

CHAPTER 1

INTRODUCTION

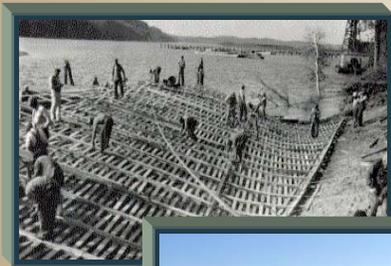
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MISSOURI RIVER FISH AND WILDLIFE MITIGATION PROJECT

FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

U.S. ARMY CORPS OF ENGINEERS
KANSAS CITY AND OMAHA DISTRICTS



Chapter 1

Introduction

1.1 BACKGROUND

The Kansas City and Omaha Districts are two of 41 Districts in eight U.S. Army Corps of Engineers (Corps) Divisions. Both Districts are within the Northwestern Division and their missions include civil works, military construction, and the cleanup of hazardous, toxic, and radiation waste. The civil works boundary of the Kansas City District takes in parts of Missouri, Kansas, Iowa, Nebraska, and Colorado. The civil works boundary of the Omaha District includes the largest land area of any Corps district, approximately 700,000 square miles encompassing parts of Montana, Wyoming, Colorado, Nebraska, Iowa, Missouri, North Dakota, South Dakota, and Minnesota.

The Kansas City and Omaha Districts are responsible for construction, operation, and maintenance of the Missouri River Bank Stabilization and Navigation Project

(BSNP). The BSNP was first authorized by the Rivers and Harbors Act (RHA) of 1912 and subsequent authorizations in 1925, 1927, and 1945. The 1912 RHA authorized a six-foot deep channel from the mouth to Kansas City, Missouri, and the 1925 RHA authorized a 200-foot wide channel over the same area. The 1927 RHA extended the BSNP to Sioux City, Iowa. The 1945 RHA increased the authorized channel to nine-foot deep by 300-foot wide. The existing BSNP extends 735 miles from Sioux City, Iowa to the mouth near St. Louis, Missouri, within the states of Missouri, Kansas, Iowa, and Nebraska, and maintains a nine-foot deep by 300-foot wide channel (Figure 1.1-1). The BSNP consists mainly of revetments along the outsides of bends and transverse dikes along the insides of bends to force the river into a single active channel that is self-maintaining.

The Fish and Wildlife Coordination Act (FWCA) of 1934 provided for the considera-

**Figure 1.1-1
Modified Mitigation Project Area**



tion of fish and wildlife resources along with other features of projects funded by the Federal government. In 1958, the FWCA was amended to make these provisions retroactive to all water resources development projects that were less than 60 percent complete. Based on obligated construction costs, the Corps determined the BSNP was approximately 58 percent complete at the time the FWCA was amended. Thus, the FWCA of 1958 was the initial authority for the Corps to consider

mitigating the fish and wildlife resources impacted by the BSNP.

In accordance with the provisions of the FWCA, the U.S. Fish and Wildlife Service (USFWS) prepared a report to the Corps, which documented the impacts of the BSNP to fish and wildlife and recommended mitigation for those impacts (USFWS, 1980). In 1981, the Corps completed the *Missouri River Bank Stabilization and Navigation Project Final*

Feasibility Report and Final Environmental Impact Statement for Fish and Wildlife Mitigation Plan (Feasibility Report and FEIS; Corps, 1981). The Corps assessed several alternative plans of varying merits against the objectives of compensating losses of habitat quantity, habitat quality, fish and wildlife populations, and annual man-day recreational opportunities. The final plan selected included the preservation and restoration of 3,200 acres of aquatic habitat and the development and management of 44,900 acres of terrestrial habitat. Of the 48,100 total acres identified for mitigation, 18,200 acres were public lands and 29,900 acres were private lands. In 1984, the Chief of Engineers endorsement of the Feasibility Report and FEIS (Corps, 1981) was submitted to the Secretary of the Army for transmittal to Congress. The original Mitigation Project was subsequently authorized by the Water Resources Development Act of 1986 (WRDA86). Section 601(a) of WRDA86 provided the authority to construct the original Mitigation Project in accordance with the selected plan and conditions recommended in the Feasibility Report and FEIS.

In 1990, the Corps prepared the *Missouri River Bank Stabilization and Navigation*

Project Fish and Wildlife Mitigation Project Reaffirmation Report (Corps, 1990) to reaffirm the appropriateness of the selected mitigation plan. This report also set out the procedures to implement the mitigation plan including preparing annual plans, acquiring real estate and funding, scheduling, and the reporting process. The Corps updates the Reaffirmation Report through Annual Implementation Reports. Each Annual Implementation Report makes adjustments to the current year's mitigation program and proposes the implementation of specific individual projects for the next year. In the Annual Implementation Reports, the Corps also details the progress of site acquisition and development, and updates the funding schedule for the projects. Following site acquisition, environmental review is conducted in a site-specific Definite Project Report (DPR).

In the Water Resources Development Act of 1999 (WRDA99), Congress authorized the modification of the original Mitigation Project by an additional 118,650 acres. This modification increased the total acreage of the Missouri River Fish and Wildlife Mitigation Project (Mitigation Project) to 166,750 acres. Section 334(b) of WRDA99 required that the Corps conduct a cost study on the modified

Mitigation Project and report back to Congress. The report to Congress was submitted in April 2002 (Corps, 2002a). The Corps estimated a range of \$740 million to \$1.3 billion as the cost of the modified Mitigation Project. That range is greatly influenced by the amount of shallow water habitat restoration planned for the modified Mitigation Project. The construction cost per acre of aquatic habitat is greater than that of terrestrial habitat. The lower cost was based on the creation of approximately 7,000 acres of shallow water habitat and the higher cost based on approximately 20,000 acres of shallow water habitat. As a result of the modification to the Mitigation Project, it was necessary to evaluate the potential environmental impacts of the acquisition and development of an additional 118,650 acres in the floodplain of the Missouri River and tributaries. This Supplemental Environmental Impact Statement (SEIS) includes that evaluation. As part of this SEIS process and in compliance with the FWCA, the USFWS prepared a supplement to its 1980 *Missouri River Stabilization and Navigation Project Detailed Fish and Wildlife Coordination Act Report*. This supplement is included in Appendix A and discussed in Section 4.16, FWCA Report. Although the SEIS evaluates the potential

impacts of the modified Mitigation Project, site-specific environmental review, in the form of a DPR, would be necessary during implementation.

