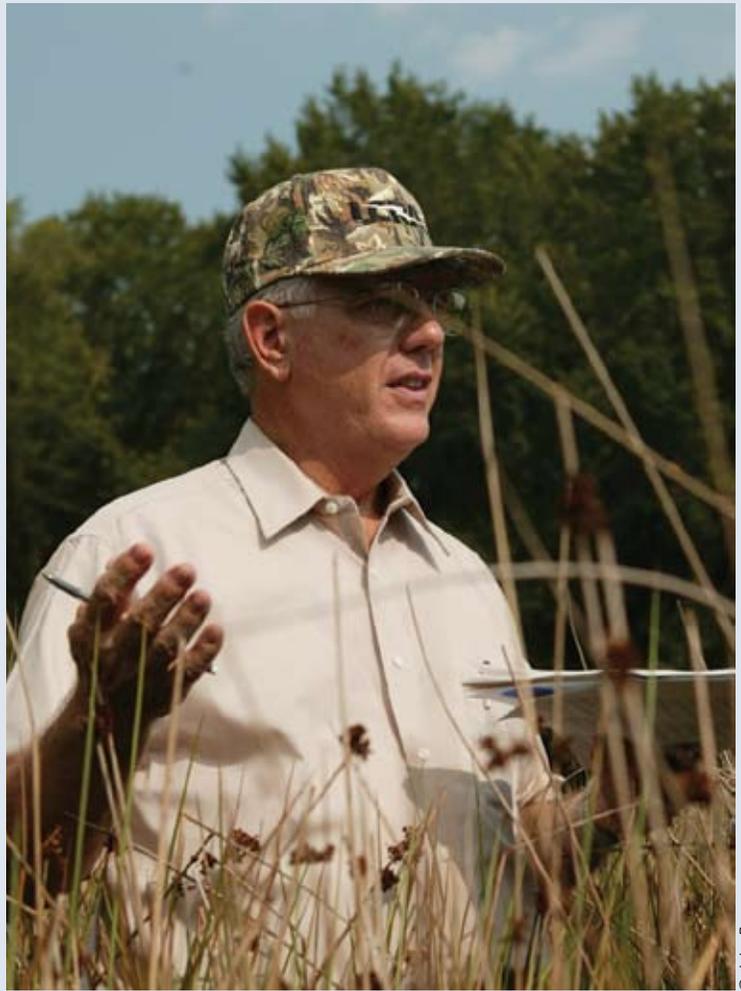
"We're hoping by them getting into Safe Harbor programs, where they start doing all of these proactive conservation activities for the Houston toad, they'll establish a relationship with us and realize we're not so scary, and we can then encourage them to take their conservation actions a step further."

In a state where 94 percent of the land is privately owned, species recovery would be impossible without the active involvement of landowners. This is why members of the Houston toad Recovery Team are happy to have someone like Bob Long on their side.

According to David Wolfe, the Environmental Defense Fund's Texas Regional Wildlife Director and a Houston Toad Recovery Team member, Long serves as a powerful symbol for the potential of private landowners to aid in species recovery. "Bob has really been a great spokesperson for cooperative efforts to help endangered species like the toad."

As a result of Long's example, two additional landowners have enrolled their properties in Safe Harbor Agreements. Together, the three properties have reserved close to 2,000 acres (810 hectares) for habitat improvement to benefit the toad. Additionally,

According to Long, a sense of pride and ownership has developed in Bastrop from having such a rare species. "The toad has really become a big part of our community."



© John Rae

While Long is now dead-set on committing his land in perpetuity to conservation, he wasn't always so sure of the idea. "People like us are concerned about the federal government coming and putting a foot down on our property."

How do I set Up an SHA?

1. To participate in the SHA program, landowners having a listed species or its habitat on their property are invited to contact the appropriate regional office of the U.S. Fish and Wildlife Service. See the inside back cover of the *Bulletin* for contact information.
2. If an SHA is feasible, the landowner and the Service work together to compile information about the land, including a map, the current management, and the management needs of the species and/or habitat.
3. The landowner and the Service determine the baseline condition of the property for the species -- the number and location of individuals, a habitat assessment, or a combination of the two.
4. The landowner and the Service identify voluntary actions that would provide a net conservation benefit for the species. They also determine the duration of the SHA, allowing enough time to achieve the desired benefit.
5. The landowner and Service develop a draft SHA that specifies management actions that will provide a net conservation benefit to the species. The draft plan should describe the current and anticipated management of the property (farming, ranching, timber management, etc.) It should also address the monitoring needed to determine if the prescribed management actually benefits the species and/or its habitat.
6. The Service identifies any anticipated incidental take of listed species that might result from the management planned under the SHA, including any "incidental take" of a listed species that could be expected if the landowner chooses to return the property to its baseline condition when the agreement ends.
7. The landowner submits the completed SHA and an application for an "enhancement of survival permit" to the Service.
8. The Service then publishes an announcement in the Federal Register that it has received an application for an "enhancement of survival permit." A 30-day public comment period follows.
9. During the public comment period, the Service conducts internal reviews related to issuance of the requested permit.
10. Following a response to any public comments, and after incorporating any appropriate changes, the Service and the landowner approve and sign the final SHA. Assuming all criteria have been met, the Service then issues the enhancement of survival permit.
11. The landowner begins any new conservation actions and/or continues with existing practices identified in the SHA, and reports annually to the Service on the plan's progress.



The Houston toad, 2 to 3.5 inches long, is generally light brown and speckled in color. *Roxanne Hernandez*

“Each landowner has specific needs and specific desires for his or her property,” Paige Najvar explains. “That’s why we give landowners a say in what conservation activities they want to do. If they don’t feel comfortable doing something, we don’t push it.”

the success of Long’s SHA has created an outpouring of interest from other private landowners.

This is great news for the toad, an animal needing all the help it can get. It now occurs nowhere in the world beyond a nine-county range in east-central Texas.

According to Long, a sense of pride and ownership has developed in Bastrop from having such a rare species. “The toad has really become a big part of our community.” He adds, “It’s also given us a way to advertise our community: ‘Leave the traffic of Houston and come to Bastrop...the toad did!’”

With so much interest now in helping the toad, a regionally-based programmatic safe harbor was in order. This “umbrella” agreement will encompass the toad’s entire nine-county range and allow multiple property owners to sign onto the agreement by means of certificates of inclusion.

Wolfe is enthusiastic about this programmatic SHA, which is in its later stages of development. He says three landowners are already in line for inclusion.

By making it dramatically easier for landowners to enroll in SHAs, Wolfe hopes that interest in toad conservation will extend beyond Bastrop into surrounding counties where this vulnerable amphibian still exists.

Sarah Leon, a communications specialist with the Service’s Endangered Species Program headquarters office in Arlington, Virginia, can be reached at sarah_leon@fws.gov or 703-358-2229.

Candidate Conservation, New Mexico Style

Combining Partnership Tools Aids Imperiled Animals

by Mike Bender and Sarah Leon

With its grayish tan scales, the sand dune lizard is well camouflaged from its predators, which include coyotes, snakes, roadrunners, and sometimes other lizards.

Mike Hill

The sand dunes and arid plains of southeastern New Mexico contain riches both economic and natural. Cattle grazing and oil and gas development dominate much of the landscape, but the dunes and shrubby grasslands conceal a variety of wildlife. In the face of disappearing habitat, ranchers and energy companies are joining federal and state wildlife agencies in voluntary efforts to show that conservation can be compatible with careful land use.

In late 2008, the U.S. Fish and Wildlife Service and the Bureau of Land Management (BLM) launched an innovative program that encourages landowners, energy companies,

and ranchers in this region to assist in conserving two vulnerable animals—the lesser prairie-chicken (*Tympanuchus pallidicinctus*) and the sand dune lizard (*Sceloporus arenicolus*).

These species have suffered significant declines and are candidates for listing under the Endangered Species Act (ESA). Through conservation agreements, the Service hopes to restore both species to a secure status, possibly making ESA protection unnecessary. For the first time, but almost certainly not the last, we are combining two of the Service's most important incentive-based conservation tools to benefit these candidate species.

Both federal agencies and the Center of Excellence for Hazardous Materials Management (CEHMM), a non-profit organization in New Mexico, will administer the voluntary agreements. A Candidate Conservation Agreement (CCA) addresses activities of oil and gas lease holders and grazing permittees on federal lands, and a Candidate Conservation Agreement with Assurances (CCAA) provides incentives for enhancing wildlife habitat on state and private lands.

Under these agreements, federal, state, non-profit, industry, and private landowner partners can work together to reduce or eliminate threats to the lesser prairie-chicken and sand

dune lizard. In return, non-federal landowners receive assurances that their operations on their own land can continue regardless of whether or not the species later come under ESA protection, and ranchers and petroleum companies operating on federal land have a greater degree of certainty that their operations will not need to change.

Lesser prairie chickens require habitats with sandy soils that support shinnery oak (*Quercus harvardii*)-bluestem (*Andropogon* sp.) and sand sage (*Artemisia filifolia*)-bluestem communities in the plains of southeastern Colorado, southwestern Kansas, western Oklahoma, western Texas, the Texas panhandle, and

According to Rand French of Marbob Energy, enrolling was an easy decision after finding that two candidate species occupy the land.

“We felt we needed something in the toolbox in case these species did become listed.”

eastern New Mexico. These birds are observed most easily in spring when males gather on traditional arenas (commonly called leks) and perform elaborate dances, displays, and booming calls to attract females.

