

CHARACTERISTICS OF EXISTING FEDERAL CONSERVATION BANKS

Discussion Paper

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1. Introduction

The purpose of this paper is to present the preliminary findings from a review of existing federal conservation banks. As part of this research we also reviewed the existing U.S. Fish and Wildlife Service (Service) Guidelines on Conservation banking (copy attached) and reviewed the existing mitigation policies of DOI bureaus (copy attached)). We also provide some suggestions on governance structures and criteria associated with successful credit bank

Understanding the characteristics of existing federal conservation banks and their operating environment is important in facilitating the development of additional banks. In general, we have found it to be more difficult and time consuming than initially anticipated to obtain a comprehensive set of information that would assist in characterizing the set of existing conservation banks. This paper is based on the information that we were able to readily obtain and is organized as follows:

- Section 2 provides an overview of conservation banking and the Service's conservation banking policies (including the process for establishing conservation banks);
- Section 3 summarizes a recently signed Memorandum of Understanding (MOU) between the Service, the USDA Natural Resources Conservation Service, and the Association of Fish and Wildlife Agencies;
- Section 4 provides information on the existing conservation banks authorized by the Service that the authors were able to obtain. This section also includes a discussion of the vernal pool banks in California and how regulatory certainty assisted in stimulating the development of these banks; and

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- Section 5 provides some suggestions for facilitating the development of additional conservation banks.
- A series of attachments provide background documents.

2. Conservation Banking – General Concepts and Service Policy

The purpose of this section is to review the general concept of conservation banking and summarize the existing Service policies with respect to establishing conservation banks.

The Service describes conservation banks as permanently protected privately or publicly owned lands that are managed for endangered, threatened, and other at-risk species.¹ A conservation bank is like a biological bank account. Instead of money, the bank owner has habitat or species credits to sell. Credit demand stems from the requirement to mitigate for unavoidable on-site impacts associated with projects under permit review by the Service.

The Service defines a credit to be equivalent to: (1) an acre of habitat for a particular species; (2) the amount of habitat required to support a breeding pair; (3) a wetland unit along with its supporting uplands; or (4) some other measure of habitat or its value to the listed species.² Determining the number of credits to be associated with a particular conservation bank is a function of habitat condition, size of the parcel, and location, among other factors. A conservation bank may have more than one type of credit if more than one listed species or habitat type occurs at the bank.

The Service does not allow credits to be used to offset any on-site impacts that can be avoided or minimized. Avoidance and minimization requirements are determined on a case-by-case basis through consultation with the Service. As a matter of policy, conservation credits may only be used to offset impacts that can not be avoided or minimized on-site. The purchase of credits transfers liability for mitigating the impacts to sensitive habitats from the project proponent to the conservation bank owner.

Private, Tribal, State, and local government lands are eligible to become conservation banks. Federal lands may be considered for conservation banks on a case-by-case basis, but have not been used for that purpose to date. As long as the land and its habitat is managed for listed and at-risk species, other land use activities, such as ranching, farming, and timber operations may be permissible. Conservation banks must be approved by the relevant wildlife agencies, such as the Service and state wildlife management agencies. Service conservation banking policy and the general process for establishing conservation banks are discussed below.

¹ In contrast, wetlands mitigation banks restore, establish, enhance, and/or preserve wetlands or streams for the purpose of providing compensatory mitigation. Mitigation banks sell credits primarily to landowners so that they may fulfill the conditions of permits issued in compliance with Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act.

² Conservation Banking, Incentives for Stewardship, U.S. Fish and Wildlife Service, September 2004.

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Service Conservation Banking Policy

In May 2003, the Service released guidance for the establishment, use, and operation of conservation banks.³ The principal intention of the document was to help Service personnel: (1) evaluate the use of conservation banks to meet the conservation needs of listed species; (2) fulfill the purposes of the Endangered Species Act; and (3) provide consistency and predictability in the establishment, use, and operation of conservation banks.

In publishing this guidance document, the Service officially recognized the merits of conservation banks to the different stakeholder groups affected by the ESA:

1. Landowners and land managers – conservation banking gives this group an incentive, through the marketplace, to potentially profit from the ownership of lands that are habitat to protected species and allows such land to be viewed as a benefit rather than a liability due to potential limitations on allowed development;
2. Service Staff – conservation banking allows the Service a means to reduce the piecemeal approach to conservation efforts that can result from individual projects by establishing larger reserves and enhancing habitat connectivity;
3. Project Applicants – can save time and money by identifying pre-approved conservation areas, identifying “willing sellers,” increasing conservation options, and simplifying the regulatory compliance process and associated paperwork.

