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# A PRELIMINARY ANALYSIS OF THE CONSERVATION BANKING PROGRAM AND RESULTS FROM A SURVEY OF USFWS STAFF

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DOI OFFICE OF POLICY ANALYSIS

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San Joaquin Kit Fox (Photo Credit: USFWS)

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## EXECUTIVE SUMMARY

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The U.S. Fish and Service (USFWS or Service) requested that the Department of the Interior's Office of Policy Analysis (PPA) conduct a review of data from the USFWS conservation banking program, identify any institutional or other impediments to creating habitat conservation banks, and develop potential options for encouraging the expanded use of conservation banking. The specific questions to be addressed included:

1. What metrics could be used to measure success programmatically and for individual banks?
2. What are the important lessons learned since 1992?
3. What are the characteristics of successful conservation banks?
4. What can be learned from similar programs, such as Wetland Mitigation Banking?
5. Are there technical and institutional obstacles limiting the establishment of additional banks?
6. What additional incentives could spur bank creation and growth?
7. What are the options for reducing the obstacles and providing incentives?

Because of the nature and complexity of conservation banking, PPA developed a phased approach to analyzing the program and addressing a series of questions posed by USFWS. The first steps in this analysis were a literature review and a survey of USFWS staff involved in endangered species issues. A second phase of the analysis will focus on the role of conservation bankers, project proponents, and non-governmental organizations (NGOs), and will provide a broader perspective on issues affecting the conservation banking program.

This report presents the USFWS staff survey results as well as conclusions and recommendations based on the first phase of analysis.

The survey results indicate that USFWS respondents generally consider conservation banking to be an effective mitigation option and see potential for its expansion, with 57% of respondents indicating that additional species and habitats could benefit from conservation banking. They also perceived that conservation banking was viewed in a positive light at the Field Office, Regional Office and Headquarters levels, although there was greater uncertainty about attitudes at the Regional Office and Headquarters levels.

USFWS respondents felt that success was best measured using ecological metrics, although some support was shown for economic measures as well. Economic measures were viewed as more important in determining the expansion of conservation banking, however, with economic uncertainty, unwillingness of landowners to sell land or easement, the unsuitability of a species for banking, and weak economic development ranked as the most important factors in hindering conservation bank creation. Institutional obstacles to bank creation included delays in banking document approval, which were thought to be most influenced by insufficient staffing, delays in solicitor approval, and lengthy banking documents.

The survey results suggest that USFWS staff felt that the conservation banking program compared favorably to the wetlands mitigation banking program in a number of areas. Areas with the most room for improvement were determining the number of credits and the length of time required for banking document approval. When considering elements included in the 2008 USACE and EPA Regulations, survey respondents supported equivalent standards for different types of mitigation and financial assurances, but had less support for a stated preference for banking and timelines.

Based on the information collected in this phase of the analysis, a number of initial conclusions were drawn based on the questions outlined above:

- Both ecological and economic factors are important for programmatic success, however, USFWS survey respondents emphasized ecological measures of success.
- Adequate information is not available at this time to fully determine the ecological and economic success of individual banks.
- Institutional and technical obstacles remain that could hinder the expansion of the conservation banking program.
- Some incentives for the expansion of conservation banking include increased communication, information sharing, and reduced delays in banking document approval.
- Banking templates, training, communication, and outreach are steps that could be taken by USFWS to help facilitate the expansion of conservation banking where appropriate.
- The establishment of equivalent standards for all forms of mitigation is one element of the wetlands mitigation banking program that received strong support among USFWS staff surveyed.

Some initial recommendations based on this phase of the analysis include:

- Improve communication between Field Office, Headquarters and Regional Office staff.
- Increase training opportunities in conservation banking for Service staff.
- Expand the use of templates for conservation banking agreements.
- Strengthen outreach from USFWS staff to conservation bank managers.
- Evaluate the USFWS 2003 Guidance for conservation banks and consider the development of more formal regulations for the conservation banking program.
- Assess market dynamics using surveys of conservation bank managers and project proponents to obtain more information about the functioning of the conservation banking market.
- Develop a study to evaluate the effectiveness of different mitigation options in providing benefits to the species would help to determine if there are any systematic differences in performance of the different options across species or locations.
- Make additional endangered species and conservation banking data available in an easily accessible format to assist in future analyses related to conservation banking and other mitigation options.

## GLOSSARY

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**Aggregated Mitigation Site:** A single site used as compensatory mitigation for impacts resulting from two or more projects.

**Conservation Bank:** Permanently protected lands containing natural resource values that are conserved and permanently managed for species that are endangered, threatened, candidates for listing, or are otherwise species-at-risk. Conservation banks function to offset adverse impacts to these species that occurred elsewhere, sometimes referred to as off-site mitigation.

**In-Lieu Fee:** A fee that is paid by permittees to an USFWS-approved compensation fund in lieu of implementing their own mitigation. The in-lieu fee sponsor provides the mitigation when sufficient funds have been collected to implement a mitigation project and takes on the liability of the success of the mitigation. This option is used only if appropriate for the species and no existing mitigation opportunities are available.

**Permittee Responsible Mitigation:** Mitigation projects implemented by permittees, either on-site or offsite, often through third party providers. The permittee is always responsible for the success of the mitigation, regardless of who does the work.

**Recovery Credit System:** Available only to federal agencies, recovery crediting allows an agency to purchase and store conservation credits on private lands for use at a later time to offset negative impacts to listed species. The landowners are not “bankers,” nor are the mitigation credits held in perpetuity under easements. Recovery crediting has been used by the Department of Defense in Texas to allow Fort Hood to accrue credits for temporary recovery measures that it arranged by contract with neighboring landowners.

## INTRODUCTION

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The U.S. Fish and Service (USFWS or Service) requested that the Department of the Interior’s Office of Policy Analysis (PPA) conduct a review of data from the USFWS conservation banking program, identify any institutional or other impediments to creating habitat conservation banks, and develop potential options for encouraging the expanded use of conservation banking. The specific questions to be addressed included:

1. What metrics could be used to measure success programmatically and for individual banks?
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5. Are there technical and institutional obstacles limiting the establishment of additional banks?
6. What additional incentives could spur bank creation and growth?
7. What are the options for reducing the obstacles and providing incentives?

Because of the nature and complexity of conservation banking, PPA has adopted a phased approach to analyzing the program, and addressing the questions posed by USFWS. The first phase included a review of relevant literature, an analysis of conservation banking program data (e.g., Regulatory In-Lieu Fee and Bank Information Tracking System (RIBITS) data), and an analysis of data from a survey of USFWS staff. This report presents results from the survey of Service staff. A second phase of the analysis will focus on the role of conservation bankers, project proponents, and non-governmental organizations (NGOs).

The remainder of this report presents background information about the conservation banking program, discusses the survey methods used, analyzes the results of the USFWS employee survey, and presents conclusions and recommendations.

## BACKGROUND

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Conservation banks are permanently protected lands that contain natural resource values, which are conserved and permanently managed for species that are endangered, threatened, candidates for listing as endangered or threatened, or are otherwise species-at-risk (USFWS 2012). At the Federal level, conservation banks are regulated by the USFWS for terrestrial and freshwater species and some marine mammals, and by the National Marine Fisheries Service (NMFS) for marine and anadromous species. The agencies approve a specified number of credits to the bank owner in exchange for permanently protecting and managing habitat for the endangered species in question.

The USFWS conservation banking program began in the mid-1990s, approving banks for a number of federally listed species. Many of these banks were set up in cooperation with other Federal agencies or the State of California. In 2003, the Service introduced its “Guidance for the Establishment, Use, and Operation of Conservation Banks” (2003 Guidance) to help USFWS personnel (1) evaluate the use of conservation banks to meet the conservation needs of listed species; (2) fulfill the purposes of the ESA; and (3) provide consistency and predictability in the establishment, use, and operation of conservation banks.

As of March 2013, USFWS has approved 105 conservation banks (including 93 active and 12 sold-out) in 10 states and Saipan, with another 10 banks pending approval. Geographically, these banks are concentrated in California, accounting for approximately 76% (80 out of 105) of the approved and sold-out banks nationwide. Other states with multiple banks include Florida with 8%, Texas with 6%, Utah with 3%, and Oregon with 2%. Most conservation banks in California are under the jurisdiction of the USFWS Sacramento Field Office with 58 approved banks, followed by the Carlsbad Field Office with 19 approved banks, and the Ventura Field Office with 2 banks.

Ten or fewer banks have been approved each year between 1994 and 2012 (Figure 1). Until 2002, all approved banks were located in California. Conservation bank establishment outside of California has increased in recent years, with 41% of all banks approved since 2008 located in other states. Conservation banks vary significantly in size, ranging from approximately 8 to over 4,000 acres, with an average size of 741 acres. In total, the banks cover nearly 75,000 acres, with the greatest concentrations in California with around 57,000 acres (76%), Florida with around 7,600 acres (10%), and Texas with around 5,000 acres (7%). The remaining states each make up 2% or less of the total acreage (Table 1).

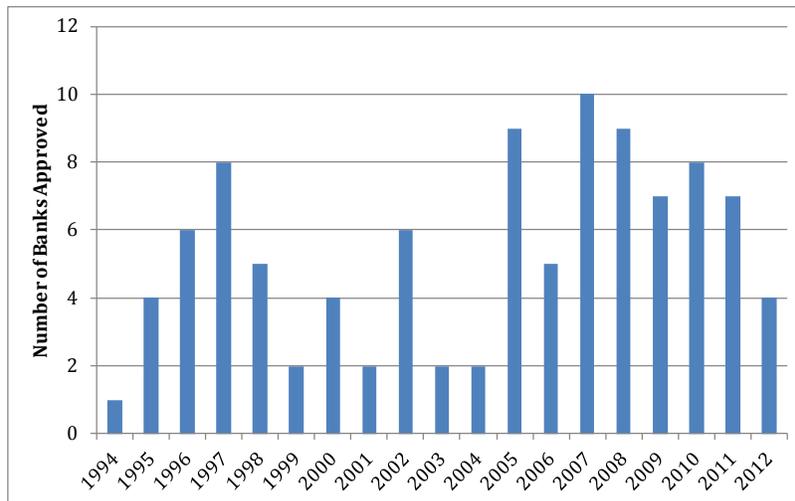


FIGURE 1. NUMBER OF CONSERVATION BANKS APPROVED, 1994-2012

Wetland and stream mitigation banks are regulated by the U.S. Army Corps of Engineers (USACE) and the Environmental Protection Agency (EPA). These banks have a longer history than conservation banks, with the first wetland mitigation bank established in 1984. The wetland mitigation banking program has undergone many changes since its inception, including the promulgation of regulations related to the program in 2008 (Compensatory Mitigation for Losses of Aquatic Resources 2008). Based on the longer history of the wetland mitigation banking program, and the experience of many staff with both programs, comparisons between the two programs may provide useful insights into the conservation banking program.

More detailed information about the history and organization of the USFWS conservation banking program and related mitigation options is available in a separate overview report (DOI Office of Policy Analysis 2013).

TABLE 1. ACREAGE OF CONSERVATION BANKS BY STATE

State	Approved	Sold-Out (acres)	Total
Arizona	580		580
California	50,900	6,189	57,089
Colorado	25		25
Florida	7,621		7,621
Maryland		89	89
Mississippi	1,230		1,230
Oregon	212		212
South Carolina	810		810
Texas	5,026		5,026
Utah	1,138		1,138
Saipan	1,035		1,035
TOTAL	68,577	6,278	74,855

## METHODS

PPA developed and implemented a survey of USFWS staff in early 2013 to help identify the existence of and reasons for barriers to establishing additional conservation banks, as well as potential solutions for addressing the barriers (see Appendix B for the survey instrument). Although a few previous studies have collected information about the status of conservation banking and the experience of bank owners or managers with the banking process (Fox and Nino-Murcia 2005, Stratus Consulting 2003), PPA is unaware of any studies to date that have undertaken a systematic survey of USFWS staff. The perspective of USFWS employees is important as evidenced by a recent study indicating that bank owners and managers frequently cited technical and political problems with state and federal agencies as a barrier to conservation banking (Fox and Nino-Murcia 2005).

The collection of information via a survey has several advantages over unstructured interviews. A survey allows for the collection of information from a much larger number of people than would be possible otherwise. In addition, surveys allow for the collection of a consistent set of information across all respondents, which is more difficult in unstructured interviews.

The survey language was carefully developed following standard survey design techniques. Focus group interviews were conducted with nine USFWS employees who had significant experience with conservation and wetland mitigation banking. Information from the focus group interviews was used to refine the survey and develop multiple choice options for several of the survey questions.

An internet-based survey instrument was developed to reduce the cost and time required for survey implementation. The survey was pre-tested by several Department of the Interior employees to resolve any areas of confusion.

The internet-based survey was administered to select USFWS employees from April through May 2013. The survey population consists of USFWS employees that are involved in conservation banking or endangered species issues. The sample frame included participants in previous conservation banking training courses, Regional Section 7 Coordinators, Regional HCP Coordinators, Field Supervisors, and suggestions from USFWS staff. An effort was made to include employees in all USFWS regions to obtain a sample with diverse experiences. The sample included 263 USFWS staff that had experience in conservation banking or in endangered species issues more broadly. Responses were obtained from 142 respondents, for a response rate of 54%.

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## SURVEY RESULTS

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The survey results are presented in five sections, beginning with a summary of respondent characteristics and background questions related to their general experience with conservation and wetlands mitigation banking. The remaining sections group the survey responses according to the questions posed in the USFWS request as follows: Measuring Success, Obstacles, and Lessons Learned. The sections present the text of each survey question followed by a description of the results including graphs or tables, a bullet summarizing the results of the question, and a summary of the information covered in the section. The full text of the survey is provided in Appendix B.

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## RESPONDENT CHARACTERISTICS

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As shown in Table 2, all USFWS regions were represented in the sample, with the largest percentage (30%) of respondents coming from Region 8 (California and Nevada). Greater numbers of respondents came from regions where conservation banks already exist, with 12% of respondents coming from Region 4 (Southeast) and Region 6 (Mountain-Prairie), and 11% coming from Region 2 (Southwest). Respondents averaged 13 years working on ESA issues and programs at USFWS and 6 years on conservation banking. The majority (69%) of respondents identified as working in the Service's Endangered Species program, while 14% worked in Fisheries and Habitat Conservation, 6% worked in the Migratory Birds program, and 5% worked in Ecological Services.

