PROGRAMMATIC ENVIRONMENTAL ASSESSMENT

# THE SOUTH DAKOTA JAMES RIVER WATERSHED CONSERVATION RESERVE ENHANCEMENT PROGRAM

**United States Department of Agriculture**
**Farm Service Agency**

## Final

## January 2009

## COVER PAGE

**Proposed Action:** The United States Department of Agriculture (USDA), Commodity Credit Corporation (CCC) and the State of South Dakota have agreed to implement the James River Watershed Conservation Reserve Enhancement Program (CREP), a component of the Conservation Reserve Program (CRP). USDA is provided the statutory authority by the provisions of the Food Security Act of 1985, as amended (16 United States Code [USC] 3830 et seq.), and the Regulations at 7 Code of Federal Regulations (CFR) 1410. In accordance with the 1985 Act, USDA/CCC is authorized to enroll lands. The Farm Service Agency (FSA) administers the JRW CREP on behalf of the CCC. CREP is a voluntary land conservation program for agricultural producers.

**Type of Document:** Programmatic Environmental Assessment (EA)

**Lead Agency:** USDA, Farm Service Agency (on behalf of CCC)

**Sponsoring Agency:** South Dakota Department of Game, Fish & Parks

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**Comments:** This Final Programmatic Environmental Assessment was prepared in accordance with the USDA Farm Service Agency National Environmental Policy Act implementation procedures found in 7 Code of Federal Regulations 799, as well as the National Environmental Policy Act of 1969, Public Law 91-190, 42 USC 4321-4347, 1 January 1970, as amended. An electronic copy of this Final Programmatic Environmental Assessment will be available for review at: http://www.fsa.usda.gov/FSA/webapp?area=home&subject=ecrc&topic=nep-cd and http://public.geo-marine.com, or physically at the South Dakota Department of Game, Fish and Parks, 523 E. Capitol Ave., Foss Bld., Pierre, South Dakota.

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## ACRONYMS and ABBREVIATIONS

| | |
|---|---|
| BEA | Bureau of Economic Analysis |
| BLS | Bureau of Labor Statistics |
| BMP | Best Management Practice |
| CCC | Commodity Credit Corporation |
| CEC | Commission for Environmental Cooperation |
| CEQ | Council on Environmental Quality |
| CFR | Code of Federal Regulations |
| CP | Conservation Practice |
| CREP | Conservation Reserve Enhancement Program |
| CRP | Conservation Reserve Program |
| CWA | Clean Water Act |
| DO | Dissolved Oxygen |
| EO | Executive Order |
| EPA | Environmental Protection Agency |
| ESA | Endangered Species Act of 1972 |
| Farm Bill | Farm Security and Rural Investment Act of 2002 |
| FEMA | Federal Emergency Management Agency |
| FSA | Farm Service Agency |
| JPA | Joint Powers Agreement |
| JRW | James River Watershed |
| MHI | Median Household Income |
| MRBA | Missouri River Basin Association |
| NASS | National Agricultural Statistic Service |
| National Register | National Register of Historic Places |
| NEPA | National Environmental Policy Act |
| NPS | National Park Service |
| NRCS | Natural Resources Conservation Service |
| NSU | Northern State University |
| NWR | National Wildlife Refuge |
| PCI | Per Capita Income |
| PEA | Programmatic Environmental Assessment |
| PEIS | Programmatic Environmental Impact Statement |
| PIP | Practice Incentive Program |
| PL | Public Law |
| PPR | Prairie Pothole Region |
| ROI | Region of Influence |
| SDDENR | South Dakota Department of Environment and Natural Resources |
| SDGFP | South Dakota Department of Game, Fish and Parks |
| SDSU | South Dakota State University |
| SHPO | State Historic Preservation Officer |
| SIS | Signing Incentive Program |
| TCP | Traditional Cultural Property |
| THPO | Tribal Historic Preservation Officer |
| TMDL | Total Maximum Daily Load |
| TSI | Trophic State Index |

## ACRONYMS and ABBREVIATIONS (cont'd)

| | |
|---|---|
| TSS | Total Suspended Solids |
| USACE | U.S. Army Corps of Engineers |
| USC | U.S. Code |
| USCB | U.S. Census Bureau |
| USGS | U.S. Geological Survey |
| USDA | U.S. Department of Agriculture |
| USFWS | U.S. Fish and Wildlife Service |
| USFS | U.S. Forest Service |
| WMD | Wildlife Management District |

# EXECUTIVE SUMMARY

This Programmatic Environmental Assessment (PEA) describes the potential environmental consequences resulting from the implementation of the proposed James River Watershed (JRW) Conservation Reserve Enhancement Program (CREP) Agreement. The environmental analysis process is designed to ensure the public is involved in the process and informed about the potential environmental effects of a federal action and to help decision makers take environmental factors into consideration when making decisions related to the proposed action.

The United States Department of Agriculture (USDA) Commodity Credit Corporation (CCC) in cooperation with the South Dakota Department of Game, Fish and Parks (SDGFP) propose to implement the JRW CREP in South Dakota. The USDA Farm Service Agency (FSA) administers the CREP on behalf of the CCC. The PEA has been prepared by FSA in accordance with the requirements of the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations implementing the National Environmental Policy Act, and 7 Code of Federal Regulations (CFR) 799 Environmental Quality and Related Environmental Concerns – Compliance with the National Environmental Policy Act. The USDA FSA and SDGFP will administer the JRW CREP within South Dakota.

## Purpose and Need for the Proposed Action

The purpose of the action is to implement the JRW CREP in eastern South Dakota in order to create and enhance wildlife habitat; to increase recreational hunting and fishing lands and provide access to these lands; to reduce severity of flooding by restoring the natural hydrology of the prairie pothole wetlands and associated upland buffer areas; to establish permanent vegetation along drainages leading to the James River; and to establish vegetative buffers to improve surface water quality.

The Proposed Action is needed to address diminishing wildlife habitat, to decrease soil erosion, improve water quality, and to reduce the severity of flooding in the JRW.

## Proposed Action and Alternatives

Under the Proposed Action, the FSA, on behalf of the CCC, would implement the CREP that would allow enrollment of up to 100,000 acres of environmentally sensitive agricultural land within 23 counties that encompass the JRW. The estimated cost to implement the JRW CREP is $156.6 million over the next 15 years. The watershed encompasses approximately 8.1 million acres and includes the Elm, Upper James, Mud, Snake, Middle James, Turtle, and Lower James hydrologic units. Because the program is voluntary, the sizes and locations of eligible parcels that would be enrolled in the program are not known. Landowners participating in the CREP would receive support for costs of installing and maintaining conservation practices (CPs), as well as annual rental payments for the lands, which they specifically enrolled. Nine CPs have been approved for this program.

Under the No Action Alternative, the JRW CREP would not be implemented. Eligible lands would not be enrolled and the CREP goals would not be realized for the targeted JRW area. Eligible lands could enroll in the Conservation Reserve Program (CRP) or other such programs, but a coordinated effort targeting the conservation needs of the JRW would not be fully realized and other sources of funds would not be available as provided by the currently proposed CREP.

**Summary of Environmental Consequences**

It is expected that there would be long term positive impacts to a number of resources associated with the implementation of the Proposed Action. Temporary minor adverse impacts to some resources may occur during preparation of lands for the establishment of CPs. Potential adverse impacts to cultural and biological resources would be minimized and/or mitigated in consultation with regulatory agencies. A summary of the potential impacts is given in Table ES-1.

**Table ES-1 Summary of Environmental Consequences.**

| Resource | Proposed Action Alternative | No Action Alternative |
|---|---|---|
| **Biological Resources** | Long term beneficial impacts to vegetation, wildlife, and threatened and endangered species are expected to occur from establishment of permanent vegetative communities and the creation of wildlife habitat. Benefits from installing riparian buffers, grassed filter strips, tree plantings, and restoration of floodplain and non-floodplain wetlands would also improve water quality which is expected to positively impact wildlife and protected species and their habitats. Site-specific environmental evaluation would determine the presence of threatened or endangered species and any designated critical habitat. Consultation with U.S. Fish and Wildlife would occur prior to implementation of the practices to protect any applicable listed species. | Continued use of lands for range and pastureland would decrease the quality of fisheries through degraded water quality and quantity. Further habitat loss through conversion of habitat into agricultural uses decreases available habitat for wildlife, vegetation and protected species. Habitat fragmentation and land disturbing activities would continue. |

**Table ES-1 Summary of Environmental Consequences (cont'd).**

| Resource | Proposed Action Alternative | No Action Alternative |
|---|---|---|
| **Cultural Resources** | The potential for archaeological and traditional cultural resources along riverine systems is high. Ground disturbance beyond normal agricultural activities has the potential to impact such resources. A location specific cultural evaluation would determine if there is a potential to affect historic properties. If such potential exists, cultural resource surveys may be required prior to site-specific ground-disturbing activity. The State Historic Preservation Officer would be consulted on the survey determinations and findings. | Under the No Action Alternative, the CREP would not be implemented in the JRW area. Therefore, no ground disturbing activities would result and no impacts to cultural resources would be anticipated other than those that typically may occur through normal agricultural activities. |
| **Water Resources** | Long term positive impacts to surface and ground water quality and quantity are expected to occur with implementation of the proposed JRW CREP. The CPs would allow for restoration and enhancement of more wetlands where agricultural production currently occurs. It is expected that the discontinuation of agricultural production would reduce runoff of sediment, nutrients, and agricultural chemicals. The proposed practices are expected to stabilize floodplains through the establishment of vegetation. Wetland restoration slows and stores runoff that would otherwise directly enter the floodplain, and contributes to groundwater storage.<br>During the establishment of CPs, activities that remove vegetation or disturb soil may result in temporary minor increases in runoff, which may temporarily affect surface water quality. These potential impacts can be managed through the use of standard erosion control best management practices (BMPs). | Current land use practices are expected to continue and would negatively impact water quality, quantity and wetlands over the long term. |

**Table ES-1 Summary of Environmental Consequences (cont'd).**

| Resource | Proposed Action Alternative | No Action Alternative |
|---|---|---|
| **Earth Resources** | Long term positive impacts to topography and soils are expected to result from the implementation of the proposed CREP. The approved CPs in the CREP would stabilize stream banks, conserve topsoil, and minimize erosion by wind and water. | Continued use of targeted lands for marginal agricultural and pastureland is expected to result in continued soil erosion. |
| **Socioeconomics** | A slight benefit to the local economy is expected to result from the monies associated with the establishment and maintenance of the proposed conservation practices and the rental payments made to producers. These impacts are considered minor in the context of the regional influence. The loss of agricultural lands may slightly adversely affect employment by reducing expenditures associated with farm labor, but these are offset by increased recreation and net societal benefits of increased water quality, reduced flooding, and restored wildlife habitat. | Socioeconomic conditions would continue to follow the trends associated with the region and surrounding States. Farmland would continue to be sold for development rights. Highly erosive, marginal agricultural and pasture lands would continue to be farmed. |
| **Recreation** | The Proposed Action Alternative is expected to result in positive long term impacts to recreational activities that are associated with water or hunting and fishing. The addition of filter strips, wetlands, and wetland buffers will help minimize flooding and improve water quality, all of which will improve the enjoyment of water sports for the local inhabitants. Increased habitat and access to private lands would add hunting and fishing opportunities, while taking some of the recreation pressure off of public lands. | Under the No Action Alternative, the proposed CREP would not be implemented. Water quality would continue to degrade, flooding would continue as it currently does, and fishing and hunting opportunities on private lands would not be realized. |

**Table ES-1 Summary of Environmental Consequences (cont'd).**

| Resource | Proposed Action Alternative | No Action Alternative |
|---|---|---|
| **Other Protected Resources** | Implementation of the Proposed Action Alternative is expected to benefit other protected lands by positively affecting wildlife habitat, and surface water quality in areas where these Protected Resources are adjacent to eligible enrolled lands. | Continued agricultural practices would affect other protected lands by indirectly affecting wildlife populations, water quality, and flooding. |

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# 1.0 PURPOSE AND NEED FOR THE PROPOSED ACTION

## 1.1 Background

The United States Department of Agriculture (USDA) Commodity Credit Corporation (CCC) proposes to implement a Conservation Reserve Enhancement Program (CREP) Agreement for the James River Watershed (JRW) in South Dakota. This Programmatic Environmental Assessment (PEA) is being prepared to examine the potential environmental consequences associated with implementation of the CREP. USDA Farm Service Agency (FSA) and the South Dakota Department of Game, Fish, and Parks (SDGFP) administer the JRW CREP.

### 1.1.1 The Conservation Reserve Enhancement Program

On behalf of the CCC, the USDA FSA administers the Conservation Reserve Program (CRP), the federal government's largest private land environmental improvement program. CRP is a voluntary program that supports the implementation of long term conservation measures designed to improve the quality of ground and surface waters, control soil erosion, and enhance wildlife habitat on environmentally sensitive agricultural land. The number of acres currently enrolled in CRP in the JRW CREP counties are presented in Appendix A.

CREP was established in 1997 under the authority of the CRP to address agriculture related environmental issues by establishing conservation practices (CPs) on agricultural lands using funding from federal, state, and tribal governments as well as non-government sources. CREP addresses state designated high priority conservation issues in defined geographic areas such as watersheds. Producers who voluntarily enroll their eligible lands in CREP receive financial and technical assistance for establishing CPs on their land. In addition, property owners receive annual rental payments based upon the enrolled acreage. Once eligible lands are identified, site-specific environmental reviews and consultation with and permitting from other Federal agencies are completed as appropriate in accordance with FSA's Handbook: Environmental Quality Program for State and County Offices (FSA 2003a).

### 1.1.2 Regulatory Compliance

This PEA has been prepared to satisfy the requirements of the National Environmental Policy Act (NEPA; Public Law [PL] 91-190, 42 U.S. Code [USC] 4321 et seq.); implementing regulations adopted by the Council on Environmental Quality (CEQ; 40 Code of Federal Regulations [CFR] 1500-1508); and FSA implementing regulations, Environmental Quality and Related Environmental Concerns – Compliance with NEPA (7 CFR 799). The intent of NEPA is to protect, restore, and enhance the human environment through well-informed federal decisions. A variety of laws, regulations, and Executive Orders (EO) apply to actions undertaken by federal agencies and form the basis of the analysis prepared in this PEA. These include but are not limited to:

- National Historic Preservation Act
- Endangered Species Act
- Clean Water Act
- EO 12898, Federal Actions to Address Environmental Justice in Minority

- Populations and Low Income Populations
- EO 11988, Floodplain Management
- EO 11990, Protection of Wetlands

## 1.2 Purpose and Need

The purpose of the proposed action is to implement the JRW CREP Agreement in Eastern South Dakota. The need for the JRW CREP is to create wildlife habitat, decrease soil erosion, improve water quality, and reduce the severity of flooding within the JRW watershed. Appendix B presents the draft Agreement between the State of South Dakota and the CCC for implementing the JRW CREP.

## 1.3 South Dakota CREP Objectives

The general goals of the proposed James River Watershed CREP are to create and enhance wildlife habitat; provide recreational hunting and fishing access; reduce severity of flooding by restoring the hydrology of prairie pothole wetlands with associated upland buffers, as well as establishing permanent vegetation along drainages leading to the James River; and establish vegetative buffers to improve surface water quality by reducing agricultural chemicals and sediment entering waters of the State. Target goals of the CREP include enlisting 100,000 acres within the area with a minimum size of 40.0 acres of contiguous land.

The JRW CREP is designed to meet specific conservation goals and objectives related to agriculture:

- Restore the environmental functions of 60,000 acres of wetlands and buffer areas to address wildlife habitat and flood issues related to the James River;
- Establish 25,000 acres of permanent upland vegetation to serve as natural cover for migratory and resident wildlife species;
- Establish 15,000 acres of buffers on cropland and marginal pastureland to improve surface water quality by reducing agricultural chemicals and sediment entering the James River watershed;
- Reduce soil erosion on fields planted in row crops to reduce sedimentation of waterways by 90 percent or 54,000 tons/year;
- Reduce phosphorous and nitrogen pollution from row crop agriculture by 65 percent or 144,000 lbs/year for phosphorus and 546,000 lbs/for nitrogen;
- Reduce excess sediment and nutrients entering waterways from lands adjacent to enrolled riparian buffers by 50 percent or 2,100 tons/year for sediment, 5,200 lbs/year for phosphorus and 28,000 lbs/year for nitrogen; and
- Stabilize 90 percent of the channels in reaches where riparian buffers are installed by removing livestock and establishing riparian vegetation.