Process for Establishing Conservation Banks

Before approving a conservation bank and the number of credits it can generate for sale, along with identifying the service area where the credits can be applied to offset unavoidable on-site impacts, the Service and bank owners must agree upon a set of operating and management conditions for the bank. These requirements are embodied in a set of formal documents and agreements that include:

1. A Conservation Banking Agreement;
2. Granting a conservation easement to an eligible third-party;
3. A long-term management plan for the property; and
4. The provision of adequate funding for monitoring of the site.

The length of time to establish a conservation bank is, from the perspective of a private investor, one component of the transaction costs associated with establishing a bank. The higher the transaction cost, the more difficult it is to establish a bank. According to Craig Denisoff, President of the National Mitigation Banking Association, the time it takes to get a conservation bank approved by the Service varies widely depending on the level of experience field offices

³ Guidance for the Establishment, Use, and Operation of Conservation Banks, U.S. Fish & Wildlife Service, May 2, 2003.

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have with previous applications and approvals, along with the number of applications a field office is reviewing at any particular time.⁴ Mr. Denisoff states that in his experience banking proposals submitted to the Service Sacramento and Carlsbad Field Offices have been approved in a little as two months or as long as four years. Factors contributing to the variance include whether a bank is applying for multi-species and wetland mitigation credits (this increases the complexity of review for Service staff and also draws in the other agencies overseeing the permitting process for wetland credits) and the focus of Service staff to the project (the Service may view some applications as higher priority).

The process for establishing a conservation bank is described in detail in the Service's 2003 guidance document. In short, the process proceeds as follows:

- A landowner proposes the establishment of a conservation bank to the Service, which may invite State and local representatives to join a Conservation Bank Review Team (CBRT) if State or local laws also impose requirements that can be met by a conservation bank. The CBRT is an interagency group of Federal, State, tribal and/or local regulatory and resource agency representatives that are signatory to the bank agreement and oversee the establishment, use, and operation of a conservation bank.
- In order for the Service to approve a proposed bank, the Service must determine whether the bank will provide adequate mitigation for the species. Two issues of paramount importance in evaluating any conservation bank are the siting of the bank and its management program. Conservation bank siting should consider characteristics such as site conditions, adjacent land uses, and expected land use changes. Management of the bank should address matters such as invasive species, restoration of natural regimes, and illegal trespassing and dumping.
- The banking agreement identifies the management strategies to be employed by the bank. This may include preservation, management, restoration of degraded habitat, connecting of separated habitats, buffering of already protected areas, creation of habitat, and other appropriate actions. Preservation of habitat is employed for those species in which the habitat is not easily restored or created or when there is uncertainty about the success of restoring or creating habitat. The banking agreement may also identify other measures to increase the likelihood of the bank's success. For example, if the Service determines that a species cannot afford any reduction in its available habitat, it may require one acre of preservation and one acre of restoration as compensation for every one acre of impact.
- The banking agreement identifies an entity responsible for enforcing the terms of the conservation easement. This may be the easement holder and/or another party with authority to enforce the terms of the easement such as a state or local agency. Most States have laws regarding eligible easement holders, which often include State or local government agencies, land trusts, and non-profit organizations. At the time that the first

⁴ Email communication from Mr. Craig Denisoff, Westervelt Ecological Services. cdenisoff@westervelecologicalservices.com. May 18, 2007.

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credit in a bank is sold, the land within the bank must be permanently protected through fee title or a conservation easement, with legally established land use restrictions set in perpetuity.

- The banking agreement must also identify and include a requirement for adequate funding to provide for the conservation bank's perpetual operation, management, monitoring, and documentation costs. The banking agreement should discuss the funding assurances for activities, including habitat management, taking place before, during, and after the sale of credits. A management plan that includes the activities necessary to implement the biological goals and objectives should be prepared to help determine the appropriate amount of funding. Contingency management, funding, and ownership plans must also be in place in the event that the bank owner and/or manager fails to fulfill the obligations as listed under the bank agreement and management plans.

3. Memorandum/ of Understanding Between the Service and the USDA Natural Resources Conservation Service

On April 13, 2007 the Service signed a Memorandum of Understanding (MOU) with the Natural Resources Conservation Service and the Association of Fish and Wildlife Agencies. The purpose of the MOU is to promote a long-term working relationship between the signatories to collaborate, and where appropriate, to facilitate, the establishment of viable habitat credit trading markets that will result in net conservation benefits for listed and other at-risk species.⁵

The MOU identifies four shared goals between the parties:

- To express mutual commitment to evaluate habitat credit trading as a tool available to all non-Federal partners including private landowners, State and local agencies, and tribes to conserve listed and other at-risk species;
- To develop an operational definition of “habitat credit trading” and establish habitat credit trading standards that are in accordance with agencies statutes and regulations;
- To identify NRCS, Service, and AFWA programs that are appropriate for habitat credit trading and explore ways in which these agency programs can use habitat credit trading; and
- To develop and support one or more habitat credit trading pilot projects.