Respondents worked on an average of five banks while employed by USFWS (Table 2). Specifically, 43% of respondents had worked with 0-2 conservation banks, 20% had worked with 3-4 banks, 12% had worked with 5-6 banks, and the remaining 25% of respondents had worked with 7 or more banks. As shown in Table 2, the level of experience varies across regions. Region 8 respondents had worked on an average of 10 banks, followed by Region 4 with an average 6 banks, and Region 2 with an average of 5 banks. The variation in level of experience is likely based on the difference in number of banks established across regions. Respondents had worked with conservation banks in a number of different states, with the greatest representation from the three states with the largest number of established conservation banks – California, Texas and Florida (Figure 2).

TABLE 2. RESPONDENT CHARACTERISTICS, BY REGION

	<b>Number of Responses</b>	<b>% of Total Responses</b>	<b>Average number of years working on ESA issues</b>	<b>Average number of years working on CB</b>	<b>Average number of banks worked with</b>
Region 1	6	4%	15	4	2
Region 2	16	11%	10	5	5
Region 3	10	7%	12	2	2
Region 4	17	12%	14	8	6
Region 5	9	6%	15	4	2
Region 6	17	12%	14	7	2
Region 7	3	2%	4	4	1
Region 8	42	30%	12	7	10
Headquarters	9	6%	12	2	2
<b>Total</b>	<b>142</b>	<b>100%</b>	<b>13</b>	<b>6</b>	<b>5</b>

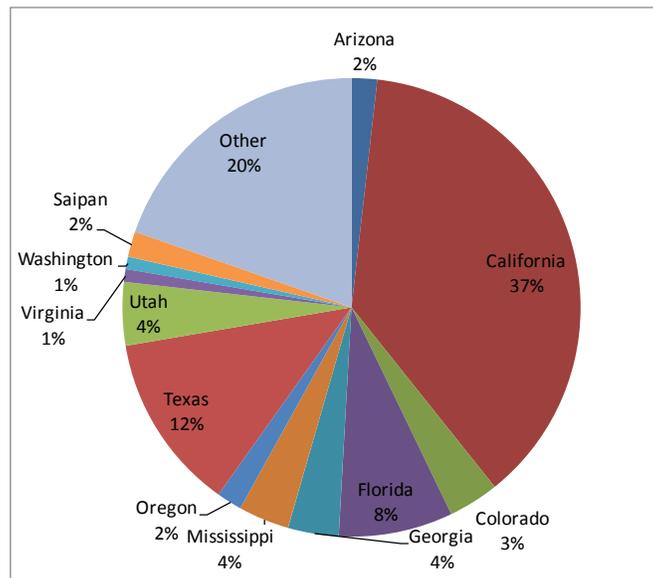


FIGURE 2. LOCATION OF CONSERVATION BANKS WHERE RESPONDENTS HAD EXPERIENCE

## BACKGROUND QUESTIONS

Survey respondents were asked a number of background questions to help get a better sense of their general experiences with conservation banking. These questions can provide a framework through which to view the other survey questions focused on different aspects of banking that are discussed in the remainder of this document. Questions addressed their office’s experience with

compensatory mitigation, their opinions on the effectiveness of conservation banking in aiding in the recovery of species, additional habitats or species they feel might benefit from conservation banking, as well as their individual experience with conservation banking guidance and training. The specific questions and responses are discussed in more detail below.

*Does your office encourage project proponents to provide compensatory mitigation for unavoidable impacts to listed species or their habitat? (Survey Question #2) and If yes, how is this mitigation usually accomplished? (Survey Question #3)*

- **Most offices encourage compensatory mitigation for unavoidable impacts. Permittee-responsible mitigation is the most common mitigation option, followed by conservation banks and in-lieu fees.**

When asked if their office encourages project proponents to provide compensatory mitigation for unavoidable impacts to listed species or their habitat, 89% of respondents responded yes, 7% responded no, and the remaining 4% didn't know. When asked how this mitigation is usually accomplished, the most frequently chosen option was permittee-responsible mitigation, followed by conservation banking and in-lieu fee program (Figure 3). Many respondents indicated that their office commonly uses more than one option.

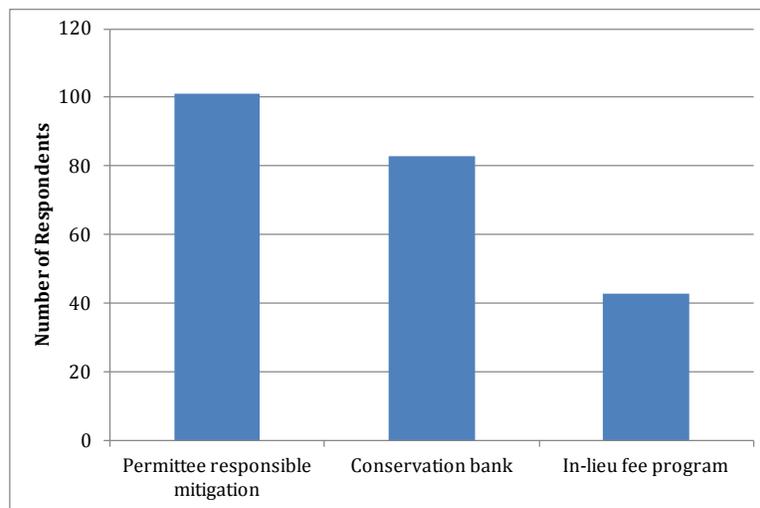


FIGURE 3. MOST COMMONLY USED MITIGATION OPTIONS

*Do you feel that conservation banks are generally an effective tool for aiding in the recovery of listed species? (Survey Question #4)*

- **A majority of respondents felt that conservation banks were generally an effective tool for aiding in the recovery of species.**

Respondents generally felt that conservation banks are an effective tool for aiding in the recovery of species, with 62% indicating that conservation banks were either effective or very effective,

compared with 18% that felt they had an average level of effectiveness, and 8% that felt they were ineffective or very ineffective (Figure 4).

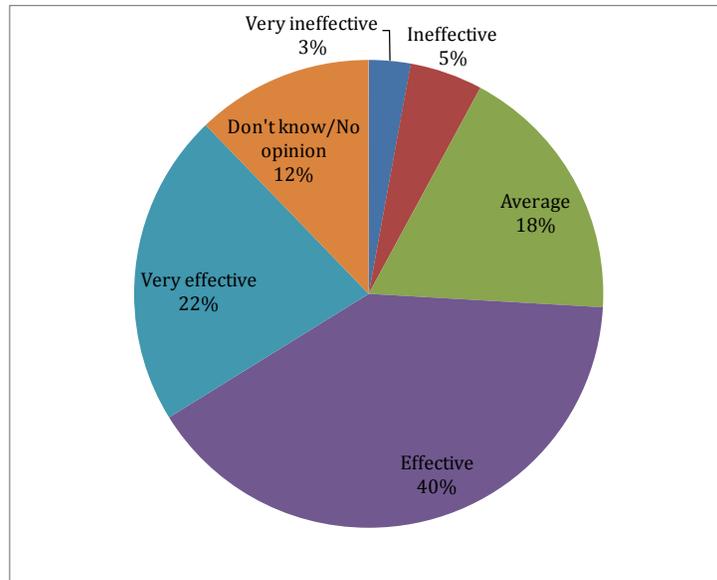


FIGURE 4. THE EFFECTIVENESS OF CONSERVATION BANKS AS A TOOL IN AIDING IN THE RECOVERY OF SPECIES

*In your opinion, are there species, habitats, or ecosystems with which you work that could benefit from conservation banking and do not already have banks established? (Survey Question #5)*

- **A majority of respondents felt that there are additional species, habitats or ecosystems that could benefit from conservation banking.**

Respondents generally felt that there are additional species, habitats, or ecosystems that could benefit from banking that do not already have banks established, with 57% of respondents agreeing that additional species or habitats could benefit from banking, 11% disagreeing, and 32% uncertain (Figure 5). A wide variety of different species, habitats and ecosystems were mentioned that might benefit from conservation banking. Among some of the most often mentioned were sage grouse, bat species, fresh water mussels, riparian habitat, and the American burying beetle.

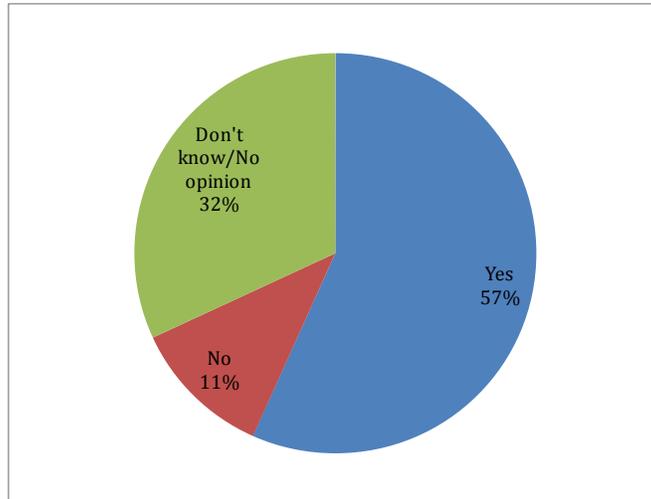


FIGURE 5. ARE THERE ADDITIONAL SPECIES, HABITATS OR ECOSYSTEMS THAT COULD BENEFIT FROM CONSERVATION BANKING?

*How familiar are you with the 2003 “Guidance for the Establishment, Use, and Operation of Conservation Banks”?* (Survey Question #13) and *Does your USFWS regional or field office have additional conservation banking guidance?* (Survey Question #14)

- **68% of respondents were familiar with the Service’s 2003 Conservation Banking Guidance, with 31% of respondents indicating that their regional or field office had additional guidance.**

The majority of respondents had some level of familiarity with the Service’s 2003 *Guidance for the Establishment, Use, and Operation of Conservation Banks*; although around a third claimed that they were not familiar with it (Figure 6). Some respondents indicated that their regional or field office had additional guidance, with 10% indicating their office has regional guidance, 18% indicating their office has field guidance, and 3% indicating their office has regional and field guidance.

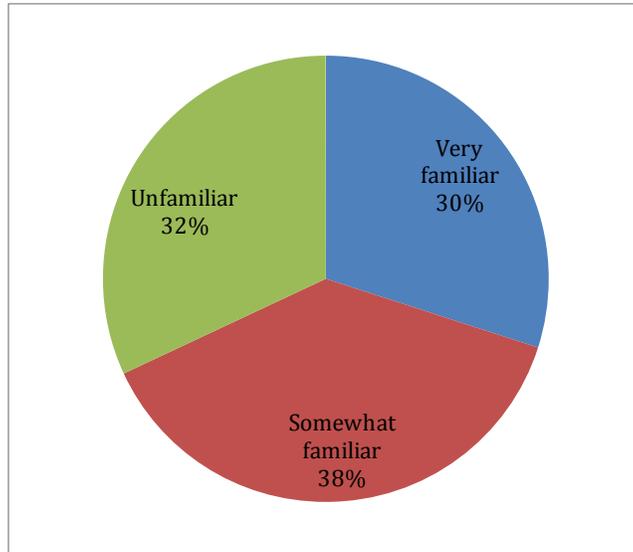


FIGURE 6. RESPONDENT FAMILIARITY WITH USFWS 2003 CONSERVATION BANKING GUIDANCE

*Have you had any conservation banking training? (Survey Question #7)*

- **The majority of survey respondents had not taken any formal conservation banking training.**

Respondents were asked whether they had taken any conservation banking training courses. Of those respondents that had attended conservation banking training, the largest percentage had attended the Conservation Fund Conservation Banking course at NCTC (19%), while 6% attended the Conservation Fund course in Texas, 1% attended the Conservation Fund course in Vancouver, WA, and 13% attended another training course (Figure 7). The remaining 61% had not attended any formal training.

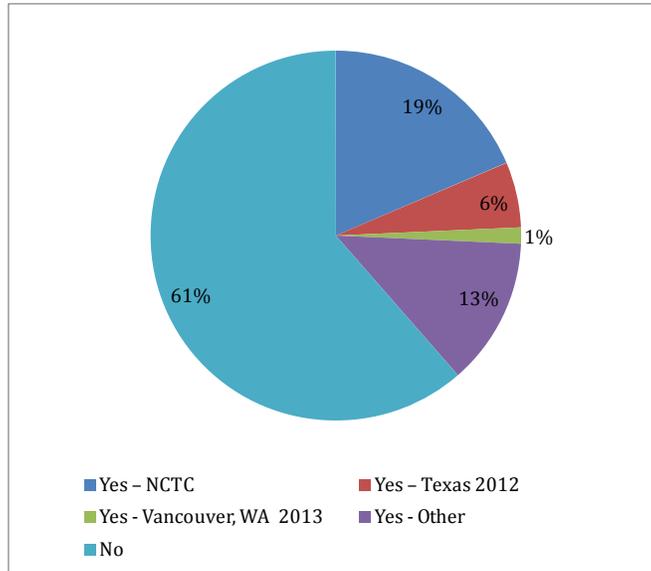


FIGURE 7. RESPONDENT PARTICIPATION IN CONSERVATION BANKING TRAINING

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## SUMMARY

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Overall, the survey results indicate that compensatory mitigation is encouraged, and conservation banking is used in many offices and considered effective by many of the USFWS employees surveyed. The results indicate potential exists for the expansion of conservation banking, with 57% of respondents indicating that additional species and habitats could benefit from banking. Future expansion of the conservation banking program may benefit from additional training opportunities and broader distribution of the Service’s 2003 Guidance, as indicated by the survey results showing 61% of respondents had not received conservation banking training, and nearly a third of respondents were unfamiliar with the 2003 Guidance.

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## MEASURING SUCCESS

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In order to evaluate the conservation banking program and its potential for expansion, it is important to consider the goals of the program and how to measure its success, both programmatically and for individual banks. The 2003 Guidance states that “[t]he overall goal of any conservation bank should be to provide an economically effective process that provides options to landowners to offset adverse effects of proposed projects to listed species.” As stated in this goal, two primary aspects of conservation bank success include ecological elements related to the preservation of habitat for endangered species, and economic elements related to the financial viability of the bank.

Programmatically, conservation banking success is primarily related to the ecological goals; however, the program will not be successful if individual banks are not financially viable as well. The economic success of an individual bank is related to its ability to sell credits and its

profitability. Without demand for credits, additional banks will not be developed, and the overarching ecological goals will not be met for individual banks or for the conservation banking program.