The Kansas City District is managing the Mitigation Project. The Omaha and Kansas City Districts are each responsible for site-specific project requirements in their Districts. As of 2001, the original Mitigation Project had acquired 24,915 acres of the 29,900 acres authorized for land acquisition (Corps, 2002b). Fish and wildlife habitat has been developed on 9,600 of these acquired acres (Corps, 2002a). Of the 18,200 acres of existing public lands authorized for mitigation, easements have been obtained on 5,779 acres (Corps, 2002b). On existing public lands, fish and wildlife habitat has been developed on 3,100 acres (Corps, 2002a). A summary of original Mitigation Project sites is provided in Table 1.1-1. Cumulatively, the original Mitigation Project has restored and/or preserved approximately 10,000 acres of wetlands and approximately 8,000 to 10,000 acres of bottomland forest. Approximately 5,000 acres of the Missouri River floodplain have been reconnected to the river and 50 existing river structures have been modified to enhance shallow water habitat. Five new side channels have

Table 1.1-1. Original Mitigation Project Sites Authorized by WRDA86				
Mitigation Sites by State	County	Approximate River Mile	Descending Bank	Managing Agency
IOWA				
Winnebago Bend	Woodbury	711-708	Left	IDNR
Blackbird-Tieville-Decatur Bend*	Monona	698-686	Left	IDNR
Louisville Bend	Monona	685-682	Left	IDNR
California Bend	Harrison	652-649	Left	IDNR
Noddleman Island	Mills	587-583	Left	IDNR
Auldon Bend	Harrison	580-577	Left	IDNR
Copeland Bend*	Fremont	571-565	Left	IDNR
NEBRASKA				
Blackbird-Tieville-Decatur Bend	Thurston, Burt	698-686	Left	Corps
Tobacco Island*	Cass	589-586	Left	Corps (Will be NGPC)
Hamburg Bend*	Otoe	556-552	Right	NGPC
Kansas Bend	Nemaha	547-544	Right	Corps (Will be NGPC)
Langdon Bend	Nemaha	532-528	Right	Corps (Will be NGPC)
MISSOURI				
Lower Hamburg Bend	Atchison	553-550	Left	MDC
Nishnabotna	Atchison	544-541	Left	Corps (Will be MDC)
Deroin Bend	Holt	520-517	Left	MDC
Hemmes Bend/Corning*	Holt	514-512	Left	Corps (Will be MDC)
Thurnau*	Holt	503-502	Left	MDC
Rush Bottom Bend*	Holt	502-499	Left	MDC
Worthwine Island	Andrew	460-456	Left	MDC
Grand Pass	Saline	273-266	Right	MDC
Overton Bottoms	Cooper & Moniteau	187-183	Right	I-70 North: USFWS; I-70 South: MDC
Rocheport Cave	Boone	183	Left	MDC
Eagle Bluffs	Boone	174-170	Left	MDC
Tate Island	Callaway	113-110	Left	MDC
Berger Bend*	Franklin	93-90	Right	Corps (Will be MDC)
Columbia Bottom*	St. Louis	5-0	Right	MDC
KANSAS				
Benedictine Bottoms	Atchison	429-424	Right	KDWP

* Acquisitions are still underway at this site.

been excavated and are continuing to develop. A total of \$62.3 million of the estimated \$90.4 million allocated for the original Mitigation Project has been expended (Corps, 2002b).

In November of 2000, the USFWS issued a final Biological Opinion (BiOp) that concluded that the Corps' operation of the Missouri River Mainstem Reservoir System, the BSNP, and the Kansas River projects jeopardize the continued existence of the pallid sturgeon (*Scaphirhynchus albus*), interior least tern (*Sterna antillarum*), and piping plover (*Charadrius melodus*; USFWS, 2000).

The BiOp included a reasonable and prudent alternative that included recommended measures the Corps should implement to achieve compliance with the Endangered Species Act (ESA) and avoid jeopardizing those species.

1.2 PURPOSE OF AND NEED FOR PREFERRED ACTION

This section presents the justification for the modified Mitigation Project in terms of restoring only a portion of the fish and wildlife habitat lost through channelization and stabilization of the banks of the Lower Missouri River.

1.2.1 PURPOSE OF PREFERRED ACTION

The purpose of the Mitigation Project is to restore a portion of the fish and wildlife habitat that has been and will be lost due to the BSNP. The Corps determined that by 2003, approximately 522,000 acres of fish and wildlife habitat in the natural channel and meander belt of the Missouri River will have been lost as a result of the BSNP (Corps, 1981). The Preferred Action analyzed in this SEIS includes the development of mitigation sites by the acquisition of private lands from willing sellers or donated easements on public lands, project design, construction, and operation and maintenance of mitigation sites of 118,650 acres to restore, preserve, and enhance aquatic and terrestrial habitat as discussed in more detail in Section 2.2.1, Alternative A. These activities are similar to the 48,100 acres of mitigation that was authorized by WRDA86 and discussed in Section 1.5.1, WRDA86 Original Mitigation Project.

The primary purpose of the Mitigation Project is to mitigate for fish and wildlife habitat lost as a result of the BSNP. The Mitigation Project will improve the quality of habitat and increase fish and wildlife populations and recreational opportunity. The reestablishment of a viable Missouri

River ecosystem that will benefit indigenous species and listed threatened and endangered species depends on the ability of the Federal government to acquire lands and develop them as fish and wildlife mitigation sites.

Development of the 48,100 acres of the original Mitigation Project would in itself only reestablish a very small amount of habitat area and would not serve to mitigate the extensive habitat loss to the ecosystem. It would not create a significant amount of aquatic habitat, including shallow water habitat, or achieve compliance with the BiOp regarding pallid sturgeon. The modified Mitigation Project would significantly expand development of fish and wildlife habitat; the total 166,750 mitigated acres would be approximately 32 percent of the fish and wildlife habitat estimated to be lost by 2003. This modified Mitigation Project is vital to reestablishment of a viable Missouri River ecosystem.