As their name indicates, sand dune lizards prefer dune habitats, particularly those associated with shinnery oak and scattered sand sage. The oaks provide dune structure, shelter, and habitat for the species' insect prey. The lizards are found within large dunes that contain deep, wind-hollowed depressions called blowouts. There they can find the vegetation and loose sand that enables them to avoid predators and regulate body temperature.

Volunteers mark fences so that the lesser prairie chickens can avoid collisions, a major threat to the low-flying bird. USFWS



What is a Candidate Conservation Agreement?

“Candidate Conservation Agreements” or CCAs are voluntary agreements to address the conservation needs of candidate and at-risk species. Both federal and non-federal landowners can be CCA partners. Unlike CCAAs (see opposite page), CCAs do not include regulatory assurances to the partners.

What is the landowner role?

The landowner or multiple landowners agree to implement described actions for a specified period to remove or reduce the threats to the target species. Landowners work with the Service, and with each other when more than one is involved, to design conservation measures.

What are the benefits?

For the landowner: CCAs provide guidance and a formal management plan that identifies

specific conservation actions for covered species and their habitats.

For the species: CCAs help to remove threats to a species and improve its status so that listing may become unnecessary.

Who can participate?

Any landowner, federal or non-federal, can participate.

Current participants include ranchers, farmers, corporations, cities, counties, water and park districts, non-governmental organizations, zoos, aquariums, universities, state wildlife agencies, state transportations agencies, state forestry agencies, tribes, the Army Corps of Engineers, Department of Defense, Bureau of Land Management, Bureau of Reclamation, National Park Service, and U.S. Forest Service.

Sand dune lizard. *Mike Hill*



The habitat required by both species was reduced and fragmented by conversion to cropland, intensive grazing (particularly in dry years), oil and gas development, the application of herbicides for shinnery oak removal, and (for the low-flying prairie-chicken) collisions with wire fences. The new conservation agreements address these problems directly.

Candidate Conservation Agreement

The Marbob Energy Corporation of Artesia, New Mexico, was the first company to enroll under the BLM's CCA, with CEHMM and the Service as partners. According to Rand French of Marbob, enrolling was an easy decision after finding that two candidate species occupy the land. "We felt we needed something in the toolbox in case these species did become listed."

Under the agreement, Marbob agreed to minimize surface disturbance within a site on public land in Lea County that the company has leased for oil and gas drilling. The company will also reduce drilling site impacts, relocate future wells as needed, and concentrate drill site infrastructure in locations that avoid lesser prairie-chicken habitat. Further, all oil and gas permittees contribute to funds that are used to reclaim legacy wells (abandoned wells that lack a current responsible party), as well as other management activities throughout the area covered by the CCA/CCAA.

According to French, his company believes that it's common sense to try and get ahead of the regulatory curve. "Those that are really looking out for the best interest of their company will sign up. A lot of people

What is a Candidate Conservation Agreement with Assurances?

"Candidate Conservation Agreements with Assurances" or CCAAs are voluntary agreements that provide incentives for landowners to conserve "candidate" and "at-risk" species. (See "Frequently Used Terms" on page 44 of the *Bulletin* for definitions.)

What is the landowner's role?

For the length of the agreement, the landowner agrees to undertake specific conservation measures that address the identified threats to the target species.

What are the benefits?

For the landowner: Regulatory assurances that if the species is later listed, the landowner will not be required to do anything beyond what is specified in the agreement.

For the species: Reduces threats to the species so that listing may become unnecessary.

Who can participate?

Any non-federal property owner can participate in the CCAA program. The CCAA can cover an entire property or just a portion of it.

Instead of developing an individual CCAA, property owners can choose to enroll in an existing programmatic CCAA that is designed for a region or an entire state and is administered by a non-federal entity.

Participants in the CCAA program range from individual landowners who own less than an acre to large corporations with thousands of acres. States can also enter into CCAAs.



Chris Brinstool's ranch manager, Silvio Cervantes, shows off their Partners for Fish and Wildlife sign.

don't realize that they don't want to deal with a listed species."

Several other energy companies are also working with BLM to join the effort by enrolling under the CCA. "I think that with more companies signing on, there'll be more participation by other companies that have been reluctant," says French. "If not, once those species get listed they're going to have a hard time getting permits. Soon I think they'll all come to the conclusion that this is something they should be participating in."

The agreement builds on the BLM's Special Status Species Resource Management Plan Amendment, a 2008 commitment to protect both species and restore their habitat. The plan established requirements that apply to all federally authorized

The strength of the CCA comes from additional conservation measures that are above and beyond the requirements in BLM's Resource Management Plan.

activities, regardless of whether or not a grazing permittee or oil and gas leasee participates in the CCA program. The strength of the CCA comes from additional conservation measures that are above and beyond

the requirements in BLM's Resource Management Plan.

Candidate Conservation Agreement with Assurances

Conserving habitat on private lands is also important and can ensure that similar management is applied across the mixed-ownership landscape. Chris Brininstool, a rancher in Lea County, has been an enthusiastic supporter of lesser prairie-chicken conservation for at least 11 years. She has enrolled all of her privately-owned acreage (3,200 acres, or about 1,300 hectares) under the CCAA.

Brininstool has undertaken a variety of specific conservation actions: placed markers on fences to make them more

Chris Brininstool's work extends to public outreach. The rancher invites volunteers from schools and groups like the Future Farmers of America and the Boy Scouts to assist her, while educating them on prairie-chicken conservation.





visible to lesser prairie-chickens and prevent mortality during pre-dawn flights; provided water sources for wildlife; construct escape ramps in livestock watering tanks so that wildlife can exit safely; and maintained habitat for prairie-chicken reintroductions in the future. The first release is scheduled for March 2011.

“It’s all of these little things that add up to really benefit the wildlife,” says Brininstool. She is quick to note that habitat improvement projects benefit more than just wildlife. “I’ve also been doing a lot of mesquite control—killing the mesquite—which means there’s more grass, which is good for the cattle and it’s also good habitat for the wildlife.”

Brininstool’s interest in conservation extends to public outreach and education. She continues to invite local volunteers from schools and

“If we can help these birds, it’ll benefit everybody,” Chris Brininstool says, “not just ranchers but state and federal agencies and the oil and gas industry.”

groups such as the Future Farmers of America and the Boy Scouts to assist her in marking fences, while at the same time educating them on prairie-chicken conservation. She also plans to host meetings with other ranchers to tell them about her experience with

candidate conservation programs and promote their participation.

According to Brininstool, she’s not the only one advocating for these birds. “All of my neighbors surrounding me have signed up, and they’re all very excited about it. No one down here wants to see this species listed as endangered.”

Another 12 ranches near Milnesand, New Mexico, are also enrolled and actively conserving both species on their lands. Several of the participants are working on a private lands agreement under the Service’s Partners for Fish and Wildlife Program to implement conservation management practices identified in the CCAA.

“If we can help these birds, it’ll benefit everybody,” Brininstool says, “not just ranchers but state and

How Do I Set Up a CCA?

1. Land managers, most commonly federal and state agencies, interested in working with the Service on a CCA for a candidate or at-risk species can contact the appropriate regional office (see inside back cover).
2. When a conservation agreement is found to be feasible, landowners and the Service work together to compile information about the property or properties, including a map, the current management practices, and the management needs of the species and/or habitat. Any threats to the species on the property are also clearly identified.
3. Landowners and the Service identify the voluntary management actions needed to address known threats to the target species. They also determine the duration of the agreement, in order to allow enough time to achieve the desired conservation benefit.
4. Landowners and the Service develop a draft CCA that addresses known threats to the species through specific conservation actions. The CCA also describes the current and anticipated management of the property (farming, ranching, timber management, etc.). Additionally, it describes how to monitor the prescribed management actions.
5. Landowners submit the completed CCA to the Service and all parties sign the agreement.
6. Landowners begin any new conservation actions and/or continue with existing practices, as identified in the CCA, and report annually on the agreement's progress.

Tish McDaniel of The Nature Conservancy installs a mesh ramp to help wildlife escape from a water tank. *USFWS*



federal agencies and the oil and gas industry.”

The Service and BLM can add or make necessary modifications to existing conservation measures found in CCAs and CCAAs that will apply to future enrollments. In addition, new conservation measures can be implemented, in cooperation with enrollees, if the Service or BLM finds them necessary for the continued conservation of the lesser prairie-chicken and/or the sand dune lizard.

These agreements will support ongoing efforts, especially those of New Mexico Department of Game and Fish, to establish or reestablish populations of both species in suitable but currently unoccupied habitats.

Copies of the CCA and the CCAA can be found at fws.gov/southwest/es/NewMexico/.

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How Do I Set Up a CCAA?

1. Non-federal landowners and managers interested in working with the Service on a CCAA for a candidate or at-risk species can contact the appropriate regional office (see inside back cover).
2. If a conservation agreement is found to be feasible, the landowner and the Service work together to compile information about the land, including a map, the current management practices, and the management needs of the species and/or habitat. Any threats to the species on the property are also clearly identified.
3. The landowner and the Service identify voluntary management actions to address known threats to the target species. They also determine the duration of the agreement, in order to allow enough time to achieve the desired conservation benefit.
4. For the Service to enter into a CCAA, the conservation measures and resulting benefits must meet a standard: When combined with the benefits that would be achieved if the measures were also implemented on other necessary properties, it would preclude any need to list the covered species.
5. The Service identifies any anticipated "incidental take" that might result from CCAA management actions if the species is listed at some point in the future.
6. The landowner and Service develop a draft CCAA that addresses known threats to the species through specific conservation actions. The CCAA also describes the current and anticipated management of the property (farming, ranching, timber management, etc.). Additionally, it determines how to monitor the prescribed management actions and interpret their results.
7. The landowner submits the completed CCAA to the Service and an application for an "enhancement of survival permit," which will take effect if the species is later listed.
8. The Service then publishes an announcement in the Federal Register that it has received an application for an "enhancement of survival permit." A 30-day public comment period follows.
9. During the public comment period, the Service conducts a series of internal reviews relating to issuing the requested permit.
10. After considering any public comments and incorporating any appropriate changes, the Service and the landowner approve the final CCAA. Assuming all issuance criteria have been met, the Service then issues the enhancement of survival permit.
11. The landowner begins any new conservation actions and/or continues with existing practices, as identified in the CCAA, and reports annually on the agreement's progress.