Under the JRW CREP, farmers and ranchers voluntarily enter into contracts with the federal government for ten to up to 15 years, agreeing to remove enrolled lands from agricultural production and plant them to an approved CP. In addition, all lands enrolled in this CREP will

be open to free, unlimited access to the public for the purposes of recreational hunting and fishing. All access is foot traffic only and does not require prior approval from the landowner.

## 1.4 Organization of the PEA

This PEA assesses the potential impacts of the Proposed Action and the No Action Alternative on potentially affected environmental and socioeconomic resources. Chapter 1 provides background information relevant to the Proposed Action, and discusses its purpose and need. Chapter 2 describes the Proposed Action and alternatives. Chapter 3 describes the baseline conditions (i.e., the conditions against which potential impacts of the Proposed Action and alternatives are measured) for each of the potentially affected resources. Chapter 4 describes potential environmental consequences on these resources. Chapter 5 includes analysis of cumulative impacts and irreversible and irretrievable resource commitments. Chapter 6 discusses mitigation measures. Chapter 7 is a list of the preparers of this document and Chapter 8 contains a list of persons and agencies contacted during the preparation of this document. Chapter 9 contains references.

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# 2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

## 2.1 Proposed Action

On behalf of the CCC, the FSA proposes to implement the JRW CREP by allowing enrollment of up to 100,000 acres of environmentally sensitive agricultural lands within the 23 counties comprising the James River Watershed. The estimated cost of the JRW CREP is $156.6 million over the next 15 years. The watershed encompasses approximately 8.1 million acres on the eastern side of South Dakota, east of the Missouri River (Figures 2-1 and 2-2). The watershed includes the Elm, Upper James, Mud, Snake, Middle James, Turtle, and Lower James hydrologic units. Because program participation is voluntary, the locations and sizes of specific parcels that would be enrolled are not known. Landowners participating in the CREP would receive support for the costs of installing and maintaining conservation practices, as well as annual rental payments for those specific lands enrolled in the program. Table 2-1 summarizes the components of the JRW CREP.

The proposed CREP authorizes the use of the following seven CPs and maximum acres targeted for enrollment:

- CP-4D Permanent Wildlife Habitat (15,000 acres)
- CP-10 Vegetative Cover-Grass-Already Established (10,000 acres)
- CP-21 Filter Strip (5,000 acres)
- CP-22 Riparian Buffer (500 acres) **restricted to the main stem of the James River only**
- CP-23 Wetland Restoration – 100 Year Floodplain (2,000 acres)
- CP-23A Wetland Restoration (Non- Floodplain) (18,000 acres)
- CP-29 Marginal Pastureland – Wildlife Habitat Buffer (4,750 acres)
- CP-30 Marginal Pastureland –Wetland Buffer (4,750 acres)
- CP-37 Duck Nesting Habitat Initiative (40,000 acres)

CP-10 would be used to enroll blocks of expiring or expired CRP contracts as per the 2-CRP Handbook, Paragraph 112 (FSA 2008a) or other eligible vegetative cover, and CP-4D would be used to enroll blocks of land currently not enrolled in CRP.

### 2.1.1 Eligible Lands

The JRW contains portions of 23 out of the 66 counties within South Dakota (Table 2-2). Lands eligible for enrollment in the proposed JRW CREP would be required to meet the cropland eligibility criteria in accordance with policy set forth by the Food, Conservation and Energy Act of 2008 (Farm Bill) and detailed in the FSA Handbook Agricultural Resource Conservation Program for County and State offices (FSA 2003a). Eligible cropland must have been planted or considered planted with an agricultural commodity during four of the six crop years from 2002 through 2008, and must be physically and legally capable of being planted in a normal manner to an agricultural commodity as determined by County Committee. Additionally, the State of South

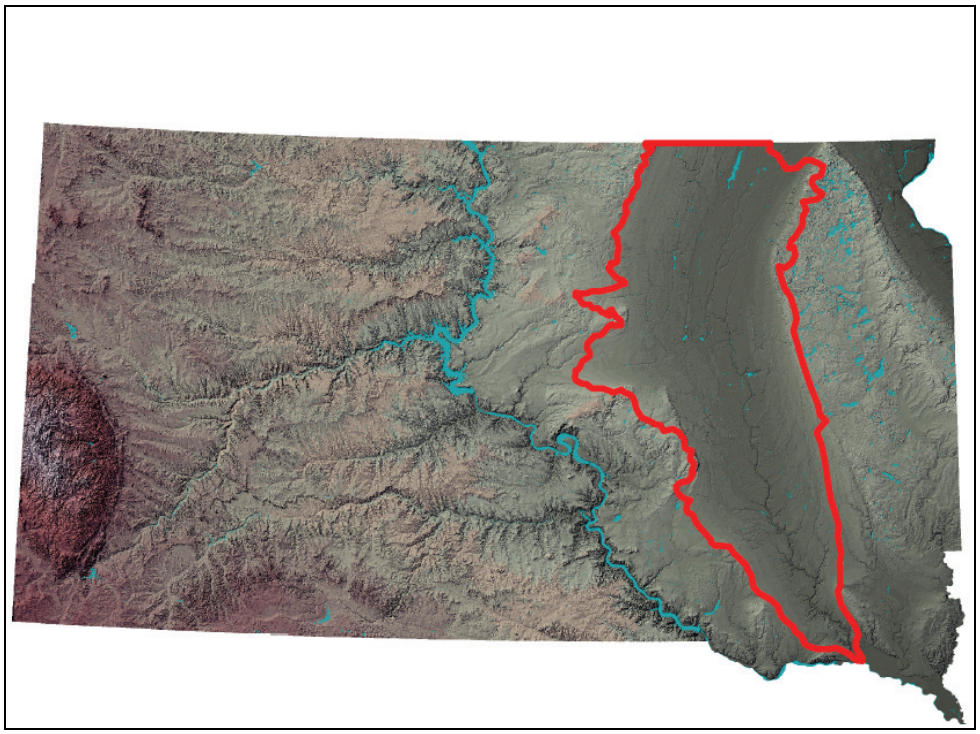

**Figure 2-1. Shaded Relief Map of James River Watershed CREP Area.**

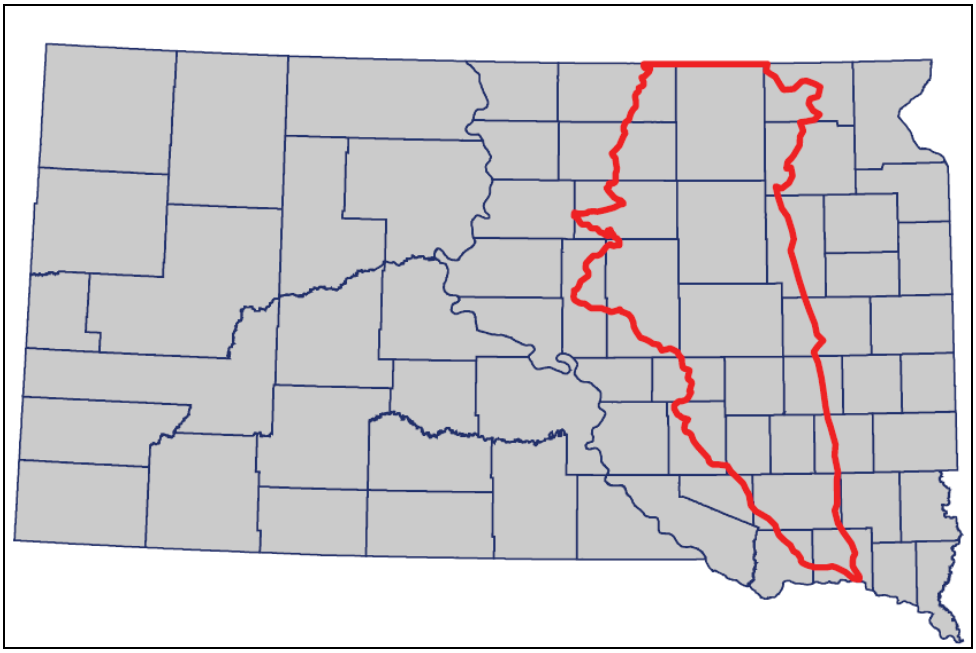

**Figure 2-2. County Boundary Map of James River Watershed CREP Area.**

**Table 2-1. Summary of Components of the 2008 James River Watershed CREP Agreement.**

| Current Agreement | |
|---|---|
| ***Acreage*** | • 100,000 acres (60,000 acres of wetlands; 25,000 acres of permanent upland vegetation; 15,000 of buffers and marginal pastureland) |
| ***CREP Duration*** | • 15 years |
| ***Funding*** | • Federal and state funding for incentives and rental payments up to $156.6 million (excluding non-federal in kind services) |
| ***Geographic Area*** | • James River Watershed |
| ***Counties*** | • 23 |
| ***Conservation Practices*** (estimated acreages) | • CP-4D Permanent Wildlife Habitat (15,000 acres)<br>• CP-10 Grass Already Established (10,000 acres)<br>• CP-21 Filter Strip (5,000 acres)<br>• CP-22 Riparian Buffer (500 acres) **restricted to the main stem of the James River only**<br>• CP-23 Wetland Restoration Floodplain (2,000 acres)<br>• CP-23A Wetland Restoration (Non-Floodplain) (18,000 acres)<br>• CP-29 Marginal Pastureland-Wildlife Buffer (4,750 acres)<br>• CP-30 Marginal Pastureland-Wetland Buffer (4,750 acres)<br>• CP-37 Duck Nesting Habitat Initiative (40,000 acres) |
| ***Contract Duration*** | • Minimum of 10 to 15 years |
| ***Cost Share*** | • Up to 50% cost share for establishing permanent cover |

Dakota has specified enrolled tracts must be a minimum size of 40 contiguous acres. Other state incentive criteria apply for enrollment. All land enrolled in this CREP would be open for public access for the purposes of recreational hunting and fishing. The location, size, and number of tracts that would be enrolled in CREP would be determined by individual contracts. Once eligible lands are identified, site-specific environmental reviews would be completed by FSA prior to entering into contracts. Operators may offer eligible acreage under the CRP general or continuous enrollment periods.

**Table 2-2. James River Watershed CREP Counties.**

| Counties (Alphabetically) | |
|---|---|
| 1. Aurora | 13. Hutchinson |
| 2. Beadle | 14. Hyde |
| 3. Bon Homme | 15. Jerauld |
| 4. Brown | 16. Kingsbury |
| 5. Clark | 17. Marshall |
| 6. Davison | 18. McCook |
| 7. Day | 19. McPherson |
| 8. Douglas | 20. Miner |
| 9. Edmunds | 21. Sanborn |
| 10. Faulk | 22. Spink |
| 11. Hand | 23. Yankton |
| 12. Hanson | |

### 2.1.2 Establish and Maintain Conservation Practices

The practices proposed under the CREP agreement are specific for conditions known to exist within the James River Watershed. The purpose of these practices, as a whole, is to restore wildlife and wetland habitat, improve water quality, reduce soil erosion, and minimize flooding. Appendix C provides a description of each of the CPs approved for the JRW CREP.

**Installation and maintenance of CPs may include the following approved actions:**

- removal of existing vegetation and grading, leveling and filling for site preparation;
- use of equipment to prepare seedbed including disk, harrow, cultipacker, roller or similar equipment;
- application of nutrients, minerals, and seed, including shrubs and trees;
- planting of temporary covers if necessary;
- installation of tree shelters, netting, plastic tubes, fencing or other animal damage control devices;
- seeding firebreaks, fuelbreaks, or firelanes;
- construction of structures to regulate flow and restore hydrology;
- pipelines and water facilities outside the riparian buffer;
- application of approved herbicides and pesticides; and
- temporary supplemental irrigation systems.

### 2.1.3 Provide Financial Support

Producers or operators enrolled in CREP would enter into federal contracts for a minimum of ten and a maximum of 15 years that stipulate implementation of approved CPs to receive financial and technical assistance. Producers are eligible for annual rental payments for the duration of the contract, as well as one-time cost sharing (50 percent) for establishing CPs, and incentive payments for certain situations. The estimated cost of implementing the CREP is $156.6 million over 15 years with a federal commitment of $120.9 million (77.2 percent) and State contributions of $35.7 million (22.8 percent).

## 2.2 Scoping

Scoping is a process used to identify the scope and significance of issues related to a Proposed Action while involving early the public and other key stakeholders in developing alternatives and weighing the importance of issues to be analyzed in the PEA. Those involved in the scoping process include local, state, and federal agencies, and any other interested persons or groups. Scoping can help to resolve any conflicts or concerns prior to making a decision to implement a project and can advance key issues to the public through the design phase of the project. The list of agencies contacted is provided in Chapter 8, and copies of notification letters sent and responses received are included in Appendix D.

The South Dakota GFP through the state CREP manager would administer programs implementing the proposed CREP, including public outreach. Landowners may be advised through meetings, or direct mail by organizations involved in the project. Several organizations have been and continue to be involved in promoting the JRW CREP. These include:

- USDA FSA and Natural Resources Conservation Service (NRCS)
- South Dakota Department of Agriculture
- South Dakota Department of Environment and Natural Resources
- U.S. Fish and Wildlife Service (USFWS)
- County soil and water conservation districts

## 2.3 Resources Eliminated from Analysis

CEQ regulations (§1501.7) state that the lead agency shall identify and eliminate, from detailed study, the issues which are not important or which have been covered by prior environmental review, narrowing the discussion of these issues in the document to a brief presentation of why they would not have a dramatic effect on the human or natural environment. Issues eliminated from detailed analysis in this PEA include:

**Noise—**Implementing the Proposed Action would not permanently increase ambient noise levels at or adjacent to the project area. Noise from heavy equipment is common on agricultural lands and farmlands that could be enrolled in CREP. The potential for increased noise levels associated with implementing CPs would be minor, temporary, localized, and would cease once implementation of the approved CPs was completed.

**Air Quality—**The Proposed Action is not expected to impact either local or regional air quality. Temporary minor impacts to local air quality as a result of soil disturbance during installation of

conservation practices would not differ measurably from those resulting from continued use of the land for agriculture, would not exceed ambient air quality standards, and would not violate the State Implementation Plan.

**Sole Source Aquifers—**There are no designated sole source aquifers in South Dakota (EPA 2008a).

**Coastal Zone Management Areas—**The proposed CREP for the James River Watershed located in the eastern portion of South Dakota is not within or near a designated Coastal Zone Management Area.

**Prime and Unique Farmland—**The only lands eligible for enrollment are highly erodible cropland, wetlands, or are marginal pasturelands that do not meet the definition of Prime and Unique Farmland. The Farmland Protection Policy Act of 1981 is therefore not applicable.

**Environmental Justice—**Interim Rule, 7 CFR Part 1410 Conservation Reserve Program, has been reviewed by the USDA and the FSA and certified according to Departmental Regulation 4300-4. With the recent acceptance and clearance of this regulation through USDA, individual analysis for each potential implication of a CRP action in regard to Environmental Justice is no longer needed. This finding is based on the following: (1) eligibility criteria for CRP are sound and reasonable for the distribution of Federal funds. Because the criteria for participation are being established by regulatory means, there would be no subjective component inherent in it to obscure the fair and equitable distribution of funds; and, (2) use of the State committees or State offices to review local decisions made at the county office level aids in the checks and balances and helps to prevent discriminatory behavior or favoritism. In addition, county FSA committees are required to ensure that all groups of producers are represented on the county committee, including females and minorities. The county committee will recommend a county committee advisor (previously termed "minority advisor") as necessary to ensure that the interests of under-represented producers are fairly represented. This includes the appointment of a tribal representative as a county committee advisor to represent Native American interests in the county or area.

## 2.4 Alternatives Selected for Analysis

### 2.4.1 Proposed Action Alternative (Preferred Alternative)

Under the Proposed Action Alternative, the JRW CREP would be fully implemented as described above. This would allow agricultural practices on up to 100,000 acres of eligible lands to be replaced by conservation covers and restoration of wetland and riparian habitat. Nine CPs would be made available for producers. CPs would be established and maintained on eligible lands and producers would receive one-time payments for establishing the conservation cover, as well as annual rental and maintenance payments, and other incentives offered. The total cost of the program is estimated to be $156.6 million.