1.2.2 NEED FOR PREFERRED ACTION

1.2.2.1 Impacts of the BSNP

Prior to construction of the BSNP, the Lower Missouri River was uncontrolled as shown on Figure 1.2-1. It meandered across the floodplain and created a highly

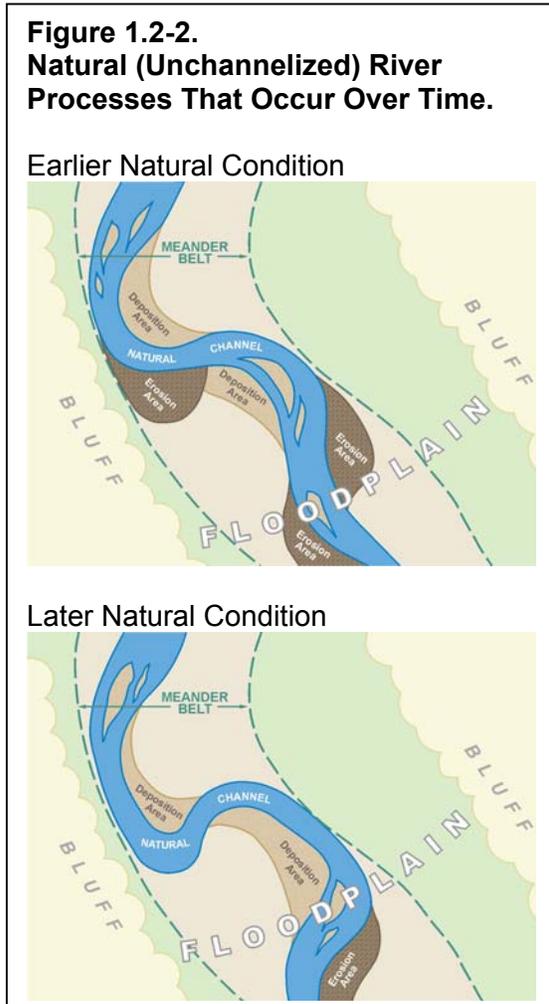
dynamic environment through the physical processes of erosion, deposition, and accretion (Figure 1.2-2).

It is estimated that the Lower Missouri River channel occupied approximately 300,000 acres, and consisted of numerous islands, channels, chutes, sandbars, and slack water supporting vegetation in various stages of succession. As a result of the

**Figure 1.2-1.
River Prior to Channelization**



BSNP, the natural channel will be reduced to an area of approximately 112,000 acres by 2003 (Corps, 1981). It was also estimated that the meander belt consisted of an area of approximately 606,000 acres adjacent to the natural channel, of which an estimated 354,000 acres will be lost by 2003 (Corps, 1981). This area consisted of successional wetlands and various types of herbaceous and woody habitats. It is further estimated that approximately 522,000 acres of aquatic and terrestrial



habitat will have been eliminated from the natural channel and meander belt by the year 2003 (Corps, 1981; Table 1.2-1). The USFWS estimated that 474,600 acres of fish and wildlife habitat were lost between 1912 and 1980 due to the BSNP (USFWS, 1980). The BSNP has removed or altered much of the floodplain ecosystem that existed prior to its construction.

The Lower Missouri River fishery, prior to construction of the BSNP, contained large numbers of fishes and a diversity of species. The most obvious impact to the fishery was a general reduction in the number and poundage of fish. This reduction was a direct result of the amount and variety of aquatic habitat loss. Many mammals, reptiles, amphibians, song-birds, shorebirds, and waterfowl used the Missouri River and the associated habitats to meet life-cycle requirements, such as, feeding, nesting, and as migration corridors.

The greatest impact to wildlife populations was a general reduction in wildlife numbers resulting from changes to the floodplain ecosystem, specifically in the quantity, quality, and diversity of habitats. By 2003, total losses are estimated to be over 654,800 individuals of key terrestrial wildlife species, as well as over 15 million pounds of fish, that could have been supported at any one time if BSNP had not been constructed (Corps, 1981). Impacts on habitat and fish and wildlife populations associated with the BSNP also affect opportunities for human use of the resource. It was estimated that as many as 772,000 days of recreation will be lost annually by the year 2003 due to the

Table 1.2-1. Habitat Losses (in acres) Due to the Missouri River Bank Stabilization and Navigation Project, 1912 – 2003				
	Natural Channel		Meander Belt	
State	Aquatic	Terrestrial	Terrestrial	Total
Missouri	55,800	27,700	221,400	304,900
Iowa	17,100	18,700	29,600	65,400
Kansas	9,100	2,000	44,000	55,100
Nebraska	18,200	19,400	59,000	96,600
Total	100,200	67,800	354,000	522,000

reduction of habitat and fish and wildlife populations (Corps, 1981).

1.2.2.2 Other Justification for Project Need

Since the WRDA86 authorization, the pallid sturgeon has been Federally listed as an endangered species under the ESA. The USFWS identified aquatic habitat development as a critical element of the reasonable and prudent alternative contained in the BiOp (2000). Specifically, to achieve a shallow water habitat goal of 20-30 acres per mile over the length of the 735-mile Missouri River BSNP, the USFWS estimated that approximately 20,000 additional shallow water acres are required to benefit the pallid sturgeon. Other prior listed species that depend on Missouri River habitats include the interior least tern, piping plover, and the bald eagle (*Haliaeetus leucocephalus*). In addition to

reestablishment of a part of the natural river ecology, the modified Mitigation Project represents one of the best tools to meet the need of the pallid sturgeon and compliance with the ESA on the channelized portion of the Missouri River.