The responses to the survey questions addressing the measurement of success and ecological performance are discussed below.

*In your opinion, which factors are good measures of conservation bank success? (Survey Question #19)*

- **Respondents ranked ecological measures of conservation bank success higher than economic factors. However, there is support for the use of a combination of ecological and economic factors to measure conservation banking success.**

Respondents were presented with a number of options for measuring conservation bank success. These options included ecological as well as economic goals. Table 3 lists each factor and its median rating. Respondents were asked to rank the strength of seven different factors as measures of conservation bank success on a scale of 1 to 5 (1 being a very poor measure and 5 being a very good measure). Figure 8 shows the frequency of responses for each factor across all rankings.

In general, ecological measures of success ranked higher among respondents than economic factors. The ecological measures all had a median score of 5, with “Maintaining a stable population/growing the species” ranking the highest of all of the factors listed. The economic factors had a more neutral rating, with median scores of 3 or 4. The sale of credits ranked slightly higher than the other two economic measures. Although respondents clearly place a greater level of importance on ecological measures of success, it should be noted that economic measures of success were ranked as good or very good measures by a majority of respondents.

TABLE 3. MEDIAN RATING OF DIFFERENT MEASURES OF CONSERVATION BANK SUCCESS

<b>Factor</b>	<b>Median Rating [1=very poor measure; 2= poor measure; 3 = neutral; 4=good measure; 5=very good measure]</b>
Meeting criteria for recovery plan/Accomplishing conservation goals	5
Maintaining a stable population/growing the species	5
Linking existing conservation/natural areas	5
Habitat restoration/enhancement	5
Sale of credits	4
Profitability for bankers	3
Minimizing costs to project proponents	3

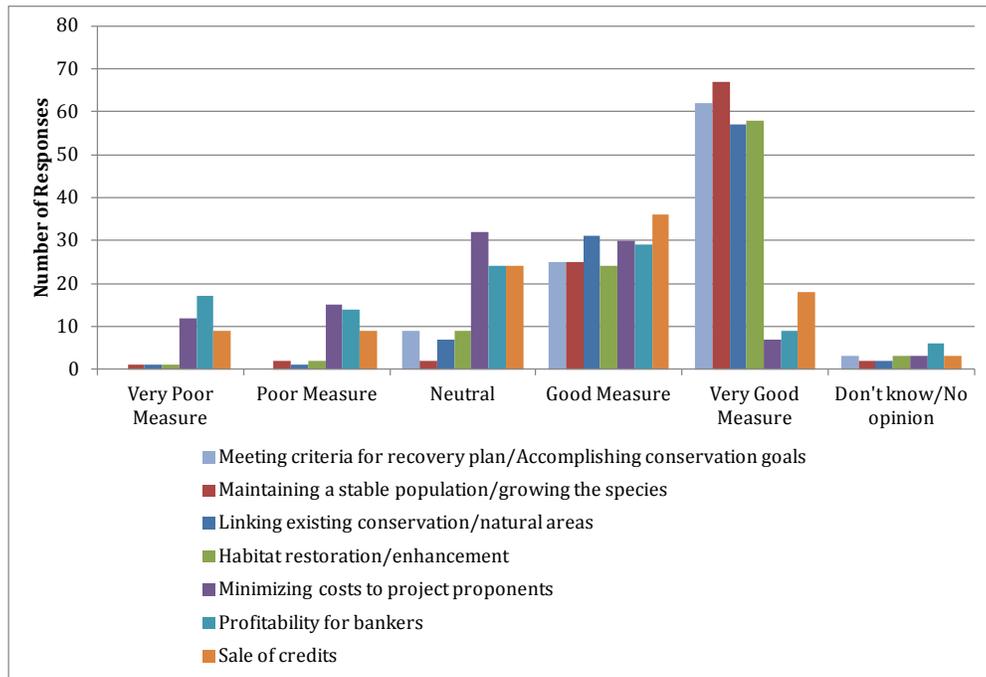


FIGURE 8. STRENGTH OF DIFFERENT FACTORS AS MEASURES OF CONSERVATION BANK SUCCESS

*In your opinion, are the following factors good measures of conservation bank ecological performance? (Survey Question #20)*

- **Respondents rated “Species threats addressed” as the strongest measure of conservation bank ecological performance.**

Respondents were asked to rank the strength of six different factors as measures of conservation bank ecological performance on a scale of 1 to 5 (1 being a very poor measure and 5 being a very good measure). Table 4 lists each factor and its median rating. Figure 9 shows the frequency of responses for each factor across all rankings. Most of the factors listed had a median score of 4 (good measure). “Species threats addressed” had the highest median rating of all of the factors listed.

TABLE 4. MEDIAN RATING OF DIFFERENT MEASURES OF CONSERVATION BANK ECOLOGICAL PERFORMANCE

Factor	<b>Median Rating</b> [Rating Scale: 1=Very poor measure; 2=Poor measure; 3=Neutral; 4=Good measure; 5=Very good measure]
Species threats addressed	5
Index of biological integrity	4
Indicator species number and diversity	4
Habitat conditions	4
Number of individuals of the species	4
Health of ecosystem	4

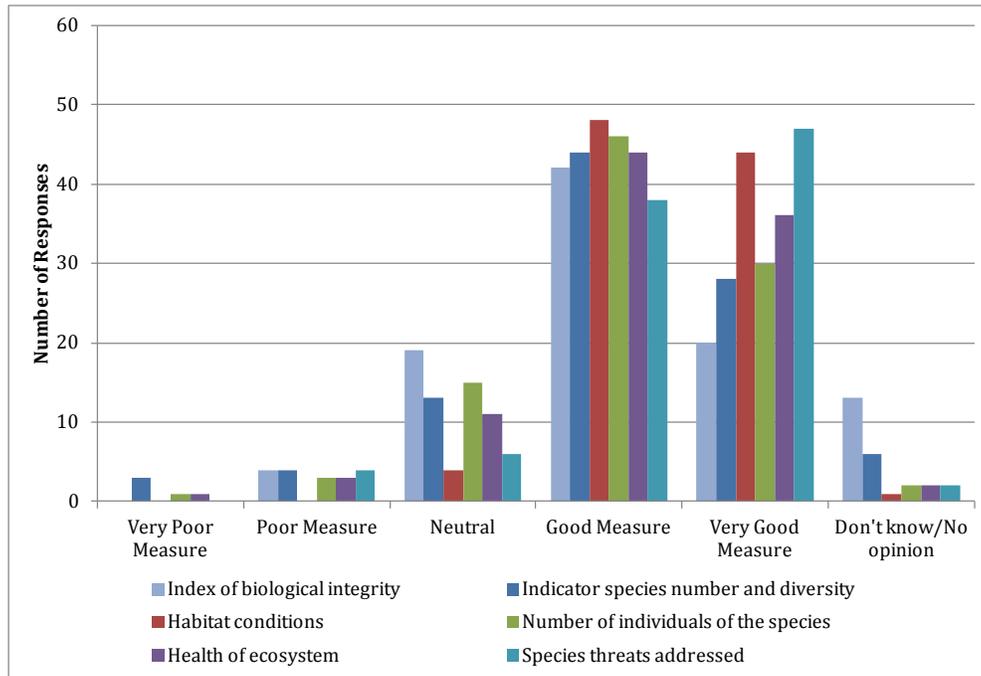


FIGURE 9. STRENGTH OF DIFFERENT FACTORS AS MEASURES OF CONSERVATION BANK ECOLOGICAL PERFORMANCE

## SUMMARY

Conservation bank success includes both ecological and economic elements. The survey results indicate that USFWS staff favored ecological measures of success over economic measures. However, many respondents expressed some level of support for both types of measures. Particularly when considering measures of success for individual banks, financial viability is an important component of their long-term success.

A number of different measures were identified in the focus group interviews and survey as good measures of ecological success, with “addressing species threats” receiving the highest ranking overall. Initial focus group discussions indicated that ecological measures of success vary by species and region.

Fox and Nino-Murcia (2005) mention the significant amount of information required to evaluate the ecological performance of conservation banks, including information on individual credit transactions, the project impacts for which the credits were applied, and the comparison of outcomes to other types of mitigation. Individual bank habitat management plans contain information on the specific ecological measures of importance for individual banks. Monitoring reports that are submitted after banks are established can provide additional information on the performance of an individual bank based on the ecological factors laid out in its management plan. Aside from the number of total credits sold per bank, data on economic measures of conservation banks are limited at this time. Although certain reports and data are available in the RIBITS database maintained by USACE, greater access to data for all banks would help in assessing performance at a programmatic level.

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## OBSTACLES

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Although 105 conservation banks have been established since the program’s inception, a number of potential obstacles exist that may hinder conservation bank development or slow program growth. These obstacles include both institutional and technical factors, and the appropriate strategies for addressing each type will vary.

Institutional factors include those associated with the organization and implementation of the program by the public agencies involved in its management. Previous studies have emphasized the importance of support from USFWS staff in the success of conservation banking and other related programs (Wilcove and Lee 2004). Other studies have noted that bureaucratic obstacles, including repetitive paperwork, staff turnover, and lack of contacts in USFWS, may hinder the growth of the conservation banking program (Fox and Nino-Murcia 2005).

The growth of conservation banking can also be affected by technical obstacles related to fundamental biological and economic factors that hinder the establishment of additional banks. Lack of demand for conservation bank credits hinders the success of existing banks and the establishment of future banks. Economic factors, including economic development in the area, economic uncertainty or risk associated with bank development, and other factors affecting profitability such as lack of start-up funding can all affect the growth of conservation banking. A number of technical obstacles related to characteristics of particular species and their habitat may make the creation of additional banks unsuitable for those species in a given area.

The survey of USFWS employees included a number of questions related to staff opinions on technical and institutional factors that may affect the establishment of additional banks. The responses to these questions are discussed below.

*In your opinion, what is the perception of conservation banks as a conservation tool at different organizational levels within USFWS? (Survey Question #15)*

- **Respondents felt that conservation banking is generally perceived in a positive light at the field, regional and national office levels. The percentage of respondents indicating a positive perception (somewhat positive or very positive) was 75% at the field office level, 47% at the regional office level, and 50% at the national level. Many respondents were unsure of the perception at the regional and national levels.**

Respondents were asked to rate their opinion of how conservation banks are perceived at different organizational levels within USFWS. In general, respondents felt that there was a positive perception of conservation banking across the field, regional and national offices. At the field office level, 75% of respondents felt conservation banking was viewed in a positive light (very positive or somewhat positive). Although these percentages were somewhat lower at the regional and national level at 47% and 50%, respectively, this was primarily because a larger number of respondents felt they could not rate perceptions at the regional and national levels. Ratings of a negative perception were 11% at the field office level, 8% at the regional level, and 3% at the national level (Figure 10).

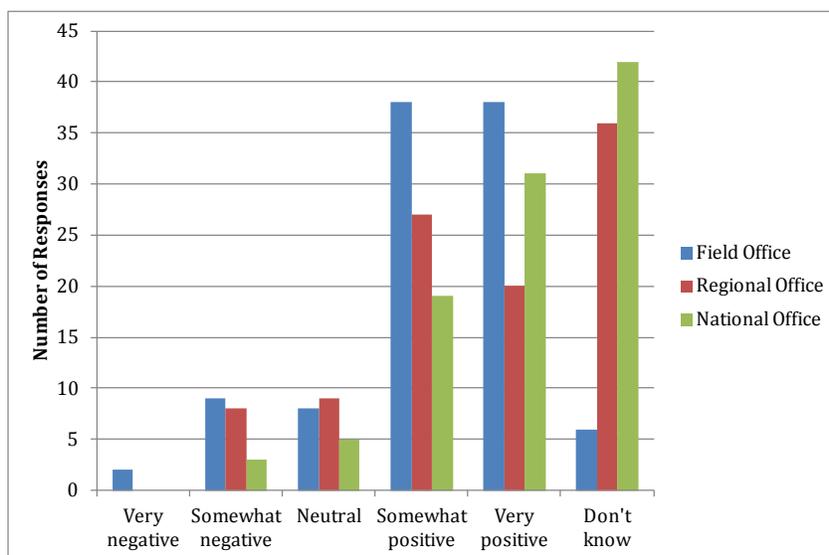


FIGURE 10. RESPONDENTS' OPINION OF PERCEPTION OF CONSERVATION BANKING AT DIFFERENT ORGANIZATIONAL LEVELS

*Based on your experience, how likely are the following factors to add to USFWS review time for banking agreements? (Survey Question #16)*

- **Insufficient staffing was ranked as the most likely factor causing increased USFWS review time of banking documents.**

Based on information obtained in previous focus group interviews, respondents were asked to rank several factors on a scale of 1 to 5 based on the likelihood that they would add to the time it takes USFWS to review banking agreements. All of the factors listed had a median rating of Extremely

likely or Likely (Table 5). “Insufficient USFWS staffing” had a median score of 5, as well as having by far the largest number of respondents choosing the extremely likely category (Figure 11). “Solicitor review” and “Long and complex banking agreements” were also rated high in terms of likelihood to increase review time, with a median rating of 5.