### 2.4.2 No Action Alternative

Under the No Action Alternative, the State of South Dakota's JRW CREP Agreement would not be implemented. No land would be enrolled in CREP and the goals of CREP would not be met. Though eligible lands could be enrolled in CRP or other conservation programs, the benefits of CREP – targeting land in South Dakota's James River Watershed for enrollment, providing

financial incentives to producers, and using non-Federal financial resources would not be realized. This alternative does not satisfy purpose and need but will be carried forward in the analysis to serve as a baseline against which the impacts of the Preferred Alternative can be assessed.

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# 3.0 AFFECTED ENVIRONMENT

## 3.1 Biological Resources

### 3.1.1 Definition of Resource

Biological resources include all plant and animal species and the habitats in which they occur. For this analysis, biological resources are divided into the following categories: vegetation; wildlife; protected species; and critical habitat. Vegetation and wildlife refer to the plant and animal species, both native and introduced, which characterize a region. For this analysis, noxious weeds are not discussed since CREP contracts require conservation plans that include control of such species. Protected species are those federally designated as threatened or endangered and protected by the Endangered Species Act (ESA). The USFWS designates critical habitat as essential for the recovery of specifically listed threatened and endangered species, and like those species, is protected under ESA.

The organizing principle of this analysis of biological resources is based upon Level I ecoregions defined by the Commission for Environmental Cooperation (CEC) (CEC 1997). Ecoregions are areas of relatively homogenous soils, vegetation, climate, and geology, each with associated wildlife adapted to that region. South Dakota consists of two CEC Level I ecoregions, namely the Great Plains and Northwestern Forested Mountains. The JRW is within the Great Plains ecoregion and includes both tallgrass and mixed grass prairie lands. Further subdivisions of ecoregions (CEC Level IV) within the JRW CREP area include the James River Lowland, Drift Plains, the Prairie Coteau, Glacial Lakes, and Glacial Lake Deltas. Table 3-1 presents a brief description of the major characteristics of these regions.

### 3.1.2 Affected Environment

#### 3.1.2.1 Vegetation

Climate greatly affects vegetation type and the health and vigor of plants. The average length of the growing season, or freeze-free period, in the JRW CREP area is about 204 days for counties east of the Missouri River (South Dakota State University [SDSU] 2008). Average annual precipitation ranges between 23 inches in the southeast to 18 inches in the northwest with two-thirds to three quarters of the rain falling between April and September (High Plains Regional Climate Center 2008).

The mixed-grass prairie is a transition zone between tallgrass and shortgrass prairies, thus it is comprised of many species characteristic of other prairie types. Western wheatgrass, big bluestem, porcupine grass and little bluestem are dominant components of these grassland prairies (Johnson and Larson 1999). Warm season grasses' peak growth occurs from June through August. Cool season grasses actively grow during cooler temperatures and are tolerant of cold temperatures. These prairies have historically experienced a natural disturbance at an interval of three to five years in the form of fire. However, through settling and development, this historical disturbance has been suppressed (Umbanhowar 1996).

**Table 3-1. CEC Level IV Ecoregions within James River Watershed.**

| Ecoregion | Description |
|---|---|
| **James River Lowland** | The lowlands are characterized by mesic soils, warm temperatures, and a long growing season, which all are reflected in the types of crops planted. Winter wheat, corn, and soybeans are prevalent in this milder climate. The overall area is approximately 9,227 sq miles with an elevation from 1,200-1,850 feet. The area is glaciated and level to slightly rolling with dense concentrations of wetlands. The geology is represented by glacial till over Cretaceous Pierre Shale and sandstone of the Niobrara Formation. The soil Order is primarily mollisols. The average mean annual rainfall is 18-20 inches. |
| **Drift Plains** | Retreating Wisconsonian glaciers have left a subtle undulating topography on a thick layer of glacial till. Temporary and seasonal wetlands are very numerous on this ecoregion. Because of fertile soils and level topography, most of this area is cultivated and the wetlands are drained. The area is still vital to waterfowl. Grasslands here are a transitional mix of tallgrass and shortgrass prairie which have largely been replaced by cultivated fields of corn, soybeans, wheat, sunflowers, and alfalfa. The area is approximately 15,609 sq miles and at an elevation from 1,080-2,000 feet. It is glaciated, flat, with some undulations. The geology is a glacial till over Cretaceous Pierre Shale and Fox Hills Formations. The soil order is mollisols. The mean annual precipitation is 17-19 inches. |
| **Prairie Coteau** | This ecoregion is the result of stagnant glacial ice melting beneath a sediment layer. The terrain is tightly undulating, hummocky, and has no drainage pattern. It has seasonal wetlands, a chain of large lakes, and high precipitation levels that allow widespread burr oak woodlands near wetland margins. The area is approximately 5,229 sq miles and at an elevation range of 1,500-2,010 feet. It is glaciated, has a platform of hummocky, rolling terrain. No real stream network. A high concentration of large lakes, and wetlands. The geology is glacial till over Cretaceous shale. The soil Order is mollisols. There is a mean average precipitation of 20-22 inches. |
| **Glacial Lake Basins** | Glacial Lake Basins, even flatter than the surrounding Drift Plains, resulted from the slow buildup of water-laid sediments. The level, deep soils are heavily cultivated. In the north crops are primarily spring wheat, other grains and sunflowers. The area is approximately 3,584 sq miles and at an elevation of 1,300-1,585 feet. The region is glaciated with very level glacial lake floors. Very few wetlands. The geology is glacial lake deposits. The soil order is mollisols. There is a mean average precipitation of 16-19 inches in the north and 20-22 inches in the south. |

**Table 3-1. CEC Level IV Ecoregions within James River Watershed (cont'd).**

| Ecoregion | Description |
|---|---|
| **Glaciated Lake Deltas** | Rivers entering glacial lake basins deposited these deltas. Heavy sediments, mostly sand and fine gravel, formed delta fans at the river inlets. Lake floors were exposed as glacial ice withdrew and wind reworked the sediments into dunes. These areas have a very thin vegetative cover and a high wind erosion. These areas are now used for grazing and irrigated agriculture. The area is approximately 1,877 sq miles and with an elevation of 1,290-1,595 feet. The geology is sand and gravel deposited over glacial lake floor. The soil orders are mollisols, and entisols. There is a mean average rainfall of 16-19 inches in the north and 19-21 inches in the south. |

– Internet htt://www.npwrc.usgs.gov/resource/habitat/ndsdeco/level3.htm
Source: U.S. Geological Survey (USGS) 2006a Northern Prairie Wildlife Research Center, Ecoregions of North and South Dakota

### Tallgrass Prairie

The tallgrass prairie plant community is dominated by four common, grass species: big bluestem, indiangrass, switchgrass, and little bluestem. All four species are prevalent in mesic sites while big bluestem and little bluestem are most common on drier sites. Floodplains and bottomlands with mesic loamy soils are often dominated by switchgrass and big bluestem. The western expanse of the tall grass prairie is dominated by grasses, while the eastern range is a mixture of prairie, woodlands, and forest. Natural fires have maintained this plant community type limiting the growth of woody plant species and favoring grass and forb species. In fire-protected valleys and bluffs, some woody shrub and trees species occur with cottonwood and willow in wet areas, and oak and hickory in dry areas.

### Shortgrass Prairie

Shortgrass prairie is comprised of several herbaceous plant associations with the dominant grass species being from the grama grass genera. Typically blue grama grass, buffalo grass, and western wheatgrass plant associations are found on well drained soils or rocky slopes. Blue grama/hairy grama dominate loamy or sandy soils; blue grama/buffalograss dominates clay soils.

Of the 23 counties that define the James River Watershed, seven counties have no forested area (Brown, Douglas, Edmunds, Faulk, Hand, Hyde, and Jerauld), and the remaining 16 counties have forest areas that range from 951 acres to just over 12,000 acres, for a total of approximately 52,290 acres of forested land in the JRW CREP area (U.S. Forest Service [USFS] 2008).

### 3.1.2.2 Wildlife

The James River Watershed is home for a number of wildlife species (Northern State University [NSU] 1994). Many of these species are relatively common throughout South Dakota and include the white-faced ibis, blue-winged teal, canvasback, ring-necked pheasant, Virginia rail, yellow-billed cuckoo, downy woodpecker, least flycatcher, cliff swallow, white breasted nuthatch, eastern bluebird, warbling vireo, bobolink, eastern cottontail, thirteen-lined ground

squirrel, western harvest mouse, white-footed mouse, and the meadow vole. Others have more specific habitat requirements, and can be found in habitats within the JRW such as the red-necked grebe, American woodcock, ruby-throated hummingbird, eastern wood-pewee, yellow-throated vireo, sharp-tailed sparrow, pygmy shrew, eastern chipmunk, and the woodchuck. Species typical to grasslands within the CREP area include coyote, eastern cottontail, jackrabbit, ring-necked pheasant and red-tailed hawk. Some species are more prone to the tallgrass prairies such as prairie vole, white-tailed deer, red fox, and eastern meadowlark; while mule deer, antelope, skunk, sharp-tailed grouse, greater prairie chicken, magpie, and the western meadowlark are more likely to be found in short and mixedgrass prairies.

Many fish species are commonly found in the James River Watershed, these include orange-spotted sunfish, white crappie, white bass, tadpole madtom, yellow bullhead, and the central stoneroller. Fish species found primarily only in the JRW include the bluegill, saugeye, ribbon shiner, bullhead minnow, slenderhead darter, slender madtom, threadfin shad, lake sturgeon, muskellunge, bighead carp, blue catfish and the flathead catfish.

#### 3.1.2.3 Threatened and Endangered Species and Critical Habitat

There are nine species of federally threatened or endangered plants and animals known to occur in the 23 counties within the JRW. Appendix E lists the species that could occur in the CREP area, the county where each is known to occur, Federal listing status, and descriptions of the habitats (USFWS 2008a). The listed species include four birds, two fish, one plant, and two mussels. Critical habitat has been designated by the USFWS for the piping plover in two counties, Bon Homme and Yankton, within the JRW for wintering populations in the Northern Great Plains (USFWS 2002). The overall population of plovers is estimated to be 1,398 pairs, some of which winter in these two counties.

## 3.2 Cultural Resources

### 3.2.1 Definition of the Resource

Cultural resources can consist of prehistoric and historic districts, sites, buildings, structures or objects that may be archaeological, architectural or traditional cultural properties. Historic cultural resources are generally at least 50 years of age or older, although some may achieve historic significance in more recent times. Section 106 of the National Historic Preservation Act of 1966 (as amended) and its implementing regulations (36 CFR §800) requires federal agencies to take into account effects on historic properties in advance of approving any activity that has the potential to affect the historic qualities of the resource, and to provide the Advisory Council on Historic Preservation and the State Historic Preservation Officer (SHPO) or Tribal equivalent (THPO) an opportunity to comment prior to implementing the proposed program or project. Historic properties are those cultural resources that are determined eligible for the National Register of Historic Places (National Register). The National Register program, managed by the National Park Service (NPS), lists historic sites that are important on a national, state, or local basis (NPS 2008a). Sites determined eligible for the list and those actually listed are afforded protection under Section 106, and owners of listed sites are eligible for preservation grants and tax deductions. Archaeological cultural resources are the physical remains of past human behavior, such as prehistoric settlements and rock art, historic trash piles, or the foundations of historic homesteads. Architectural resources are standing buildings or structures such as bridges, historic roadways, or a residence. Traditional cultural properties (TCPs) hold importance or

significance to Native Americans or other ethnic groups in the persistence of traditional culture. For example, these may include traditional plant gathering areas, areas associated with sacred traditions such as mountaintops, or an ethnic neighborhood.

To be eligible for the National Register, a cultural resource must retain integrity of location, design, setting, materials and workmanship, feeling and association, and meet one or more of the following criteria:

- association with events that have made a significant contribution to the broad patterns of our history;
- association with the lives of significant persons in our past;
- embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or
- yield or may be likely to yield, information important in history or prehistory.

### 3.2.2 Affected Environment

Specific locations for enrolling lands in CREP contracts are not known; therefore, the number and locations of sites listed or eligible for listing on the National Register potentially affected are not known. However, the prehistoric and historic context of cultural resources found to date within South Dakota provide general information on what types of resources may be found. The National Register has a total 398 historic districts or sites in the 23 counties encompassed by the proposed CREP area (NPS 2008b) (Table 3-2). The kinds of historic properties most often listed are historic standing structures (i.e., barns, homes, courthouses, hotels, schools, opera houses, bridges, churches) found in municipalities or in the countryside, but also include historic districts and archaeological sites. The locations and exact descriptions of TCPs are usually confidential and may not be listed on the National Register.

There are 15 listings of National Historic Landmarks in the state of South Dakota. Of these, only two are located within the 23 counties. Bloom Site is listed in Hanson County and the Mitchell Site is listed in Davison County (NPS 2008b). Two historic properties are also listed as National Historic Sites within the 23 county area of the James River Watershed: (1) the Ingalls House (ePodunk 2008a) and (2) the Surveyor's House (Home of author, Laura Ingalls Wilder) (ePodunk 2008b) located in Kingsbury County.

There are currently nine state-recognized Indian tribes in South Dakota that may have TCPs that require consideration under federal regulations (South Dakota Office of Tribal Government Relations 2008). Additionally, there are out-of-state tribes that have traditional use areas in South Dakota.

## 3.3 Water Resources

### 3.3.1 Definition of Resource

The principal law governing pollution of the nation's surface water resources is the Federal Water Pollution Control Act of 1972, or Clean Water Act (CWA). The Act utilizes water quality

**Table 3-2. Listed National Register of Historic Places Sites by County.**

| CREP Counties | Number of Listed NRHP Sites |
|---|---|
| 1. Aurora | 7 |
| 2. Beadle | 25 |
| 3. Bon Homme | 38 |
| 4. Brown | 44 |
| 5. Clark | 9 |
| 6. Davison | 22 |
| 7. Day | 11 |
| 8. Douglas | 8 |
| 9. Edmunds | 12 |
| 10. Faulk | 7 |
| 11. Hand | 6 |
| 12. Hanson | 7 |
| 13. Hutchinson | 28 |
| 14. Hyde | 3 |
| 15. Jerauld | 12 |
| 16. Kingsbury | 17 |
| 17. Marshall | 16 |
| 18. McCook | 8 |
| 19. McPherson | 5 |
| 20. Miner | 3 |
| 21. Sanborn | 8 |
| 22. Spink | 28 |
| 23. Yankton | 76 |
| | **Total 398** |

Source: NPS 2008b

standards, permitting requirements, and monitoring to protect water quality (FWPCA 1972). The EPA sets the standards for water pollution abatement for all waters of the U.S. under the programs contained in the CWA but, in most cases, gives qualified states the authority to issue and enforce permits. For this analysis, water resources include surface water quality and wetlands.

Surface waters are defined by EPA as waters of the United States and are primarily lakes, rivers, estuaries, coastal waters, and wetlands. Impaired waters are those surface waters with levels of pollutants that exceed State water quality standards. Every two years, states must publish lists referred to as 303(d) lists, of those rivers, streams, and lakes that do not meet their designated uses because of excess pollutants. Total maximum daily loads (TMDLs) of pollutants for the listed water bodies must be established by the state and approved by EPA (2008b).

The James River Watershed is the second largest river in South Dakota (South Dakota Department of Environment and Natural Resources [SDDENR] 2006). It drains approximately 12,000 square miles stretching from the northern to the southern border of South Dakota. The river basin encompasses approximately 8,122,568 acres of land. The river has many lakes, dams, and tributaries associated with the system. Agriculture is a predominant industry within the basin area.

Wetlands are defined by the U.S. Army Corps of Engineers (USACE) as areas characterized by a prevalence of vegetation adapted to saturated soil conditions and identified based on specific soil, hydrology, and vegetation criteria defined by USACE (1987). Riparian wetlands are associated with running water systems found along rivers, creeks, and drainage ways, and have a defined channel and floodplain.