In January 2002, the Water Science and Technology Board of the National Research Council (NRC), part of the National Academy of Sciences, published its report on the Missouri River ecosystem. The NRC stated *“the Missouri River ecosystem is in a marked state of decline that is causing a reduction of goods and services and the potential loss of species”* (NRC, 2002). The NRC included extensive bank stabilization and channelization as one of the changes to the Missouri River that jeopardize its fundamental natural processes. Missouri River ecosystem recovery actions recommended by the NRC included making

land riverward of Federal levees in the channelized reach of the river available for seasonal flooding each year and also obtaining the entire width of the floodplain for meandering at certain points along the channelized river. Such actions would serve to reconnect the Missouri River with its floodplain, however, they would also require the acquisition of lands. These scientific recommendations regarding the need for recovery of the Missouri River ecosystem also demonstrate the need for the Mitigation Project. The original Mitigation Project, when completed, would only mitigate approximately three percent of the lost aquatic acres and approximately seven percent of the lost terrestrial acres. The modified Mitigation Project, including development of shallow water habitat, is vital to mitigate the ecosystem decline of the last 90 years.

1.2.2.3 Summary of Need

The management of the Missouri River has always reflected the Nation's desires for use of the great Missouri River resource. In part, the need for the modified Mitigation Project is supported by current societal values regarding the natural environment, indigenous and protected species, and the intrinsic aesthetic beauty of natural areas. These values continue to grow in

importance. Implementation of the modified Mitigation Project would meet the needs identified and would fulfill the purpose by providing the acreage of natural habitat conditions important to the expansion and survival of individual species.

In summary, the need for the modified Mitigation Project is based on:

- the adverse impact to the natural Missouri River ecosystem that occurred as a result of the BSNP and as reflected by the loss of 522,000 acres of habitat, and;
- the loss of recreational opportunities as a result of the BSNP.

1.3 AGENCY INVOLVEMENT

The Corps is responsible for coordination and consultation with appropriate state and Federal agencies, and to fund operation and maintenance of the mitigation features for the life of the Mitigation Project, subject to availability of funds. A coordination team was established for the Mitigation Project that includes representatives from the USFWS, U.S. Environmental Protection Agency (EPA), U.S. Department of Agriculture (USDA) - Natural Resource Conservation Service (NRCS), Iowa Department of Natural Resources (IDNR), Kansas Department of Wildlife and Parks

(KDWP), Missouri Department of Conservation (MDC), Missouri Department of Natural Resources (MDNR), and Nebraska Game and Parks Commission (NGPC), along with the Kansas City District and the Omaha District.

The initial responsibility of the coordination team was to develop selection criteria for screening and prioritizing potential mitigation sites. Each state agency then identified areas for acquisition and development that would meet the selection criteria. The team also prepared Mitigation Project plans, increased public awareness about the Mitigation Project, and resolved conflicts that developed. The coordination team continues to meet periodically to discuss current and future activities and priorities, funding, and other pertinent issues to implementing the Mitigation Project.

In addition to the coordination team involvement with the Mitigation Project, the USFWS, EPA, MDC, KDWP, IDNR, and NGPC are serving as cooperating agencies for the preparation of this SEIS. The letters stating their intent to serve as cooperating agencies are included in Appendix B.

1.4 PUBLIC INVOLVEMENT

As part of the SEIS process, public scoping meetings were conducted to solicit comments on the scope of the SEIS from individuals, Native American tribes, organizations, and agencies. The following sections describe the public outreach that was performed to inform the public of the opportunity to comment on the scope of the SEIS and invite participation in the scoping process. A summary of the public scoping meetings conducted and the issues identified is also presented.

1.4.1 PUBLIC OUTREACH

A Notice of Intent (NOI) for the *Intent To Prepare a Draft Supplemental Environmental Impact Statement for the Missouri River Fish and Wildlife Mitigation Project Located on the Missouri River From Sioux City, Iowa to the Mouth Near St. Louis, Missouri in the States of Iowa, Nebraska, Kansas and Missouri* was published in the November 2, 2001 Federal Register (Volume 66, Number 213). The NOI (Appendix C) included a summary of the Mitigation Project, points of contact for the public, and the dates, times, and locations of the public scoping meetings.

The Corps issued a news release to various forms of media, including newspaper, television, and radio. In addition, a legal notice was published in various local and regional newspapers to announce that, as the lead Federal agency, the Corps would be seeking input on the Mitigation Project at public scoping meetings. The legal notices were published at least seven days prior to the day of the public scoping meeting. Legal notices (Appendix C) appeared in the following newspapers:

- Sioux City Journal (Sioux City, Iowa)
- Onawa Democrat (Onawa, Iowa)
- The Pilot Tribune (Blair, Nebraska)
- Omaha World-Herald (Omaha, Nebraska)
- Plattsmouth Journal (Plattsmouth, Nebraska)
- Sidney Argus-Herald (Sidney, Iowa)
- News Press (Nebraska City, Nebraska)
- St. Joseph News Press (St. Joseph, Missouri)
- Leavenworth Times (Leavenworth, Kansas)
- Odessan (Odessa, Missouri)
- Columbia Daily Tribune (Columbia, Missouri)

- News Tribune (Jefferson City, Missouri)
- Missourian (Washington, Missouri)

An announcement was sent by U.S. mail to approximately 1,900 individuals, organizations, Native American tribes, government agencies, and elected officials. The flyer detailed the modified Mitigation Project, including the project needs, proposed action, and potential issues. The flyer provided an overview of the original Mitigation Project and an anticipated schedule for completion of the modified Mitigation Project SEIS. The flyer also solicited comments from the public on the scope of the SEIS, included the dates, times, and locations of the public scoping meetings, and provided information to allow the public to send comments by mail.