One of the young volunteers takes a break from marking fences to enjoy the view, hoping to see a prairie-chicken. *USFWS*



The yellowcheek darter dashes between the sanctuary of large stones on stream bottoms, a behavior that helped earn the species its common name. J.R. Shute/Conservation Fisheries, Inc.

A Gem in the Rough

Conserving Aquatic Treasures of the Little Red River

by Chris Davidson and Ethan Inlander

Nestled in the Boston Mountains of north-central Arkansas is the upper Little Red River. Its four forks drain a watershed of 537,000 acres (217,000 hectares), 98 percent of which are in private ownership. These waters are the only place in the world inhabited by two rare species: the speckled pocketbook (*Lampsilis streckeri*), an endangered freshwater mussel, and the yellowcheek darter (*Etheostoma moorei*), a small riffle fish that is a candidate for Endangered Species Act protection. The long-term conservation of these animals and the ecosystems on which they depend will be determined by landowner cooperation.

In 2005, the U.S. Fish and Wildlife Service embarked on a unique mission. Our goal was to develop the first landscape-level aquatic Joint Programmatic Safe Harbor Agreement and Candidate Conservation Agreement with Assurances with key partners. These “umbrella” agreements streamline private landowner enrollment in voluntary conservation programs to preserve and restore habitat for the speckled pocketbook and yellowcheek darter.

“We believe we discovered a gem in the rough,” proclaimed Allan Mueller, former project leader for the Service’s Arkansas Ecological Services Field Office, at the first multi-agency/organization stakeholder meeting. “Without landowner cooperation and incentives, coupled with regulatory assurances, recovery of these two species may have been an insurmountable challenge,” says Chris Davidson, Endangered Species Coordinator with the Arkansas

Like other freshwater mussels, the speckled pocketbook feeds by filtering diatoms, phytoplankton, and zooplankton from the water.

Chris Davidson/USFWS



Field Office and a champion of the partnership concept.

“It takes vigilance all the time because the little things we do or don’t do can have long-term and lasting effects,” adds landowner Brad Hanson. Today, the Fish and Wildlife Service, the U.S. Department of Agriculture’s Natural Resource Conservation Service (NRCS), the Arkansas Game and Fish Commission, and The Nature Conservancy are parties to the programmatic agreements. The partners engage private landowners with the offer of regulatory assurances, financial incentives, and technical assistance to protect and restore instream, riparian, and upland habitats. These measures are all linked to watershed health and species recovery.

Jon Ziegenbalg, the first landowner to enroll in the program, describes his experience this way: “We needed help trying to decide how to maintain our roads and stabilize stream banks to prevent erosion. We interact with the agencies three to four times a year, and they work well together and with us. The plan that they developed for our property came together extremely fast and met all of our expectations.” Using funds from the Fish and Wildlife Service’s Private Stewardship Grant Program, with matching funds and technical expertise from The Nature Conservancy, 375 feet (115 meters) of eroding stream bank that contributed more than 850 tons of sediment to the Middle Fork in 2008-2009 alone have been stabilized. The Partners for Fish and Wildlife program also worked with The Nature Conservancy to further reduce erosion by stabilizing roads, while the NRCS Wildlife Habitat Incentive Program and Arkansas Game and Fish Commission’s Private Lands Program provided funds and technical

assistance to restore a native grassland and develop a forest management plan. “The stream bank stabilization has worked great and our roads have never looked better,” says Ziegenbalg.

Eddie Linebarger manages timber and recreation on his 700 acres (280 ha) adjacent to the South Fork. “The biggest thing with landowners is the concern about how the SHA/CCAA affects the property now and in the future, especially any restrictions. In working with the U.S. Fish and Wildlife Service, I didn’t find anything that would hinder my future plans. Our concern was always to manage in the right direction and get good guidelines, which this program provided to us.” Linebarger has become a valuable advocate for these programs in the South Fork. “People trust Eddie because of his ties to the community and region, Davidson says. “There’s nobody more valuable than a landowner who believes in the program, has seen its values first hand, and is willing to assist in making that first contact with new landowners.”

“This place has a plethora of wildlife, and it is here because we have habitat. Without that habitat, there is nothing” says Hanson, a landowner who

“**Without landowner cooperation and incentives, coupled with regulatory assurances, recovery of these two species may have been an insurmountable challenge.**”

- Chris Davidson

was enrolled with the assistance of Linebarger. “We as humans are here for a short moment in time, but what we do in that time can have lasting effects. From a landowner point of view, it (the SHA/CCAA) is perfect. It is a win-win. I don’t see how I can lose. The habitat certainly can’t lose.” The Fish and Wildlife Service and The Nature Conservancy are helping Hanson stabilize a stream bank and

restore riparian habitat at a historical speckled pocketbook site lost in 2009 due to floods.

One of the greatest challenges in promoting this program to landowners is connecting their values and land management practices with our goal of species recovery. The most common question asked by new perspective enrollees is, “Why should I care about a mussel and fish that I’ve never seen and probably never will see?” The answer is that these species are indicators of stream and watershed health, and most people value clean water and fishable streams. Using incentive-based programs to engage private landowners in cooperative conservation forges partnerships that benefit people as well as the wildlife we all value.

Chris Davidson, Endangered Species Coordinator in the Service’s Arkansas Field Office, can be reached at 501-513-4481 or chris_davidson@fws.gov. Ethan Inlander, the Ozark Rivers Program Manager for The Nature Conservancy, can be reached at 479-973-9110 or einlander@tnc.org.

Brad Hanson enjoys the wildlife on his land and wants to secure its future. “We as humans are here for a short moment in time, but what we do in that time can have lasting effects.” *The Nature Conservancy*



The Eastern Contra Costa County Habitat Conservation Plan

Large-scale Approach Protects Habitats and Helps Communities

by Al Donner

California tiger salamanders are among 28 imperiled species that now have a more secure future because of the lands permanently protected by the East Contra Costa County HCP. *USFWS*

The majestic Mount Diablo serves as a landmark for northern California. From its

summit, eastern Contra Costa County extends out to the tidal Sacramento-San Joaquin Delta. Between the

mountain and the delta is a wild region of steep-sided valleys and rumped hills. Emerald green and flower-

crowned in spring, they quickly turn a tawny brown in the arid summers. Dramatic local variations in soil, rainfall, and aspect give rise to striking habitat mosaics of grasslands, dense chaparral, and lush oak woodlands.

This ecological wonderland on the edge of the prosperous San Francisco Bay area has been under tremendous pressure in recent decades. Entire new cities of stucco houses have been spreading rapidly toward the hills.

Today, however, eastern Contra Costa County provides an exceptional example of successful collaboration that protects important habitats for native species while enabling the region to meet the growing demands of its communities.

The key is the East Contra Costa County Habitat Conservation Plan, an agreement hammered out by a diverse group of interests, including ranchers, developers, environmentalists, cities, the county, and water and park districts. Encouraging the process were state and federal environmental agencies, including the U.S. Fish and Wildlife Service.

The agreement was hammered out by a diverse group of interests, but it did not come easily. “The key to me,” said a real estate representative, “is to bring and keep everybody at the table.”

Completed in 2007 after five years of work, which followed five earlier years devoted to building trust, the plan encompasses 175,000 acres (more than 70,000 hectares), most of the county east of Mount Diablo. Within this region, the plan will protect about 30,000 acres (more than 12,000 ha) of habitat for 28 species. Ten of these species are protected under federal and state endangered species laws. The other 18, vulnerable species without a protected status, will benefit from

habitat protection under the new regional plan.

“The key to me is to bring and keep everybody at the table,” says Jim Gwerder, a real estate broker and consultant at Souza Realty. He serves as a board member of the Citizens Land Alliance, which represents many of the larger landowners.

“Service biologists respected the community’s needs and collaborated with their diverse interests as co-equals,” says Susan Moore, Field Supervisor in the Service’s Sacramento Fish and Wildlife Office, which carried out the negotiations. “Our collaborative approach enabled everyone to agree on a plan that provides better protection for rare species and benefits the community.”

One of the chief beneficiaries of the habitat conservation plan will be the nation’s smallest fox, the endangered San Joaquin kit fox (*Vulpes macrotis mutica*). Lands protected by the plan will link to 40,000 acres (more than 16,000 ha) of other protected lands—Mt. Diablo State Park, several regional parks, and a large reservoir watershed—giving the fox and other species the room they need to roam.

In exchange, the cities and county locked in the right to urbanize 13,000 acres (5,300 ha). They also receive protection under the plan’s “incidental take” permit. The permit gives developers assurance that they will not be liable under the Endangered Species Act for the unintentional take of listed species when it is incidental to otherwise lawful activities, assuming they implement the conservation measures defined in the plan and pay the established acquisition and restoration fees.