TABLE 5. AVERAGE SCORE OF LIKELIHOOD TO ADD TO USFWS REVIEW TIME FOR BANKING AGREEMENTS

Factor	Median Rating [Rating Scale: 1=Extremely unlikely; 2=Unlikely; 3=Neutral; 4=Likely; 5=Extremely likely]
Insufficient USFWS staffing	5
Solicitor review	5
Long or complex banking agreements	5
USFWS management unsupportive	4
Inadequate training available for USFWS staff	4
Inexperienced bankers	4
Determination of credits	4
Coordination with other Federal, state, or local agencies	4

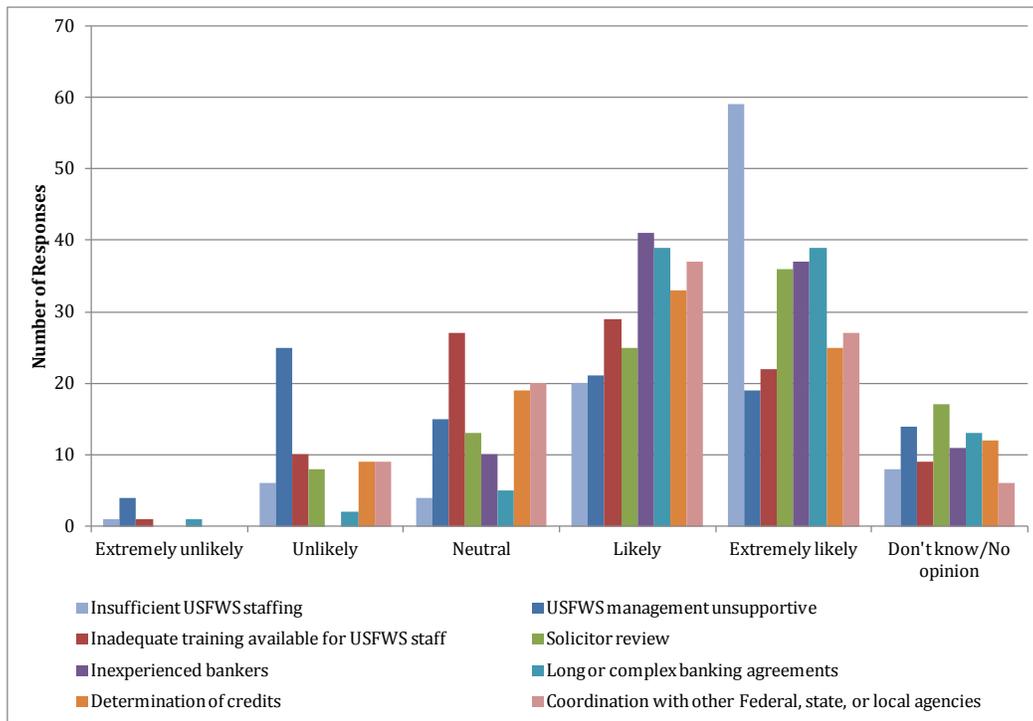


FIGURE 11. LIKELIHOOD OF FACTORS TO INCREASE USFWS REVIEW TIME OF BANKING DOCUMENTS

*How do you perceive the demand over the next 2-3 years for additional conservation banks in your region? (Survey Question #22)*

- **The majority of respondents perceived a strong to moderate level of demand for additional conservation banks in the next 2-3 years. 41% expected demand to be strong or very strong, while 33% anticipated an average level of demand.**

Respondents were asked about their perception of demand for additional banks in their region over the next two to three years. Many respondents anticipated strong or moderate demand, with 15% anticipating very strong demand, 26% strong demand, and 33% average demand (Figure 12). Only 16% of respondents felt demand would be weak, while 10% had no opinion about future demand for banking.

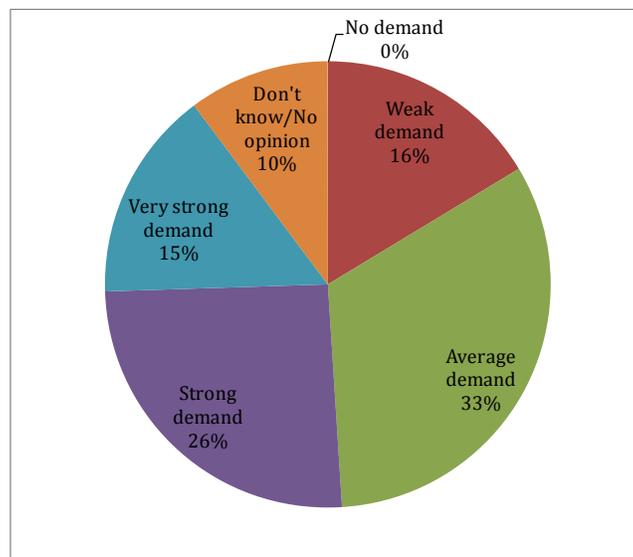


FIGURE 12. PERCEIVED DEMAND FOR ADDITIONAL CONSERVATION BANKS OVER THE NEXT 2-3 YEARS

*In your experience, to what extent do project proponents view the following mitigation measures as substitutes for conservation banks? (Survey Question #24)*

- **In general, respondents felt that project proponents view permittee-responsible mitigation and in-lieu fees as substitutes for conservation banks, however, there was more uncertainty related to aggregated mitigation sites and recovery credit systems.**

Figure 13 shows the extent to which respondents perceived that mitigation options were substitutes for each other. In-lieu fee programs and permittee-responsible mitigation were considered by most respondents as substitutes for conservation banks, however, many respondents were unsure of the relationship between aggregated mitigation sites and recovery credit systems and conservation banks.

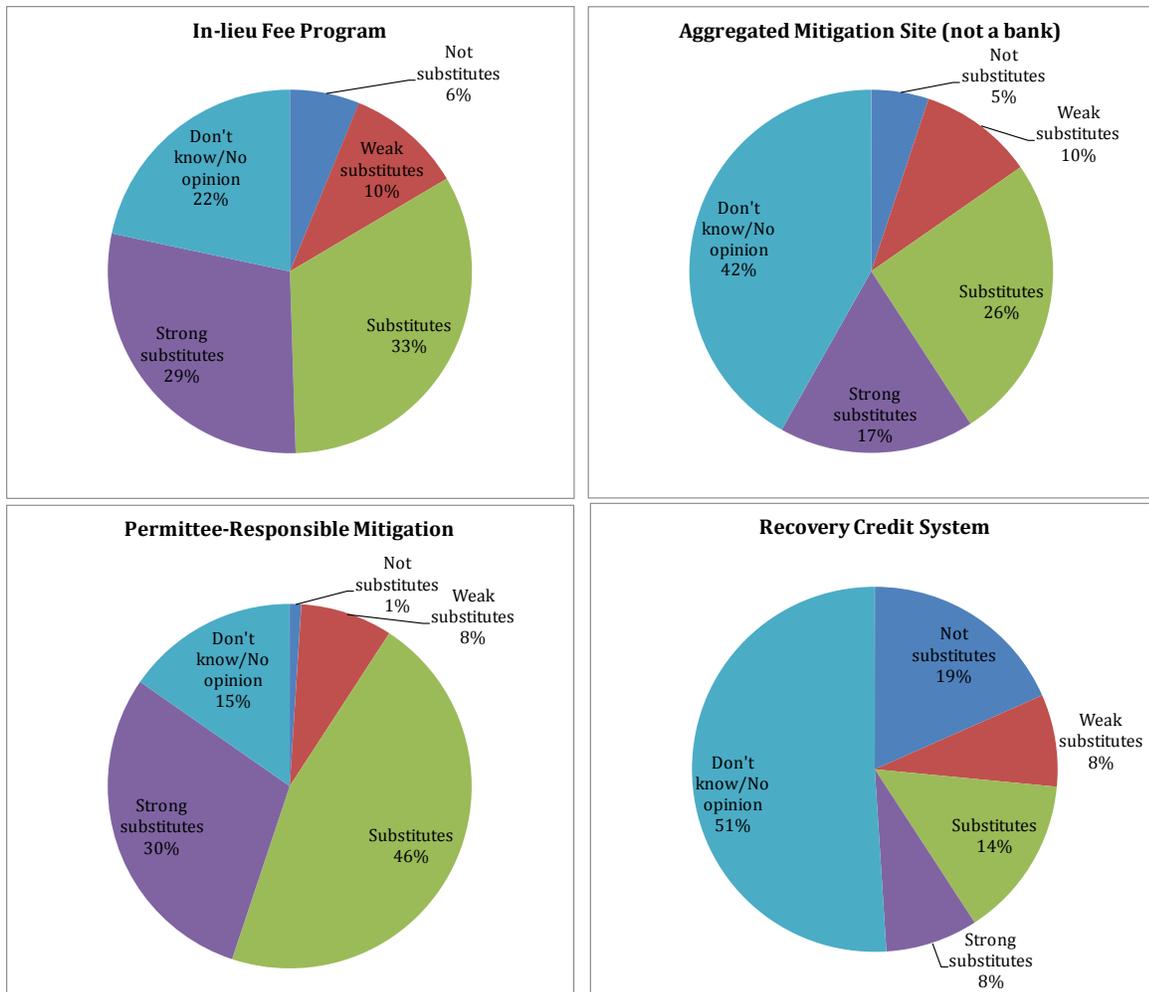


FIGURE 13. SUBSTITUTABILITY OF DIFFERENT MITIGATION OPTIONS

*In your opinion, how important are each of the following factors in hindering conservation bank creation? (Survey Question #23)*

- **Economic uncertainty, unwillingness of landowners to sell land or easement, the unsuitability of a species for banking, and weak economic development were ranked as the most important factors in hindering conservation bank creation.**

Table 6 and Figure 14 present results from a question asking respondents to rate several factors based on their importance in hindering conservation bank creation. Median rating scores were three (on a scale of 1 to 4 with 1 being not at all important and 4 being very important) for all factors, indicating that respondents felt the factors were important in hindering conservation bank development. Economic uncertainty/risk, the unwillingness of landowners to sell land or easement, the unsuitability of species for banking, and weak economic development in the area were chosen by the most respondents as very important in hindering conservation bank creation (Figure 14).

TABLE 6. IMPORTANCE OF FACTORS IN HINDERING CONSERVATION BANK CREATION

Factor	Median Rating [Rating Scale: 1=Not at all important; 2=Somewhat important; 3=Important; 4=Very important]
Unsuitability of species for banking	3
Weak economic development in area	3
Other mitigation options substitute for banking	3
Not enough available habitat for banking	3
Lack of bank start-up funding	3
Landowners not willing to sell land or easement	3
Economic uncertainty/risk	3

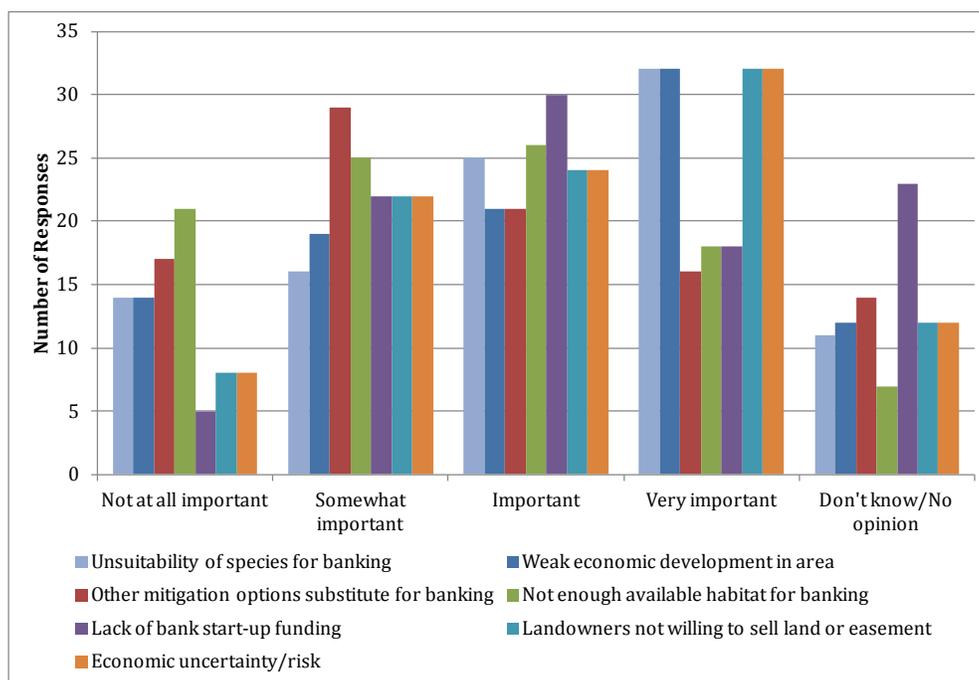


FIGURE 14. RATING OF IMPORTANCE OF FACTORS IN HINDERING CONSERVATION BANK CREATION

## SUMMARY

A number of institutional and technical obstacles were identified in the survey as potentially affecting conservation banking expansion. Political and bureaucratic issues have been cited as creating challenges in the establishment and growth of the conservation banking program (Fox and Nino-Murcia 2005, Stratus Consulting 2003). The survey results indicate a positive view of

conservation banking among USFWS respondents; however, staff seem more uncertain of attitudes at Regional Offices and Headquarters than they are at the Field Office level.

The length of time required for conservation bank approval has been mentioned as a potential obstacle to conservation banking in previous studies (Fox and Nino-Murcia 2005, Stratus Consulting 2003). Several different institutional obstacles were identified as contributing to delays in the review and approval of banking documents. Staffing is mentioned as a primary concern contributing to delays, as are long banking documents and solicitor review time.

A major factor determining the expansion of conservation banking in the future is the level of demand for additional banks. Based on the perceptions of USFWS staff, the survey results indicate that demand for additional banks in many areas over the next two to three years will continue to be strong. The extent to which project proponents substitute other types of mitigation for conservation banking may also affect future demand. The survey results indicate that permittee-responsible mitigation and in-lieu fees are often viewed as substitutes for banking from the perspective of project proponents.

Several technical factors were also identified that may hinder conservation bank development. Many of the most important factors identified were related to the economic environment in the region, including economic uncertainty, the unwillingness of landowners to sell land or easements, and weak economic development. Another factor mentioned that might hinder conservation bank development was the suitability of a species for banking.

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## LESSONS LEARNED

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Over two decades of federal experience with conservation and wetlands mitigation banking help provide lessons learned for future development of the conservation banking program. Information related to the perceived advantages of banking, as well as the motivations of bank owners, provide useful background information about banking compared to other mitigation options. Additional information about the performance of various aspects of the program over the last several years as well as comparisons to wetlands mitigation banking can help identify potential areas for improvement within the conservation banking program.

Previous literature has identified a number of potential advantages of conservation and wetlands banking compared to other mitigation options. These can include ecological, economic and administrative efficiencies, as well as advantages related to timing and transparency. Several previous studies have referenced the ability of conservation banks to preserve larger areas of high quality habitat and connect to other preserved sites as an ecological benefit (Madsen et al. 2010, Ruhl et al. 2005, Fox and Nino-Murcia 2005). Studies also note potential economic efficiencies, as project proponents can save time and money by not having to conduct their own mitigation and simplifying their regulatory compliance process (Ruhl et al. 2005, Bean and Dwyer 2000). Efficiencies can also be gained from not having to design appropriate mitigation measures for each small development project; banking programs can take advantage of economies of scale to help reduce costs (Bean and Dwyer 2000, USFWS 2003, Stratus Consulting 2003).

Some studies have also assessed the motivations of bankers in establishing conservation banks. Based on a survey of conservation bankers, Fox and Nino-Murcia (2005) reported that financial

motives were the basis of 91% of the banks, including selling credits for profit or using credits internally. Stratus Consulting (2003) noted several objectives among the conservation bank representatives that responded to their survey including a combination of species protection and profit, internal mitigation uses, and regional planning.