The specific steps to be taken to implement the goals of this MOU have not yet been identified. The parties plan to convene regularly after designating agency representatives. A copy of the

⁵ Partnership Agreement between the U.S. Department of Agriculture Natural Resources Conservation Service and the U.S. Department of Interior Fish and Wildlife Service and the Association of Fish and Wildlife Agencies, April 13, 2007.

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MOU is included among the attachments to this paper. In implementing this MOU, the Service should ensure that representatives with expertise in conservation biology, economics, and law participate as the successful development of a habitat credit trading program will entail elements from each of these disciplines.

4. Analysis of Readily Available Information on Service Authorized Conservation Banks.

This section will summarize the information the Workgroup collected on existing conservation banks. It includes a discussion of data sources, characteristics of existing banks, and a discussion of the vernal pool banks established in California.

Data Sources

At the onset, it should be noted that the Service does not currently have the ability to centrally track conservation banks at a national level. In fact no centralized database currently exists to track basic conservation bank information.⁶ We did identify two groups that have plans to develop databases to track Service-approved conservation banks: the U.S. Army Corps of Engineers and a private-party group called Ecosystem Marketplace. A basic profile of these two databases is presented below.

The U.S. Army Corps of Engineers is developing a database it refers to as RIBITS (Regional Internet Bank Information Tracking System).⁷ The Corps envisions this database, once populated, to be able to track the status of mitigation and conservation banks, monitor credits and debits incurred by permitting actions, view compliance reports, and automatically email requests for information and upcoming deadlines from a single Internet-based interface. We have been told that the Corps has already collected conservation bank information from the Service's Sacramento field office to populate this database. Service staff have been told that the Corps expects this database to be functional, with a limited population of conservation banks, later in the year.

A private party is also in the process of developing a database tracking system for conservation banks. Ecosystem Marketplace is developing a database called Speciesbanking.com.⁸ Among other items, Ecosystem Marketplace envisions that their database will track basic profile information on conservation banks (e.g. location, size, contacts, etc.), credits generated, awarded

⁶ The Service has designed a conceptual database system to allow for more effective integration of listed resource conservation needs and the streamlining of ESA section 7 consultations. This database is referred to as the Information, Planning, and Consultation System (IPAC System). The first phase of this system will allow project proponents to obtain species lists, species ecological information, bibliographic references, recommended conservation measures for incorporation into project designs, and Service contact information via the internet. Some have suggested that this system could also provide information on conservation banks although it is not designed to be a tracking system for conservation banks, per se.

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http://www.erdc.usace.army.mil/pls/erdcpub/!www_fact_sheet.PRODUCT_PAGE?ps_product_num=114145&tmp_Main_Topic=&page=All

⁸ <http://www.ecosystemmarketplace.com/sb/templates/#>

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and available, trading ratios, price, and location maps. At the present time it appears that this database is unpopulated.

We compiled our list of known conservation banks through five primary sources because no comprehensive data source exists. These are briefly identified below.

1. Service Sacramento field office. (http://www.Service.gov/sacramento/es/cons_bank.htm) The field office hosts a website that provides a list of conservation banks within their jurisdiction. The website identifies contact information for the bank operator as well as operating status. Basic bank characteristics such as size, protected species, and service areas that the banks support, is also included.
2. California Department of Fish and Game. (<http://www.dfg.ca.gov/hcpb/conplan/mitbank.shtml>) The department website provides a list of conservation and mitigation banks approved by the State agency. The list identifies the general location of each bank along with the type of species credits produced.
3. Wildlands Inc. (www.wildlandsinc.com) The company's website provides a list of current and planned conservation banks in the States of California and Washington that are managed by the for-profit company. The website identifies the types of species protected by each bank.
4. Status of Species Conservation Banking in the United States; Fox and Nino-Murcia, Conservation Biology, vol. 19, No. 4, Aug. 2005. This paper offers a review of the biological, financial, and political experience of conservation banking in the U.S. The authors identified 35 banks that were established under a conservation banking agreement with the Service.
5. A Nationwide Survey of Conservation Banks; Lane, Mills, and Chapman, Stratus Consulting, Dec. 19, 2003. This report presents information on 22 conservation banks, and provides detailed information on the credit transaction histories of four banks. The report was prepared for the Northwest Fisheries Science Center.