The rare vernal pool fairy shrimp, a tiny crustacean that lives out its short existence in ephemeral pools, is another beneficiary of the East Contra Costa County HCP. *Dwight Harvey/USFWS*



Patience and Compromise

The HCP did not come easily. The various interests struggled for five years before they reached agreement on an almost 2,000-page comprehensive mitigation plan. Developers and landowners decided on a fee system to fund much of the HCP, and they accepted that certain high-value areas for development and conservation could not be covered under the HCP permits. Environmental groups conceded some lands they had hoped to keep undisturbed.

Being realistic about the availability of land and the cost of the plan

“It is very gratifying to see the community’s hard work take root in thousands of acres of new conservation and a new locally-run system for regulating species impacts.”

- John Kopchik

was another key to success. “Each developer could look to their own costs,” recalls Gwerder. “Ultimately, they concluded that this was a cleaner, more efficient way to go.”

In 2007, when the representatives reached an agreement—with significant compromises by everyone—the Service issued the necessary incidental take permit.

The habitat conservation plan already has received more than \$30 million in competitive grants for implementation. Through a partnership with the East Bay Regional Park District, acreage is being acquired faster than anticipated.

Lands protected by the East Contra County HCP will link isolated populations of the San Joaquin kit fox. *Heather Bell/USFWS*



Habitat Conservation Plans

What are HCPs?

“Habitat Conservation Plans” or HCPs are planning documents designed to accommodate economic development to the extent possible by authorizing the limited and unintentional take of listed species when it occurs incidental to otherwise lawful activities. The plans are designed not only to help landowners and communities but also to provide long-term net benefits to species and their habitats.

HCPs describe the anticipated effects of the proposed taking, how those impacts will be minimized or mitigated, and how the conservation measures included in the plan will be funded.

If the Service finds an HCP meets the specified criteria, it issues an incidental take permit. This allows the permit holder to proceed with an activity that could otherwise result in the unlawful take of a listed species

What is the landowner’s role?

Working with the Service, the landowner develops an HCP that assesses the likely impacts on target species from the proposed project, the steps that will be taken to minimize and mitigate those impacts, and how the steps will be funded. The plan also identifies any alternatives that could avoid the incidental take and the reasons why those alternatives are not being chosen. The landowner then applies to the Service for an incidental take permit.

An HCP that individual landowners can join may already exist in a given area. Such plans are known as programmatic HCPs and are often county- or even region-wide. HCPs can include conservation measures for vulnerable plant and animal species that are not listed federally as endangered or threatened.

What are the benefits?

For the landowner: After receiving an incidental take permit for activities that could result in the unlawful take of listed species, he or she can move forward with the assurance that their such take will not be in violation of the ESA.

For the species: HCPs provide permanent protection and management of habitat for the species covered by the HCP. Incidental take permits make the elements of the HCP legally binding. While incidental take permits have expiration dates, the identified mitigation measures may extend into perpetuity. Violating the terms of an incidental take permit may constitute unlawful take under the ESA.

Who can participate?

Any non-federal landowner is eligible to participate in the program.

What is the process for getting an incidental take permit?

Landowners who suspect that a federally listed species occurs on a project site can request information from the state wildlife agency or the nearest Service office. If a listed species is present, the applicant decides whether or not to seek an incidental take permit.

While Service biologists provide detailed guidance and technical assistance throughout the process, it is the applicant who develops the proposed HCP and applies for the permit. As it evaluates the permit application, the Service prepares a biological opinion under section 7 of the ESA and completes the National Environmental Policy Act (NEPA) analysis documents. An environmental impact analysis or assessment under NEPA may be necessary unless there is a categorical exemption.

Further information on HCPs is available at <http://www.fws.gov/endangered/what-we-do/hcp-overview.html>.

Where it all Began—San Bruno Mountain

by Al Donner

Often called the “Island of Openness,” massive San Bruno Mountain dominates the crowded San Francisco Bay area. The mountain is 4 miles (6.5 kilometers) long and 1,300 feet (almost 400 meters) high. In the early 1980s, it faced plans for housing developments over much of its steep surface.

Today, some 2,800 acres (1,130 hectares) of San Bruno Mountain are forever protected by what was once a unique and untested concept. At a time when Endangered Species Act (ESA) consultations focused only on the possible impacts of individual projects, the idea of protecting entire ecosystems was novel.

The Fish and Wildlife Service developed the concept of Habitat Conservation Plans (HCP) in an effort to reduce habitat fragmentation. This approach was enabled by a 1982 amendment to the ESA allowing private landowners to establish “conservation plans” and receive ESA protection under an “incidental take” permit. In 1983, the Service issued the nation’s first such permit for the San Bruno Mountain HCP. The Service worked out a process focused on collaboration, bringing differing interests together and getting them to agree on a plan. It meant everybody had to give up something and everyone gained something.

The San Bruno HCP protects most of the mountain habitat while allowing landowners to develop about 300 acres (120 ha). It has resulted in a more secure future for three listed species: the San Bruno elfin butterfly (*Callophrys mossii bayensis*), Mission blue butterfly (*Icaricia icarioides missionensis*), and San Francisco garter snake (*Thamnophis sirtalis tetrataenia*).

Much has been learned since that first effort. Newer HCPs often protect even larger areas and cover large numbers of non-listed species that benefit from habitat conservation before they reach a crisis condition, a lesson learned when the San Bruno HCP had to be amended to cover two

additional species listed after 1983. Newer HCPs also require a solid financial base to fund land acquisitions and habitat management expenses. The San Bruno HCP lacked funds to manage the saved habitat adequately, a shortcoming remedied with a recent amendment to the plan.

In the end, the open crest of San Bruno Mountain remains a vital habitat for native species and a treasure for the people of the Bay Area, thanks to the pioneering efforts at collaboration to protect large ecosystems.

The purple lupine, a plant critical to the mission blue butterfly, receives protection under the San Bruno Mountain HCP. Patrick Koebmus/USFWS



Four projects have already restored wetland habitats that are beginning to be used by species covered in the plan. The Service believes that the plan will be one of the nation's most successful examples of regional habitat protection. It shows how an ecosystem approach can work successfully in real life.

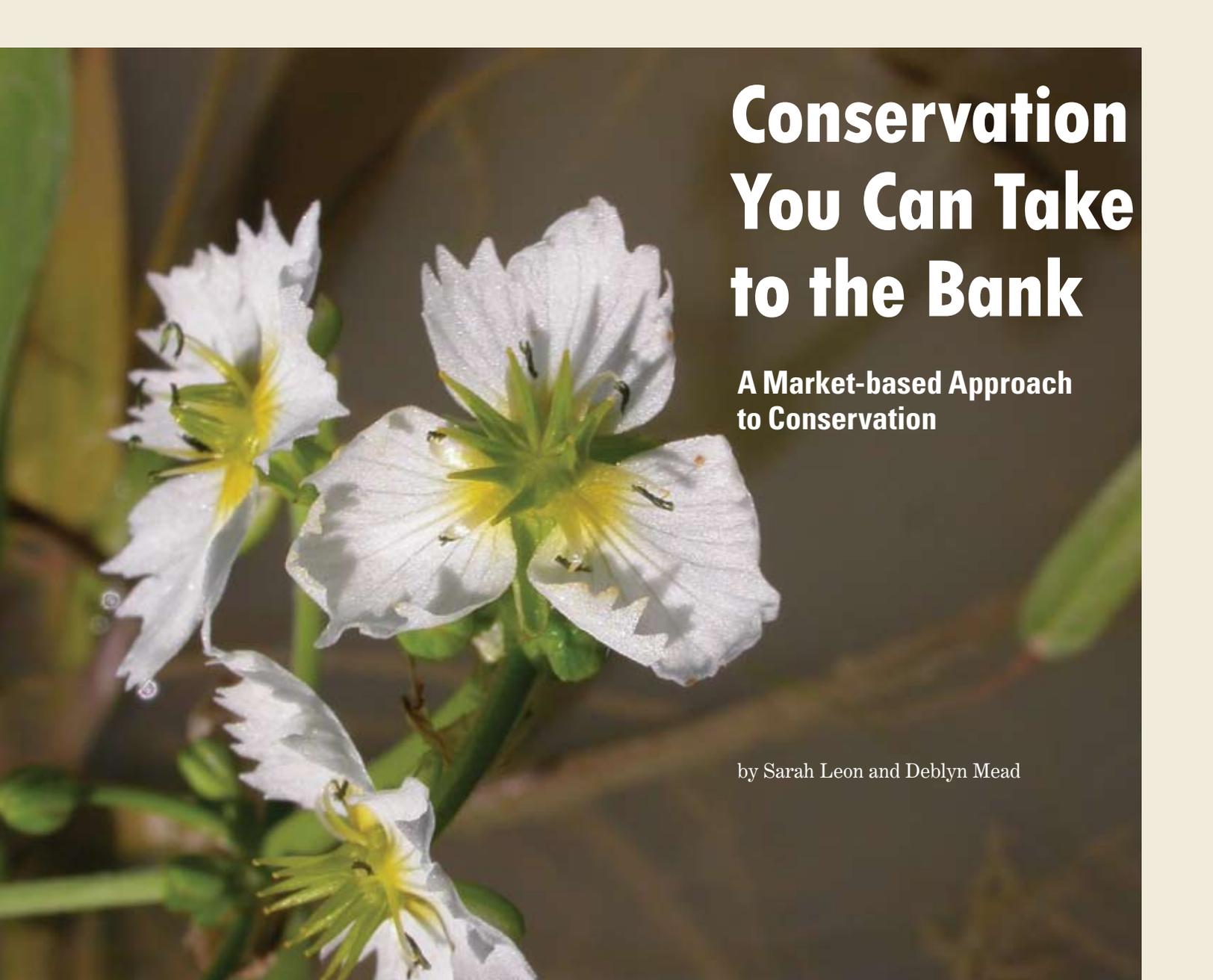
John Kopchik, county planner and lead facilitator during negotiations for the HCP, now also serves as Executive Director and overseer for implementing the plan. "It is very gratifying to see the community's hard work take root in thousands of acres of new conservation and a new locally-run system for regulating species impacts."