Conservation bank mitigation occurs in advance of impacts and the land is permanently protected (Madsen et al. 2010, Bean et al. 2008, USFWS 2003). This temporal aspect of banks is sometimes mentioned as an advantage of banks over other types of mitigation. While the USFWS does not have a regulation for conservation banking like the one that exists for wetlands mitigation banking, the 2003 Guidance allows for greater transparency compared to some other mitigation options.

Although the underlying concepts behind wetlands mitigation banking and conservation banking are similar, the details of the programs are different. As noted by Bean and Dwyer (2000), while wetlands are relatively permanent fixtures, endangered species may only occupy a given area in the short-term. In addition, recovery objectives can often be obtained by maintaining populations of the appropriate size and distribution, even if smaller more isolated populations are not protected (Bean and Dwyer 2000). However, it may be useful to compare the structure and performance of the two programs to see if any aspects of wetlands banking would be relevant for conservation banking. For example, the USACE and EPA adopted regulations for the wetlands mitigation program in 2008 that incorporated several elements related to the structure of the program including: establishing equivalent standards for all mitigation options, requiring in-kind mitigation, requiring that new banks are established using the watershed approach, establishing timelines for agency review of banking documents, requiring financial assurances that restoration be completed as planned, establishing a stated preference for banking over other types of mitigation, and requiring the establishment of service areas for mitigation banks and in-lieu fee programs.

PPA asked USFWS staff about the importance of various advantages or incentives related to conservation banking that may exist internally and for conservation bankers. They were also asked about their experiences with conservation bank monitoring and to compare various aspects of the conservation banking and wetlands mitigation banking programs. The responses to these questions are discussed in more detail below.

*In your opinion, what are the major incentives to the USFWS for establishing conservation banks?  
(Survey Question #17)*

- **USFWS employees cited a number of advantages to conservation banking including creating larger areas for conservation, making it easier for permittees to find mitigation when permittee-responsible mitigation is difficult, the benefit to species, and the fact that mitigation is completed in advance of development.**

Based on information obtained from previous focus group interviews, respondents were asked to rank a series of possible incentives as to their importance to USFWS in establishing conservation banks (on a scale of 1 to 5, with 1 indicating the factor was not an incentive and 5 indicating it was a very strong incentive). As shown in Table 7, all of the factors listed ranked highly as incentives for the USFWS, each with a median score of 4 or 5 (strong or very strong incentive). The ability of conservation banks to make larger areas available for conservation ranked highest among all of the possible advantages.

TABLE 7. STRENGTH OF MAJOR INCENTIVES TO THE USFWS FOR CONSERVATION BANK ESTABLISHMENT

<b>Factor</b>	<b>Median Rating [Rating Scale: 1=Not an incentive; 2=Very weak incentive; 3=Weak incentive; 4=Strong incentive; 5=Very strong incentive]</b>
Larger areas are available for conservation	5
Mitigation is completed in advance of development	4
Easier for permittees to find mitigation options when permittee-responsible mitigation is difficult	4
Benefit to species	4
Increased efficiency for USFWS staff	4
Transparent & consistent mitigation option	4
Compliance measures are built in	4

*In your opinion, what are the major incentives to potential bankers for establishing conservation banks? (Survey Question #18)*

- **Respondents felt that financial/profit motives were the strongest incentives to potential bankers for conservation bank establishment. Pending development was ranked as the second strongest incentive to bankers.**

Respondents were also asked to rank their opinions on the strength of various incentives to potential conservation bankers for creating conservation banks. As shown in Figure 15, USFWS respondents ranked profit and financial motives as the strongest incentives, followed by pending development, and providing additional revenue while allowing the landowner to keep their land in its current use. Respondents ranked recovery of the species, predictability, and keeping land under family ownership as weaker incentives for potential bankers.

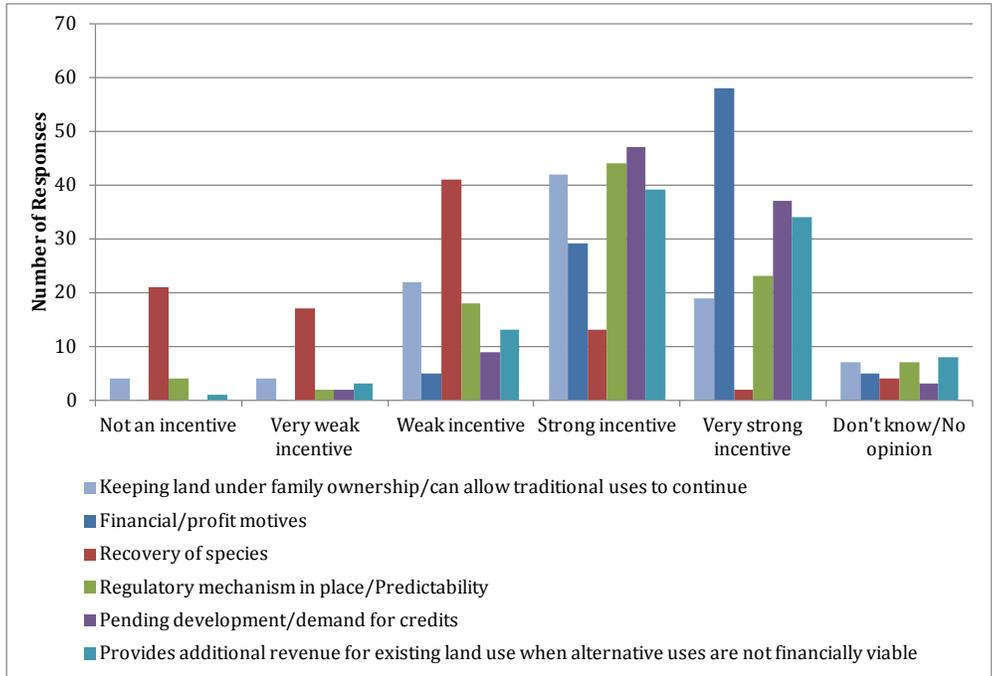


FIGURE 15. RANKING OF STRENGTH OF MAJOR INCENTIVES TO POTENTIAL BANKERS FOR CONSERVATION BANK ESTABLISHMENT

*What is your opinion of the following statements pertaining to conservation banks (related to monitoring)? (Survey Question #21)*

- **A greater number of respondents agreed that monitoring is adequate, leads to adaptive management, outperforms results of permittee-responsible mitigation, and is completed in a timely manner than disagreed.**

Respondents were asked their opinions about several statements related to the monitoring of conservation banks. When asked about monitoring and adaptive management, 44% of respondents agreed that monitoring leads to adaptive management and 20% disagreed. In response to the adequacy of monitoring in conservation banking agreements, 39% of respondents agreed that the monitoring programs were adequate and 21% disagreed. Regarding the performance of monitoring results of conservation banks compared to permittee-responsible mitigation, 33% of respondents agreed that monitoring results for conservation banks outperform those for permittee-responsible mitigation and 14% disagreed. With regard to the timing of monitoring reports, 32% of respondents felt that monitoring reports were submitted in a timely manner, while 14% disagreed (Figure 16).

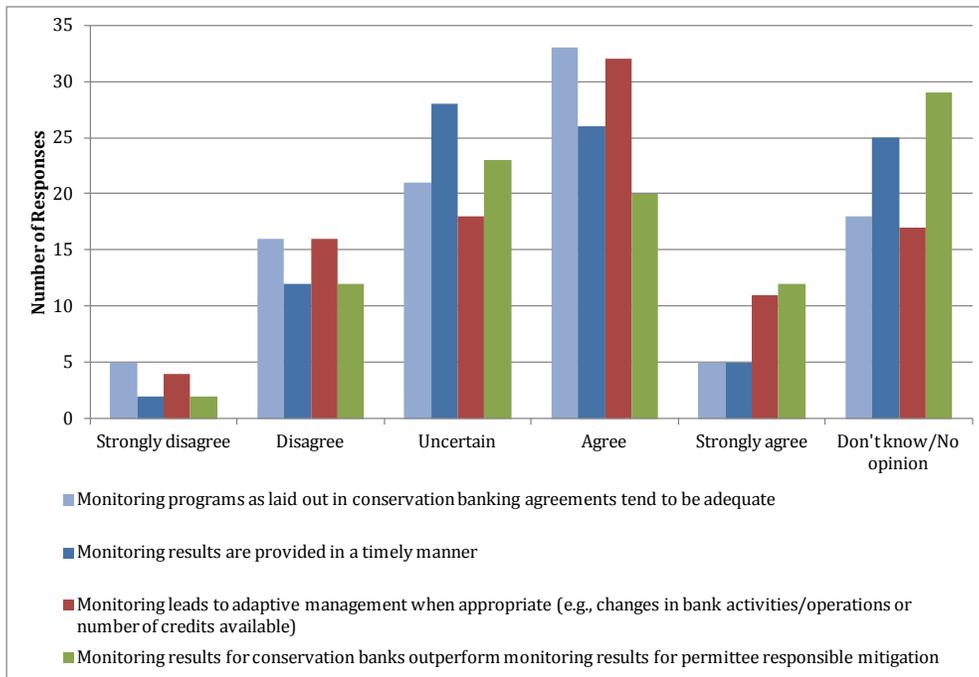


FIGURE 16. RESPONDENT OPINIONS ABOUT CONSERVATION BANK MONITORING

*In your view, how does conservation banking compare with wetlands mitigation banking in the following areas? (Survey Question #27)*

- **In general, respondents felt conservation banking compared favorably to wetlands mitigation banking.**

Respondents were asked to compare the performance of conservation banking with wetlands mitigation banking in several different areas. Of the respondents that had an opinion on the issue, the majority of respondents felt the performance of conservation banks and wetlands banks was about the same (Figure 17). When comparing conservation banking to wetlands mitigation banking, respondents felt that conservation banking performed worst with regard to the length of time required for bank approval, the ease of determining credits, and government administrative costs (Table 8).

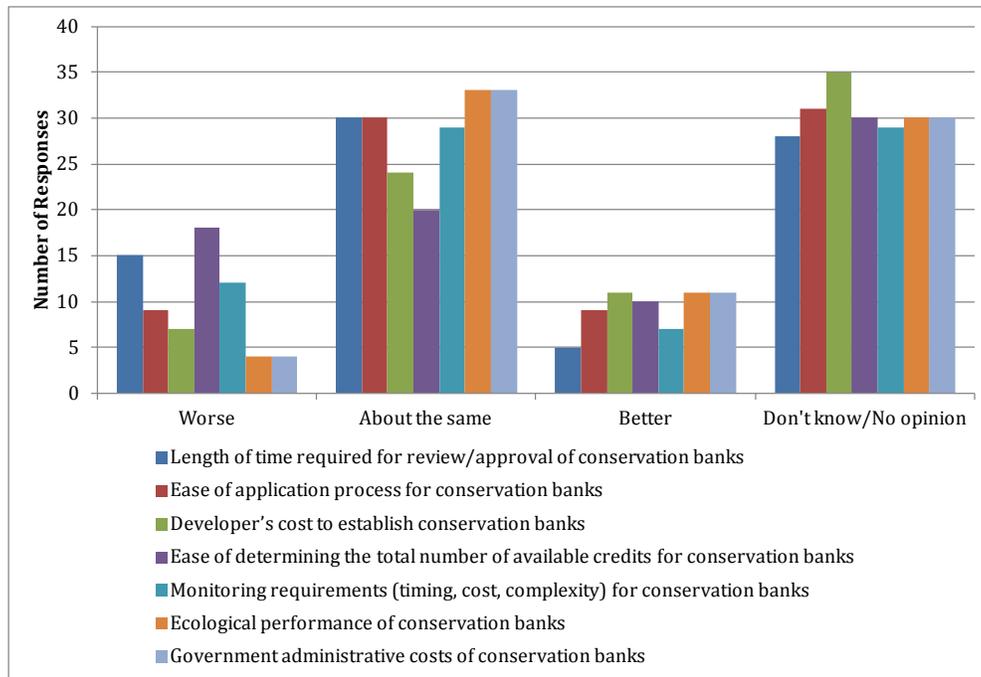


FIGURE 17. COMPARISON OF CONSERVATION BANKING AND WETLANDS MITIGATION BANKING ACROSS VARIOUS FACTORS

TABLE 8. AVERAGE RATING FOR VARIOUS FACTORS COMPARING CONSERVATION BANKS TO WETLANDS MITIGATION BANKS

<b>Factor</b>	<b>Average [Rating Scale: 1=Worse; 2=About the Same; 3=Better]</b>
Ecological performance of conservation banks	2.15
Developer's cost to establish conservation banks	2.10
Ease of application process for conservation banks	2.00
Monitoring requirements (timing, cost, complexity) for conservation banks	1.90
Government administrative costs of conservation banks	1.88
Ease of determining the total number of available credits for conservation banks	1.83
Length of time required for review/approval of conservation banks	1.80

*Do you think any of these elements in the U.S. Army Corps of Engineers and U.S. EPA Final Rule (2008) related to wetlands mitigation banking should be considered for addition to USFWS' conservation banking guidance? (Survey Question #28)*

- Respondents generally favored the establishment of equivalent standards for all forms of mitigation and opposed adding a stated preference for conservation banking, and the establishment of timelines.

Respondents were also asked about the possibility of adding elements of the 2008 Corps and EPA Rule to USFWS conservation banking guidance. Of the respondents that stated an opinion, the majority opposed adding a specific preference for conservation banking, requiring the establishment of service areas, requiring projects to be considered in a watershed approach, and the establishment of timelines (Figure 18). Greater support exists for the establishment of equivalent standards for all forms of mitigation. The majority of respondents that stated an opinion felt that requiring financial assurances and in-kind mitigation are already covered under the current guidelines.