Characteristics of Conservation Banks

Our survey identified 78 conservation banks that have been established to conserve habitat for federally listed species and provide mitigation offsets in the form of credits. Some of these banks also provide protection to wetlands and State-listed species. For the purposes of this analysis, we focus only on the banks believed to be protecting federally listed species. We compiled our list of conservation banks primarily through the five data sources identified above with some additional research and information provided by Service field staff. Transaction data,

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such as date, amount of credits purchased, project type and size, and particularly price, are not readily available.⁹

Our review determined that of the 78 active conservation banks, 68 are located in the State of California. Forty-two of the banks lie within the jurisdiction of the Sacramento field office, 25 lie within the jurisdiction of the Carlsbad field office, and one lies within the jurisdiction of the Ventura field office. Ten banks are located in other States. Nationwide, conservation banks protect about 63,000 acres of habitat for about 30 federally listed species.¹⁰ In addition, we also identified six pending conservation banks, all of which are located within the jurisdiction of the Service's Sacramento field office. Our review found the size of conservation banks to range from as little as 12 acres to as high as 10,000 acres.

Attachment 1 summarizes the list of conservation banks currently known to exist. For each conservation bank identified, the attachment shows the location and size of the bank. The attachment also identifies a list of species that the bank has been established to protect. The status of each bank is also reported. Generally, banks are either active (i.e., credits are available for sale) or inactive (i.e., credits are no longer available for sale). Banks may be inactive for a number of reasons. The most common reason is that they have sold out of credits. However, some banks may halt credit sales for other reasons. For example, The Environmental Trust, which operated some banks in southern California, recently declared bankruptcy and the issue regarding successor management entities is currently under litigation.

A review of the data shows that California conservation banks protect about 78,300 acres of habitat for endangered and threatened species. In fact, nearly 95 percent of the total amount of habitat protected by conservation banks lie within the State of California. The Service's Sacramento field office oversees nearly one-half of the total amount of protected acreage within the State. Our review found that 14 banks have sold out their allotted credits. The 14 banks in total conserve nearly 9,000 acres of habitat. All but one of these banks lie within the jurisdiction of the Service's Sacramento field office. Seven of the banks protect a little over 1,700 acres of vernal pool habitat. Three of the banks protect habitat for the San Joaquin kit fox and other listed species inhabiting shared habitat (i.e., Tipton kangaroo rat and blunt-nosed leopard lizard). These three banks in combination protect about 6,300 acres of habitat.

Table 1, below, summarizes by protected species the number of proposed and established banks protecting species' habitat along with the total acreage protected. In some cases, conservation banks protect multiple species within their banks so the total acres reported for each species sums to a number larger than the total acres protected by each bank. The table shows that the greatest number of conservation banks have been established to protect vernal pool species. Collectively, these banks protect over 14,000 acres of habitat for vernal pools and other species.

⁹ Price information would not be expected to be readily available in any situation. This information is largely proprietary.

¹⁰ Several types of vernal pool shrimp and plants have ESA protection but are collectively identified in our attached table as "vernal pool species." Cave invertebrates are also grouped together in the table. Some banks were identified only as providing credits for endangered birds and rare plants.

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Banks protecting the San Joaquin kit fox, Tipton kangaroo rat, and blunt-nosed leopard lizard collectively protect the largest amount of acreage.

Table 1. Federally Listed Species Protected by Conservation Banks

Species	Number of Banks	Acres
Alameda whipsnake	2	1,294
Ben Lomond spineflower	1	230
Ben Lomond wallflower	1	230
Blunt nosed leopard lizard	3	27,326
Burke's goldfields	2	174
California gnatcatcher	15	11,962
California red-legged frog	3	1,434
California tiger salamander	13	5,962
Cave invertebrates	1	220
Delta green ground beetle	1	1,800
Endangered birds	1	814
Delta smelt	1	102
Winter run Chinook	1	102
Giant garter snake	4	3,230
Golden-cheeked warbler	1	500
Gopher tortoise	1	222
Least Bell's Vireo	1	1,902
Mount Hermon June beetle	1	230
Otay tar plant	1	1,186
Pima pineapple cactus	2	1,529
Prebles meadow jumping mouse	1	25
Quino checkerspot	3	3,450
Rare plants	1	123
Red-cockaded woodpecker	3	3,000
San Bernardino kangaroo rat	1	610
San Joaquin kit fox	8	32,548
Tipton kangaroo rat	3	27,326
Valley elderberry longhorn beetle	6	3,020
Vernal pool species	28	14,325
Zyante bandwinged grasshopper	1	230

Note: In some cases, conservation banks protect multiple species within their banks so the total acres reported for each species sums to a number larger than the total acres protected by each bank.