The rolling hills still stage spectacular spring wildflower displays. Tiny rare shrimp that come to life for just a few weeks each spring still have ephemeral vernal pools to live in, and the diminutive San Joaquin kit fox still roams the hills and valleys. These and other creatures have a brighter future thanks to a plan that looked at the big picture to save an ecosystem.

Al Donner recently retired as Assistant Field Supervisor for External Affairs in the Service's Sacramento Office.

Sacramento Fish and Wildlife Field Supervisor Susan Moore presents the U.S. Fish and Wildlife Service permit implementing the 175,000-acre East Contra Costa Habitat Conservation Plan.





Conservation You Can Take to the Bank

A Market-based Approach to Conservation

by Sarah Leon and Deblyn Mead

One of the rare plants benefiting from the Elsie Gridley Mitigation Bank is the fringed water-plantain, a perennial herb. *Elsie Gridley Mitigation Bank*

With some of the fastest growing cities in the nation and a population nearing 40 million, California faces great development pressures. This could be a problem for the 300 threatened and endangered species that also reside in the Golden State, since habitat loss ranks among the most serious threats to these species. But innovative conservation tools are helping promote the conservation of imperiled species and their habitats, while at the same time accommodating future urban growth and development.

Conservation banking, a market-based approach to conservation, is being used more throughout California and is growing in popularity in other regions, particularly the Southeast, Southwest, and Northwest. Conservation banks function to offset adverse impacts to imperiled species by conserving them elsewhere in advance of the impacts. In exchange for permanently protecting the land and managing it for these species, the U.S. Fish and Wildlife Service can approve a specified number of habitat or species credits that the bank owners may then sell. Developers

needing to mitigate for their impact on a listed species may purchase the credits from conservation bank owners as mitigation.

Conservation banking is intended to be one part of a larger landscape planning process. For example, conservation banks can contribute to the success of regional Habitat Conservation Plans and green infrastructure plans. Such plans have been helpful in reducing conflicts between imperiled species and developers by allowing orderly development projects and activities to



Conservation banks, like the Elsie Gridley Mitigation Bank above, are properties conserved and managed in perpetuity for specified species and/or habitats. *Elsie Gridley Mitigation Bank*

Gridley was surprised to discover how biologically valuable the nearly 1,900 acres (770 hectares) are to the environment and the wide diversity of habitat and wetlands the site provides. The property, which has been in the Gridley family since the mid 1960s, boasts a rich mix of sensitive habitats and a number of endangered, threatened, and other rare species.

According to Foreman, a wildlife biologist for LSA Associates, banking seemed like the best fit for the Gridley’s land. “At that time, there was a real need for banks in the county,” Foreman explains. “There was a ton of development going on, so there was a real backlog of people needing habitat.”

move forward as long as conservation and mitigation measures are followed.

Elsie Gridley Mitigation Bank

In eastern Solano County—half way between San Francisco and Sacramento—a number of threatened and endangered species are benefiting from efforts to preserve, enhance, and restore habitat at the Elsie Gridley Mitigation Bank. Interestingly, this parcel of land, now a sanctuary for imperiled flora and fauna, was once fated for development.

“My father had purchased the property with the intent of putting in a housing development,” says Michael Gridley. But years later, the ranch land sat unchanged and cul-de-sac free. After determining that the property was unlikely to be developed, Gridley turned to LSA Associates, Inc., a company specializing in environmental assessment services, for an analysis of the land’s potential.

“I needed to know what my options were for this piece of property,” says Gridley, who had never heard about conservation or mitigation banking before meeting Larry Kennings and Steve Foreman of LSA Associates.

Working with the Service and a number of other agencies, including the Army Corps of Engineers Sacramento and San Francisco Districts, Environmental Protection Agency, and California Department of Fish and Game, Gridley and his partners established the Elsie

Steve Foreman uses an aquatic net to sample for listed crustaceans and other aquatic species of interest in a vernal pool at the Elsie Gridley Mitigation Bank. *Elsie Gridley Mitigation Bank*





“It’s a partnership. The agencies are our partners in this thing,” says Flynn. “It’s important. . . it’s something a new banker has to understand.”

Gridley Mitigation Bank. Not only is the bank—named to honor Gridley’s mother, Elsie—one of the first multispecies banks to be approved, it’s one of the few banks able to sell both wetland habitat and species credits. “We have a good variety of credit types for sale,” says Ed Flynn, project partner. “This provides us with marketplace flexibility,” adds Gridley.

According to Flynn, the value of habitat credits fluctuates based on the economy, competition and market demand. So far, prices have ranged from a few thousand dollars for upland habitat credits to substantially more for vernal pool credits. Vernal pools are a vanishing type of wetland that provides

habitat for a handful of imperiled species, including the threatened vernal pool fairy shrimp and the endangered vernal pool tadpole shrimp. Like habitat credits, species credits also vary in price.

While banking may sound like a lucrative business, Flynn notes that it can also be a risky one. This is because conservation banking, like any market-based industry, depends on supply and demand and the approval processes of local, state and federal agencies.

According to Flynn, when the Elsie Gridley Mitigation Bank began selling credits in March 2006, “the first two and a half years, until mid 2008, was good for us because of the backlog of permits and the demand for habitat. But since the economic downturn, it’s been pretty slow, with infrastructure being the only client. It’s going to take some time—it’s a tough time now for all businesses.”

(top): The endangered vernal pool tadpole shrimp, a small freshwater crustacean, depends on ephemeral wetlands like those found on Elsie Gridley Mitigation Bank lands. *Elsie Gridley Mitigation Bank*

(bottom): Ditches found on what is now the Elsie Gridley Mitigation Bank are being restored to benefit riparian vegetation. *Elsie Gridley Mitigation Bank*



While business may be slow now, those at the Elsie Gridley Mitigation Bank are hopeful about the future. “There’s always going to be a pipeline that needs to go in or a road that needs to be expanded,” says Flynn. “It’s not just about housing development projects, but public projects, too.”

Activities on the Elsie Gridley Mitigation Bank include cattle grazing—needed to manage the

habitat—occasional tours and “open houses,” particularly in the spring when peak floral displays occur, and research by university students. When the conservation easement was prepared for the property, “we kept out ...6 or 7 acres where we want to put our research center,” says Flynn. The hope is that the research center can be used by students and other academics to study the ecological processes and rare, endemic species that occur on the

Elsie Gridley Mitigation Bank and surrounding conservation properties.

Some may see irony in the fact that the success of conservation banking relies on the forward march of development, but Flynn believes banking is one of the best ways to protect important habitat for species in the face of the unavoidable. Conservation banks help ensure that mitigation is achieved at a large and ecologically beneficial scale.

The cupped downingia, a showy wildflower found in scattered parts of the western United States, grows along lakesides and vernal pools. *Elsie Gridley Mitigation Bank*



While development may affect small and often isolated habitat segments, some rare species can benefit if mitigation results in the protection of larger, sustainable parcels of habitat. And since every bank is covered by a conservation easement and has an endowment that generates funds for continued management, the lands are guaranteed to be protected and managed in perpetuity.

With its location in a high-priority conservation area near a nature preserve and other ecologically significant properties, the Elsie Gridley Mitigation Bank is contributing to the recovery of listed species and the conservation of other rare species.

Sarah Leon, a communications specialist with the Service’s Endangered Species Program headquarters office in Arlington, Virginia, can be reached at sarah_leon@fws.gov or 703-358-2229. Deblyn Mead, a fish and wildlife biologist in the Arlington office, can be reached at deborah_mead@fws.gov or 703-358-1898.

What is conservation banking?

Conservation banking is a market-based system for conserving species and their habitat. It consists of a partnership between a landowner, one or more government agencies, and the community of developers and others who implement or fund projects that adversely affect endangered or threatened species, other species of concern, or the habitats of these species. The landowner or bank sponsor agrees to permanently protect and manage property for the species of interest in exchange for credits. These credits can then be sold to developers and other project proponents who need to offset project impacts to the same species occurring at another location within the community.

This type of arrangement for offsetting impacts is referred to as in-kind (referring to the same species or type of resource) and off-site (referring to impact and offset locations that are separated on the landscape). For example, a home builder purchases San Joaquin kit fox credits from a conservation banker to offset adverse impacts to this endangered species on his project site. The credits represent kit fox habitat located several miles from the project site. The banker will permanently protect and manage this habitat for kit foxes.

Who can become a conservation banker?

Conservation banking offers opportunities for a variety of landowners through preservation of existing high-quality habitat, restoration of habitat in degraded areas, and/or establishment of habitat where needed to conserve particular species. Private, tribal, and government lands are all eligible to become conservation banks, although federal lands may require special consideration.

What are the benefits?

Landowners can make money selling credits while retaining title to their property and continuing with compatible land use practices.

Project proponents have an economical option for mitigating project impacts, because conservation banking takes advantage of economies of scale. Many small projects can be mitigated at a large conservation bank. Purchasing credits to offset project impacts shifts the liability for the success of the mitigation from the project proponent to the conservation banker.