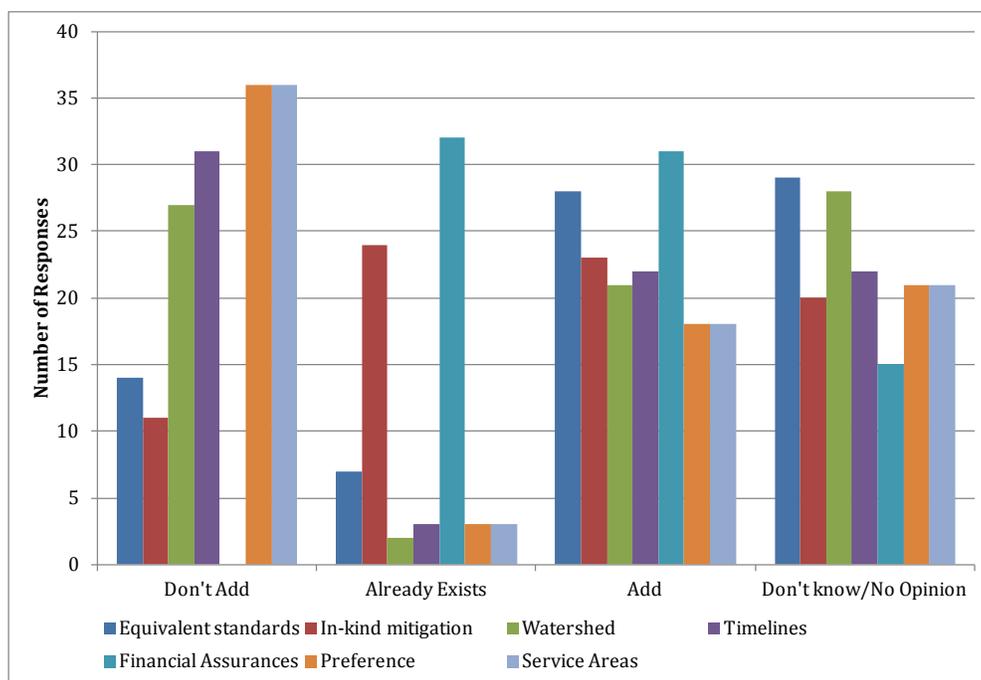


FIGURE 18. ADDITION OF ELEMENTS FROM 2008 RULE TO CONSERVATION BANKING GUIDANCE

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## SUMMARY

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As documented in the literature, conservation banking is thought to have a number of ecological and administrative advantages for the USFWS, as well as several incentives for potential bankers. Conservation banking is thought to make larger areas available for conservation, and to provide benefits to species. Greater ease in finding mitigation options, the completion of mitigation in advance of development, and the fact that compliance measures are built into the program, are all factors that may provide administrative appeal. Prominent perceived motivations for bankers include profit, pending development in the area, and allowing for additional revenue when other uses of the land are not financially viable.

The Service employees surveyed seem to have a positive view of current monitoring activities in general. More respondents agreed than disagreed that the monitoring programs laid out in conservation banking agreements were adequate and that they led to adaptive management when appropriate. Respondents also agreed, although to a lesser degree, that monitoring reports were submitted in a timely manner and that they outperform monitoring for permittee responsible mitigation.

Overall, the Service employees interviewed felt that conservation banking compares favorably to wetlands mitigation banking. Areas with the most room for improvement compared to wetlands banking were the ease of determining the number of credits and the length of time required for approval of bank documents. When considering elements included in the 2008 USACE and EPA Regulations, respondents supported equivalent standards for different types of mitigation and financial assurances, but had less support for a stated preference for banking and timelines. While delays in the approval of banking documents is acknowledged, the lack of support for set timelines would indicate that other options for reducing these delays would find greater support among USFWS employees.

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## CONCLUSIONS

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Conservation banking has been used as a mitigation tool since the early 1990s. Although the total number of banks established since the beginning of the program has reached 105 as of March 2013, the rate of new bank establishment has not increased appreciably over the period, and banking has not expanded much regionally, with most banks still located in USFWS Region 8. PPA's survey of USFWS employees involved in endangered species issues provides initial information to help identify issues related to the success of the conservation banking program, and possible solutions.

This section provides initial responses to the questions posed by USFWS, based on the responses to the survey of USFWS employees and information obtained from the literature.

### **What metrics could be used to measure success programmatically and for individual banks?**

There are two sets of metrics – ecological and economic – that can be used to evaluate the success of the program and individual banks. The 2003 Guidance states that the goal of any conservation bank should be to “provide an economically effective process that provides options to landowners to offset the adverse effects of proposed projects to listed species,” emphasizing both economic and ecological aspects of success.<sup>1</sup>

Programmatically, conservation banking success is primarily related to providing conservation benefits to endangered species, and related metrics are an important measure of success. However, ultimately the program will not be successful if individual banks are not economically viable as well. The economic success of individual banks is related to the sale of credits and the profitability of the bank. Without demand for credits, additional banks will not be developed, and the goals related to the conservation of endangered species will not be met for individual banks or for the conservation banking program in general. The survey results indicate some level of support among

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<sup>1</sup> p. 4. U.S. Fish and Wildlife Service (USFWS). 2003. Guidance for the Establishment, Use, and Operation of Conservation Banks. Available at: <http://www.fws.gov/endangered/landowners/conservation-banking.html>

USFWS staff for both ecological and economic measures of success, however ecological measures were favored.

A number of different measures were identified in the survey as good measures of ecological success. Habitat conditions and addressing species threats were ranked among the best measures of ecological success of conservation banks. Individual bank habitat management plans contain information on the specific ecological measures of importance for individual banks. Conservation bank monitoring reports can provide additional information on the performance of an individual bank based on the ecological factors laid out in its management plan. Although some of these reports are available in the RIBITS (Regulatory In-Lieu Fee and Bank Information Tracking System) database maintained by the U.S. Army Corps of Engineers (USACE), greater access to data for all banks would help in assessing performance at a programmatic level.

While the USFWS cannot assure the economic success of habitat conservation banks, it does play a considerable role in establishing the market, monitoring activities, and identifying mitigation requirements. This suggests that some consideration should be given to establishing measures of success related to the robustness of the market for credits, including the availability of information regarding transactions, transaction costs, and the extent to which a full set of mitigation options are available to regulated entities.

### **What are the characteristics of the most successful conservation banks?**

As discussed in the previous question, there are two elements of conservation banking success – economic and ecological. However, there is insufficient information to determine the characteristics of the most successful conservation banks at this time.

Adequate information is not available at this time to assess the economic success of conservation banks. Conservation bank financial data is proprietary and was not available for this review. Some information is available about the percentage of total credits sold; however, to date only 12 banks have sold out all of their credits. Surveys of bank owners or managers could provide additional information on the characteristics of the most economically successful banks.

As described in other studies, a significant amount of information is needed to effectively evaluate the ecological performance of conservation banks, including information on individual credit transactions, the project impacts for which the credits were applied, and the comparison of outcomes to other types of mitigation (Fox and Nino-Murcia 2005). While some information is available in RIBITS, including habitat management plans and monitoring reports for certain banks, it is not comprehensively available in an easily accessible format. Greater access to ecological data for existing banks would assist in future analysis.

### **Are there technical and institutional obstacles limiting the establishment of additional banks?**

A number of obstacles that may limit the establishment of additional conservation banks were identified through the literature review and survey. These include both institutional obstacles that can be addressed by USFWS and technical obstacles that are outside of the Service's influence. One potential institutional obstacle identified in previous studies is delayed approval of conservation banking documents (Fox and Nino-Murcia 2005, Stratus Consulting 2003). The USFWS survey

respondents identified staffing, solicitor review, and inexperienced bankers as some of the most likely factors behind delays in bank approval. Survey respondents also identified obstacles related to the economic environment in the region that could hinder conservation bank creation, including economic uncertainty, the unwillingness of landowners to sell land or easements, and low levels of economic activity. Another technical obstacle to conservation bank creation identified was the potential unsuitability of a species for banking. Some reasons species may be unsuitable for conservation banks include lack of biological information, difficulties in monitoring, and lack of adequate habitat.

### **What additional incentives could spur bank creation and growth?**

The survey and literature review identified a number of possible incentives that could spur the creation of additional conservation banks. The survey of USFWS staff indicated that respondents were uncertain of attitudes of Headquarters (HQ) and Regional Office (RO) staff about conservation banking. Better communication from HQ and RO staff to Field Office (FO) staff, as well as communication between FOs could help with information sharing to encourage the consideration of conservation banks as a mitigation option. A reduction in bank approval time could also provide an additional incentive for some potential conservation bankers.

Although some additional guidelines for conservation banking (either as revisions to the 2003 Guidance or more formal regulations), including the establishment of timelines and an explicit preference for banking, could potentially provide incentives for some bankers, there was generally little support for those measures in the survey of USFWS staff. Surveys of conservation bank owners and other stakeholders would provide additional information about what types of incentives might spur conservation bank creation.

### **What are the options for reducing the obstacles and providing incentives?**

A number of options are available to help reduce many of the institutional obstacles that may hinder conservation bank creation, including:

- Greater use of templates for creating banking agreements may help to address delays in conservation banking document approval, and banker inexperience.
- Additional training for USFWS staff and bankers could also help to address delays in document approval and help assist inexperienced bankers.
- Greater communication between FO staff involved in banking could help to address the reasons for delays in approval of banking documents.

Some options for addressing technical obstacles include:

- Greater outreach from USFWS staff to potential bankers to determine if banking is appropriate for particular species and locations. Given the limited availability of staff, the Service could consider promotion of the Environmental Conservation Online System (ECOS<sup>2</sup>) in the context of conservation banking, along with enhancement of the conservation banking toolbox.<sup>3</sup> The proposed survey of conservation bankers, project proponents, and NGOs would help better define the informational needs.

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<sup>2</sup> <http://ecos.fws.gov/ecos/home.action>

<sup>3</sup> <http://www.fws.gov/endangered/landowners/conservation-banking-toolbox.html>

## **What can be learned from similar programs, such as Wetland Mitigation Banking?**

Overall, survey respondents felt that the conservation banking program compared favorably with the wetlands mitigation banking program. Respondents were asked to consider the following elements of the 2008 USACE and Environmental Protection Agency (EPA) Rule<sup>4</sup>:

- Establish equivalent standards for all mitigation mechanisms
- Require in-kind mitigation (“resource of similar structural and functional type to the impacted resource”)
- Require that new mitigation projects are proposed and considered within a watershed context, referred to as the “watershed approach”. The watershed approach involves collecting more information about the landscape in which mitigation is performed, including ecological assessments of existing and reference conditions in an area, collaborating with watershed landowners, and engaging in resource management planning.
- Establish timelines for agency review of mitigation bank proposals and instruments
- Require financial assurances that restoration would be completed as planned (usually through bonds, letters of credits, or escrow funds)
- Establish an explicit preference for mitigation bank credits (when available) over other forms of mitigation
- Require the establishment of ‘service areas’ for mitigation banks and ILF programs. Service areas are defined in the Rule as the geographic area within which impacts can be mitigated at a specific mitigation bank or in-lieu fee program.

Most USFWS survey respondents supported the establishment of equivalent standards for all types of mitigation related to endangered species. Respondents generally opposed the establishment of a stated preference for conservation banking over other mitigation options, the establishment of timelines, and a requirement for the establishment of service areas. Surveys of conservation bank owners or managers that also operate wetland mitigation banks may be able to provide additional insights into different aspects of the programs.

## **What are the important lessons learned since 1992?**

To date, there is limited definitive information on the ecological and economic advantages of conservation banking. Ecologically, conservation banking is thought to make larger areas of high quality habitat available for conservation to provide greater biological benefits to species. Economically, studies have suggested that purchasing bank credits can reduce time and costs for project proponents compared conducting their own on- or off-site mitigation, resulting in economies of scale for mitigation.

Since 1992, there have been clearer lessons learned on the administrative and policy aspects of the conservation banking program, including:

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<sup>4</sup> Compensatory Mitigation for Losses of Aquatic Resources. 33 CFR Parts 325 and 332, and 40 CFR Part 230. 2008.

- **Administrative advantages:** Conservation banks have additional administrative benefits including increasing the available mitigation options, resulting in mitigation in advance of development, and incorporating compliance measures into the program.
- **Program guidance:** Earlier studies discussed the lack of guidance or formal regulation for the conservation banking program. The Service developed program guidance in 2003 which increased program transparency, but has yet to develop any formal regulations for the program.
- **Data availability:** Previous studies of the conservation banking program called for better availability of conservation banking data. Since that time, data for the USFWS program has been included in the USACE RIBITS database. While this has been a significant improvement, additional data availability such as monitoring and credit transactions data could help with future program reviews.

Even with these advancements, some obstacles remain, including:

- **Institutional obstacles:** Institutional obstacles remain that may hinder the creation of additional conservation banks, including delays in processing conservation banking agreements.
- **Technical obstacles:** Other technical obstacles that may hinder the creation of additional banks include the economic environment and demand for additional conservation banking credits and the suitability of conservation banking for management of certain endangered species.

The information presented in this report gives an overview of several issues related to the conservation banking program from the perspective of USFWS staff familiar with endangered species issues. Although this information is useful in beginning to understand what could be done to measure the success of the program and reduce obstacles to banking in the future, additional information from bank owners, project proponents, and relevant NGOs would help provide a more complete picture. Similar surveys of bank owners and project proponents could help provide useful information, particularly related to the supply and demand of banking credits.

## RECOMMENDATIONS

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Recommendations for initial steps to address these remaining challenges include:

- **Improve Communication:** Better communication between FO, HQ and RO staff may help improve acceptance of conservation banking as a possible mitigation option at the FO level. A community of practice or other opportunities for information sharing between FO staff working on conservation banking may also prove helpful for offices that have had little or no experience with banking.
- **Increase Training Opportunities:** Expanded training opportunities for Service staff and conservation bank managers could help address inexperience. Additional training could potentially help to reduce delays in approving bank agreements.
- **Expand Use of Templates:** Expanding the use of templates for conservation banking agreements could help address delays in document approval and assist inexperienced conservation bank staff. Some FO staff have indicated improvements in the approval process with the use of templates.
- **Strengthen Outreach:** Increased outreach from USFWS staff to conservation bank managers could help address some remaining challenges. Outreach efforts could allow Service staff to

take a more active role earlier in the process to identify areas with habitat suitable for endangered species.

- **Evaluate Guidance:** Evaluation of the 2003 Guidance for conservation banks and the consideration of more formal regulations for the conservation banking program would be beneficial for the program moving forward. Some support exists for more formal regulations such as those put in place by USACE for wetlands mitigation banking in 2008. However, the survey results indicate that some Service staff may appreciate the flexibility allowed under the 2003 Guidance, as evidenced by opposition to some elements of the USACE regulations including an expressed preference for conservation banking over other mitigation options and the establishment of timelines.