Establishment and Ownership

The establishment and ownership of conservation credit banks is varied. Not all banks were established to sell credits commercially. Rather, some banks were developed to mitigate for upcoming projects overseen by particular agencies or for specific projects undertaken by a unique entity. For example, a number of banks have been established in San Diego County as part of their Multiple Species Conservation Program (MSCP). The MSCP addresses the

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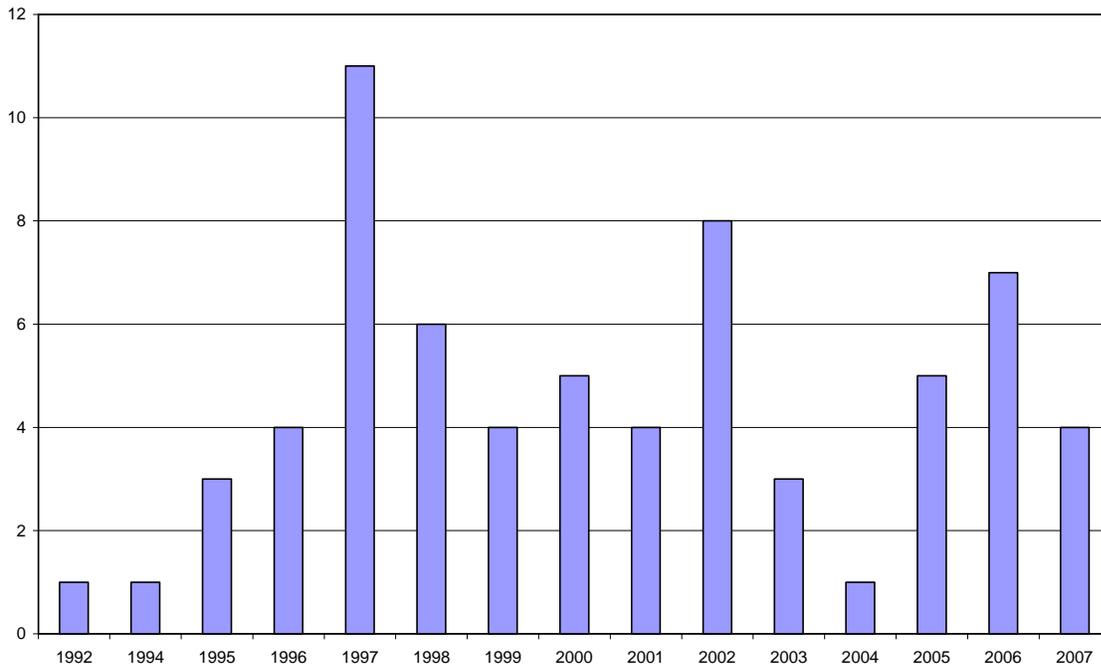
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potential impacts of urban growth, natural habitat loss and species endangerment and creates a plan to mitigate for the potential loss of sensitive species and their habitats. Part of the plan requires the County to identify biological resource core areas and to encourage their conversion to conservation banks whose credits can be used to offset public and private development within other areas of the plan.

We were able to identify the year that banks were approved by the Service to sell credits for 67 of the 78 conservation banks identified. On average, slightly over four banks each year are authorized by the Service to sell credits. The first bank was approved to sell credits in 1992. In 1997, eleven banks were authorized to sell credits, which represents the most active year for conservation bank approval. Last year, the Service authorized four new banks to sell credits. Exhibit 1 shows the number of conservation banks authorized by the Service for the past 15 years.

Exhibit 1

Total Number of Conservation Banks Approved Each Year



In California, private investors have established a number of conservation banks independent of any State planning processes. One notable company is Wildlands, Inc. This company operates as an independent developer of commercial conservation credit banks. The company seeks out areas to purchase and manage as conservation banks for threatened and endangered species and once approved by the Service (and if State listed species are being covered, the California

Department of Fish and Game) sells the generated credits to third-parties who require offsite mitigation for their projects. Wildlands reports having fifteen conservation banks and preserves that are currently authorized to sell compensatory mitigation credits in California.¹¹ Their website reports they currently have 10 more banks in development. Table 2, below, summarizes the banks owned and operated by Wildlands, along with the habitat types protected by each bank. The fact that Wildlands has been able to establish a significant number of banks suggests that once regulatory certainty exists, the private sector can be expected to play a robust role in establishing conservation banks.