Regulatory agencies save time and taxpayer dollars through reduced time spent on permitting and compliance activities. Establishing conservation banking programs may be additional work in the short term, but in the long term they are time savers.

Species benefit when adverse impacts to individuals or habitat are offset through conservation of large parcels of high-quality, well-managed habitat that contribute to landscape-scale conservation strategies.



A new conservation banking program in the southeastern United States is aiding in the recovery of the gopher tortoise. *Randy Browning/USFWS*

How many conservation banks have been approved?

The Fish and Wildlife Service has approved more than 100 conservation banks nationwide that collectively conserve about 100,000 acres (about 40,500 ha) of valuable habitat. Most of these banks are in California, where conservation banking got its start. However, many communities are recognizing the benefits of advanced conservation and the role that conservation banking plays in facilitating well-planned communities. Most conservation banks are owned and operated by private landowners.

How can I become a conservation banker?

1. Contact the Service office that covers your area to see if there is a conservation banking program for the resources you could provide. If not, you may still be able to participate, but prepare to be a “pioneer” in your area and realize that the process can take a while.
2. Provide the information needed to evaluate the eligibility of your property. You may be asked to provide biological survey results for certain species on the property, a title report to assess encumbrances that may limit your participation, and other information.
3. If the Service gives conceptual approval of your property as a conservation bank, you will then need to cooperate on the development of a Conservation Bank Agreement (CBA). The CBA is a contract between you, the Service, and possibly other government agencies if you are also seeking credits for resources regulated by other agencies.
4. As a condition of the CBA, you will need to:
 - a. grant a perpetual conservation easement to an appropriate organization,
 - b. develop an adaptive management plan for the long-term stewardship of the property, and
 - c. fund an endowment to cover the long-term operation of the conservation bank property, including monitoring and management of the site.
5. Once all parties have agreed to the terms and conditions of the CBA and the document is executed, the Service will release the credits in accordance with the CBA.



The San Joaquin kit fox, an endangered species of California's Central Valley.
USFWS

The process can be complicated, but being a conservation banker can be a rewarding partnership. Your local Service office can provide more information or guidance.

“Partnering Up”

Cooperative Conservation on the Rolling Stone Ranch

by Joe Milmoie and Greg Neudecker

Streams in Montana provide important habitat for the bull trout, a threatened species, and other native fish.

USFWS

Jim Stone of the Rolling Stone Ranch in Ovando, Montana, is all about “partnering up.” By this he means joining with his neighbors to solve complex conservation issues while maintaining community values.

Jim owns and manages more than 2,400 acres (970 hectares) of ranchland in the Blackfoot River Valley of Montana, which features tremendous habitat diversity supporting a wide variety of fish and wildlife species. Bald eagles, peregrine falcons, grizzly bears, and 10

endangered species listing candidates are found there. Wetland complexes provide important breeding habitat for 21 species of waterfowl and numerous other water birds.

The Blackfoot Valley has a long history of landowners, conservation groups, and agencies working together to solve complex issues such as past improper mining, logging and livestock practices. New threats such as subdivision and invasive species are also causing

landscape fragmentation and declining fish and wildlife populations.

Back in the early 1990s, biologist Greg Neudecker of the U.S. Fish and Wildlife Service’s Partners for Fish and Wildlife Program, along with Ron Pierce (a fisheries biologist from Montana Fish, Wildlife and Parks), approached Jim to explore the possibility of completing a habitat restoration project on his ranch. After talking with him to understand his needs and priorities, they all identified a wetland in need of restoration.

At the time, Jim was reluctant to enter into an agreement with the federal government on his property, as he was heavily dependent on the wetland to produce hay for winter cattle feed. Instead of rushing into a project, Greg continued to work closely with Jim, nourishing the relationship, listening to his needs, and providing valuable technical assistance with weed management, grazing systems, human-wildlife conflicts, and water conservation.

Other landowners in the Blackfoot Valley then began to express concern regarding natural resource management and the future of the valley. Members of the community gathered over “kitchen table-style” discussions, where landowners and natural resource managers left their differences at the door and worked together on problems and solutions of mutual interest. Like the federal government, the landowners expressed concern about natural resource management in the valley, but for a different reason. They worried about losing their rural way of life as large ranches were split up into development sites.

Unsustainable land-use practices, subdivisions, and commercial development posed a threat to both wildlife habitat and rural lifestyles,

motivating everyone at the table to find solutions (Sullivan, 1997). As the community efforts grew, members formed a watershed-scale grassroots organization and communication network called the Blackfoot Challenge. Its mission is to “coordinate efforts that will enhance, conserve and protect the natural resources and rural lifestyle of the Blackfoot River Valley for present and future generations.”

Meanwhile, the Partners for Fish and Wildlife Program continued to work with landowners to provide technical and financial assistance on smaller projects that featured a low risk and a high chance of success. Tangible results led to greater acceptance by landowners. As landowners learned they could trust the Service, larger and more complex projects were launched. Working with the Service,

they undertook projects to restore wetlands, streams, and riparian areas while improving grazing systems and water quality (Sullivan, 1997).

After working closely with Greg for several years, Jim decided to enroll in a landowner agreement with the Partners for Fish and Wildlife Program to restore Hoyt Creek, a small spring creek on his property. Hoyt Creek had been channelized in the 1940s for agricultural purposes and was in need of restoration to benefit the bull trout (*Salvelinus confluentus*) and westslope cutthroat

Initially reluctant to enter into an agreement with the Fish and Wildlife Service, Jim Stone now leads the Blackfoot Challenge, a conservation partnership involving private landowners, state and federal agencies, and non-governmental organizations. *USFWS*



“**I think the reason a lot of these landowners keep coming back is because we actually get tangible things done on the ground.**” - Jim Stone

trout (*Oncorhynchus clarki lewisi*). Restoring 9,000 feet (3,640 meters) of stream habitat allowed the water level to rise to previous levels, which in turn restored 365 acres (148 ha) of wetland habitat that Jim uses to grow hay for winter cattle feed. The project meets Jim’s needs since the wetland system now irrigates itself, it benefits the habitat by restoring the wetland hydrology, and it supports the fishery by improving trout populations.

Today, Jim chairs of the Blackfoot Challenge organization, which has grown to include more than 500 landowners and representatives including 160 state, federal, and

What is the Partners for Fish and Wildlife Program?

In 1987, the Fish and Wildlife Service established the Partners for Fish and Wildlife Program with a core group of biologists and a small budget for wetland restoration on private lands. This results-oriented program has garnered support through the years, growing into a more diversified habitat restoration program assisting thousands of private landowners across the Nation. The Service's activities take place in eight geographic regions.



At the heart of the Service's mission are the conservation and management of federal trust species (species for which the Service has legal responsibility). Among them are migratory birds, threatened and endangered species, inter-jurisdictional fish (fish managed by more than one agency), certain marine mammals, and species of international concern. Because more than 70 percent of our Nation is privately owned, the habitat needs of trust species cannot be met solely on public lands. Private landowners can volunteer to improve habitat and apply for assistance through cooperative conservation programs such as the Partners for Fish and Wildlife Program.

How does the program work?

The approach is simple: engage willing partners and landowners, using direct technical and financial assistance, to conserve fish and wildlife values on their property. Service field biologists work individually with landowners to develop voluntary agreements.

Who can participate?

Any privately owned land is potentially eligible for habitat restoration assistance. Most applicants are individual landowners. For the purposes of this program, "privately owned" means lands not owned by a state or federal

government agency. The Service uses national priority ranking factors to assign funding priority status to proposed projects that meet these conditions:

- Improves habitat for federal trust species.
- Complements activities on National Wildlife Refuge System lands or helps to resolve problems on refuges that are caused by off-refuge practices.
- Addresses species and habitat priorities that have been identified through Service planning teams (with our partners) or through collaboration with state wildlife agencies.
- Reduces habitat fragmentation or serve as buffers for other important federal or state conservation lands.
- Results in self-sustaining systems that are not dependent on artificial structures.

What is the landowner's role?

The landowner works one-on-one with a local Service biologist to develop a project plan addressing the goals and objectives of the landowner and the Service to benefit fish and wildlife species on his or her land.

What are the benefits?

For the landowner: access to technical assistance expertise in fish and wildlife management practices and to cost-share financial assistance for restoration projects.

For the species: restoration of important habitats on private lands that may lead to the recovery of imperiled species.

How can I become involved?

A phone call, email or letter is all that is needed to begin the process. The Partners for Fish and Wildlife Program has a staff of more than 250 and is active in all 50 states, the Commonwealth of Puerto Rico, the U.S. Virgin Islands, and other Trust Territories. Please visit our web page at www.fws.gov/partners/contactUs.html or call us at 703-358-2201 to contact your state coordinator.

“Virtually every landowner in this landscape is working, in some form or another, whether it’s an easement, weed management, stream restoration, wetland restoration, grazing systems, whatever it may be. We have over 80 percent of landowners in the valley that participate in our different programs. It’s really a great way to do community-based landscape scale conservation, all thanks to landowners like Jim.” - Greg Neudecker

non-governmental organizations. With their help, Jim has restored more than 375 acres of (150 ha) wetlands and 2 miles (3.2 kilometers) of stream, removed seven fish barriers, integrated weed management on 2,400 acres (970

ha), and enhanced grazing systems on more than 2,200 acres (890 ha) on his ranch. The Rolling Stone Ranch voluntarily placed more than 2,400 acres into perpetual a conservation easement held by the Service.

Jim’s ranch and the community conservation efforts of the Blackfoot Challenge serve as a model of private land stewardship.

