Species and Habitat Conservation Banking

In Brief

Species and habitat are coming into focus as critical for both overall sustainability and environmental finance.

The practice of "banking" habitat and particular species has evolved in this century, protecting panthers and prairie dogs, among others, while setting a financial template.

This explainer, part of our Conservation Finance toolkit, examines how the practice evolved and how it flows into overall climate-responsive finance. It offers resources for further exploration at the end.

**It should be noted that with the ongoing COVID-19 crisis, many conservation banks along with other conservation projects are facing uncertain futures because the pandemic has put a stress on current and future funding.*

For many years, conservationists, landowners, and developers have met at crossroads when handling cases of endangered species with habitats on private lands. Conservationists sought to ensure the protection of the habitat, landowners hoped to maximize land value and avoid land-use restrictions under the Endangered Species Act, and developers sought to develop land without paying complicated and large mitigation sums. The alleviation to these conflicts of interest? A market enterprise that has the potential to account for the needs of private landowners, developers, and the environment all at once: conservation banking.

Drawing inspiration from wetland mitigation banking, conservation banking initially gained traction in the 1990s as a way to promote regional conservation efforts in California. The first conservation bank was established in 1995 along the California coast (Carlsbad Highlands), and by 2002, the conservation banking movement had grown to encompass 30 conservation banks in the state. The USFWS expanded conservation banking into more states in 2003 by releasing federal guidelines regarding the establishment and management of these conservation banks.
As of August 2019, the Regulatory In-lieu Fee and Bank Information Tracking System (RIBITS), indicates that there are 158 approved conservation banks protecting the habitats of 71 species under the Endangered Species Act (RIBITS is the national database tracking all wetland, stream, and conservation banks in the United States).

What is Conservation Banking?

According to the USFWS, conservation banking is a market enterprise that a) establishes protected lands for the conservation of endangered and at-risk species and b) functions as a mechanism for off-site mitigation through the selling of approved credits (the metric used to quantify the ecological value of an area).

Both the USFWS and National Marine Fisheries Service (NMFS) have the regulatory authorities to allow entities to pursue the use of a conservation bank for the mitigation of adverse impacts to species listed under the Endangered Species Act of 1973. Through consultation with USFWS (or NMFS, depending on the impacted species) a determination will be made if an impact is likely to adversely affect a listed species, warrant the issuance of an Incidental Take Permit, and require mitigation set by the regulating entity. Buying conservation bank credits to offset unavoidable impacts to species or habitat will only be permitted after a developer demonstrates that all avoidance and minimization best practices are employed.

Conservation banking sets up an open market opportunity that creates incentives for bank developers and landowners to conserve land in areas where drivers are creating a need for offset impacts to specific species and habitats. Increased development resulting in species or habitat take is the biggest driver for conservation market demand. Conservation banking involves an agreement between the United States Fish and Wildlife Service (USFWS), landowners, and

developers across the country: in exchange for the landowners' protection and management of a critical habitat, the USFWS approves a number of credits that the landowners can sell to developers. The number of credits that are approved depends on a variety of factors (the ecological value of the land, potential acquisition costs, etc.). Because developers are typically required to compensate for their projects' unavoidable adverse effects on endangered species, these one-time credit purchases which for off-site mitigation can be a very attractive option.

How Are Conservation Banks Established?

Private, tribal, state and local lands, particularly those with corridors that link populations of the species, can be converted into conservation banks. Prior to the FWS approving a conservation bank, landowners must 1) enter into a conservation banking agreement, 2) grant a conservation easement, a legal agreement that permanently limits land use for conservation purposes, to an eligible third party, 3) present a long-term management plan, and 4) establish an endowment to provide necessary funds to monitor and upkeep the conservation bank. If landowners can meet all these requirements, the FWS will approve a certain amount of credits that can be sold within a predetermined service area.

A successful mitigation bank depends on three elements:
Biology/Ecology: The Service must determine whether the bank will provide adequate mitigation for the species in the review of proposed banks prior to bank establishment. The most important factors when evaluating the ecological viability of a conservation bank is 1) that the selected site is in a geography that aids in the recovery of the species (usually determined by a species recovery plan) and is not at risk of external impacts that may reduce the long term likelihood of success (such as adjacent incompatible lands) and 2) a management plan that controls additional risks (such as invasive species or trespassers) that may reduce success. Best practices include sitting banks adjacent to already protected land to manage risk as well as anticipate and adapt management needs of the bank site in an iterative process during the bank establishment process and into perpetuity.