Table 2. Wildland's Inc. Owned Conservation and Mitigation Banks

Bank Name	Habitat Protected
<i>Existing Banks</i>	
Allensworth Conservation Bank	San Joaquin kit fox
Blackburn Vernal Pool Conservation Bank	Vernal pool preservation
Daley Ranch Vernal Pool Conservation Bank	Vernal pool preservation
Deer Creek Swainson's Hawk Preserve	Swainson's Hawk
Dolan Ranch Conservation Bank	Vernal pool preservation
Gilsizer Slough	Giant garter snake, Swainson's hawk
Great Valley Conservatin Bank at Flynn Ranch	San Joaquin kit fox, vernal pool preservation
Haera Wildlife Conservation Bank	Burrowing owl, San Joaquin kit fox
Jenny Farms Conservation Bank	Burrowing owl, Swainson's hawk
Kreyenhagen Hills Conservation Bank	San Joaquin kit fox
Laguna Terrace East Conservation Bank	Swainson's hawk, vernal pool preservation
Lake Elsinore Mitigation Bank	Wetlands
Newark Slough Mitigation Bank	Wetlands
North Suisun Mitigation Bank	California tiger salamander, vernal pool preservation
Pajaro River Mitigation Bank	Wetlands
Rancho Jamul Mitigation Bank	Wetlands
Sacramento River Ranch	Agricultural mitigation, Swainson's hawk, valley elderberry longhorn beetle, wetlands
Sand Creek Conservation Bank	California tiger salamander, San Joaquin kit fox, vernal pool preservation
Toad Hill Ranch Mitigation Bank	Swainson's hawk, vernal pool creation, vernal pool preservation, wetlands
Western Placer Schools Conservation Bank	Vernal pool preservation
<i>Banks pending approval</i>	
Florence Lake Conservation Bank	California tiger salamander, vernal pool preservation
Fremont Landing Conservation Bank	Salmonids
Reeds Creek Vernal Pool Preserve	Vernal pool preservation
Ridge Cut Farms Giant Garter Snake Conservation Bank	Giant garter snake
Twin Cities Mitigation Complex	Swainson's hawk, vernal pool preservation, wetlands

Source: http://www.wildlandsinc.com/search/index.php?orderby=lch_landbank_id_dir=asc

¹¹ <http://www.wildlandsinc.com/search/>

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Credit Creation, Demand, and Pricing

We were unable to readily identify the total number of credits allotted to each bank. Informally, Service staff in California stated that as a rule of thumb the total number of credits allotted to a bank is equivalent to its acreage. Whether this rule of thumb holds for all banks is unclear at this point. We also found it difficult to obtain data on credit sales, including transaction date, purchasing party and project offset, number of credits purchased, and price. While pricing information is typically proprietary and is generally not shared outside of the parties involved in the transaction, Banking Agreements typically require that data on credit sales be reported on an annual basis to the Service field office that assisted in establishing the bank. The data is typically submitted in written format, is not converted to an electronic database that can be readily accessed, and does not appear to be reviewed or tracked with any consistency. The lack of readily available data in and of itself suggests that this is an area that deserves additional attention if conservation banking as a tool is to expand.

The demand for credits is based on several factors. First and foremost, the Service must first find, through the section 7 consultation process or through the section 10 permitting process, that a project has unavoidable impacts and that impacts can be successfully minimized (in the case of a section 7 consultation) or mitigated (in the case of a section 10 permit) off-site, in a manner that would be equivalent to, or more beneficial than, on-site impacts. In such cases, the purchase of credits from an established conservation bank may be part of an appropriate minimization or mitigation strategy. The Service's approach to how this policy is implemented, on a project-by-project basis, has a substantial influence on the market demand for conservation bank credits.

While the Service's 2003 Guidance states that "(T)he use of conservation banks should be evaluated in the context of unavoidable impacts of proposed projects to listed species," the determination of "unavoidable impacts" can be rather subjective. The Guidance does not provide any framework for making this determination, including whether or not it is appropriate to weigh economic costs against biological benefits (i.e., cost-effectiveness) as part of the decision-making process. Oftentimes, unavoidable impacts from a biological perspective are not equivalent to what a project proponent believes to be economically feasible.^{12 13}

Obviously, it would be desirable for conservation banks with the appropriate credits for sale to be established prior to project consultations or the use of conservation credits to mitigate for unavoidable on-site impacts is moot. The resulting situation is somewhat of a chicken-and-the-egg paradox. Bank establishment can take several years along with a significant investment of capital. The likelihood that the private sector will invest funds without reasonable expectation of demand is minimal. However, while the Service may support conservation banking in principle, it does not currently have any mechanism in place to either announce the usefulness of banks for particular areas or species, or any program where Interior or the Service can stimulate supply by the private sector by establishing a fund for specific types of future credit purchases.

¹²Guidance for the Establishment, Use, and Operation of Conservation Banks, U.S. Fish and Wildlife Service, Ma 2, 2003, p. 1.