Floodplains are defined by the Federal Emergency Management Agency (FEMA) as those low lying areas that are subject to inundation by a 100-year flood, a flood that has a one percent chance of being equaled or exceeded in any given year. Federal agencies are required to avoid, to the extent possible, adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development.

### 3.3.2 Affected Environment

#### Surface Water Quality

The SDDENR has assessed 28 lakes and maintains 21 water quality-monitoring sites within the river basin, and the USGS maintains two monitoring sites (SDDENR 2006). Lakes in the JRW are highly eutrophic due to nutrient enrichment and siltation, primarily from livestock operations and row crops (SDDENR 2006). The main impairments noted during the current testing cycle were low dissolved oxygen (DO), and high levels of total suspended solids (TSS) and fecal coliform. Many of the lakes and ponds within the JRW have a high Trophic State Index (TSI); this is a measure of turbidity and chlorophyll *a* levels. Not all the causes of these impairments are known; however, the main sources include non-point pollution, runoff from crop and livestock operations, and municipal discharges (SDDENR 2006).

Throughout the State of South Dakota, over 1,208 miles of rivers and streams are impaired by fecal coliform and TSS impairs over 2,058 miles of rivers and streams (SDDENR 2006). Approximately 81,300 acres of lakes and reservoirs have high TSI ratings. Over 13,200 acres of lakes and reservoirs are impaired by silt and sedimentation, which includes approximately 61 lakes. Table 3-3 summarizes river and stream water quality in the James River Watershed under the proposed South Dakota James River Watershed CREP Agreement.

#### Wetlands

There is an estimated 2.2 million acres of wetlands and deepwater habitat in eastern South Dakota prairie pothole region (PPR), more than 80 percent are palustrine systems, and the remaining are lacustrine and riverine systems (USGS 2006b). Palustrine wetlands of the PPR are associated with deep depressions (knob-and-kettle terrain), and shallow temporary and seasonal wetlands; while lacustrine systems consist of lakes and ponds, and riverine systems consist of rivers and streams. The majority of wetlands in this region, more than 95 percent, are less than five acres in size (USGS 2006b).

**Table 3-3. Surface Water Quality for the James River Watershed Based on the 2004 Section 303(d) List.**

| River Basin Segments | Basin Coverage (acres) | Impaired Waters | Major Causes of Impairment | Approved TMDLs by Pollutant Since October 1, 1995 |
|---|---|---|---|---|
| Lower James | 2,253,866 | Nine (9) – Beaver Lake, Dawson Creek, James River, James River, James River, Lake Hanson, Twin Lakes, Wilmarth Lake, and Wolf Creek | Trophic State Index<br>Ammonia<br>Total Suspended Solids | Ammonia – 11<br>Phosphorus - 2 |
| Middle James | 2,315,180 | Four (4) – James River, James River, James River, Lake Carthage | Ammonia<br>Fecal Coliform<br>Total Suspended Solids<br>Trophic State Index | Ammonia – 5<br>Phosphorus – 3<br>Fecal Coliform – 1<br>Sediment – 1 |
| Upper James | 913,285 | Three (3) – James River, Moccasin Creek, Richmond Lake | Fecal Coliform<br>Ammonia<br>Dissolved Oxygen<br>Trohic State Index | Ammonia – 4<br>Nutrients 1<br>Phosphorus – 1 |
| Snake | 983,656 | Three (3) – Bierman Dam, Rosette Lake, Snake Creek | Trophic State Index<br>Ammonia | Phosphorus – 3<br>Ammonia – 3<br>Sediment – 1 |
| Mud | 430,464 | One (1) – Amsden Dam | Trophic State Index | Ammonia – 1 |
| Elm | 322,957 | One (1) –Maple River | Sedimentation/Silt<br>Fecal Coliform<br>Ammonia<br>Dissolved Oxygen<br>Eutrophication | Phosphorus – 2<br>Ammonia – 2<br>Dissolved Oxygen – 1 |
| Turtle | 898,729 | Testing Not Completed at this time. | Testing not completed at this time. | NA |

Source:(EPA 2004 a, b, c, d, e, f) U.S. Environmental Protection Agency 2004 Section 303 (d) List Fact Sheets for Watersheds (River Segments) Internet site, http://oaspub.epa.gov/tmdl/huc_rept.control?p_huc

Wetlands filter excess nutrients, sediment, and toxic materials from agricultural runoff before discharging to waterways. Additionally, water is trapped in wetlands and slowly released over floodplains, buffering uplands from storm surges (NSU 1992). Prairie wetlands either drain or recharge ground water, and help maintain surface water and soil moisture levels. This area contains some of the most critical waterfowl breeding grounds in North America, providing cover and nesting habitat for hundreds of game and non-game wildlife species (NSU 1992). Additionally, the State is often the number one producer of ducks in the lower 48 states.

**Floodplains**

There are two main causes for flooding in South Dakota, runoff from rain and runoff from snow melt. Efforts to reduce flood damage include river channelization, construction of dams and levees, and removal of debris which clog channels. These measures reduce the impact of small floods, but do little, and may even create larger impacts downstream, during larger flood events (NSU 1995). In recent years however, efforts have been made by Federal, State, and private organizations to restore natural stream flow and riparian vegetation in floodplains throughout the Missouri River Basin (Missouri River Basin Association [MRBA] 2004).

## 3.4 Earth Resources

### 3.4.1 Definition of the Resource

For this analysis, earth resources are defined as topography and soils. Topography describes the elevation and slope of the terrain, as well as other visible land features. Soils are assigned to taxonomic groups and can be further classified into associations.

### 3.4.2 Affected Environment

#### 3.4.2.1 Topography

The James River drainage area encompasses approximately 16 percent of the total land within South Dakota. It is generally described by one major physiographic region, the Central Lowlands of eastern South Dakota (NSU 1997). Formed by advancing and receding glaciers during the Ice Age, this physiographic region is characterized by flat to gently rolling landscape with elevations that range from 1,300 to 1,400-feet. The Wessington Hills to the west of the valley rise 800-feet above the river, and the Prairie Coteau to the east rise 600-feet above the river. The river valley is approximately 250 miles in length with water depths ranging from 25 to 75 feet and varies in width over its course. A majority of the basin lacks decent drainage features. This may be due to the slight variance in elevation and the minor slope of the river, which could be expected in an area where prairie pothole features are predominant.

#### 3.4.2.2 Soils

A sizable area of South Dakota, running from north to south in the eastern half of the State, has been classified by NRCS as part of the Northern Great Plains Spring Wheat Region, in which the predominant soils are Mollisols. Major soil resource concerns in this region include reduced nutrient content, increasing salinity, and wind and water erosion (NRCS 2006). An area in eastern South Dakota, along the Minnesota and Iowa borders, has been classified by NRCS as part of the Central Feed Grains and Livestock Region. In this region, the dominant soils are

Alfisols, Entisols, Inceptisols, or Mollisols. The major soil resource concern in the region is water erosion (NRCS 2006).

## 3.5 Socioeconomics

### 3.5.1 Definition of the Resource

Socioeconomic analyses generally include detailed investigations of the prevailing population, income, employment, and housing conditions of a community or Region of Influence (ROI). The socioeconomic conditions of a ROI could be affected by changes in the rate of population growth, changes in the demographic characteristics of a ROI, or changes in employment within the ROI caused by the implementation of the proposed action.

Socioeconomic resources within this document include total population, rural population, total number of farms, and acreage eligible for available CPs associated with the JRW CREP implementation within the JRW and the State of South Dakota. These areas identify the components essential to describe the broad-scale demographic and economic components of the statewide effected agricultural population. Information in this section is being tiered from the 2003 Programmatic Environmental Impact Statement (PEIS) for the CRP and updated as necessary for a complete evaluation (FSA 2003b). Additionally, outdoor recreational activities within the State of South Dakota are being identified as to their overall monetary and non-monetary societal benefits.

### 3.5.2 Affected Environment

#### 3.5.2.1 General Population Characteristics

**Population**

South Dakota had a population of approximately 750,000 persons in 2000 with approximately 51.9 percent (390,000 persons) living in urban areas (U.S. Census Bureau [USCB] 2002). Of the population living in rural areas, 16.0 percent (58,000 persons) lived on farms. The 2006 American Community Survey (ACS) (USCB 2006) indicated that the population of South Dakota had increased approximately 4.3 percent between 2000 and 2006. Within the JRW, the population has shown an estimated decline every year since 2000 (a total decline of 4.6 percent to 167,126 person), when the regional population was 175,130 (USCB 2002, USCB 2008). The JRW is primarily rural, with a total regional population living in a rural environment of 61.2 percent (USCB 2002). From that rural population, 12.6 percent of total regional population lived on farms (USCB 2002). When compared to South Dakota with a farm population of 7.7 percent, the JRW has a higher percentage of population living in rural areas and on farms.

**Personal Income and Earnings**

Economic characteristics from the 2006 ACS indicate a median household income (MHI) of $35,282 (84.0 percent of the nationwide MHI) and a per capita income (PCI) of $17,562 (81.4 percent of the nationwide PCI), both slightly lower than the nationwide levels (USCB 2006). The MHI in the JRW ranged from a low of $22,380 in McPherson County in 2000 (63.4 percent of the South Dakota MHI $35,282 in 2000) to a high of $35,396 in McCook County (100.3 percent of the South Dakota MHI) (USCB 2002). The average median household income

in 2000 was $31,205 (88.4 percent of the South Dakota MHI) (USCB 2002). Table 3-4 illustrates data from the Bureau of Economic Analysis (BEA) for earnings by place of work between 2001 to 2006 as a combined JRW region. The BEA defines earnings as the sum of three components of personal income-wage and salary disbursements, supplements to wages and salaries, and proprietors' income. Personal income across South Dakota increased approximately 23.6 percent between 2001 to 2006 at an average annual rate of approximately of 4.3 percent (BEA 2008a). Farm proprietors' income fluctuated widely during the period, while nonfarm proprietors' income has increased at an average annual rate of 5.4 percent in the State. Likewise, farm earnings have also fluctuated. The agriculture and forestry support activities earnings have maintained a growth in earnings at an average annual rate of 4.6 percent. In the region, personal income increased approximately 15.2 percent, while the population declined, while other measures followed the trends identified at the State level.

**Table 3-4. Personal Income Category for the Combined JRW Region.**

| Earnings Measure | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|---|
| | $ (1,000) unless otherwise noted | | | | | |
| Personal income | 4,559,252 | 4,430,316 | 4,936,810 | 5,300,430 | 5,245,535 | 5,251,046 |
| Population (persons) | 166,824 | 165,013 | 163,914 | 163,388 | 162,568 | 161,656 |
| Per capita personal income (dollars) | 573,364 | 532,638 | 643,773 | 695,626 | 680,988 | 648,450 |
| Farm proprietors' income | 336,072 | 111,678 | 517,661 | 665,466 | 439,626 | 156,866 |
| Nonfarm proprietors' income | 386,515 | 400,904 | 423,194 | 478,967 | 504,115 | 541,775 |
| Farm earnings | 389,312 | 160,063 | 552,972 | 718,174 | 493,041 | 209,915 |
| Average Farm Earnings Per County | 16,927 | 6,959 | 24,042 | 31,225 | 21,437 | 9,127 |
| Nonfarm earnings | 2,486,069 | 2,582,087 | 2,694,927 | 2,868,989 | 3,007,491 | 3,175,877 |

Farm Earnings are comprised of the net income of sole proprietors, partners and hired laborers arising directly from the current production of agricultural commodities, either livestock or crops. It includes net farm proprietors' income and the wages and salaries, pay-in-kind, and supplements to wages and salaries of hired farm laborers; but specifically excludes the income of non-family farm corporations.

Source: BEA 2008a. Adapted from Table CA05N - Personal Income and Detailed Earnings by Industry – South Dakota Counties Note: BEA definitions

## Employment

The Bureau of Labor Statistics (BLS) compiles current and historic data on the labor force, the number of persons employed, the number of person unemployed, and the unemployment rate. South Dakota, between 2000 to 2007, increased the total nonfarm labor force by approximately 2.7 percent to approximately 520,000 persons (BLS 2008). During this period the labor force grew at an average annual rate of approximately 1.1 percent per year. The unemployment rate increased 0.3 percentage points to 3.0 percent in 2007 (BLS 2008). This was a decline from the higher levels between 2002 to 2005, when the unemployment rate was between 3.1 to 3.7 percent. The JRW region labor force declined by approximately 0.1 percent; however, during the period between 2000 to 2007, the labor force fluctuated with an increase between 2000 to 2001, a substantial decline from 2001 to 2002, a rebound from 2002-2005, and a decline starting

between 2005 to 2007. During the period the number of persons employed decline by 0.3 percent, while the unemployment rate increased by 0.3 percent (BLS 2008).

The BEA also tracks employment characteristics at the farm and nonfarm levels. Table 3-5 illustrates the employment levels between 2001 to 2006 for the State of South Dakota and the combined JRW region. This data indicates a continuing loss of farm employment during this period, while nonfarm employment has increased since 2001.

#### 3.5.2.2 General Agricultural Characteristics

The National Agricultural Statistic Service (NASS) estimated that there were approximately 31,300 farms with approximately 43.7 million acres of land in farms in South Dakota in 2007 (NASS 2008a) (Table 3-6). The FSA detailed in their 2007 Annual Summary of the CRP that there were 14,817 South Dakota farms (47.3 percent of the total number of farms) with 1.6 million acres (approximately 3.7 percent of the total land in agriculture) in CRP practices (FSA 2008b).

**Table 3-5. Employment Positions in the State of South Dakota between 2001-2006.**

| Type of Employment | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|---|
| **State of South Dakota** | | | | | | |
| Total employment | 517,285 | 519,394 | 518,248 | 529,965 | 542,401 | 555,921 |
| Farm employment | 37,337 | 37,301 | 35,076 | 36,164 | 36,067 | 35,892 |
| Nonfarm employment | 479,948 | 482,093 | 483,172 | 493,801 | 506,334 | 520,029 |
| **JRW Region** | | | | | | |
| Total Employment | 112,174 | 111,080 | 109,677 | 111,731 | 114,194 | 116,139 |
| Farm Employment | 14,076 | 14,066 | 13,223 | 13,629 | 13,600 | 13,531 |
| Percent of Statewide Farm Employment | 37.7 | 37.7 | 37.7 | 37.7 | 37.7 | 37.7 |
| Nonfarm Employment | 98,098 | 97,014 | 96,454 | 98,102 | 100,594 | 102,608 |

Source: BEA 2008b – Adapted from Table CA25N – Total Employment by Industry - South Dakota and Counties

Within the JRW region, the only available data at the county level was compiled for the 2002 Agricultural Census. All data at the county and regional level was adapted from the 2002 Agricultural Census. In 2002, the JRW accounted for approximately 12.7 million acres in South Dakota (26.2 percent of the land area of the State) with approximately 11.6 million acres in farms (26.6 percent of the land in farms in South Dakota) (NASS 2002a). The region accounted for approximately 40.2 percent of the total cropland in South Dakota and 47.2 percent of the harvested cropland (NASS 2002a). The region also accounted for approximately 43.0 percent of the total CRP acres in 2002 (NASS 2002a). The amount of total cropland and CRP enrolled acre per county by the JRW region can be found in Appendix F.

**Table 3-6. Land Use in the JRW Region and South Dakota 2002.**

| Land Use | JRW Region | South Dakota | Percent of South Dakota |
|---|---|---|---|
| Approximate Land Area | 12,717,963 | 48,566,168 | 26.2 |
| Land in Farms | 11,630,230 | 43,785,079 | 26.6 |
| Total Cropland | 8,175,563 | 20,318,036 | 40.2 |
| Harvested Cropland | 6,364,199 | 13,492,286 | 47.2 |
| Woodland | 35,766 | 236,025 | 15.2 |
| Pasture and Rangeland | 3,011,582 | 22,025,971 | 13.7 |
| Land in Houses, Roads, Ponds, etc. | 407,319 | 1,205,047 | 33.8 |
| Land Enrolled in CRP | 577,033 | 1,342,598 | 43.0 |

Source: NASS 2002a

The counties within the JRW that are ranked in the top 15 counties within the State for cash receipts in 2006, total crop production in 2007, or livestock inventory on 01 January 2008 can be found in Appendix G (NASS 2008b). It is noted that Spink County was one of the highest ranking counties in the State in terms of both crop and livestock production.