Recommendations for addressing these issues in the long-term include:

- **Assess Market Dynamics:** Surveys of conservation bank managers and project proponents would provide useful information about the functioning of the conservation banking market. Very little information about market dynamics is currently available. Additional information from project proponents would help in understanding the choices they make between different mitigation options for the protection of endangered species.
- **Study Ecological Effectiveness:** A study to evaluate the effectiveness of different mitigation options in providing benefits to the species would help to determine if there are any systematic differences in performance of the different options across species or locations. No studies to date have evaluated the ecological effectiveness of conservation banks and other mitigation options.
- **Provide Additional Data:** Making additional endangered species and conservation banking data available in an easily accessible format would assist in future analyses related to conservation banking and other mitigation options.

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## APPENDICES

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### APPENDIX A

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This Data Appendix includes a full summary of the responses to each survey question (responses to open-ended questions are not included).

1. How knowledgeable of conservation banking are you? (Please select one answer below)

Value	Frequency
1 Little or no knowledge	5
2 Some knowledge	37
3 Good understanding but no experience	37
4 Knowledgeable with some experience developing/reviewing banks	43
5 Expert with experience developing/reviewing banks	20
N=	142
Mean	3.25
Median	3
Mode	4

2. Does your office encourage project proponents to provide compensatory mitigation for unavoidable impacts to listed species or their habitat? (Please select one answer below)

	Frequency
Yes	125
No	10
Don't know	6
N=	141

3. If yes, how is this mitigation usually accomplished? (Please select all that apply)

	Frequency
Permittee responsible mitigation	101
Conservation bank	83
In-lieu fee program	43

4. Do you feel that conservation banks are generally an effective tool for aiding in the recovery of listed species? (Please select one answer below)

Value		Frequency
1	Very ineffective	4
2	Ineffective	7
3	Average	25
4	Effective	56
5	Very effective	30
	Don't know/No opinion	17
	N=	139
	Mean	3.83
	Median	4
	Mode	4

5. In your opinion, are there species, habitats, or ecosystems with which you work that could benefit from conservation banking and do not already have banks established? (Please select one answer below)

	Frequency
Yes	80
No	16
Don't know/No opinion	45
N=	141

7. Have you had any conservation banking training? (Please select all that apply)

	Frequency
Yes - NCTC	26
Yes - Texas 2012	8
Yes - Vancouver, WA 2013	2
Yes - Other	18
No	86
N=	140

8. What role(s) have you served at USFWS with respect to conservation banks? (Please select all that apply)

	Frequency
Reviewing banking documents	64
Determining the number of credits	43
Reviewing sufficiency of endowment funds	29
Reviewing monitoring reports	51
Working with bank owners to establish conservation banks	51
Liaison with State and NGO partners	34
Determining service areas	45
Reviewing adequacy of management plans	62
Served as member of CBRT/IRT	22
I have never been involved in conservation banking	34
N=	142

9. How many years have you been working on conservation banking at the USFWS? (Please type a number in the space below)

N=	97
Mean	5.84
Standard Error	0.55
Median	4
Mode	0
Standard Deviation	5.44
Minimum	0
Maximum	26

10. How many conservation banks have you worked with since you have been at the USFWS? (Please type a number in the space below)

N=	95
Mean	5.35
Standard Error	0.78
Median	3
Mode	2
Standard Deviation	7.57
Minimum	0
Maximum	50

12. In which states or territories are the banks located? (Please select all that apply)

Arizona	2
California	42
Colorado	4
Florida	9
Georgia	4
Hawaii	0
Maryland	0
Mississippi	4
Oregon	2
Texas	14
Utah	5
Virginia	1
Washington	1
Saipan	2
Other	22

13. How familiar are you with 2003 USFWS “Guidance for the Establishment, Use, and Operation of Conservation Banks”? (Please select one answer below)

	Frequency
Very familiar	30
Somewhat familiar	38
Unfamiliar	32
N=	100

14. Does your USFWS regional or field office have additional conservation banking guidance? (Please select all that apply)

	Frequency
Yes - regional guidance	13
Yes - field guidance	18
No	28
Don't know	45
N=	101

15. In your opinion, what is the perception of conservation banks as a conservation tool at different organizational levels within USFWS? (Please select one response for each item below)

Value		Field Office	Regional Office	National Office
1	Very negative	2	0	0
2	Somewhat negative	9	8	3
3	Neutral	8	9	5
4	Somewhat positive	38	27	19
5	Very positive	38	20	31
6	Don't know	6	36	42
	N=	101	100	100
	Mean	4.06	3.92	4.34
	Median	4	4	5
	Mode	4	4	5

16. Based on your experience, how likely are the following factors to add to USFWS review time for banking agreements? (Please select one response for each item below)

Value		Insufficient USFWS staffing	USFWS management unsupportive	Inadequate training available for USFWS staff	Solicitor review	Inexperienced bankers	Long or complex banking agreements	Determination of credits	Coordination with other Federal, state, or local agencies	Other
1	Extremely unlikely	1	4	1	0	0	1	0	0	0
2	Unlikely	6	25	10	8	0	2	9	9	2
3	Neutral	4	15	27	13	10	5	19	20	1
4	Likely	20	21	29	25	41	39	33	37	4
5	Extremely likely	59	19	22	36	37	39	25	27	12
	Don't know/No opinion	8	14	9	17	11	13	12	6	24
N=		98	98	98	99	99	99	98	99	43
Mean		4.44	3.31	3.69	4.09	4.31	4.31	3.86	3.88	
Median		5	3	4	4	4	4	4	4	
Mode		5	2	4	5	4	4	4	4	

17. In your opinion, what are the major incentives to the USFWS for establishing conservation banks? (Please select one response for each item below)

Value		Mitigation is completed in advance of development	Easier for permittees to find mitigation options when permittee-responsible mitigation is difficult	Larger areas are available for conservation	Benefit to species	Increased efficiency for USFWS staff	Transparent & consistent mitigation option	Compliance measures are built in	Other
1	Not an incentive	4	3	1	1	3	2	2	1
2	Very weak incentive	2	1	1	4	6	2	3	0
3	Weak incentive	15	11	9	14	12	14	13	1
4	Strong incentive	32	37	36	34	38	43	41	2
5	Very strong incentive	44	45	43	42	33	32	35	7
	Don't know/No opinion	2	2	9	4	7	4	5	16
N=		99	99	99	99	99	97	99	27
Mean		4.13	4.24	4.32	4.18	4.00	4.09	4.11	
Median		4	4	4	4	4	4	4	
Mode		5	5	5	5	4	4	4	

18. In your opinion, what are the major incentives to potential bankers for establishing conservation banks? (Please select one response for each item below)

Value		Keeping land under family ownership/can allow traditional uses to continue	Financial/profit motives	Recovery of species	Regulatory mechanism in place/Predictability	Pending development/demand for credits	Provides additional revenue for existing land use when alternative uses are not financially viable	Other
1	Not an incentive	4	0	21	4	0	1	0
2	Very weak incentive	4	0	17	2	2	3	0
3	Weak incentive	22	5	41	18	9	13	0
4	Strong incentive	42	29	13	44	47	39	0
5	Very strong incentive	19	58	2	23	37	34	4
	Don't know/No opinion	7	5	4	7	3	8	15
N=		98	97	98	98	98	98	19
Mean		3.75	4.58	2.55	3.88	4.25	4.13	
Median		4	5	3	4	4	4	
Mode		4	5	3	4	4	4	

19. In your opinion, which factors are good measures of conservation bank success? (Please select one response for each item below).

Value		Meeting criteria for recovery plan/Accomplishing conservation goals	Maintaining a stable population/growing the species	Linking existing conservation/natural areas	Habitat restoration/enhancement	Minimizing costs to project proponents	Profitability for bankers	Sale of credits	Other
1	Very Poor Measure	0	1	1	1	12	17	9	0
2	Poor Measure	0	2	1	2	15	14	9	0
3	Neutral	9	2	7	9	32	24	24	2
4	Good Measure	25	25	31	24	30	29	36	2
5	Very Good Measure	62	67	57	58	7	9	18	1
	Don't know/No opinion	3	2	2	3	3	6	3	14
N=		99	99	99	97	99	99	99	19
Mean		4.55	4.60	4.46	4.45	3.05	2.99	3.47	
Median		5	5	5	5	3	3	4	
Mode		5	5	5	5	3	4	4	

20. In your opinion, are the following factors good measures of conservation bank ecological performance? (Please select one response for each item below)

Value		Index of biological integrity	Indicator species number and diversity	Habitat conditions	Number of individuals of the species	Health of ecosystem	Species threats addressed
1	Very Poor Measure	0	3	0	1	1	0
2	Poor Measure	4	4	0	3	3	4
3	Neutral	19	13	4	15	11	6
4	Good Measure	42	44	48	46	44	38
5	Very Good Measure	20	28	44	30	36	47
	Don't know/No opinion	13	6	1	2	2	2
N=		98	98	97	97	97	97
Mean		3.92	3.98	4.42	4.06	4.17	4.35
Median		4	4	4	4	4	4
Mode		4	4	4	4	4	5

21. What is your opinion of the following statements pertaining to conservation banks? (Please select one response for each item below)

Value		Monitoring programs as laid out in conservation banking agreements tend to be adequate	Monitoring results are provided in a timely manner	Monitoring leads to adaptive management when appropriate (e.g., changes in bank activities/operations or number of credits available)	Monitoring results for conservation banks outperform monitoring results for permittee responsible mitigation
1	Strongly disagree	5	2	4	2
2	Disagree	16	12	16	12
3	Uncertain	21	28	18	23
4	Agree	33	26	32	20
5	Strongly agree	5	5	11	12
	Don't know/No opinion	18	25	17	29
N=		98	98	98	98
Mean		3.21	3.27	3.37	3.41
Median		3	3	4	3
Mode		4	3	4	3

22. How do you perceive the demand over the next 2-3 years for additional conservation banks in your region? (Please select one answer below)

Value		Frequency
1	No demand	0
2	Weak demand	16
3	Average demand	32
4	Strong demand	25
5	Very strong demand	15
	Don't know/No opinion	10
N=		98
Mean		3.44
Median		3
Mode		3

23. In your opinion, how important are each of the following factors in hindering conservation bank creation? (Please select one response for each item below)

Value		Unsuitability of species for banking	Weak economic development in area	Other mitigation options substitute for banking	Not enough available habitat for banking	Lack of bank start-up funding	Landowners not willing to sell land or easement	Economic uncertainty/risk
1	Not at all important	14	14	17	21	5	8	8
2	Somewhat important	16	19	29	25	22	22	22
3	Important	25	21	21	26	30	24	24
4	Very important	32	32	16	18	18	32	32
	Don't know/No opinion	11	12	14	7	23	12	12
N=		98	98	97	97	98	98	98
Mean		2.86	2.83	2.43	2.46	2.81	2.93	3.21
Median		3	3	2	2	3	3	3
Mode		4	4	2	3	3	4	3

24. In your experience, to what extent do project proponents view the following mitigation measures as substitutes for conservation banks? (Please select one response for each item below)

Value		In-lieu Fee Program	Aggregated Mitigation Site (not a bank)	Permittee-Responsible Mitigation	Recovery Credit System	Other
1	Not substitutes	6	5	1	18	0
2	Weak substitutes	10	10	8	8	0
3	Substitutes	32	25	45	14	3
4	Strong substitutes	28	17	29	8	2
	Don't know/No opinion	21	41	15	50	24
N=		97	98	98	98	29
Mean		3.08	2.95	3.23	2.25	3.40
Median		3	3	3	2	3
Mode		3	3	3	1	3

26. How familiar are you with wetlands mitigation banking? (Please select one answer below)

	Frequency
Very familiar	38
Somewhat familiar	43
Unfamiliar	17
N=	98

27. In your view, how does conservation banking compare with wetlands mitigation banking in the following areas? (Please select one response for each item below)

		Length of time required for review/approval of conservation banks	Ease of application process for conservation banks	Developer's cost to establish conservation banks	Ease of determining the total number of available credits for conservation banks	Monitoring requirements (timing, cost, complexity) for conservation banks	Ecological performance of conservation banks	Government administrative costs of conservation banks
Value								
1	Worse	15	9	7	18	12	4	4
2	About the same	30	30	24	20	29	33	33
3	Better	5	9	11	10	7	11	11
	Don't know/No opinion	28	31	35	30	29	30	30
N=		78	79	77	78	77	78	78
Mean		1.80	2.00	2.10	1.83	1.90	2.15	1.88
Median		2	2	2	2	2	2	2
Mode		2	2	2	2	2	2	2

28. Do you think any of these elements in the U.S. Army Corps of Engineers and U.S. Environmental Protection Agency Final Rule (2008) related to wetlands mitigation banking should be considered for addition to USFWS' conservation banking guidance? (Please select one response for each item below)

Value	Require that new mitigation projects are proposed and considered within a watershed context, referred to as the "watershed approach". The watershed approach involves collecting more information about the landscape in which mitigation is performed, including ecological assessments of existing and reference conditions in an area, collaborating with landowners, and engaging in resource management planning.	Require in-kind mitigation ("resource of similar structural and functional type to the impacted resource")	Require the establishment of 'service areas' for mitigation banks and ILF programs. Service areas are defined in the Rule as the geographic area within which impacts can be mitigated at a specific mitigation bank or in-lieu fee program	Require financial assurances that restoration would be completed as planned (usually through bonds, letters of credits, or escrow funds)	Establish timelines for agency review of mitigation bank proposals and instruments	Establish an explicit preference for mitigation bank credits (when available) over other forms of mitigation	Require the establishment of 'service areas' for mitigation banks and ILF programs. Service areas are defined in the Rule as the geographic area within which impacts can be mitigated at a specific mitigation bank or in-lieu fee program	
1	Don't Add	14	11	27	31	0	36	36
2	Already Exists	7	24	2	3	32	3	3
3	Add	28	23	21	22	31	18	18
	Don't know/No Opinion	29	20	28	22	15	21	21
N=		78	78	78	78	78	78	78
Mean		2.29	2.21	1.88	1.84	2.49	1.68	2.07
Median		3	2	1	1	2	1	2
Mode		3	2	1	1	2	1	2

30. In which FWS region do you currently work? (Please select one answer below)

Description	Frequency
Region 1 (Pacific)	6
Region 2 (Southwest)	16
Region 3 (Great Lakes – Big Rivers)	10
Region 4 (Southeast)	17
Region 5 (Northeast)	9
Region 6 (Mountain – Prairie)	17
Region 7 (Alaska)	3
Region 8 (California and Nevada)	42
Headquarters	9

31. In which USFWS program do you work? (Please select all that apply)

Description	Frequency
Endangered Species	106
Migratory Birds	9
Fisheries and Habitat Conservation	21
Refuges	3
International Affairs	0
Ecological Services	7
Conservation Planning Assistance	3
Other	5

32. How many years have you been directly or indirectly working on ESA programs and issues while at the USFWS? (Please type a number in the space below)

N=	127
Mean	12.61
Standard Error	0.69
Median	12
Mode	11
Standard Deviation	7.72
Minimum	0
Maximum	33

## APPENDIX B

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The text of the survey is included below.