Real Estate Assurances: A conservation easement is the most used method to provide real estate assurance on a bank site. For the ensured protection of a species, bank sites should be permanently protected. They also should be free of any encumbrances that may jeopardize the goals related to the bank establishment. A preliminary title report is required to indicate any rights (such as hunting, fishing, mineral access, etc.) that may be associated with the property. It is the responsibility of the bank sponsor to ensure that all encumbrances on the property that may pose a threat to the success of the bank be extinguished prior to the establishment of the bank.

Financial Assurances: The bank agreement must include funding requirements and justification for the costs associated with the conservation bank's operation, management, monitoring, and documentation in both the short-term and long-term. Since the management of the bank for the mitigation offsets that it provides will be in perpetuity, a best practice is to establish a non-wasting management endowment.

Who Benefits from Conservation Banking?

Species, landowners, developers, various species and the general public can all benefit from conservation banking.

Conservation banking benefits endangered species by establishing large protected areas of land that support all ecosystem processes. Because habitat destruction is often a key cause of population decrease, conservation banks can mitigate this by establishing habitats that will be properly maintained and protected to help populations recover.

Species	Number of Banks
Alameda whipsnake	1
Black-capped vireo	1
Bluetail mole skink	5
Blunt-nosed leopard lizard	1
Burke's Goldfields	1
Burrowing Owl	6
California Red-legged Frog	4
California Tiger Salamander	18
Carolina Heelsplitter	1
Coastal California gnatcatcher	8
Contra Costa Goldfields	2
Delta smelt	1
Delmarva Fox Squirrel	1
Florida Panther	3
Florida Panther with woodstork value	1
Florida scrub-jay	3
Giant garter snake	5
Golden-cheeked warbler	5

Species	Number of Banks
Gopher Tortoise	1
Houston toad	1
Least Bell's vireo pairs	3
Nightingale Reed Warbler	1
Otay tarplant	1
Pima Pineapple Cactus	1
Preble's meadow jumping mouse	1
Salmonid	1
San Joaquin Kit Fox	11
Sand skink	5
Sebastopol meadowfoam	4
Southwestern Pond Turtle	1
Swainson's hawk	4
Tipton Kangaroo Rat	1
Utah Prairie Dog	3
Valley elderberry longhorn beetle	6
Vernal pool species	30

Table 1. Species protected by approved and sold-out conservation banks as of 2013. Data from USFWS.

Landowners benefit because they can profit from selling the credits to developers who purchase them as a way to compensate for their negative impacts on the target species elsewhere. According to the USFWS, the prices of these credits can reach hundreds of thousands (for example, the price range for vernal pool preservation is $50,000-$325,000). Additionally, they get to potentially reduce their taxes while keeping their land intact.
Operations such as ranching, timber, or agriculture could still function as a conservation bank and generate revenues for the landowner, if all habitat protections are managed.

TABLE 2. CONSERVATION BANK CREDIT PRICES BY SPECIES

Species	Credit Price Range	State
Black-capped vireo	$5,000-$5,500	TX
Bone Cave Harvestman and Coffin Cave Mold Beetle (per acre in 'moderate impact zone')	$10,000	TX
Bone Cave Harvestman and Coffin Cave Mold Beetle (fixed price in 'irrevocable impact zone')	$400,000	TX
Burrowing owl	$5,000-$15,000	CA
California red legged frog	$15,000-$90,000	CA
California tiger salamander	$4,500-$15,000	CA
Chaparral	$8,000-$15,000	CA
Coastal sage*	$15,000-$25,000	CA
Delhi sands flower-loving fly	$100,000-$150,000	CA
Delta smelt/native fisheries	$100,000-$150,000	CA
Fairy shrimp	$150,000-$300,000	CA
Giant garter snake	$30,000 - $45,000	CA
Golden-cheeked warbler	$2,750-$7,000	TX
Gopher tortoise (relocation)	$1,500 - $3,000	SE US
Gopher tortoise	$12,000 - $20,000	SE US
Least vireo breeding pair	$125,000	CA
Salmonids	$80,000-$120,000	CA
Sandhills habitat	$326,700	CA
San Joaquin kit fox	$2,500-$15,000	CA
Swainson's hawk	$5,000-$25,000	CA
Utah prairie dog	$1,836	UT
Valley elderberry longhorn beetle	$3,500	CA
Vernal pool (preservation)	$50,000-$325,000	CA

* Non-occupied by the California coastal gnatcatcher.
Source: Madsen, et al. (2010)

Table 2. Conservation bank credit prices by species. Table from USFWS, Data from Madsen, et. al

Developers whose activities have harmed the environment are often required to go through the difficult and costly process of providing compensatory habitat off-site. Conservation banking offers a simpler and more economically feasible alternative - developers only need to purchase the credits without having to actually manage the land. For example, urban development tends to happen on Utah prairie dog (Cynomys parvidens) habitat. The Utah Prairie Dog Conservation Bank benefits developers by allowing them to easily offset incidental take of the Utah prairie dog by purchasing available credits for $1,836 each.