#### 3.5.2.3 JRW Regional 2002 Production Expenses, Agricultural Sales, and Other Farm Related Income

Farm production expenses in 2002 on (99.9 percent of regional farms) were estimated to exceed $1.4 billion in the region with the largest category of crop related expenditures being seeds, plants, vines, and trees ($113.5 million) (NASS 2002b). Total agricultural sales (100 percent of regional farms) exceeded $1.7 billion with crops (62.2 percent of regional farms) accounting for $744.8 million and livestock production (60.4 percent of regional farms) accounting for $941.5 million in the region (NASS 2002c). Other farm related income (i.e., recreation, custom farming, cooperative patronage rebates, cash rents, etc.) (57.4 percent of regional farms) attributed an additional $62 million to farm balance sheets in 2002 (NASS 2002d). The average per farm value for each of these areas by county within the JRW and the regional total can be found in Appendix G.

Data from the 2002 Agricultural Census indicates that the average farm production expenses per acre (using the total acres in farms minus land in houses, roads, ponds, etc. within the region) was $127.71 per acre (NASS 2002a, NASS 2002b). Farm income from agricultural sales was estimated to have been $150.26 per acre (using the total acres in farms minus land in houses, roads, ponds, etc) with income from farm related sources adding $5.56 per acre (NASS 2002a, NASS 2002c, NASS 2002d).

#### 3.5.2.4 General Outdoor Recreational Characteristics

In 2008, the USFWS published the 2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (U.S. Department of Interior and U.S. Department of Commerce 2008). Details of the survey were conducted at national and State levels. The 2006 Survey found that approximately 0.6 million South Dakota residents and nonresidents older than 16 participated in fishing, hunting, or wildlife watching activities. It was estimated that 0.3 million persons either fished, hunted, or both and that 0.4 million persons took part in wildlife watching activities. These participants spent approximately $550 million on wildlife related recreation in South Dakota. Anglers spent approximately $971 per person on expenditures with an average per trip expenditure per day of $35. Hunters spent on average $1,075 per person with an average per trip expenditure of $68 per day. Wildlife watching participants spent on average $418 per person with an average per trip expenditure per day of $94. The 2006 survey indicated that the majority of hunters (56 percent) participated in hunting activities on private lands, alone. Approximately 24 percent of hunters hunted on a combination of public and private lands, and 16 percent hunted on public land alone. The 2006 survey indicated that the majority of hunters (78 percent) participated in hunting activities for small game, while about 39 percent of the hunters participated in big game hunting with hunting migratory birds at a lesser extent (17 percent). Data indicates that a subset of hunters hunted more than one class of game during the year.

Big game species in South Dakota include turkey, antelope, deer, mountain lion, elk, bighorn sheep and mountain goat. Small game species include pheasants, grouse, partridge, rabbit, and squirrel. Migratory waterfowl include a wide list of species, including goose, swan, and duck.

Southwick Associates, Inc. and D.J. Case & Associates (Southwick and Case 2008) undertook a survey of a randomly selected 4,000 CRP participants throughout the United States to understand how CRP acreage was being used for recreational purposes. A response rate of 74 percent was recorded for these surveys. They found that 57 percent of the respondents allowed some portion of their CRP acreage to be used for recreational purposes. Within those that allowed their CRP acreage to be used for recreational purposes, the most common uses were hunting (89 percent), wildlife viewing (44 percent), hiking (23 percent), fishing (7 percent), and various other recreational uses. Ten percent of the affirmative CRP participants received income from the recreational use of their CRP acreage. The study found that CRP enrollment has an indirect effect in determining whether to lease property for recreational purposes. They also found that on average CRP participants received $1.90 per acre before enrollment and after enrollment that average increased to $6.13 per acre. They extrapolated this result to indicate that if all CRP acreage was used to generate recreational income the approximately 36.0 million acres would generate $28.9 million. Without CRP, the study estimates that value to be approximately $7.6 million, approximately $21 million less than the CRP enrollment.

There are over 462 lakes and streams for fishing within the 23 counties that define the James River Watershed area (us-geographic.com 2008). Species commonly sought after include bullhead catfish, channel catfish, northern pike, muskellunge, white bass, rock bass, bluegill, crappie and walleye that are found in many of the local lakes and/or streams. In 2004, there were 128,215 licensed adult and junior (16 and older) resident anglers in South Dakota, 21.3 percent of the adult population (SDGFP 2008). Resident and non-resident anglers in South Dakota generated an estimated $181 million in 2004.

Sullivan et al. (2004) indicated that CRP wildlife related practices in the North Plains was estimated to generate approximately $63 million in nonmarket benefits to wildlife at an average benefit of $7.00 per acre. This was built on the general idea that CRP practices associated with permanent and temporary wildlife habitat factors generated a more favorable environment for both game and non-game species. The study estimated that the Northern Plains contained approximately 26.2 percent of the total CRP acreage, but 44.5 percent of the CRP acreage enrolled in wildlife practices. It also concludes that the estimated wildlife benefits included approximately $33 million per year for wildlife viewing and $30 million per year in pheasant hunting.

## 3.6 Other Protected Resources

### 3.6.1 Definition of the Resource

Other protected resources include lands managed by the USFWS, NPS, and the USFS. National Wildlife Refuges are managed by the USFWS. The NPS manages National Parks, National Landmarks, National Historic Sites, and National Wild and Scenic Rivers. The USFS manages National Forests, National Recreation Areas, Wilderness and Wilderness Study Areas, and National Wild and Scenic Rivers. For this analysis, other protected resources are those lands within the proposed CREP counties that are managed by the federal government for the purpose of conservation, recreation, or research.

### 3.6.2 Affected Environment

As previously mentioned, the James River Watershed is contained within 23 counties in South Dakota. Table 3-7 presents other protected resources found with the JRW CREP area.

**Table 3-7. Other Protected Resources in the Proposed CREP Area.**

| Resource | County | Managing Agency |
|---|---|---|
| **National Historic Landmarks** | | |
| Bloom Site | Hanson County | NPS |
| Mitchell Site | Davison County | NPS |
| **Wetlands Management Districts (WMD)** | | |
| Sand Lake | Spink, McPherson, Brown, Edmunds, Faulk | USFWS |
| Waubay | Marshall, Day Clark | USFWS |
| Huron | Hyde, Hand, Beadle, Jerauld, Sanborn | USFWS |
| Madison | Kingsbury, Miner, McCook | USFWS |
| Lake Andes | Aurora, Davison, Hanson, Douglas, Hutchinson, Bon Homme, Yankton | USFWS |
| **National Wildlife Refuges (NWR)** | | |
| Sand Lake NWR | Brown | USFWS |
| Waubay NWR | Day | USFWS |
| **Indian Reservations (IR)** | | |
| Yankton IR | Douglas | Sioux |
| **Missouri National Recreational River** | | |
| Missouri National Recreational River | Yankton, Bon Homme | USFWS |

Sources: NPS 2008c, 2008d; Giese 1997; ePodunk 2008b; USFWS 2008b

# 4.0 ENVIRONMENTAL CONSEQUENCES

## 4.1 Biological Resources

Impacts to biological resources would be considered significant if implementation of an action or program resulted in reducing wildlife populations to a level of concern, removing land with unique vegetation characteristics, or an incidental or otherwise take of a protected species or critical habitat.

### 4.1.1 Vegetation

#### 4.1.1.1 Proposed Action Alternative

Implementing the Proposed Action Alternative is expected to result in positive impacts to vegetation within the CREP river basins. The establishment of plant communities that would result from acceptable CPs with either natural or introduced species in areas where crops were once grown is expected to result in greater vegetative species diversity. Establishment and continuation of Permanent Wildlife Habitat (CP-4D), Vegetative Cover - Grass Already Established (CP-10), Marginal Pastureland - Wildlife Habitat Buffer (CP-29), and Marginal Pastureland - Wetland Buffer (CP-30) are expected to restore perennial plant and wildlife communities while reducing the occurrence of noxious plants. Establishing filter strips, (CP-21), riparian buffers (CP-22), implementing floodplain and non-floodplain wetland restoration (CP-23, CP-23A), restoring duck nesting habitat (CP-37) and maintaining marginal pasture for wetland buffers (CP-30) are expected to reduce runoff of agricultural chemicals, excess nutrients, and sediment, thus improving the quality of habitats for aquatic plants by decreasing turbidity and enrichment from fertilizers, which in turn would allow more sunlight to reach submerged rooted plants. These practices will also slow and retain runoff, increase water infiltration and minimize flooding.

#### 4.1.1.2 No Action Alternative

Under the No Action Alternative the proposed JRW CREP Agreement would not be implemented. Lands that would have been eligible for enrollment would remain in agricultural production. The continued use of land for agriculture or the conversion of land to another type of agricultural production would reduce vegetative diversity, increasing susceptibility to invasion by exotic species, thus reducing wildlife habitat. The runoff of agricultural chemicals, animal wastes, and sediment would continue to degrade water quality, threatening aquatic biodiversity.

### 4.1.2 Wildlife

#### 4.1.2.1 Proposed Action Alternative

Implementation of the Proposed Action would result in long term beneficial impacts to the wildlife and fisheries within the proposed JRW CREP area. The agricultural and pastureland eligible for enrollment in the proposed JRW CREP Agreement consists of previously disturbed landscapes. Wildlife populations have been reduced or displaced on these lands, and wildlife and fish habitats have been degraded by agricultural activities.

By replacing existing monocultures with native and non-native vegetation, the JRW CREP would increase and improve habitat for terrestrial wildlife. With increased plant species

diversity, a corresponding increase in animal species diversity is expected. Grassland birds would benefit primarily from the establishment of Permanent Wildlife Habitat (CP-4D), Grass - Already Established (CP-10) and the Duck Nesting Habitat Initiative (CP-37). Additionally, ungulate, small mammal, and predator populations would also benefit from these practices as well as the Establishment of Wildlife Habitat Buffers (CP 29). Wetland birds would benefit from the wetland restoration practices (CP-23, CP-23A, and CP37). These practices, as well as the establishment of Filter Strips (CP-21), Riparian Buffers (CP-22) and Wetland Buffers (CP-30), will improve habitats for aquatic species including recreationally important fish, as runoff of sediment and agricultural chemicals are reduced.

#### 4.1.2.2 No Action Alternative

Under the No Action Alternative the JRW CREP would not be implemented. Eligible lands would not be enrolled in the CREP; the positive benefits of increased and improved habitat for terrestrial wildlife, and the benefits for aquatic species from wetland restoration and buffer practices would not be realized. The runoff of agricultural chemicals, animal wastes, and sediment would continue to degrade water quality, threatening aquatic biodiversity.

### 4.1.3 Protected Species

#### 4.1.3.1 Proposed Action Alternative

Similar to vegetation and wildlife, some threatened and endangered species are expected to experience long term benefits from the improvements in surface water quality both within and downstream of the project area and the establishment of permanent plant communities including native terrestrial habitats. The aquatic habitat used by the pallid sturgeon, Topeka shiner, scaleshell mussel and Higgins eye (pearlymussel) is expected to improve as a result of reduced runoff of agricultural chemicals and soil erosion from Filter Strips (CP-21), Riparian Buffers (CP-22) and wetland restoration practices (CP-23, CP-23A, CP-30, CP-37). Such water quality improvements are also expected to improve the foraging habitat of the piping plover, whooping crane, and Eskimo curlew. Establishment of Permanent Wildlife Habitat (CP-4D), Vegetative Cover - Grass Already Established (CP-10) and Duck Nesting Habitat Initiative (CP-37) would benefit the western prairie fringed orchid. It is unlikely that there would be any negative effects on threatened and endangered species by the actions of the JRW CREP since none of these species benefits from the cropland monocultures or disturbed habitat.

Temporary minor negative impacts could occur during land preparation as a result of noise or other disturbance. Consultation with the USFWS is recommended for those areas that support habitats where protected species could occur (Appendix E). Such site-specific environmental evaluations would identify these areas and verify the presence or absence of protected species and in Yankton or Bon Homme counties designated critical habitat, and provide measures to eliminate or reduce potential impacts.

Prior to enrollment in the program, site-specific environmental evaluations would identify the potential for protected species to be present. If a species is present, consultation with the USFWS would be undertaken to assess possible impacts. If any negative impacts are identified, from the proposed CREP, it is not likely the land would be accepted into the program.

#### 4.1.3.2 No Action Alternative

Under the No Action Alternative the proposed JRW CREP Agreement would not be implemented. Lands that would have been eligible for enrollment would remain in agricultural production. The continued use of land for agriculture or the conversion of land to another type of agricultural production would continue to have negative impacts on threatened, endangered, and sensitive species by reducing or degrading available habitat and degrading water quality through the runoff of agricultural chemicals, animal wastes, and sediment, threatening aquatic species.

## 4.2 Cultural Resources

### 4.2.1 Archaeological Resources

#### 4.2.1.1 Proposed Action Alternative

Due to the long history of human occupation in the CREP agreement area and its association with the extensive rivers and other perennial water bodies in the State, the potential for encountering archaeological resources during implementation of CREP contracts is considered high. Conservation practices that are ground disturbing beyond what is normally disturbed from agricultural plowing would have the potential to impact known and yet unknown archaeological resources. Proposed CP practices may include removal of existing vegetation, grading, leveling and filling for site preparation, construction of structures to regulate flow and restore hydrology, building fences to preclude livestock, and building temporary water control structures. In order to determine whether such proposed ground-disturbing practices would impact cultural resources, FSA would consult with the South Dakota SHPO prior to implementation of the contract to determine whether an archaeological survey is warranted. Should surveys be required, they would be conducted in accordance with 36 CFR §800 requirements or by utilizing procedures in a State level agreement, if one exists. If no such resources are present, the Section 106 process is complete. If archaeological resources are present and are determined eligible for the National Register, FSA would determine in consultation with SHPO/THPO if they would be affected by the proposed activities, and if adverse effects are found, mitigation measures would be implemented.

#### 4.2.1.2 No Action Alternative

Under the No Action Alternative, the proposed CREP would not be implemented. Potential impacts to archaeological properties and requirements for mitigating such impacts would not occur.

### 4.2.2 Architectural Resources

#### 4.2.2.1 Proposed Action Alternative

Standing architecture is not likely to be found on the agricultural lands that are eligible for the CREP; however, FSA would consult with the SHPO/THPO on the potential for finding such resources and whether an architectural survey would be required. If any such resources were found, they would be evaluated and treated in accordance with FSA and SHPO/THPO consultation agreements.

#### 4.2.2.2 No Action Alternative

Under the No Action Alternative, the proposed CREP would not be implemented. Potential impacts to architectural properties and requirements for mitigating such impacts would not occur.

### 4.2.3 Traditional Cultural Properties

#### 4.2.3.1 Proposed Action Alternative

Other resources, such as traditional cultural properties, may also be found on enrolled lands, although probably not as often as archaeological resources. Because the areas of potential effect of CREP actions are not yet defined, no American Indian religious or culturally significant historic properties have been identified. Once these areas are defined, consultation with Native American groups that have traditional ties to the land would be required to determine whether such properties exist within specific project areas. Consultation would be conducted with Indian Tribes on the basis of a government-to-government relationship following the guidance established in the Advisory Council on Historic Preservation's "Consulting with Indian Tribes in the Section 106 Process".

#### 4.2.3.2 No Action Alternative

Under the No Action Alternative, the proposed CREP would not be implemented. Potential impacts to traditional cultural properties and requirements for mitigating such impacts would not occur.

## 4.3 Water Resources

Impacts to water resources could be considered significant if implementation of the proposed action resulted in changes to water quality, threatened or damaged unique hydrologic characteristics, or violated established laws or regulations.

### 4.3.1 Surface Water Quality

#### 4.3.1.1 Proposed Action Alternative

Implementing the Proposed Action Alternative is expected to result in long term positive impacts to surface water quality in the JRW. Five of the CPs listed in Section 2.1 are designed to improve water quality. Establishment of filter strips and buffers, and restoration of wetlands (CP-21, CP-22, CP-23, CP-23A, CP-29, CP-30, CP-37), would stabilize soils and stream banks, provide vegetative areas for the retention of sediment, nutrient, and rainwater runoff from adjacent lands, and improve aquatic habitat. Establishing native grasses and wildlife habitat (CP-4D, CP-10) would also stabilize soils and reduce erosion. Implementation of these CPs would improve surface water quality.