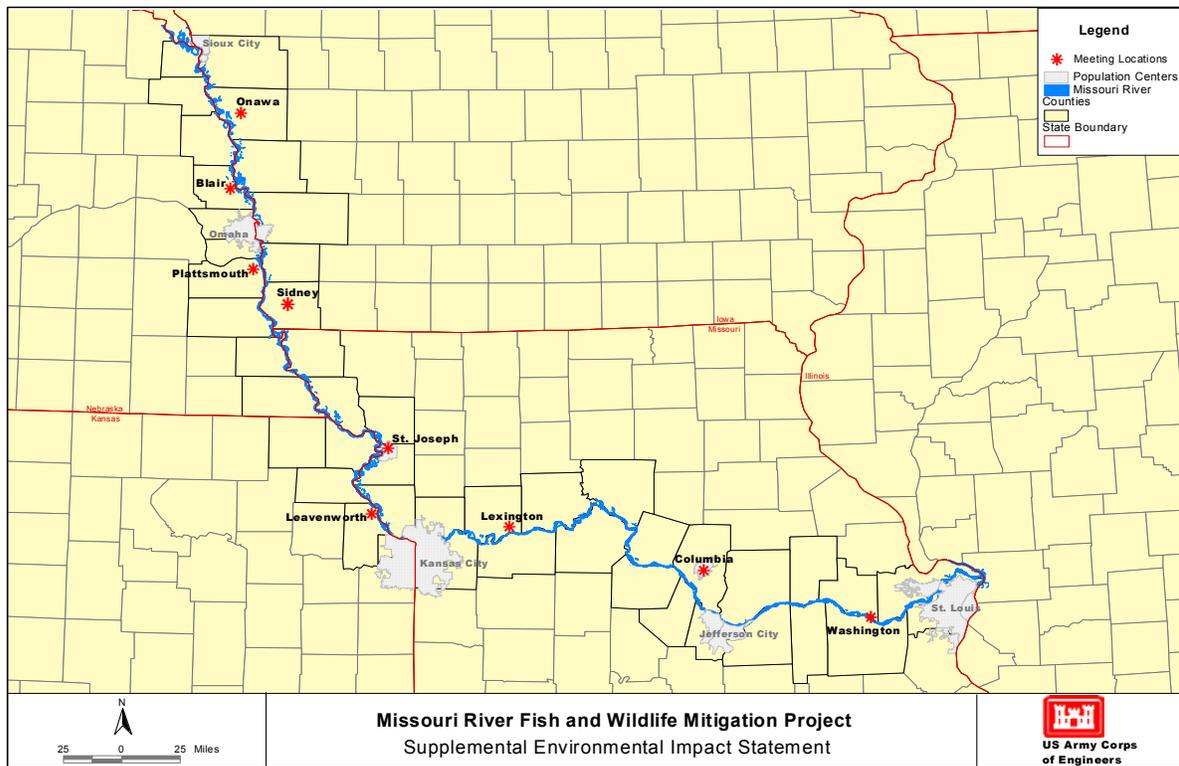
1.4.2 PUBLIC SCOPING MEETINGS

Nine public scoping meetings were held on the following dates and at the following locations (Figure 1.4-1) to solicit public input regarding the scope of the SEIS for the Mitigation Project:

- November 13, 2001: **Sidney, Iowa** - Sidney Elementary School, Cafeteria, 1004 Illinois Street;
- November 14, 2001: **Onawa, Iowa** - West Monona Community High School,

- Commons Area, 1314 15th Street;
- November 15, 2001: **St. Joseph, Missouri** - St. Joseph Civic Center, Meeting Room, 100 N. 4th Street;
 - November 19, 2001: **Blair, Nebraska** – Arbor Park Elementary School, Cafeteria, 1717 Adams Street;
 - November 26, 2001: **Leavenworth, Kansas** - Riverfront Community and Convention Center, 123 S. Esplanade;
 - November 27, 2001: **Columbia, Missouri** - Columbia College, Dulany Hall, Banquet Room, 1001 Rogers Street;
 - November 28, 2001: **Lexington, Missouri** - Lexington High School, Cafeteria, 2309 Aull Lane;
 - November 29, 2001: **Plattsmouth, Nebraska** - Plattsmouth High School, 1916 E. Highway 34;
 - December 5, 2001: **Washington, Missouri** - Washington Elementary School, Blue Jay Gym, 600 Blue Jay Drive.
- Attendees were encouraged, but not required, to sign an attendance sheet. Handouts were available for the public, including a project overview sheet,

**Figure 1.4-1
Location of Public Scoping Meetings**



questions and answers sheet, comment form, and copies of the mailing announcement flyer.

The public scoping meetings were held using an open house format. Members of the Mitigation Project team from the Corps and HDR Engineering, Inc. (HDR) were available to answer questions and receive comments from the public. All meetings were held from 5:00 PM until 8:30 PM. Attendance ranged from six people at the Onawa meeting to 25 at the Columbia meeting.

Average attendance at the public scoping meetings was 15 people. Twenty-nine written comments were received. In addition, many comments were noted during conversations with meeting attendees.

1.4.3 SUMMARY OF ISSUES

Comments received from individuals, organizations, and agencies were used to identify important issues regarding the modified Mitigation Project. These issues generally were in the categories of taxes, land acquisition, public access, impacts to adjacent landowners, flood control structures, monitoring, navigation, and natural resources.

When the Corps acquires land for the Mitigation Project, the land would be removed from the local tax rolls and a payment in lieu of taxes (PILT) would be made to local governments annually. Concerns were expressed regarding how the removal of private lands from the tax rolls for the Mitigation Project would impact tax revenue and the local tax base. There were also concerns regarding how local economies would be impacted from a decline in agricultural land and, in turn, a decline in the purchase of agricultural supplies. Other tax issues that were areas of concern included an increased tax burden on remaining landowners, the distribution of levee assessments and PILT, and potential cumulative impacts resulting from multiple government agencies and private organizations acquiring land along the Missouri River.

Several comments were received regarding land acquisition. Concern was expressed that the Corps' land appraisals for the original Mitigation Project were lower than that of other governmental entities. There were also comments that a capital gains tax exemption would encourage willing sellers. Many comments were received that suggested the Corps should revise its land acquisition policies and needs to develop a

land acquisition plan.

Concern was expressed regarding public access that would be provided to mitigation sites. Recreation users expressed a desire to have increased access to the Missouri River and to mitigation sites. Landowners expressed concerns regarding an increase in trespassing on their lands if adequate access is not provided to mitigation sites. There was also concern expressed regarding the types of activities that would be allowed on mitigation sites, specifically concerning all-terrain vehicles.

Landowners expressed concern regarding whether or not the government would be a good neighbor if land adjacent to them were purchased for a mitigation site. Concern was expressed regarding the potential for increased trespassing and increased flooding on adjacent private lands. Landowners were also concerned about being left with higher levee assessments if the Corps purchased land in their levee district. There was also concern as to whether or not the Corps could take land to provide access to mitigation sites. Several landowners were concerned that they would be forced to sell their land if the Corps purchased mitigation land next to them.