The U.S. Fish and Wildlife Service and the Department of the Interior's Office of Policy Analysis are undertaking an analysis of the Service's conservation banking program and alternative mitigation options. As part of this effort, we are conducting a survey of Service employees to obtain information on your experience with and opinion of various aspects of the conservation banking program and alternative mitigation options. Your responses to this survey are critical to our efforts. Survey responses will be anonymous and will be reported in aggregate form.

The Director has approved the completion of the survey by our employees on official Government time. The survey should take approximately 20-25 minutes to complete.

To begin the survey, click on the "Next" button below. If you would like to edit answers on a previous page at any time during the survey, please use the "Prev" button at the bottom of the page instead of the back button on your browser.

If you experience any problems while taking the survey, please contact Sarah Cline at the DOI Office of Policy Analysis: Sarah\_Cline@ios.doi.gov, phone: 202-208-6018.

## Conservation Banking

1. How knowledgeable of conservation banking are you? (Please select one answer below)

- Little or no knowledge       Some knowledge       Good understanding but no experience       Knowledgeable with some experience developing/reviewing banks       Expert with experience developing/reviewing banks

2. Does your office encourage project proponents to provide compensatory mitigation for unavoidable impacts to listed species or their habitat? (Please select one answer below)

- Yes  
 No  
 Don't know

3. If yes, how is this mitigation usually accomplished? (Please select all that apply)

- Permittee responsible mitigation  
 Conservation bank  
 In-lieu fee program  
 Other (please specify)

4. Do you feel that conservation banks are generally an effective tool for aiding in the recovery of listed species? (Please select one answer below)

- Very ineffective     Ineffective     Average     Effective     Very effective     Don't know/No opinion

5. In your opinion, are there species, habitats, or ecosystems with which you work that could benefit from conservation banking and do not already have banks established? (Please select one answer below)

- Yes  
 No  
 Don't know/No opinion

6. If yes, please list them below.

7. Have you had any conservation banking training? (Please select all that apply)

- Yes – The Conservation Fund Conservation Banking Course at NCTC
- Yes – The Conservation Fund Conservation Banking Course in Texas in 2012
- Yes - The Conservation Fund Conservation Banking Course in Vancouver, WA in 2013
- No
- Yes - Other (please specify)

8. What role(s) have you served at USFWS with respect to conservation banks? (Please select all that apply)

- Reviewing banking documents
- Determining the number of credits
- Reviewing sufficiency of endowment funds
- Reviewing monitoring reports
- Working with bank owners to establish conservation banks
- Liaison with State and NGO partners
- Determining service areas
- Reviewing adequacy of management plans
- Served as member of CBRT/IRT
- I have never been involved in conservation banking
- Other (please specify)

9. How many years have you been working on conservation banking at the USFWS?  
(Please type a number in the space below)

Years:

10. How many conservation banks have you worked with since you have been at the USFWS? (Please type a number in the space below)

Number of conservation banks:

11. Which species or habitats do the banks cover? In the case of pending banks, which species or habitats are the banks expected to cover? (Please list the species/habitat(s) in the boxes below)

Species/Habitat 1:

Species/Habitat 2:

Species/Habitat 3:

Species/Habitat 4:

Species/Habitat 5:

Species/Habitat 6:

Species/Habitat 7:

Species/Habitat 8:

12. In which states or territories are the banks located? (Please select all that apply)

- Arizona
- California
- Colorado
- Florida
- Georgia
- Hawaii
- Maryland
- Mississippi
- Oregon
- Texas
- Utah
- Virginia
- Washington
- Saipan
- Other (please specify)

13. How familiar are you with 2003 USFWS "Guidance for the Establishment, Use, and Operation of Conservation Banks"? (Please select one answer below)

- Very familiar
- Somewhat familiar
- Unfamiliar

14. Does your USFWS regional or field office have additional conservation banking guidance? (Please select all that apply)

- Yes – regional guidance
- Yes – field guidance
- No
- Don't know

15. In your opinion, what is the perception of conservation banks as a conservation tool at different organizational levels within USFWS? (Please select one response for each item below)

	Very negative	Somewhat negative	Neutral	Somewhat positive	Very positive	Don't know
Field office	<input type="radio"/>					
Regional office	<input type="radio"/>					
National office	<input type="radio"/>					

16. Based on your experience, how likely are the following factors to add to USFWS review time for banking agreements? (Please select one response for each item below)

	Extremely unlikely	Unlikely	Neutral	Likely	Extremely likely	Don't know/No opinion
Insufficient USFWS staffing	<input type="radio"/>					
USFWS management unsupportive	<input type="radio"/>					
Determination of credits	<input type="radio"/>					
Inexperienced bankers	<input type="radio"/>					
Inadequate training available for USFWS staff	<input type="radio"/>					
Coordination with other Federal, state, or local agencies	<input type="radio"/>					
Long or complex banking agreements	<input type="radio"/>					
Solicitor review	<input type="radio"/>					
Other	<input type="radio"/>					

Other (please specify)

17. In your opinion, what are the major incentives to the USFWS for establishing conservation banks? (Please select one response for each item below)

	Not an incentive	Very weak incentive	Weak incentive	Strong incentive	Very strong incentive	Don't know/No opinion
Increased efficiency for USFWS staff	<input type="radio"/>					
Mitigation is completed in advance of development	<input type="radio"/>					
Benefit to species	<input type="radio"/>					
Easier for permittees to find mitigation options when permittee-responsible mitigation is difficult	<input type="radio"/>					
Larger areas are available for conservation	<input type="radio"/>					
Transparent & consistent mitigation option	<input type="radio"/>					
Compliance measures are built in	<input type="radio"/>					
Other	<input type="radio"/>					

Other (please specify)

18. In your opinion, what are the major incentives to potential bankers for establishing conservation banks? (Please select one response for each item below)

	Not an incentive	Very weak incentive	Weak incentive	Strong incentive	Very strong incentive	Don't know/No opinion
Pending development/demand for credits	<input type="radio"/>					
Recovery of species	<input type="radio"/>					
Regulatory mechanism in place/Predictability	<input type="radio"/>					
Provides additional revenue for existing land use when alternative uses are not financially viable	<input type="radio"/>					
Keeping land under family ownership/can allow traditional uses to continue	<input type="radio"/>					
Financial/profit motives	<input type="radio"/>					
Other	<input type="radio"/>					

Other (please specify)

19. In your opinion, which factors are good measures of conservation bank success? (Please select one response for each item below).

	Very Poor Measure	Poor Measure	Neutral	Good Measure	Very Good Measure	Don't know/No opinion
Minimizing costs to project proponents	<input type="radio"/>					
Maintaining a stable population/growing the species	<input type="radio"/>					
Profitability for bankers	<input type="radio"/>					
Linking existing conservation/natural areas	<input type="radio"/>					
Habitat restoration/enhancement	<input type="radio"/>					
Meeting criteria for recovery plan/Accomplishing conservation goals	<input type="radio"/>					
Sale of credits	<input type="radio"/>					
Other	<input type="radio"/>					

Other (please specify)

20. In your opinion, are the following factors good measures of conservation bank ecological performance? (Please select one response for each item below)

	Very Poor Measure	Poor Measure	Neutral	Good Measure	Very Good Measure	Don't know/No opinion
Health of ecosystem	<input type="radio"/>					
Indicator species number and diversity	<input type="radio"/>					
Habitat conditions	<input type="radio"/>					
Index of biological integrity	<input type="radio"/>					
Number of individuals of the species	<input type="radio"/>					
Species threats addressed	<input type="radio"/>					

21. What is your opinion of the following statements pertaining to conservation banks? (Please select one response for each item below)

	Strongly disagree	Disagree	Uncertain	Agree	Strongly agree	Don't know/No opinion
Monitoring results are provided in a timely manner	<input type="radio"/>					
Monitoring programs as laid out in conservation banking agreements tend to be adequate	<input type="radio"/>					
Monitoring leads to adaptive management when appropriate (e.g., changes in bank activities/operations or number of credits available)	<input type="radio"/>					
Monitoring results for conservation banks outperform monitoring results for permittee responsible mitigation	<input type="radio"/>					

22. How do you perceive the demand over the next 2-3 years for additional conservation banks in your region? (Please select one answer below)

- No demand   
  Weak demand   
  Average demand   
  Strong demand   
  Very strong demand   
  Don't know/No opinion

23. In your opinion, how important are each of the following factors in hindering conservation bank creation? (Please select one response for each item below)

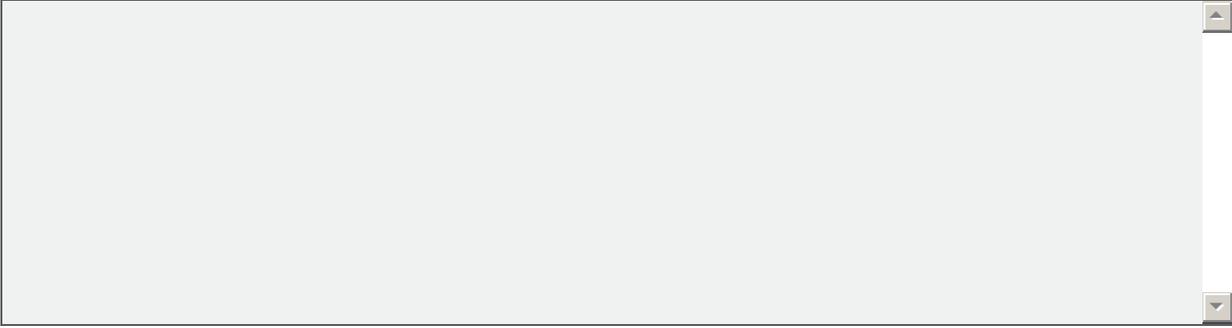
	Not at all important	Somewhat important	Important	Very important	Don't know/No opinion
Not enough available habitat for banking	<input type="radio"/>				
Weak economic development in area	<input type="radio"/>				
Landowners not willing to sell land or easement	<input type="radio"/>				
Other mitigation options substitute for banking	<input type="radio"/>				
Economic uncertainty/risk	<input type="radio"/>				
Lack of bank start-up funding	<input type="radio"/>				
Unsuitability of species for banking	<input type="radio"/>				

24. In your experience, to what extent do project proponents view the following mitigation measures as substitutes for conservation banks? (Please select one response for each item below)

	Strong substitutes	Substitutes	Weak substitutes	Not substitutes	Don't know/No opinion
In-lieu Fee Program	<input type="radio"/>				
Permittee-Responsible Mitigation	<input type="radio"/>				
Aggregated Mitigation Site (not a bank)	<input type="radio"/>				
Recovery Credit System	<input type="radio"/>				
Other	<input type="radio"/>				

Other (please specify)

25. Is there any other information you would like to add based on your experience with conservation banking that was not addressed in the questions above?

A large, empty rectangular text input field with a vertical scrollbar on the right side. The field is light gray and occupies the upper portion of the page below the question.

## Wetlands Mitigation Banking

26. How familiar are you with wetlands mitigation banking? (Please select one answer below)

- Very familiar
- Somewhat familiar
- Unfamiliar

27. In your view, how does conservation banking compare with wetlands mitigation banking in the following areas? (Please select one response for each item below)

	Better	About the same	Worse	Don't know/No opinion
Length of time required for review/approval of conservation banks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ease of application process for conservation banks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developer's cost to establish conservation banks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ease of determining the total number of available credits for conservation banks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Monitoring requirements (timing, cost, complexity) for conservation banks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ecological performance of conservation banks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Government administrative costs of conservation banks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

28. Do you think any of these elements in the U.S. Army Corps of Engineers and U.S. Environmental Protection Agency Final Rule (2008) related to wetlands mitigation banking should be considered for addition to USFWS' conservation banking guidance? (Please select one response for each item below)

	Add	Already Exists	Don't Add	Don't know/No Opinion
Establish equivalent standards for all mitigation mechanisms	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Require financial assurances that restoration would be completed as planned (usually through bonds, letters of credits, or escrow funds)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Require the establishment of 'service areas' for mitigation banks and ILF programs. Service areas are defined in the Rule as the geographic area within which impacts can be mitigated at a specific mitigation bank or in-lieu fee program	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Require in-kind mitigation ("resource of similar structural and functional type to the impacted resource")	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Establish an explicit preference for mitigation bank credits (when available) over other forms of mitigation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Require that new mitigation projects are proposed and considered within a watershed context, referred to as the "watershed approach". The watershed approach involves collecting more information about the landscape in which mitigation is performed, including ecological assessments of existing and reference conditions in an area, collaborating with watershed landowners, and engaging in resource management planning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Establish timelines for agency review of mitigation bank proposals and instruments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

29. Is there any other information you would like to add based on your knowledge of wetlands mitigation banking that was not addressed in the questions above?

## Background

30. In which FWS region do you currently work? (Please select one answer below)

- Region 1 (Pacific)
- Region 2 (Southwest)
- Region 3 (Great Lakes – Big Rivers)
- Region 4 (Southeast)
- Region 5 (Northeast)
- Region 6 (Mountain – Prairie)
- Region 7 (Alaska)
- Region 8 (California and Nevada)
- Headquarters

31. In which USFWS program do you work? (Please select all that apply)

- Endangered Species
- Migratory Birds
- Fisheries and Habitat Conservation
- Refuges
- International Affairs
- Other (please specify)

32. How many years have you been directly or indirectly working on ESA programs and issues while at the USFWS? (Please type a number in the space below)

Number of years:

## Thank You!

Thank you for participating in our survey! Please click "Done" to submit your responses.

If you know of other USFWS employees whose opinions may be valuable to this effort, please forward their e-mail address to Sarah Cline (contact information listed below).

If you have any questions or comments about the survey, please contact Sarah Cline at the DOI Office of Policy Analysis: [sarah\\_cline@ios.doi.gov](mailto:sarah_cline@ios.doi.gov), phone: 202-208-6018