The public benefits from conservation banking because these banks protect open space and contribute to environmental processes such as climate regulation and pollination services. The Elsie Gridley Multi-Species Conservation Bank is one example of a bank that benefits the public by protecting wetland services such as flood water storage.

The design of the conservation banking system provides an efficient conservation framework in which all stakeholders are motivated to enforce the regulations in place. Therefore, conservation banks benefit regulators by reducing agency time spent tracking compliance and monitoring mitigation sites, and reducing the need for enforcement actions, providing mitigation in advance of impacts, and streamlining the permit processes for all involved.

Case Study: Florida Panther Conservation Bank

Thanks to various conservation efforts, the Florida panther (Puma concolor coryi) population has rebounded from just 20-30 individuals to a range of 120-230 panthers over the past twenty years. According to a USFWS recovery plan, the population of these panthers dwindled in the 1900s due to habitat loss and fragmentation, geographic isolation, and genetic inbreeding as well as anthropogenic conflicts such as vehicle accidents. In an attempt to address the issue of genetic variability, a genetic management program placed eight female Texas cougars in Florida in 1995. Since then, there has been a conservation need to protect the natural habitats of these panthers and ensure sufficient resources for population growth.

Established in 2010 in Hendry County, Florida, the Florida Panther Conservation Bank is a 474.4 acre bank aimed at protecting the endangered Florida panther. A case study from the Conservation Fund highlights the establishment and management process of the bank.

First, USFWS and the landowners worked together to determine an appropriate area of land that lay within the panther dispersal zone for the site. Then, USFWS determined the number of credits (Panther Habitat Units or PHUs) that the bank would generate. These PHUs were calculated by multiplying the number of acres of a specific habitat by its Habitat Sustainability Value (HSV). The USFWS ended up agreeing to a multiplier of 3.5 (meaning that PHUs would be multiplied by 3.5 for the final value of credits) because landowners were worried about the land acquisition costs and because the area was so ecologically significant. The bank established an active management program that will control for invasive plant species, provide sufficient habitats for prey species, and promote long term maintenance.

The Future of Conservation Banking: Climate Change Adaptations & More

Climate change currently poses a threat to the success of conservation banking because temperature changes will affect the habitat range of many species. Species will be on the move, and may potentially shift to habitats outside of the fixed conservation bank. A report from the Fordham Environmental Law Review suggests a “stepping stone” method as a potential solution to this problem. This method entails conservation bank owners purchasing and protecting new land if a protected species goes locally extinct on the existing reserve. In exchange, the conservation bank owners will receive extra credits to sell and profit from.

While the changing climate is a challenge, managing a conservation bank costs less per acre than monitoring an equivalent acreage of smaller sites. Not only is it a more cost-effective method of conservation, but it also is an ecologically preferable because these larger pieces of land promote more biodiversity and offer more habitat stability. Modifications will have to be made to the system, but the potential of conservation banking is great.

In addition to the changes that the conservation banking system must go through to adapt to climate change, here are some other elements pertaining to the future of conservation banking:

- Increased cooperation with State and local governments, business, and industry groups to obtain compensatory offsets for adverse impacts to species
- Further streamlining of regulatory processes
- More programmatic Section 7 consultations with a conservation banking option, including 7(a)(1)
- More large landscape, multi-species HCPs using conservation banks as part of the interim and/or final mitigation strategy
- Umbrella banking agreements
- More aquatic banks
- On-line "tool boxes" developed by Services' Regional and Field offices with templates
- "Restoration Banking" with NRDA
- Possible incorporation of other credit types (e.g., carbon, water quality); more joint banks
- "Next generation" of conservation banking – holistic approach to ecosystem restoration and management / biodiversity banking

Where to Find Additional Resources

California is a national leader in conservation banking, and the California Department of Fish and Wildlife website has several resources regarding guidelines, policies, and planning tools for the development of conservation banks.

The Conservation Fund has a collection of case studies from across the country that provide details on the establishment and management of 12 conservation banks.

Other interesting reads on conservation banking include:

US FWS 2003 Guidance for Conservation Banking (PDF) (2003)
Design of U.S. Habitat Banking Systems to Support the Conservation of Wildlife Habitat and At-Risk Species (PDF) (2008)
Maximizing the Ecological Contribution of Conservation Banks (PDF) (2014)
Thirty Years of Species Conservation Banking in the U.S: Comparing Policy to Practice (PDF) (2017)
Habitat Conservation Banking Trends in the United States (2019)

Note: This article is co-authored by an employee of The Conservation Fund. The Conservation Fund is the physical and administrative home of the Network.

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Topics: Habitat Land Conservation Public Policy