Concern was also expressed regarding the potential for mitigation sites to adversely impact levees, flood control structures, and levee districts. Questions were also asked about how the Corps would handle levee setbacks or relocations. Navigational interests were concerned as to the potential for mitigation sites to adversely impact navigation on the Missouri River.

Several comments stated that there needs to be more monitoring of mitigation sites in order to determine their effectiveness and benefit to fish and wildlife, including threatened and endangered species. Many comments were received stating a desire for increased fish and wildlife, as well as threatened and endangered species, habitat along the Missouri River. Concern was also expressed regarding the effects the mitigation sites would have on ice formation and water quality.

Other comments offered were that the Corps should consider acquiring lands along the major tributaries of the Missouri River. There was also concern expressed that the Mitigation Project was too large.

1.4.4 SCOPE OF ANALYSIS

Based on input from agency and public scoping, the following issues will be

addressed either generally or through a specific evaluation in the SEIS:

- Increase in non-taxable land
- Tax impacts to local economies
- Increased tax burden on remaining landowners
- Payment in lieu of taxes
- Cumulative effect of multiple government agencies acquiring land in the floodplain
- Corps' land appraisals
- Provide access to mitigation sites and river
- Use of all-terrain vehicles
- Increased trespassing on adjacent private lands
- Increased flooding on adjacent private lands
- Increased levee assessments
- Loss of lands to provide access
- Adjacent landowners being forced to sell their land
- Impacts to levees and flood control structures
- Levee relocations
- Monitoring of mitigation sites

- Impacts to navigation
- Desire for increased fish and wildlife habitat
- Desire for increased threatened and endangered species habitat
- Water quality and ice formation
- Potential for mitigation sites on tributaries
- Size of project

The following issues will not be addressed in the SEIS. Reasons for whether or not an issue was to be included in the SEIS are discussed in the Public Scoping Issues Identification Report (Appendix D):

- Capital gains tax relief
- Evaluate land acquisition policies
- Develop a land acquisition plan

1.4.5 PUBLIC COMMENT PROCESS

The public comment period for the Draft SEIS officially began with publishing the Notice of Availability (NOA) in the Federal Register on September 20, 2002 (Appendix C). Prior to publishing the NOA, approximately 2,000 mail flyers were sent to individuals, organizations, Native American tribes, and agencies announcing the availability of the Draft SEIS, the

location of libraries where copies of the Draft SEIS were sent, and giving notice on the public comment period including a schedule of public open houses and hearings. In addition, approximately 140 copies of the Draft SEIS were sent to individuals, organizations, Native American tribes, and agencies. The availability of the Draft SEIS was announced on the Mitigation Project website and by placing legal notices in 13 newspapers within the project area (Appendix C). Electronic versions of the Draft SEIS were also made available for download from the website. Hard copies of the Draft SEIS were deposited in 31 libraries in locations along the Lower Missouri River for public review.

During the public comment period, six public open houses, each followed by a public hearing, were held at the following locations along the Lower Missouri River in order to obtain public comment on the Draft SEIS:

- October 8, 2002: **Columbia, Missouri** – Lange Middle School, 2201 E. Smiley Lane;
- October 9, 2002: **Washington, Missouri** – Washington Middle School, 401 E. 14th Street;
- October 10, 2002: **Lexington, Missouri**

– Lexington Middle School, 1111 S. 24th Street;

- October 15, 2002: **Sidney, Iowa** – Sidney Elementary School, 1004 Illinois Street;
- October 16, 2002: **Atchison, Kansas** – Atchison Heritage Convention Center, 710 S. 9th Street;
- October 17, 2002: **Blair, Nebraska** – Arbor Park Elementary School, 1717 Adams Street.

Testimony recorded during these public hearings and responses to testimony comments are included in Appendix E. Written comments postmarked by November 4, 2002 were also accepted. All written comments received along with responses to those comments are included in Appendix E. The public comment period on the Draft SEIS lasted 45 days and closed on November 4, 2002.



1.5 RELATED NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) AND OTHER ACTIONS

The following sections detail other actions that are currently being undertaken within the study area of the Mitigation Project.

1.5.1 WRDA86 ORIGINAL MITIGATION PROJECT

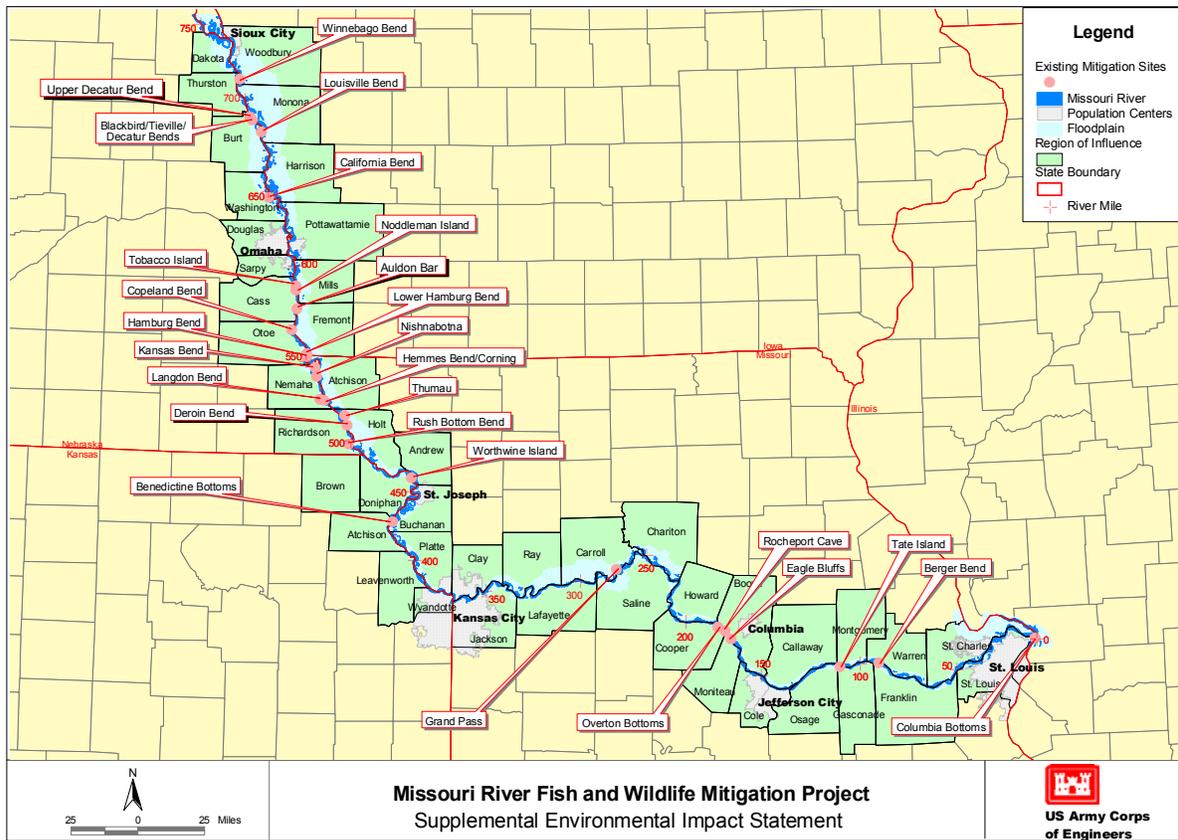
In WRDA86, Congress authorized the Corps to acquire and develop 29,900 acres of land and develop habitat on 18,200 acres of existing public land along the Missouri River between Sioux City and the mouth at St. Louis as mitigation for fish and wildlife habitat lost due to impacts of the BSNP. The Corps' policy has been to acquire private lands from willing sellers only. As of September 30, 2001, 24,915 acres of private lands had been acquired from willing sellers (Corps, 2002b). A total of 19 mitigation sites have been established at areas along the Missouri River that were formerly non-public lands and shown on Figure 1.5-1. These areas have been obtained in fee title and the Corps holds ownership. Eight of these sites are in the State of Missouri, one in Kansas, five in Iowa, and five in Nebraska. As part of the original Mitigation Project, a PILT is