Cited:

Sullivan, Gary. “Partners in Practice: The Fine Line Between Success and Failure”. Transactions of the 62nd North American Wildlife and Natural Resource Conference (1997)

Joe Milmoie, a biologist with the Partners for Fish and Wildlife Program, can be reached at 703-358-1879 or joe_milmoie@fws.gov. Greg Neudecker, the Assistant State Coordinator for the Partners for Fish and Wildlife Program in Montana, can be reached at 406-793-7400 or greg_neudecker@fws.gov.

The sight of bull trout is one of the tangible results of conservation partnerships in Montana’s Blackfoot Valley. *USFWS*



LISTING ACTIONS

The Fish and Wildlife Service has published the following proposed and final Endangered Species Act rules since April 1, 2010. Along with publications to add plants and animals to the endangered and threatened species list are two actions that recognize the improved status of a fish and an aquatic snail, and one that would remove a snake from the list due to its recovery.

Details on these rules, and on critical habitat designations and listing petition findings, are available at the Service's library of *Federal Register* publications: <http://www.fws.gov/policy/frsystem>.

FINAL RULES

Penguins

On August 3, 2010, the Service listed five species of penguins—the yellow-eyed penguin (*Megadyptes antipodes*), white-flippered penguin (*Eudyptula minor albosignata*), Fiordland crested penguin (*Eudyptes pachyrhynchus*), Humboldt penguin (*Spheniscus humboldti*), and erect-crested penguin (*Eudyptes sclateri*)—as threatened.

These species are found in New Zealand, Chile, and Peru. They face habitat loss, predation, and other human-related threats. For example, with the Humboldt penguin, the

destruction of nesting substrate due to guano collection, and incidental mortality from fisheries by-catch and fishing with explosives, are also responsible for the decline of this species.

Two Ecuadoran Birds

On July 27, the Service listed two species of birds from Ecuador as endangered. The black-breasted puffleg (*Eriocnemis nigrivestis*) is a hummingbird native to Ecuador's Volcán Pichincha. The medium tree finch (*Camarhynchus pauper*) lives in the moist highland forests on the island of Floreana in the Galapagos Islands.

Humboldt penguins are being bred successfully at the Chester Zoo (below) in England, but they are threatened in the wild. © Bernard Rose/ courtesy of www.bernardrosephotography.co.uk





Megalagrion pacificum, a Hawaiian relative of the dragonfly. Dan Polhemus/USFWS

The black-breasted puffleg population has declined up to 79 percent in the past 12 years due to destruction, alteration, conversion, and fragmentation of its habitat. Its small population, which continues to decline, makes it particularly vulnerable to extinction.

The medium tree finch is at risk primarily due to an introduced parasitic fly, *Philornis downsi*. The effects in finches are severe: high nestling mortality, lower fledgling success, reduced nestling growth, and reduced hemoglobin levels in nestlings. The clearing of native vegetation for agriculture and ranching, the destruction and degradation of habitat caused by introduced animals and plants, and predation also threaten the continued existence of this bird.

Two Hawaiian Damselies

On June 24, the Service listed two species of Hawaiian damselflies as endangered. The flying earwig Hawaiian damselfly (*Megalagrion nesiotes*) historically occurred on the islands of Hawai'i and Maui but is now found only on the latter. The Pacific Hawaiian damselfly (*M. pacificum*) once lived on all of the main Hawaiian Islands (except Kaho'olawe and Ni'ihau) but now occurs only on the islands of Hawai'i, Maui, and Moloka'i.

Damselflies are close relatives of dragonflies, which they resemble in appearance. With the extensive modification of stream and wetland habitats and the degradation of native forests, Hawaii's native damselflies, including the two species most recently listed, experienced a tremendous reduction in habitat. In

addition, predation by a number of nonnative species that have been both intentionally and, in some cases, inadvertently introduced into the Hawaiian Islands is a continuing threat to all of the state's native damselflies.

Oregon Chub

In some good news, the Service reclassified the Oregon chub (*Oregonichthys crameri*) on April 23 from endangered to the less critical category of threatened, reflecting the species' rebound from the brink of extinction.

The Oregon chub is a small minnow found only in the Willamette River Basin in western Oregon. It thrives in slack water habitats such as beaver ponds, oxbows, side channels, backwater sloughs, low gradient

LISTING ACTIONS

tributaries, and flooded marshes that provide aquatic vegetation for concealment and spawning.

The Oregon Department of Fish and Wildlife and private landowners played important roles in restoring the species' habitat. Facilitating this cooperation were innovative conservation tools such as Safe Harbor Agreements, which give landowners incentives to create and restore habitat for listed species on private lands.

The Service listed the chub in 1993 as endangered after extensive alteration of the Willamette and its tributaries

resulted in the loss of many sloughs and side channels that provided important habitat. Nonnative fish became established throughout the Willamette basin and are now considered the greatest threat to the chub's survival.

Through the Oregon Chub Recovery Plan, a team of state and federal agencies funded extensive surveys that led to the discovery of new populations. In addition, successful reintroductions established nine new populations within its historical range. These actions dramatically improved the known status of the Oregon chub. Currently, 38 known populations are

distributed throughout the Willamette Valley.

Two Safe Harbor Agreements are in place to guide management of Oregon chub populations on private lands, and the Service has completed a programmatic Safe Harbor Agreement to make it easier for more private landowners to participate.

Forty-eight Kaua'i Species

On April 13, the Service listed 48 species native to the Hawaiian island of Kaua'i as endangered. Forty-five of them are plants. The names follow, with available Hawaiian names in parentheses: *Astelia waialealae* (pa'iniu), *Canavalia napaliensis* (awikiwiki), *Chamaesyce eleanoriae* ('akoko), *Chamaesyce remyi* var. *kauaiensis* ('akoko), *Chamaesyce remyi* var. *remyi* ('akoko), *Charpentiera densiflora* (papala), *Cyanea eleleensis* (haha), *Cyanea kuhihewa* (haha), *Cyrtandra oenobarba* (hiiwale), *Dubautia imbricata* ssp. *imbricata* (na'ena'e), *Dubautia plantaginea* ssp. *magnifolia* (na'ena'e), *Dubautia waialealae* (na'ena'e), *Geranium kauaiense* (nohoanu), *Keysseria erici*, *Keysseria helenae*, *Labordia helleri* (kamakahala), *Labordia pumila* (kamakahala), *Lysimachia daphnoides* (lehua makanoe), *Melicope degeneri* (alani), *Melicope paniculata* (alani), *Melicope puberula* (alani), *Myrsine mezii* (kolea), *Pittosporum napaliense* (ho'awa), *Platydesma rostrata* (pilo kea lau li'i), *Pritchardia hardyi* (loulu), *Psychotria grandiflora* (kopiko), *Psychotria hobbdi* (kopiko), *Schiedea attenuata*, *Stenogyne kealiae*, *Cyanea kolekoleensis*, *Cyanea dolichopoda*, *Cyrtandra paliku*, *Diellia manni*, *Doryopteris angelica*, *Dryopteris crinalis* var. *podosorus*, *Dubautia kalalauensis*, *Dubautia kenwoodii*,

Charpentiera densiflora, a plant in the family Amaranthaceae, is found only on the island of Kaua'i. N. Tangalin





Like so many of Hawaii's endangered forest birds, the akikiki is endangered by habitat loss and the effects of nonnative species. *Eric VanderWerf*

Lysimachia iniki, *Lysimachia pendens*, *Lysimachia scopulensis*, *Lysimachia venosa*, *Myrsine knudsenii*, *Phyllostegia renovans*, *Tetraplasandra bisattenuata*, and *Tetraplasandra flynnii*.

Also listed were two bird species, the akekee (*Loxops caeruleirostris*) and akikiki (*Oreomystis bairdi*), and a picture-wing fly (*Drosophila sharpi*).

All of these species are threatened by habitat destruction or modification by feral nonnative ungulates including pigs, goats, and deer. Several are

threatened by fire, landslides, and flooding. Some are also imperiled by predation, competition from nonnative plants, lack of reproduction (possibly due to the loss of native pollinators for the plants), introduced diseases, and collection.

The 45 plant species include a variety of ferns, vines, shrubs, and trees found nowhere else in the world. Twenty-three of the plant species number fewer than 50 known individuals remaining in the wild, and some have not been seen for several years, although they are believed to exist

in remote areas. One fern, *Diellia manii*, was thought to be extinct since the early 1900s, but a single individual was rediscovered in 2002 at Koke'e State Park. As of March 2010, 67 individuals had been found.

PROPOSED RULES

Mountain Plover

On June 29, 2010, the Service reinstated its December 5, 2002, proposal to list the mountain plover (*Charadrius montanus*) as threatened, but without a proposed special rule under section 4(d) of the Endangered Species Act.

The mountain plover is a small, migratory terrestrial shorebird inhabiting open, flat lands with sparse vegetation, including barren agricultural fields. On grasslands, they often inhabit areas with a history of disturbance by burrowing rodents such as prairie dogs (*Cynomys* spp.), native herbivores, or domestic livestock. Mountain plovers breed in the western Great Plains and Rocky Mountain states from the Canadian border to northern Mexico. They winter in similar habitat in California, southern Arizona, Texas, and Mexico.

Conversion of grassland habitat, along with certain agricultural practices, likely contributed to the mountain plover's decline.

Five Southeastern Fishes

The Service proposed on June 24 to list five fish species in the southeastern U.S. as endangered: the Cumberland darter (*Etheostoma susanae*), rush darter (*Etheostoma phytophilum*), yellowcheek darter (*Etheostoma moorei*), chunky madtom (*Noturus crypticus*), and laurel dace (*Phoxinus saylori*).