Activities such as vegetation clearing and soil disturbance would occur during the installation of CPs. This could result in temporary and minor negative impacts to surface water quality resulting from runoff associated with these activities. Use of erosion control fencing or similar practices would reduce these impacts. These impacts would be localized and cease with the conclusion of land preparation activities.

#### 4.3.1.2 No Action Alternative

Under the No Action Alternative the proposed CREP would not be implemented. The use of land for agriculture or conversion of lands to other types of agricultural production could result in the continued degradation of water quality from runoff of agricultural chemicals, animal waste, and sediment. Potential benefits to water resources would not be realized.

### 4.3.2 Wetlands

#### 4.3.2.1 Proposed Action Alternative

Reductions in nitrogen, phosphorous, and other agricultural chemicals in runoff would occur with the conversion of agricultural land under this alternative. Implementation of wetland restoration in floodplain and non-floodplain settings (CP-23, CP-23A, and CP-37) is expected to increase wetland acreage and restore degraded marsh habitat in the South Dakota CREP area. Wetlands act as natural filters by containing sediments and nutrients from runoff before releasing to nearby surface waters. Additionally, wetlands trap and slowly release floodwaters over the floodplain which decreases flood heights. The Proposed Action Alternative restoration of wetlands is expected to have long-term benefits for terrestrial and aquatic wildlife.

Activities such as vegetation clearing and soil disturbance would occur during the installation of CPs. This could result in temporary and minor negative impacts to wetlands resulting from associated runoff. Use of best management practices (BMPs) to control erosion and invasive plant species would reduce impacts and contain sediment within the site. These potential impacts are short term and localized, and would cease with conclusion of land preparation activities.

#### 4.3.2.2 No Action Alternative

Under the No Action Alternative, the CPs described in Section 2.1 would not be implemented and no increase to existing wetland acreage would occur. Continued runoff of agricultural chemicals, erosion of soils, and the impacts of these to wetlands would be expected if the No Action alternative were implemented.

## 4.4 Earth Resources

Impacts to earth resources would be considered adverse if implementation of the proposed action resulted in permanently increasing erosion and stream sedimentation, or affected topographical or unique soil conditions.

### 4.4.1 Proposed Action Alternative

Under the Proposed Action Alternative, long term positive impacts to earth resources are expected to occur from localized stabilization of soils and topography. Reduced erosion and runoff as a result of restoration of Grassed Filter Strips (CP-21) and Riparian Buffers (CP-22) would stabilize stream banks, resulting in reduced rates of sedimentation. Restoring wetlands (CP-23, CP-23A, CP-30, and CP-37) promotes aquatic vegetation that slows the velocity of water runoff and reduces flooding and its erosive potential. Short term disturbance to soils during implementation of the CREP could include grading, leveling, tilling, or installation of various structures such as fences and temporary irrigation features. These activities may result in temporary minor increases in soil erosion; however, they may be mitigated by implementing

erosion control BMPs such as establishing stable grades, conserving topsoil, silt fencing, and vegetated filter strips.

### 4.4.2 No Action Alternative

Under the No Action Alternative the proposed CREP would not be implemented. Eligible lands would not be enrolled in the proposed CREP and potential impacts and benefits to earth resources would not result. The positive impacts associated with the expected reduction in erosion from wind and water would not be realized; soil degradation, loss of organics and nutrients, would continue.

## 4.5 Socioeconomics

A significant impact to socioeconomic conditions can be defined as a change that is outside the normal or anticipated range of those conditions that would flow through the remainder of the economy and community creating substantial adverse effects. For small percentage changes in individual attributes, it would be unlikely that the changes would result in significant impacts at the total level of analysis (i.e., statewide). Changes to the statewide economy of greater than agriculture's normal contribution could be considered significant, as this could affect the general economic climate of other industries on a much greater scale.

Additional changes in demographic trends (i.e., population movements) would be considered significant if a substantial percentage of the population were to enter or leave a particular area based on the changing economic conditions associated with the alternatives, rather than projected changes or changes generated by economic activities as a whole.

### 4.5.1 Proposed Action Alternative

Under the Preferred Alternative the JRW CREP would be implemented. This would allow for approximately $156.6 million in discounted spending by Federal and local agencies to conserve, protect, and convert marginal agricultural lands to approved CPs with up to 60,000 acres of wetlands and 40,000 acres of permanent vegetation. The analysis for this alternative is based on a maximum enrollment scenario, with the conversion of 100,000 acres from the JRW region. A more likely scenario is a gradual conversion up to a certain point of less than full adoption. The full adoption within the first year is an extreme scenario with the most potential to negatively impact socioeconomic resources. This approach provides a mechanism to gauge the potential effects to the socioeconomic conditions of the region through the implementation of the Proposed Action.

Under the full implementation scenario of the Proposed Action 100,000 acres would be enrolled in the JRW CREP foregoing active crop production on these lands for a period of 10 to 15 years. In 2002, there were approximately 8.2 million acres of total cropland within the JRW region with 6.4 million acres having been harvested. The purpose behind the CREP is to enhance water quality, hold soils, and provide wildlife habitat for the watershed by removing marginal croplands from production and restoring them for conservation purposes. In 2002, there were just under 0.5 million acres of failed or abandoned croplands within the region. If these failed croplands were considered marginal acres then approximately 21.8 percent of these marginal lands would be removed from crop production activities and placed in conservation practices. Of the total cropland within the region, the 100,000 acres proposed for the CREP would account

for approximately 1.2 percent of the land area, leaving active, harvestable acreage in crop production.

It has been considered that marginal croplands require greater input of farm production expenses than more arable lands, thereby indicating a higher per acre cost of farm production expense per revenue received off that acre. Historical production data indicated that the average per acre cost of farm production expenses in 2007 within the region was $242.74, with sales per acre of $416.71. These averages included cropland for corn, soybeans and wheat.

A fully implemented scenario was developed by assuming full enrollment of 100,000 acres with 25,000 acres being enrolled for 10 years in applicable CPs and 75,000 acres being enrolled for 15 years in applicable CPs. Table 4-1 indicates the potential fully implemented scenario using the full averages for expenses, sales, other farm income related benefits, and potential CREP spending. Under the full implementation scenario there would be less than a one percent change in agricultural sales or farm production expenses per year during the JRW CREP enrollment period. Producers with land enrolled in the CREP would discover an economic advantage from enrolling their marginal acreage in CREP. The CREP would produce a decline in the total volume of farm production expenses; however, when compared to the region as a whole, that effect would be small and should reach a new equilibrium within a few years after acres are enrolled and conservation practices are installed. In 2002, only three out of the 23 counties had greater than ten percent of total cropland enrolled in CRP (Appendix F). The general CRP ensures that no more than 30 percent of total cropland within any one county is enrolled.

**Table 4-1. Estimated Effects from Full Implementation (2009-2023).**

| Metric | Total Discounted Value | Average Discounted Value Per Year | Percent of 2007 Total Value |
|---|---|---|---|
| CREP Spending + Producer Cost Share | $151.5 million | $11.7 million | Not Applicable |
| Potential Foregone Income | $436.4 million | $33.6 million | 0.63 |
| Potential Foregone Farm Production Expenses | $254.2 million | $19.6 million | 0.47 |
| Potential Recreational Benefits | $5.8 million | $0.4 million | Not Applicable |

#### 4.5.1.1 General Population Characteristics

Sullivan et al. (2004) looked at the rural economic trends following implementation of the general CRP. The data period observed was from 1985 to 2000 as a long term look at trends with 1985 to 1992 being used to identify any short term trends. Sullivan et al. (2004) did find that in the short term counties having a high level of CRP enrollment in distinctly rural areas tended to experience downward trends in local population and employment, though the significance of these trends varied. They found that there was no significant correlation between CRP enrollment and negative population changes, but did find evidence of correlation with CRP enrollment and job loss in the short term. In the long term there was no evidence for any

correlation on these factors. Sullivan et al. (2004) found that counties with small agricultural service centers experienced sharp reductions in demand for farm-related business services and products as farmland was retired. However, over the long term the studies indicated that the rural economies were adaptable enough to adjust to the changing markets.

Given the relatively small amount of acreage proposing to be enrolled, implementing the Proposed Action is unlikely to produce measurable changes in the general population characteristics of the region in either the short term or longer term. There would be a period of transition as acreage is enrolled with the CREP program; however, even at full implementation the effects would produce less than a one percent decline in the purchase of farm production expenses (i.e., feed, seed, fertilizers, etc.) (Appendix H). As such, no anticipated declines in population or personal income are anticipated.

#### 4.5.1.2 Outdoor Recreation

In general, biological conditions that enhance habitats for wildlife increase the overall societal value for these species. Implementing the Proposed Action would result in positive benefits, both monetary and non-monetary, if there were additional opportunities for outdoor recreation activities. If new enrollment activities provide vegetation disturbance similar to natural occurrences, there should be varied positive habitat effects for both game and non-game species. In general, CRP practices have been found to create positive net societal benefits for a variety of resources (i.e., water quality improvements, wildlife habitat, reduced erosion and sediment transport) (Sullivan et al. 2004). An increase in game species could increase the monetary benefits associated with consumptive uses at local (i.e., motel booking, gas station sales) and regional (i.e., sporting goods dealers) levels. Additionally, an increase in non-game species could create both monetary (i.e., wildlife watching, contributions to conservation measures) and non-monetary benefits (i.e., the societal benefits associated with existence values). Overall, enhancement of wildlife habitat would generate small positive values to local and regional communities.

### 4.5.2 No Action Alternative

Under the No Action Alternative, the JRW CREP would not be implemented and current farming practices would continue. Unlike the Proposed Action Alternative, no acreage would be enrolled in the CPs within the watershed. This alternative would not produce any measurable changes to the general population characteristics of the region as there would be no changes to the sales or spending patterns of the agricultural producers. However, there would be the lost benefits associated with the CPs in regards to water quality, soil retention, and improved wildlife habitat. Also, public hunting lands would continue to be burdened within the region as no new areas were developed for general access hunting. The lack of new CREP acreage would also keep some marginal lands in agricultural production, instead of the more societal beneficial conservation practices.

## 4.6 Other Protected Resources

Impacts to other protected resources would be adverse if an action interfered with the ability of the agency managing the protected resource to carry out the conservation, or research mission of that resource. For example, an action that would interfere with public access or experience at a National Park would be considered an adverse impact.

### 4.6.1 Proposed Action Alternative

Implementation of the Proposed Action would result in the establishment of CPs on environmentally sensitive agricultural lands in portions of 23 counties. No negative impacts to other protected resources in the proposed CREP area are expected to result from this action. All lands eligible for entry into the CREP are private lands that meet enrollment criteria. The re-establishment of wildlife habitat (CP-4D), vegetative cover (CP-10), filter strips (CP-21), riparian buffers (CP-22), wetland restoration (CP-23, CP-23A, CP-37), and wildlife habitat and wetland buffers (CP-29, CP-30) may positively affect other natural lands by increasing wildlife abundance and diversity and reducing erosion, sedimentation, and nutrient deposition into waterways. Restoration of previously fragmented or degraded habitat would be expected to result in improved water quality, stabilized wildlife populations and increased opportunities for wildlife dependant recreation.

### 4.6.2 No Action Alternative

Under the "No Action" Alternative, the proposed CREP would not be implemented. Agricultural lands would continue under production, or possibly be converted to another use that is more conflicting with adjacent other protected resources. Benefits to other protected resources would not occur from implementation of the Proposed Action.

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# 5.0 CUMULATIVE EFFECTS

## 5.1 Introduction

CEQ regulations stipulate that the cumulative effects analysis within a PEA should consider the potential environmental impacts resulting from "the incremental impacts of the action when added to other past, present and reasonably foreseeable actions regardless of what agency or person undertakes such other actions." CEQ guidance in Considering Cumulative Effects affirms this requirement, stating that the first steps in assessing cumulative effects involve defining the scope of the other actions and their interrelationship with the Proposed Action. The scope must consider geographic and temporal overlaps affected by the Proposed Action and other programs or projects. It must also evaluate the nature of interactions among these actions.

Cumulative effects most likely arise when a relationship exists between a Proposed Action and other actions expected to occur in a similar location or during a similar time period. Actions overlapping with or in proximity to the Proposed Action would be expected to have more potential for a relationship than those more geographically separated. Similarly, actions that coincide, even partially, in time tend to have potential for cumulative effects.

## 5.2 Past, Present, and Reasonably Foreseeable Actions

In this PEA, the affected environment for consideration of direct and indirect impacts includes those 23 counties where lands are eligible for enrollment in the proposed CREP. For the purposes of this analysis, the goals and plans of federal programs designed to mitigate the risks of degradation of natural resources on private lands are the primary sources of information used in identifying past, present, and reasonably foreseeable actions. In addition to CREP, the State of South Dakota maintains and implements numerous Federal programs authorized under the Farm Bill to conserve and enhance the natural resources of the area. These programs include, but are not limited to, CRP, Wildlife Habitat Incentives Program, Environmental Quality Incentives Program, Wetlands Reserve Program, and the Grassland Reserve Program.

Past, present, and reasonably foreseeable actions are considered generally for each resource included within Section 4.0 of this PEA and are presented in Table 5-1.

### 5.2.1 Cumulative Effects Matrix

The incremental contribution of impacts of the Proposed Action, when considered in combination with other past, present, and reasonably foreseeable actions, are expected to add positively to the long term cumulative impacts to biological, water, earth, and other protected resources in the proposed CREP area. Short term negative direct impacts to biological and water resources may occur during establishment of CPs. Archaeological resources and traditional cultural properties (TCPs) may be impacted by installation of CPs that disturbs the ground beyond that which was previously disturbed. No impacts to socioeconomics are expected. Table 5-1 summarizes cumulative effects.