¹³ Typically, the Service works with the project proponents to avoid any on-site impacts, to minimize any unavoidable on-site impacts and to mitigate such impacts, to the extent feasible, on-site.

Vernal Pool Banks in California

An illustrative case is vernal pool species in California. In 1996, the Service's Sacramento field office issued a programmatic consultation concerning small impacts to vernal pool species. Unique in this consultation was the fact that it clarified, up-front, how impacts were to be minimized through the purchase of off-site conservation credits. Specifically, the programmatic consultation stated that impacts should be minimized as follows:¹⁴

- A. **Preservation Component.** For every acre of habitat directly or indirectly affected, at least two vernal pool credits will be dedicated with a Service-approved ecosystem preservation bank, or, based on Service evaluation of site-specific conservation values, three acres of vernal pool habitat may be preserved on the project site or on another non-bank site as approved by the Service.
- B. **Creation Component.** For every acre of habitat directly affected, at least one vernal pool creation credit will be dedicated within a Service-approved habitat mitigation bank, or, based on Service evaluation of site-specific conservation values, two acres of vernal pool habitat will be created and monitored on the project site or on another non-bank site as approved by the Service.

It is highly likely that the publication of the vernal pools programmatic consultation significantly reduced the risk (i.e., clarify the demand for credits) to the private sector in making decisions to invest in vernal pool conservation banks because it clarified mitigation requirements. Thus, it is probably no coincidence that the majority of conservation banks established within the Service's Sacramento field office's jurisdiction were to preserve vernal pool habitats. We believe that similar clarifications by the Service (i.e., providing regulatory certainty) for other species and their habitats would have an equally stimulative effect on conservation bank creation.

In conducting our research, we found that information on credit pricing is highly proprietary and generally not reported or divulged. Fox (referenced above) found that few bank owners were willing to share *actual* transaction prices but were willing to share *asking* prices. Fox reported asking prices ranging from \$3,000 for one acre of San Joaquin kit fox habitat to \$125,000 for one acre of Least Bell's vireo habitat.¹⁵ It is not surprising that there exists a wide variability in credit pricing as many factors affect credit price, including the supply of credits, the level of demand (which is affected by the willingness of the Service to allow credits to be used to mitigate for on-site impacts), and the information available to both potential buyers and sellers of credits about market conditions.

5. Suggestions for Further Discussion

¹⁴ Programmatic Formal Endangered Species Act Consultation on Issuance of 404 Permits for Projects with Relatively Small Effects on Listed Vernal Pool Crustaceans Within the Jurisdiction of the Sacramento Field Office, California, US SERVICE, Feb. 28, 1996, p. 3.

¹⁵ Fox, 2005, p. 1001.

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Based on our review, we believe that conservation banks have the ability and potential to play a significant role in the survival and recovery of listed and candidate species. While we count the number of operating and pending banks to be over 80, we believe that the number of banks could be significantly higher. We offer the following thoughts designed to facilitate the creation of additional conservation banks:

1. Facilitate the Creation of Conservation Banks. The Federal government can more actively encourage and support the creation of conservation banks. "Support" does not necessarily imply financial support, it could include providing greater regulatory certainty about the operating environment, reducing transaction costs related to the establishment of banks, and demand stimulation activities in selected locations. Commercial conservation credit bank operators are unique in that they are for-profit entities seeking out habitat areas that are the most cost-effective to preserve. While they seek to operate under competitive market conditions, it would be useful to all parties if the government could further clarify its goals and ground rules in order to ensure bank success. Clearly identifying mitigation requirements for specific species and their habitats would be an integral part of the signaling process.
2. Establish a conservation bank coordinator within the Service at the headquarters level as well as coordinators at the regional level. The headquarters conservation banking coordinator would not be in a decision making role, but rather would be responsible for coordinating and communicating the Service's conservation banking activities. This role is important to facilitate the free flow of information, communicate effectively with stakeholders, and help ensure consistency in policy implementation. Regional coordinators would have parallel roles.
3. Develop Guidelines to Evaluate the Success of Conservation Banks. In addition to the policy issues listed, the Conservation Bank Coordinating Committee could also develop guidelines to determine a bank's level of success. Success might be evaluated along a number of different dimensions, including the following:
 - Bank establishment
 - The length of time it took to establish the bank or some other measure of the transaction costs.
 - Extent to which potential buyers of credits know the bank has credits for sale -- this relates to the provision of information.
 - The trend in the number of banks established over time.
 - Financial factors
 - Cost of establishing bank
 - The extent to which the authorized number of credits have been sold;
 - Whether the owners of the bank are able to earn a return on their investment
 - Has the funding set aside for O&M been sufficient?
 - The extent to which there is competition among banks. Presumably there would be competition if service areas overlapped and same species were covered.