The Cumberland darter inhabits streams in the upper Cumberland River system of Kentucky and Tennessee. Rush darters are found only within the Tombigbee-Black Warrior drainage in Alabama. The yellowcheek darter occurs in the Little Red River basin in Arkansas. Laurel dace are found in seven streams within the Cumberland Plateau in Tennessee. The chucky madtom, a small catfish, is found in the upper Tennessee River system in Tennessee. Since 2000, only three individuals of this species have been collected from a single stream (Little Chucky Creek).

The primary threats to all five fish species include the reduction of habitats and ranges, small population sizes, and vulnerability to natural or human induced catastrophic events such as pollution and toxic spills. The most significant of these impacts is siltation (excess sediments suspended or deposited in a stream) that can result from such activities as resource extraction (e.g., coal mining, logging, natural gas development), agriculture, road construction, and urban development.

Three Colorado Plants

The Service proposed on June 23 to list three plant species from western Colorado.

The Pagosa skyrocket (*Ipomopsis polyantha*) is a rare biennial that grows only on shale outcrops in and around Pagosa Springs in Archuleta County. Most of its suitable habitat is on private lands that are primed for residential, commercial, and agricultural development. Road construction and trampling by livestock are additional threats, although the species may be compatible with light grazing. This species was proposed for listing as endangered.

The Parachute beardtongue (*Penstemon debilis*), also known as Parachute penstemon, is an extremely rare plant that grows only on oil shale outcrops within the Green River Formation in Garfield County, including private and federal lands of the Roan Plateau. Only about 4,000 plants are known to exist. Most are on private land owned by a natural gas and oil shale production company. In recent years, the region has experienced a natural gas development boom. That growth brings many potential hazards to the Parachute beardtongue, including the construction of roads, well pads, evaporation ponds, and pipeline corridors. The largest of the Parachute beardtongue's seven known occurrences is an area owned by an energy development company, which intends to develop up to three natural gas drilling pads in the vicinity. This species was proposed for listing as threatened.

Also proposed as a threatened species is the DeBeque phacelia (*Phacelia submutica*), a rare annual that grows in the clay soils of the Wasatch Formation in Mesa and Garfield counties. This species, too, is threatened by habitat degradation from natural gas exploration and production. Approximately 78 percent of the occupied habitat is on public land leased by the Bureau of Land Management for oil and gas drilling. Impacts to known DeBeque phacelia locations on federal land are mostly being avoided by careful placement of pipelines, well pads, and associated facilities. However, the cumulative effect of new energy projects may make protection of the habitat more difficult.

Tulotoma Snail

Following major strides towards



The tulotoma snail has a shell somewhat larger than a golf ball and typically ornamented with spiral lines of knob-like structures. Jeff Powell/USFWS

the recovery of the tulotoma snail (*Tulotoma magnifica*), the Service proposed on June 22 to reclassify this species from endangered to the category of threatened.

The tulotoma is an aquatic snail found in Alabama, generally living in riffles and shoals with moderate to strong currents. By 1992, when it was listed as endangered, the snail had disappeared from 98 percent of its historical range. It was only known to survive in five areas within the lower Coosa River drainage in Alabama. With an extremely reduced range, the fragmented populations were highly vulnerable to pollution and random catastrophic events such as droughts and contaminant spills.

In 2000, the Mobile River Basin Aquatic Ecosystem Recovery Plan outlined the work needed to upgrade the status of the tulotoma snail. Recovery actions benefitting the species include the location of

LISTING ACTIONS

additional populations, population monitoring, the establishment of minimum flows below Jordan Dam to improve habitat conditions, the implementation of pulsing flows below Logan Martin Dam to improve dissolved oxygen in that reach, and the development of watershed management plans to address nonpoint source pollution (pollution that does not originate from just one location) in the lower Coosa and the Alabama River basins. The known range of the tulotoma snail has increased from less than two percent to 10 percent of its historical range.

“The improved status of the tulotoma snail is a direct result of coordinated efforts by the Service and its partners, including state and federal agencies, the Alabama Power Company, and the Alabama Clean Water Partnership,” said Cindy Dohner, the Service’s Southeast Regional Director.

As a threatened species, the tulotoma snail will continue to receive protection under the Endangered Species Act. Its range remains highly fragmented, and the populations are still vulnerable to pollution, drought, and other catastrophic events.

Lake Erie Watersnake

The Lake Erie watersnake (*Nerodia sipedon insularum*), a harmless, non-venomous species once threatened with extinction, has responded well to measures aimed at restoring its population and reducing threats. In recognition of its recovery, the snake was proposed on June 1 for removal from Endangered Species Act protection.

The Lake Erie watersnake inhabits offshore islands in western Lake Erie in Ohio and Ontario, Canada. In 1999, it was listed as threatened due to intentional killing and the loss of

its shoreline habitat to development. Subsequent recovery efforts have included habitat conservation and outreach to residents and visitors about the animal’s benign nature.

The Lake Erie watersnake population grew to about 8,600 by 2008, exceeding the minimum population level specified in the recovery plan. About 300 acres (120 hectares) of inland habitat and 11 miles (18 kilometers) of shoreline have been protected for the snake since it was listed.

Partners in the recovery program have included the Ohio Department of Natural Resources, Northern Illinois University, Lake Erie Islands Chapter of the Black Swamp Conservancy, Western Reserve Land Conservancy, Put-in-Bay Township Park District, Cleveland Museum of Natural History, and Ohio State University (Stone Laboratory).

Lake Erie watersnake. Kristin Stanford



FREQUENTLY USED TERMS

FWS – U.S. Fish and Wildlife Service

NOAA Fisheries – National Oceanic and Atmospheric Administration – Fisheries

- **Endangered Species Act** is the 1973 federal law to conserve endangered and threatened species and the ecosystems upon which they depend. It is administered by the Interior Department's FWS (for terrestrial species) and Commerce Department's NOAA Fisheries (for most marine species).
- **Candidate Conservation Agreement (CCA):** A voluntary agreement between FWS or NOAA Fisheries and other federal or non-federal landowners identifying specific conservation measures that parties will undertake to conserve species covered by the agreement, none of which are currently listed under the Endangered Species Act, with the intention of preventing the need to list the covered species.
- **Candidate Conservation Agreement with Assurances (CCAA):** A voluntary agreement between FWS and a non-federal property owner who agree to manage lands or waters to remove threats to candidate or proposed species, with assurances that the property owner's conservation efforts will not result in future regulatory obligations that exceed those agreed to at the time the agreement is signed. A CCAA authorizes incidental take through a section 10 permit if the species is later listed.
- **Candidate species:** A plant or animal species for which FWS or NOAA Fisheries has

enough information on biological vulnerability and threats to support a proposal to list as endangered or threatened.

- **Conservation banking:** A method used to offset species and habitat impacts occurring elsewhere to the same listed species. A "bank" consists of non-federal land containing natural resource values conserved and managed in perpetuity.
- **Conserve, conserving, and conservation:** The use of methods and procedures necessary to restore an endangered or threatened species to the point at which the measures provided under the Endangered Species Act are no longer necessary. Such measures include research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transportation.
- **Ecosystem:** A dynamic and interrelating complex of plant and animal communities and their environment.
- **Endangered species:** An animal or plant species in danger of extinction throughout all or a significant portion of its range.
- **Habitat Conservation Plan (HCP):** A plan that outlines ways of maintaining, enhancing, and protecting a given habitat type needed to protect species; usually includes measures to minimize impacts, and may include provisions for permanently protecting land, restoring habitat, and relocating plants or animals to another area. Required before an incidental take permit may be issued.
- **Harm:** To perform an act that kills or injures wildlife; may include significant habitat modification or degradation when it kills or injures wildlife by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering.
- **Incidental take:** Unintentional take that results from, but is not the purpose of, carrying out an otherwise lawful activity. Incidental take can be authorized after completion of an approved habitat conservation plan.
- **Listed species:** A species, subspecies, or distinct population segment that has been added to the federal list of endangered and threatened wildlife and plants.
- **Listing:** The formal process through which FWS or NOAA Fisheries adds species to the federal list of endangered and threatened wildlife and plants.
- **Proposed species:** A species of animal or plant that is proposed in the Federal Register for listing under the Endangered Species Act.
- **Recovery:** The process by which the decline of an endangered or threatened species is stopped or reversed, or threats to its survival neutralized, so that its long-term survival in the wild can be ensured.
- **Safe Harbor Agreement (SHA):** A voluntary agreement signed by FWS or NOAA Fisheries and a property owner and any other cooperator that (a) sets forth specific management activities that the non-federal property owner will undertake or forgo to provide a net conservation benefit to species covered by the agreement, and (b) provides

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the property owner with the Safe Harbor assurances described within the agreement and authorized in an enhancement of survival permit.

- **Species:** For the purposes of the act, this term includes any species or subspecies of animals or plants, and any distinct population segment of any species of vertebrate wildlife that interbreeds when mature. (Reflecting differences in the ways plants are described scientifically, some plants are listed as subspecies, while others are listed as varieties.)
- **Subspecies:** A taxonomic rank below that of species, usually recognizing individuals that have certain heritable characteristics distinct from other subspecies of a species.
- **Take:** To harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct involving a listed animal without a permit. This may include significant habitat modification or degradation if it kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or taking shelter.
- **Threatened species:** An animal or plant species likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

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Species
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Fish and Wildlife Service
Washington, D.C. 20240

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