## Table 5-1. Cumulative Effects Matrix

| Resource | Past and Present Actions | Proposed Action | Future Actions | Cumulative Effects |
|---|---|---|---|---|
| **Biological Resources** | Long term positive impacts to vegetation, wildlife and protected species are expected to result from the activities identified, which would establish permanent vegetative communities and create habitat for wildlife. | Long term positive impacts to vegetation, wildlife, and protected species. | Continued enrollment of farmland in programs which would restore habitats is expected to benefit biological resources. | Long term benefits to biological resources are expected to result from CREP and similar USDA programs and other State and Federal conservation programs that aim to restore habitats and improve water quality. |
| **Cultural Resources** | Potential to encounter archaeological resources in the region is considered high. It is also possible that TCPs could be affected. Consultation with Tribes and SHPO would ensure no impacts to such resources. | Enrolling more land in conservation programs increases the likelihood that archaeological resources or TCPs would be encountered. Consultation would ensure no impacts occur. | Similar effects as described in the Proposed Action. | Cultural Resources could be impacted if activities resulting in the disturbance of previously undisturbed ground lead to the discovery of archaeological resources or affected TCPs. Appropriate consultation with the SHPO and Tribal governments would ensure protection of Cultural Resources and would reduce the likelihood of negative impacts. |
| **Water Resources** | Long term positive impacts to water quality are expected to result from programs that replace agricultural production with conservation measures. The goal of many conservation programs is to improve surface and groundwater quality, restore wetlands and stabilize floodplains. | Long term positive impacts to water quality and wetlands are expected to result from the Proposed Action. Ground and surface water are expected to benefit from reduced runoff and filtration of agricultural chemicals. Benefits to floodplains is expected as restored riparian habitats would hold water and slow flood waters. | Continued enrollment of farmland in conservation programs is expected to have positive impacts to water quality, similar to those described for the Proposed Action. | Positive long term cumulative impacts to surface water quality, groundwater quality and quantity, wetland acreage and function, and floodplain stabilization are expected to result from the Proposed Action and other past present and reasonably foreseeable future actions. |

**Table 5-1. Cumulative Effects Matrix (cont'd).**

| Resource | Past and Present Actions | Proposed Action | Future Actions | Cumulative Effects |
|---|---|---|---|---|
| **Earth Resources** | Long term positive impacts to earth resources are expected to result from programs that use conservation measures to replace agricultural land. Permanent vegetative cover results in reduced erosion and preservation of localized topographic features. | Long term positive impacts to soils and topography are expected to result from stabilizing soils by establishing permanent vegetation. | Similar to that described for past and present activities. Programs that replace agricultural land with vegetation are expected to result in stabilized soils and topography. | Positive long term impacts to soil resources are expected to result from the Proposed Action and other known and reasonably foreseeable actions. |
| **Recreation** | Long term positive impacts to recreation opportunities are expected to result from conservation programs that protect and restore habitat. The associated increases in fish and wildlife populations are expected to positively impact recreational activities such as hunting, fishing, bird and other wildlife watching. | Under the Proposed Action, long term positive impacts to water quality will likely benefit aquatic life and positively impact recreational activities such as fishing. Increases in wildlife habitat likely increase game species as well as wildlife watching opportunities. | Enrollment of farmland in conservation programs is expected to have continued positive impacts to recreational opportunities as described for the proposed action. | Like with other USDA programs, long term positive impacts to recreation would occur. Recreational opportunities are indirectly benefited through other Federal and State conservation programs that protect and restore habitat, resulting in improved wildlife-related recreational opportunities. |
| **Socioeconomics** | Other programs that offer monetary compensation for restoration and retirement of agricultural lands could positively impact local economies. The loss of agricultural lands may adversely affect economies from a small decrease in agricultural production and its associated economic benefits. | A slight beneficial impact to the economy of the area is expected to result from the Proposed Action. The loss of agricultural lands may have a minor adverse affect on employment by reducing expenditures associated with farm labor, but this is offset by gains in the recreational economy and net societal benefits of reduced soil erosion, improved water quality, and wildlife habitat restoration. | Continued enrollment of farmland is likely to have potential impacts similar to those described in past and present actions. | The Proposed Action along with past, present and future actions could result in direct or indirect impacts to the economy of the region. The loss of agricultural lands could have short term minor impact to local economy but this is offset by gains in the recreational sector and net societal benefits of reduced soil erosion, improved water quality, and wildlife habitat restoration. The influx of compensation for such programs could result in positive economic impacts. |

**Table 5-1. Cumulative Effects Matrix (cont'd).**

| Resource | Past and Present Actions | Proposed Action | Future Actions | Cumulative Effects |
|---|---|---|---|---|
| **Other Protected Resources** | In addition to USDA programs, other Federal and State conservation programs which result in benefits to wildlife are expected to positively affect Other Protected Lands in proximity to the program areas. | The introduction of CPs may positively affect natural lands set aside for conservation, research or recreation by complementing and enhancing their missions. | The proposed JRW CREP Agreement is expected to complement other Federal and State programs by enhancing wildlife habitat, reducing the incidence and spread of exotic species, and improving the quality of surface and ground waters. | Restoration of previously fragmented or degraded habitat would be expected to result in improved water quality, healthier wildlife populations, and increased opportunities for wildlife observation. |

## 5.3 Irreversible and Irretrievable Commitment of Resources

NEPA requires that environmental analysis include identification of any irreversible and irretrievable commitments of resources which would be involved in the Proposed Action should it be implemented. Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that the use of these resources has on future generations. Irreversible effects primarily result from the use or destruction of a specific resource that cannot be replaced within a reasonable time frame. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action. For the Proposed Action, no irreversible or irretrievable resource commitments would result.

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# 6.0 MITIGATION

## 6.1 Introduction

The purpose of mitigation is to avoid, minimize, or eliminate negative impacts on affected resources. CEQ Regulations (40 CFR 1508.20) state that mitigation includes:

- avoiding the impact altogether by not taking a certain action or parts of an action;
- minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
- compensating for the impact by replacing or providing substitute resources or environments.

## 6.2 Roles and Responsibility

CEQ Regulations state that all relevant reasonable mitigation measures that could improve a project should be identified, even if they are outside the jurisdiction of the lead agency or the cooperating agencies. This serves to alert agencies or officials who can implement these extra measures, and will encourage them to do so. The lead agency for this Proposed Action Alternative is FSA.

## 6.3 Mitigation Matrix

There are no expected major negative impacts associated with implementation of the Proposed Action. Prior to installation of CPs, producers must complete site-specific environmental analysis, which would reveal any protected resources on, or adjacent to the proposed enrolled lands. In those site-specific instances where a wetland, threatened or endangered species, or a cultural resource may be present, consultation with the appropriate lead agency would identify the potential severity of the impact and devise measures required to eliminate or reduce the negative impacts to those sensitive resources.

Activities may result in temporary impacts to vegetation and wildlife during preparation of the land for installing a CP. However, they may be mitigated by erosion control and BMPs such as saving topsoil for re-use, installing silt fencing, and vegetated filter strips.

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## 7.0 LIST OF PREPARERS

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# Appendix A
## CRP Lands Listed by County – JRW South Dakota

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**CRP Lands Listed by County as of October 31, 2008 – JRW South Dakota**

| *County* | *CRP Land (acres)* |
|---|---|
| 1. Aurora | 13,391 |
| 2. Beadle | 19,167 |
| 3. Bon Homme | 6,850 |
| 4. Brown | 76,902 |
| 5. Clark | 30,392 |
| 6. Davison | 7,945 |
| 7. Day | 60,459 |
| 8. Douglas | 6,750 |
| 9. Edmunds | 16,893 |
| 10. Faulk | 6,117 |
| 11. Hand | 22,359 |
| 12. Hanson | 6,055 |
| 13. Hutchinson | 13,505 |
| 14. Hyde | 6,899 |
| 15. Jerauld | 11,877 |
| 16. Kingsbury | 10,367 |
| 17. Marshall | 37,770 |
| 18. McCook | 8,994 |
| 19. McPherson | 33,440 |
| 20. Miner | 18,420 |
| 21. Sanborn | 19,242 |
| 22. Spink | 30,676 |
| 23. Yankton | 7,642 |

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Appendix B
2008 Draft CREP Agreement

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**AGREEMENT BETWEEN**

**THE U.S. DEPARTMENT OF AGRICULTURE**
**COMMODITY CREDIT CORPORATION**

**AND**

**THE STATE OF SOUTH DAKOTA**

**CONCERNING THE IMPLEMENTATION OF A**
**JAMES RIVER WATERSHED BASIN CREP PROJECT**

This Agreement is entered into between the United States Department of Agriculture (USDA), Commodity Credit Corporation (CCC), and the State of South Dakota (South Dakota) to implement a Conservation Reserve Enhancement Program (CREP) for the improvement of water quality, soil erosion, flood control and the enhancement of wildlife habitat through the establishment of permanent vegetative cover. The CREP is part of the Conservation Reserve Program (CRP), operated by the Farm Service Agency (FSA) for CCC.

I. PURPOSE

The purpose of this Agreement is to allow, where deemed desirable by USDA, CCC and South Dakota, certain acreage in the targeted watershed to be enrolled in the James River Watershed Basin CREP Project. (See Figures 1 & 2)

II. GENERAL PROVISIONS

The goals of the James River Watershed Basin CREP Project are to enroll up to 100,000 eligible acres to provide wildlife habitat, recreational access and significantly reduce the amount of agricultural chemicals and sediment entering waters of the State from agricultural lands. In addition, flooding and associated damage to agricultural lands and personal property will be reduced by restoring the hydrology and upland buffers of prairie pothole wetlands and establishing permanent vegetation along drainages leading into the James River.

The primary goals of this Agreement are to achieve, to the extent practicable, the following:

A. Restore the environmental functions 60,000 acres of wetlands and to address flood issues related to the James River.

B. Establish 25,000 acres of permanent vegetation to serve as natural filters for pollutants and sediment and to create prime nesting cover for migratory and resident wildlife species.

C. Establish 15,000 acres of buffers for riparian areas, filter strips and marginal pasture land.

D. Provide a reduction of sediment pollution on agricultural ground previously used for row crops by 90% or 54,000 tons/year.

E. Provide a reduction of phosphorus and nitrogen on agricultural ground previously used for row crops by 65% or 144,000 lbs/year for phosphorus, and 546,000 lbs/year for nitrogen.

F. Provide a reduction of sediments and nutrients entering waterways from lands adjacent to enrolled riparian buffer acres by 50% or 2,100 tons/year for sediment, 5,200 lbs/year for phosphorus and 28,000 lbs/year for nitrogen.

G. Stabilize 90% of the channels in reaches where riparian buffers are installed through the establishment of riparian vegetation and removal of livestock.

## III. AUTHORITY

The CCC has the authority under provisions of the Food Security Act of 1985, as amended (1985 Act) (16 U.S.C. § 3830 et seq.), and the regulations at 7 CFR Part 1410 to perform all its activities contemplated by this Agreement.

Authority for the State of South Dakota to participate in this Agreement is contained in South Dakota Codified Laws §§ 41-2-23, 41-3-3 and 1-24-2.

This Agreement is not intended to, and does not, supersede any rules or regulations, which have been, or may be, promulgated by USDA/CCC and the State of South Dakota, or any other governmental entity participating in the CREP. This Agreement is intended to aid in the administration of the Conservation Reserve Program (CRP).

## IV. PROGRAM ELEMENTS

In determining CCC's share of the cost of practice establishment, CCC shall use the appropriate CRP regulations and 2-CRP. All approved conservation plans shall be consistent with applicable CRP statutes and regulations, as well as specifications outlined in the applicable Natural Resources Conservation Service Field Office Technical Guide (FOTG) and this Agreement.

A. For purposes of the South Dakota CREP, acreage denoted in Figure 1 & 2, attached, is considered a conservation priority area.

B. The CRP contracts for acres enrolled in this CREP must be for a period of 10 and up to 15 years.

C. Eligible producers will not be denied the opportunity to offer eligible acreage for enrollment during general or continuous CRP enrollment periods.

D. CRP contracts executed under this Agreement will be administered in accordance with, and subject to, the CRP regulations at 7 CFR Part 1410, and the provisions of this Agreement. In the event of a conflict, the CRP regulations will be controlling.

E. No lands may be enrolled under this program until the USDA's CREP Program Manager approves a detailed South Dakota amendment to the FSA Handbook 2-CRP which will provide a thorough description of this program and applicable practices and until completion of the appropriate level of documentation required by the National Environmental Policy Act of 1969, as amended and in accordance with 7 CFR 799.

F. Eligible practices for this CREP include:

- CP4D—Permanent Wildlife Habitat
- CP10—Vegetative Cover-Grass-Already Established
- CP21—Filter Strip
- CP22—Riparian Buffer
- CP23—Wetland Restoration, 100 Year Floodplain
- CP23a—Wetland Restoration, Non-Floodplain
- CP29—Marginal Pastureland-Wildlife Habitat Buffer
- CP30—Marginal Pastureland-Wetland Buffer
- CP37—Duck Nesting Habitat Initiative

G. Estimated Acreage Allocation by Conservation Practice

1. CP4D—up to 15,000 acres
2. CP10—up to 10,000 acres
3. CP21—up to 5,000 acres
4. CP22—up to 500 acres
5. CP23—up to 2,000 acres
6. CP23a—up to 18,000 acres
7. CP29—up to 4,750 acres
8. CP30—up to 4,750 acres
9. CP37—up to 40,000 acres

H. A minimum total block size of 40 acres is required for enrollment. A CREP participant may offer a combination of CREP land and adjacent non CREP acres in order to meet the 40 acre requirement.

The non CREP acres must also be enrolled in GFP-sponsored habitat and access programs for the duration of the CREP contract. The 40 acre requirement can be waived on a case-by-case basis upon consultation between the state FSA office and GFP for those producers who are considered either a Socially Disadvantaged Farmer or Rancher as per section 2501(e)(2) of the Food, Agriculture, Conservation, and Trade Act of 1990 (7 U.S.C. 2279(e)(2)) or a Beginning Farmer or Rancher as per section 343(a)(8) of the Consolidated Farm and Rural Development Act (7 U.S.C 1991 (a)(8)) and cannot meet the 40 acre requirement.

V. FEDERAL COMMITMENTS

USDA and CCC agree to:

A. Cost-share with participants for up to 50 percent of the eligible reimbursable costs for establishment of approved conservation practices. The total of all cost-share payments, from any sources, shall not exceed 100 percent of the producer's out of pocket expenses.

B. Make a one-time Practice Incentive Payment (PIP) for practices consistent with the provisions in Handbook 2-CRP.

C. Make an annual payment for each eligible acre enrolled according to the following:

The per-acre, maximum rental rate for acres enrolled on cropland is equal to the sum of:

1) the most current weighted-average soil rental rate for the 3 predominant soils on the eligible acreage offered consistent with the provisions in Handbook 2-CRP , i.e., the base soil rental rate; and

2) an annual 20 percent incentive payment of the base soil rental rate for practices consistent with the provisions in Handbook 2-CRP, and

3) a maintenance incentive payment in an amount consistent with the provisions in Handbook 2-CRP.

The per-acre, maximum rental rate for acres enrolled on Marginal Pastureland (MPL) is equal to the sum of:

1.) the most current posted CRP MPL per acre rental rate consistent with the provisions in Handbook 2-CRP , i.e., the base soil rental rate; and

2.) an annual 20 percent incentive payment of the base soil rental rate for practices consistent with the provisions in Handbook 2-CRP,and

3.) a maintenance incentive payment in an amount consistent with the provisions in Handbook 2-CRP.

D. Make a one-time Signing Incentive Payment (SIP) for practices consistent with the provisions in Handbook 2-CRP.

E. Pay for CRP midcontract management practices as required by Handbook 2-CRP once for 10 year contracts and twice for up to 15 year contracts.

F. Administer contracts for lands enrolled under the CREP.

G. Assist in developing conservation plans.

H. Conduct compliance reviews according to Handbook 2-CRP to ensure compliance with the CRP contract.

I. Provide information to producers regarding South Dakota's CREP.

J. Permit successors-in-interest to enroll under CREP in the same manner as allowed for under any other CRP contract.

K. Share appropriate data, in accordance with the procedures, restrictions and exemptions established under the Freedom of Information Act, federal privacy laws, and other applicable laws, with the State to facilitate State monitoring efforts according to the provisions in the Memorandum Of Understanding between the South Dakota State FSA Office and the State of South Dakota CREP Cooperators.

## VI. STATE COMMITMENTS

South Dakota agrees to:

A. Contribute not less than 20 percent or more than 30 percent of the overall annual program costs, and/or in-kind services. Of this required 20 percent, not less than 10 percent of the total

project costs will be in the form of either direct new payments to the participants and/or new funding for the CREP project.

B. Make direct cost share payments for up to 10% of the producers' out of pocket costs for establishment of approved practices. Total of all cost share payments, from any sources, shall not exceed 100 percent of the producer's out of pocket expenses.

C. Provide an annual payment to all approved participants equal to the sum of 40% of the per- acre, maximum rental rate for acres enrolled on cropland or MPL enrolled under this CREP.

D. Allow open, unlimited public recreation access on all land enrolled under this CREP and inform all CREP participants of this requirement prior the completion of each CREP contract. .

E. Pay all costs of acres enrolled in other GFP hunting and fish access programs for adjacent non-CREP acres used to either round out CREP tracts to meet the 40 acre minimum block size or to improve access to CREP acres.

F. Pay all costs associated with annual monitoring programs.

G. Provide technical assistance in the development of conservation practices on adjacent non CREP acres.

H. Establish a CREP Steering Committee, which will include representatives from the State Technical Committee, FSA, South Dakota Department of Agriculture, South Dakota Department of Game, Fish and Parks, South Dakota Department of Environment and Natural Resources, other agriculture and conservation groups and local governments. This group will advise the South Dakota's Governor's Office on the implementation of the CREP.

I. Seek applicants willing to offer eligible and appropriate land for enrollment in the CREP.

J. Facilitate the provision of technical assistance from local conservation districts in promoting CREP.

K. Implement a broad campaign for continuous public information and education regarding the CREP.

L. Work to ensure coordination with other agricultural conservation programs of State and Federal agencies.

M. Within 90 days after the end of each federal fiscal year, South Dakota shall provide a report to FSA summarizing the status of enrollments under this CREP and progress on fulfilling the other commitments of the program. The annual report to FSA shall include: level of program participation; the results of the annual monitoring program; a summary of non-federal CREP expenditures; and, recommendations to improve the program.