made to local governments that corresponds to the amount of land acquired for the Mitigation Project in that state and subsequently removed from the tax rolls.

For the 18,200 acres of existing public land authorized for mitigation by WRDA86, the Corps obtains "no cost" easements to allow them to construct project features on land not owned by the Corps. As of September 30, 2001, 5,779 acres of existing public lands have been obtained through easement (Corps, 2002b). Fourteen mitigation sites have been established on public lands at areas along the Missouri River. Nine of these sites are in Missouri, four in Iowa, and one in Nebraska. It should be noted that some mitigation sites may include both private lands acquired in fee title and easements on public lands.

The purpose of the WRDA86 authorization was for the Corps to restore and/or preserve fish and wildlife habitats that were native to the Missouri River floodplain. As such, a variety of habitat types have been restored or preserved as part of the original Mitigation Project. Restoring filled-in chutes and completing in-river improvements have restored shallow water habitat as shown in Figure 1.5-2. This has been accomplished by dike notching, river structure

**Figure 1.5-1
Existing Mitigation Sites**



modifications, excavation, and dredging. Several mitigation sites have also had levees moved back landward of the river channel to create additional opportunities for shallow water habitat. Shallow water habitat has been created or work started at Grand Pass, Plowboy Bend, Overton Bottoms, Hamburg Bend, Langdon Bend, Tobacco Island, and California Bend. Levees have been relocated or work started at Eagle Bluffs, Columbia Bottoms, and Overton Bottoms.

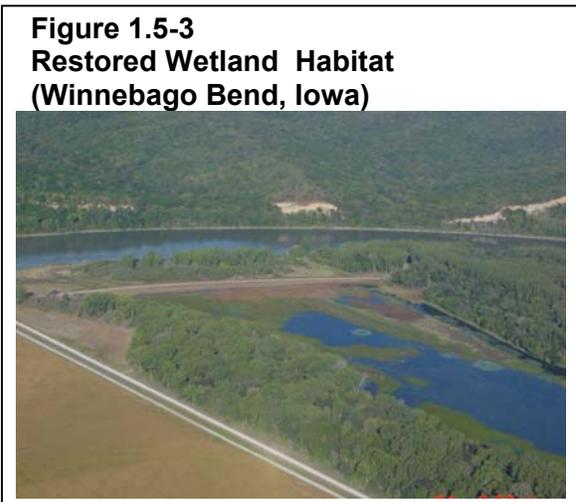
**Figure 1.5-2.
Restored Shallow Water Habitat
(Plowboy Bend, Missouri)**



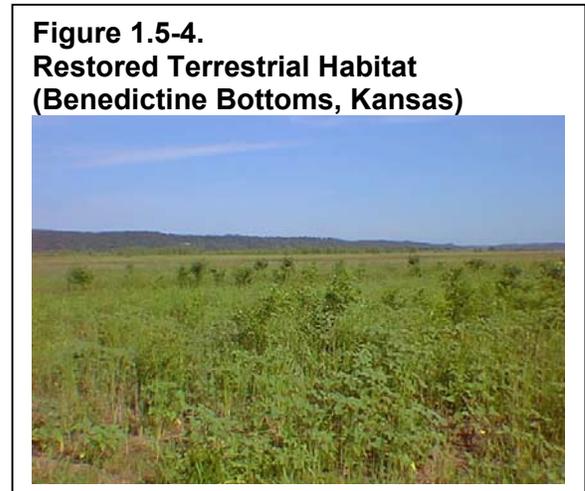
Habitat restoration efforts have also included the construction of wetlands at several mitigation sites. This is accomplished by the construction of low dikes, berms, wells, pumps, water delivery systems, or drainage control structures as shown in Figure 1.5-3. Constructed wetlands have been created, or work started, at Eagle Bluffs, Benedictine Bottoms, Louisville Bend, and Winnebago Bend mitigation sites.