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- Conservation outcomes
 - The extent to which the bank assists in connecting fragmented habitat
 - The extent to which the bank assists in promoting species recovery
 - If restoration was involved, whether the restoration “worked” and has been maintained
 - Has the required monitoring/reporting taken place?
 - Was the bank in compliance with performance standards established in the banking enabling instrument?

- 4. Establish a National Database of Conservation Banks. The Department and the Service should not depend entirely on third-parties to develop and maintain a comprehensive database on conservation banks. Given that the Service is directly involved in bank authorization as well as credit purchases for project mitigation, the Service should be in a position to track bank characteristics and credit balances. The database should be accessible to the general public so they too can better assess supply and demand conditions for particular credits as a potential mitigation option.

Suggestions for Additional Research

To facilitate the development of conservation banks as a conservation tool a better understanding of the following issues may be warranted:

- The disincentive effects that in-lieu fees programs have on banks;
- The effect to which uniform banking guidance standards would facilitate the establishment of additional banks;
- Whether a timetable to approve/disapprove bank applications would facilitate the creation of additional banks;
- The lack of regional and national banking coordinators;
- Whether Service guidance can be amended to provide additional instruction as to what habitat types and impending threats are most suitable to banking;
- Whether Service guidance should be amended to allow for greater flexibility regarding the purchase of credits for avoidable on-site impacts and if so, under what conditions;
- The extent to which the Service could facilitate the creation of conservation banks by stimulating the demand for the creation of credits by funding the purchase of credits (funds for credit purchases could come from entities seeking permits to “take”);
- Whether Service guidance should be amended to encourage greater use of programmatic consultations with stated credit trading ratios for small projects;
- The extent to which the Service is inadvertently hindering bank development through lengthy and unstructured approval processes; and
- Explore in more detail certain components of the conservation banking market, including the concept of a “credit exchange” that might be created as a mechanism to facilitate credit exchanges on a regional basis.

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Attachments

1. Comprehensive list of known conservation banks
2. map showing approximate location of conservation banks in Sac region – color coded to depict habitat types(?)
3. Copy of SERVICE Conservation Banking Guidelines
4. Copy of Vernal pool programmatic consultation
5. Copy of SERVICE MOU recently signed with NRCS
6. Copy of typical Banking Agreement (Can Deblyn provide?)
7. Copy of memo on SERVICE Guidelines
8. Copy of paper on mitigation
9. List of Common Terms and Definitions

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Attachment 1

List of Known U. S. Fish and Wildlife Approved Conservation Banks

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Attachment 2

U.S. Fish and Wildlife Service Conservation Banking Guidance

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Attachment 9- Terms and Definitions

Common Terms

The **conservation banking agreement** (or banking enabling instrument) contains information on the exact legal location of the bank and its service area, how credits will be established and managed, and how the bank will be funded, managed, and protected in perpetuity. It also addresses issues such as allowable activities and access, and identifies requirements such as environmental contaminants surveys and appropriate monitoring programs.

Compensatory mitigation is the restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of resources for the purposes of compensating for unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

A **conservation easement** is a recorded legal document established to conserve biological resources in perpetuity, and which requires certain habitat management obligations for the conservation bank lands.

A **credit** is the unit of “currency” that conservation banks use. Conservation banks create credits by restoring, enhancing, or preserving habitat. Typically each acre contained in a bank translates into a number of credits that bank owners can subsequently sell. The number of credits a bank is authorized to sell is determined by resource management agencies and depends on the quantity and quality of the habitat in the conservation bank’s property. “Quality” could be related to a variety of factors: location, connectivity to other protected lands, vegetation type, etc. In the case of conservation banks, credits are established for the specific sensitive species that occur on the bank site.

A **debit** is a unit of measure (e.g., a functional or area measure) representing the loss of functions at an impact or project site. Function is measured using the same method used to determine credits at the bank offsetting the impact.

In-kind mitigation involves a resource type that is structurally and/or functionally *similar* to the impacted resource type, while **out-of-kind** mitigation involves a resource type that is structurally and/or functionally *different* than the impacted resource type.

A **management plan** is prepared to manage the conservation bank to, at a minimum, maintain the listed species value on the bank. This includes on-the-ground management activities, funding, and monitoring and reporting requirements.

Off-site conservation occurs *outside* the boundaries of a project site, while **on-site conservation** occurs *within* the boundaries of a project site.

A bank’s **service area** is the geographic area within which impacts can be mitigated by a particular bank and is designated in the banking instrument.

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