Development of terrestrial habitat such as bottomland hardwood forest and prairie grassland habitats has also been a focus of restoration efforts. Development of terrestrial habitat has been dependent upon the type of existing land use and management objectives. Many of the mitigation sites were in agricultural

production at the time of acquisition, however, prior to that they had been part of the Missouri River or its erosion zone. Terrestrial habitat development has included vegetative plantings, timber thinning, and tree plantings as shown on Figure 1.5-4. Terrestrial habitat has been developed at the Benedictine Bottoms,



**Figure 1.5-3
Restored Wetland Habitat
(Winnebago Bend, Iowa)**



**Figure 1.5-4.
Restored Terrestrial Habitat
(Benedictine Bottoms, Kansas)**

Overton Bottoms, Tate Island, Hamburg Bend, Langdon Bend, Tobacco Island, and Winnebago Bend mitigation sites.

1.5.2 MISSOURI RIVER MASTER WATER CONTROL MANUAL

The Missouri River Master Water Control Manual (Master Manual) for the operation of the Mainstem Reservoir System was first published in December 1960 and has been revised in 1973, 1975, and 1979. The Master Manual prescribes operation of the

Missouri River Reservoir System storage and release for the multiple project purposes of flood control, irrigation, downstream municipal and industrial water supply and water quality, navigation, hydropower production, recreation, and fish and wildlife.

Prompted by prolonged droughts in the late 1980s and listings under the ESA, the Corps was directed by Congress to review the Master Manual in 1989 and initiated the Master Manual Review and Update Study. The review of the Master Manual was conducted under the guidelines of NEPA and therefore an EIS was prepared. The Draft EIS for the Master Manual Review and Update was published in 1994. In 2000, the USFWS issued a jeopardy opinion for the pallid sturgeon, interior least tern, and piping plover regarding the Corps' operation of the Missouri River Mainstem dams and suggested flow changes, among other measures, to avoid jeopardizing the three species. The Revised Draft EIS for the Master Manual Review and Update was published in 2001 and the NEPA process for this effort is ongoing at this time.

1.5.3 USFWS BIG MUDDY NATIONAL FISH AND WILDLIFE REFUGE (NFWR)

The Big Muddy NFWR in the State of

Missouri was established on September 9, 1994 for the development, advancement, management, conservation, and protection of fish and wildlife resources and to provide additional public areas for compatible fish and wildlife-oriented recreation. As of 2001, the refuge contained six units, consisting of 6,845 acres, and is authorized to acquire up to 60,000 acres along the Lower Missouri River between Kansas City and St. Louis. Acquisition of additional lands is contingent upon adequate funding and willing sellers or donors, and may take 20 to 50 years to complete.

1.5.4 CORPS' NOTCH DIKE PROGRAM

Since 1974 the Kansas City and Omaha Districts have created notches or gaps in dike and revetment structures (Corps, 1981). The original intent of the Notch Dike Program was to maintain channel capacity. Currently, the primary intent of the notches is to reduce damage to fish and wildlife resulting from habitat change. Notches halt the accretion process and provide about ½ acre of slack water downstream of the structure. In some cases, notches have been used to open or maintain flow through an oxbow or chute area. The notch dike program is authorized under Section 2(c) of the 1958 FWCA.

1.5.5 CORPS' SECTION 1135 AND 206 PROJECTS

Section 1135 of WRDA86 authorized the Corps to modify existing projects to improve fish and wildlife habitat. Such projects require a non-Federal cost-share. There are two completed Section 1135 projects adjacent to the Missouri River and two additional projects in the design phase. The Papio-Missouri River Natural Resources District (NRD) in Nebraska is the non-Federal sponsor on all of these projects. The Omaha District, in cooperation with the Papio-Missouri River NRD, USFWS, and NGPC, completed restoration of Boyer Chute (RM 633-638) in the spring of 1993. The project reopened a three-mile long historic chute of the Missouri River that had lost most of its habitat value due to a closing structure at its upstream end and a road with a culvert at the midpoint of the chute. The Papio-Missouri River NRD also acquired over 2,000 acres in the Boyer Chute area for its own purposes and has turned the area, along with Boyer Chute, over to the USFWS for management as the Boyer Chute National Wildlife Refuge (NWR). The USFWS is currently in the process of attempting to expand the refuge to approximately 10,000 acres through acquisitions from willing sellers. The

second completed Section 1135 project is the Hidden Lake/Great Marsh Restoration Project located in Nebraska at RM 602.5, on the southeast edge of Omaha's metropolitan area. This project has included the restoration of Hidden Lake, a nearly one-mile long former backwater lake in an old oxbow of the Missouri River, and Great Marsh, a wetland in a nearby old channel of the river. Construction of this project was completed in 1997. Two projects being planned are the California Bend and Lower Decatur Bend restoration projects. California Bend is located east of Blair, Nebraska and would include restoration of historic side channels and wetland and terrestrial habitat. Lower Decatur Bend is located at RM 683 to 689 in Burt County, Nebraska and would also include restoration of side channels and terrestrial habitat.

Section 206 of WRDA96 authorized the Corps to restore historic habitat conditions (aquatic ecosystems) at any location to benefit fish and wildlife resources. The types of work that can be undertaken under Section 206 include structural or operational changes to improve the environment. Section 206 projects also require a non-Federal cost share sponsor. Currently, there is only one project,

Nathan's Lake, ongoing under this program. The Nathan's Lake Restoration Project is sponsored by the Papio-Missouri River NRD and includes the restoration of several remnant wetland basins and a ditched creek channel. This project is located about three miles north of Omaha, in Washington County, Nebraska.

Conservation Reserve Program (CRP) and WRP programs.

1.5.6 EMERGENCY WETLAND RESERVE PROGRAM (EWRP) AND WETLAND RESERVE PROGRAM (WRP)

The NRCS in consultation with the Farm Service Agency (FSA) and other Federal agencies has been working with the states of Missouri, Kansas, Nebraska, and Iowa to protect flood-created habitats and floodplain wetlands through the EWRP and the WRP, which provide a payment to landowners for easements on these areas. States were authorized to begin a continuous sign-up as of October 1, 1996 for the WRP. As of 1994, about 13,503 acres of floodplain lands in Missouri, Kansas, Iowa, and Nebraska have been determined eligible for the EWRP and WRP programs. Roughly 83 percent of these lands are in the State of Missouri and 15 percent in Iowa (USFWS, 2000). Acreage of land in WRP is discussed in further detail in Section 4.11, Cumulative Effects. The most recent Farm Bill significantly increased funding for the