N. Within 90 days after the end of the federal fiscal year, South Dakota will submit information summarizing its overall costs for the program. In the event that the State has not obligated 20 percent of the overall costs for the project, the State may be required by CCC to fulfill its obligation within 90 days, or by providing some other mutually agreed-upon remedy.

O. Provide a CREP Coordinator to serve as a liaison with USDA and other partners, lead monitoring program, provide annual reports and complete contracts with participating landowners to cover non-federal match.

P. Temporarily release the participant from any contractual or easement restrictions on crop production during the CRP contract period if such release is determined necessary by the U.S. Secretary of Agriculture in order to address a national emergency.

## VI. MISCELLANEOUS PROVISIONS

A. All commitments by USDA and South Dakota are subject to the availability of funds. In the event either party is subject to a funding limitation, it will notify the other party within 30 days and any necessary modifications will be made to this Agreement.

B. All CRP contracts under this CREP shall be subject to all limitations set forth in the regulations at 7 CFR Part 1410, including, but not limited to, such matters as economic use, transferability, violations and contract modifications. Agreements between owners or operators and the State may impose additional conditions not in conflict with those under the CRP regulations, but only as approved by the USDA.

C. Neither the State nor the USDA shall assign or transfer any rights or obligations under this Agreement without prior written approval of the other party.

D. The State and USDA agree that each party will be responsible for its own acts and results to the extent authorized by law and shall not be responsible for the acts of any others and the results thereof.

E. This Agreement shall remain in force and effect for a minimum period of fifteen (15) years from the date of execution thereof by all parties to this Agreement unless sooner terminated by the mutual written consent of the parties. Thereafter, this Agreement shall continue indefinitely unless terminated by any party upon providing ninety (90) days prior written notice to the other parties. Such termination will not alter responsibilities regarding existing contractual obligations under the CREP between participants and USDA or CCC, or between participants and State.

F. The Deputy Administrator for Farm Programs, Farm Service Agency or their designee, is delegate authority to carry out this Agreement, and with the Governor of South Dakota or designee, may further amend this Agreement consistent with the provisions of the 1985 Act as amended and the regulations at 7 CFR Part 1410. The provisions of this Agreement may only be modified by written Agreement between the parties.

G. All notices or other communication required under this Agreement shall be in writing and sent to the address set forth below or such authorized designees as a party may from time to time designate in writing. Notices or communications to or between the parties shall be deemed to have been delivered when mailed by first class mail or, if personally delivered, when received by such party.

If to USDA: USDA Farm Service Agency
ATTN: CREP Program Manager
USDA/FSA/CEPD/STOP 0513
1400 Independence Ave., S.W.
Washington, D.C. 20250-0513

If to CCC: U.S. Department of Agriculture
ATTN: Secretary of Agriculture
1400 Independence Ave., S.W.
Washington, D.C. 20250-051

If to STATE: South Dakota Department of Game, Fish and Parks
ATTN: Habitat Section
523 E. Capitol Avenue
Pierre, SD 57501

H. In the event that any provision of this Agreement shall be held unenforceable or invalid by a court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provision herein.

I. All other prior discussions, communications and representations concerning the subject matter of this Agreement are superseded by the terms of this Agreement, and except as specifically provided herein, this Agreement constitutes the entire Agreement with respect to the subject matter hereof.

J. This Agreement is intended to only govern the rights and interest of the parties named herein. It is not intended to, does not, and may not be relied upon to create any rights, substantial or procedural, enforceable at law by any third party in any matters, civil or criminal.

K. The parties acknowledge that a true and correct copy of this Agreement will be filed with (1) the South Dakota Office of Attorney General and the Legislative Research Council within fourteen (14) days of its final execution pursuant to SDCL 1-24-6.1.

L. Notwithstanding any other provision of this Agreement, neither the USDA, CCC, nor State waive their sovereign immunity by entering into this Agreement, and each fully retains all immunities and defenses provided by law with respect to any action based on or occurring as a result of this Agreement.

In Witness Whereof, the parties here have set their hands as of the dates indicated herein below.

_____ _____

Ed Schafer
Secretary of Agriculture

Date

_____ _____

M. Michael Rounds
Governor
State of South Dakota

Date

The undersigned witnesses the signing of the Conservation Reserve Enhancement Program Agreement between the State of South Dakota and the U.S. Department of Agriculture.

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

Figure 1. Shaded Relief Map of James River Watershed Basin in South Dakota.

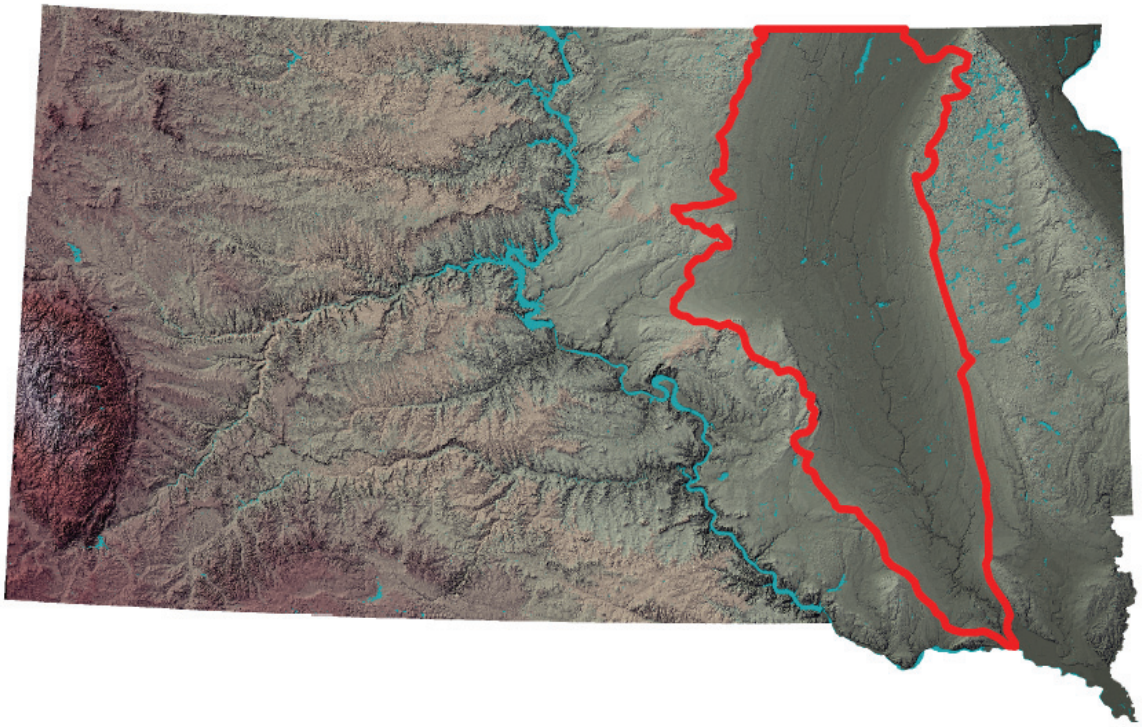
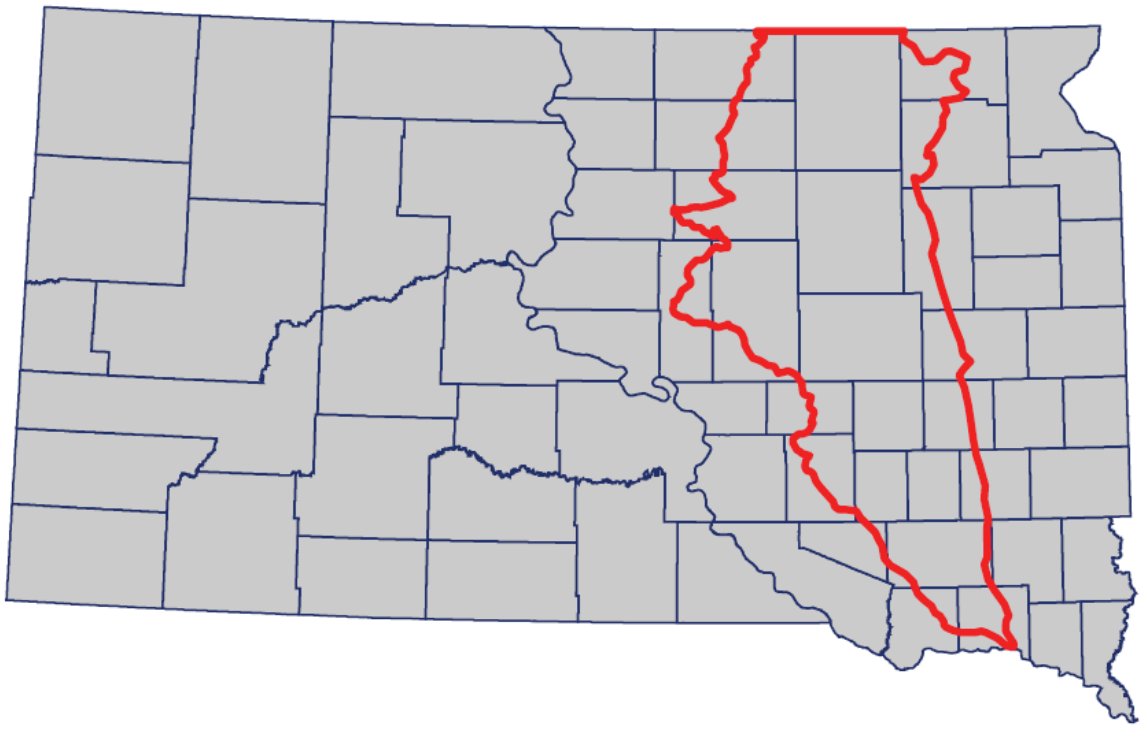


Figure 2. County Boundary Map of James River Watershed Basin in SD.



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# Appendix C
# Conservation Practice Descriptions

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| Practice | Title | Purpose |
|---|---|---|
| **CP4D** | *Permanent Wildlife Habitat* | The purpose of this practice is to provide permanent wildlife habitat on eligible cropland. Permanent wildlife habitat includes the planting of grasses, shrubs, forbs, and trees and helps minimize erosional forces. |
| **CP10** | *Vegetation Cover Already Established* | The purpose of this practice is to maintain existing vegetative cover of native or introduced grasses and legumes on eligible croplands. This CP enhances environmental and wildlife habitat. |
| **CP21** | *Grassed Filter Strips* | The purpose of this practice is to remove nutrients, sediment, organic matter, pesticides and other pollutants from surface runoff and subsurface flow by deposition, absorption, plant uptake, denitrification and other processes. This will reduce pollution and protect surface and subsurface water quality. |
| **CP22** | *Riparian Buffers* | The purpose of this practice is to remove nutrients, sediment, organic matter, pesticides and other pollutants from surface runoff and stabilize stream banks. This will reduce pollution and protect surface and subsurface water quality and provide wildlife habitat. |
| **CP23** | *Wetland Restoration, 100 Year Floodplain* | The purpose of this practice is to restore the functions and values of wetland ecosystems that have been devoted to agricultural use. The level of restoration of the wetland ecosystem shall be determined by the producer in consultation with NRCS or technical service provider (TSP). |
| **CP23A** | *Wetland Restoration, Non-Floodplain* | The purpose of this practice is to restore the functions and values of wetland ecosystems that have been devoted to agricultural use. The level of restoration of the wetland ecosystem shall be determined by the producer in consultation with NRCS or TSP. |
| **CP29** | *Marginal Pastureland – Wildlife Habitat Buffer* | This CP is defined as a band of introduced or native grasses, wildflowers, and shrubs established on marginal pasture land along water bodies. The purpose of this CP is to limit sediment, nutrients, and contaminants from entering water bodies and to provide valuable cover, nest sites, and food for wildlife as well as nectar and pollen for pollinating insects. Requires natural regeneration and mainly upland soils. |
| **CP30** | *Marginal Pastureland – Wetland Buffer* | This CP is defined as a band of introduced or native grasses, wildflowers, and shrubs established on marginal pasture land near permanent water bodies. It removes sediment, organic matter, nutrients, pesticides, and other pollutants from surface runoff and subsurface flow. Protects water quality. This CP requires natural regeneration on primarily hydric soils. |
| **CP37** | *Duck Nesting Habitat Initiative* | The purpose of this practice is to restore the functions and values of wetland ecosystems that have been devoted to agriculture use in areas with greater than 25 breeding pairs of ducks per square mile. A minimum buffer of 4 acres to 1 acre of wetland required and up to a maximum of 10 acre of buffer to 1 acre of wetland is allowed. |

Source: FSA 2008a

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# Appendix D
# Agency Coordination

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October 17, 2008

Mr. Pete Jahraus

South Dakota Department of Agriculture

523 E. Capitol Ave.
Pierre, South Dakota 57501

Re: Draft Programmatic Environmental Assessment for the Proposed James River Watershed Basin (JRWB) Conservation Reserve Enhancement Program (CREP).

Dear Mr Jahraus:
The United States Department of Agriculture (USDA) Commodity Credit Corporation (CCC) is proposing to implement the James River Watershed Basin Conservation Reserve Enhancement Program (CREP) in the eastern portion of South Dakota. Farm Service Agency administers the CREP on behalf of CCC, and is preparing a Draft Programmatic Environmental Assessment (PEA) to assess to the impacts of implementing the JRWB CREP. South Dakota Department of Game, Fish, and Parks (GFP) will administer the JRWB CREP on behalf of the State. Geo-Marine has been contracted by the GFP to complete the Draft PEA. CREP is a voluntary program authorized by the Farm Security and Rural Investment Act of 2002 that provides annual rental payments as well as cost share incentives to producers who remove eligible land from agricultural production and establish conservation practices (CPs). With this letter, we request your review of the proposed program and comments on any issues that would be of concern to your office. The details of the proposed action are described below and summarized in the attached table, and the JRWB CREP area is identified on the attached map.
The general goals of the proposed James River Watershed Basin CREP are to enhance wildlife habitat; provide recreational access; reduce flooding by restoring the hydrology of prairie pothole wetlands with associated upland buffers, as well as establishing permanent vegetation along drainages leading to the James River; and establish vegetative buffers to improve surface water quality by reducing agricultural chemicals and sediment entering waters of the State. Target goals of the CREP include enlisting 100,000 acres within the basin area with a minimum size of 40.0 acres of contiguous land.

**The JRWB CREP is designed to meet specific conservation goals and objectives related to agriculture:**

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- Reduce phosphorous and nitrogen pollution from row crop agriculture by 65%;
- Reduce excess sediment and nutrients entering waterways from lands adjacent to enrolled riparian buffers by 50%; and

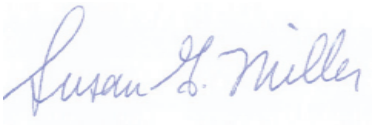
- Stabilize 90% of the channels in reaches where riparian buffers are installed by removing livestock and establishing riparian vegetation.

Under the JRWB CREP, farmers and ranchers voluntarily enter into contracts with the federal government for 10 to 15 years, agreeing to remove enrolled lands from agricultural production and plant them to an approved conservation practice (CP). Also, the JRWB CREP allows free access for recreational hunting and fishing on privately owned lands, which are approved for the program, thus decreasing crowding on publicly, owned hunting lands. All access is foot traffic only and does not require prior approval from the landowner. The JRWB CREP provides landowners financial incentives for allowing free access to enrolled lands.

The purpose of the proposed action is to implement the JRWB CREP Agreement in Eastern South Dakota. The need for the JRWB CREP is to expand wildlife habitat, decrease soil erosion, improve water quality, and reduce the potential for flooding within the JRWB watershed. Because program participation is voluntary, the locations and sizes of specific parcels that would be enrolled are not known. However, site-specific environmental evaluation of individual contracts would occur prior to acceptance into the program. We appreciate your review of this material and any comments on any issues that would be of concern to your office.

Please provide your comments to me by November 30, 2008.

Sincerely yours,



Susan G. Miller, Project Manager

**SGM/attachments**

**Cc: (w/attachments)**

**Bill Smith, SDGFP**

**Summary of Components of the 2008 James River Watershed Basin CREP Agreement**

| | Current Agreement |
|---|---|
| ***Acreage*** | • 100,000 acres (22,000 acres of wetlands; 63,000 acres of permanent upland vegetation; 15,000 of buffers and marginal pastureland) |
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| ***Counties*** | • 23 |
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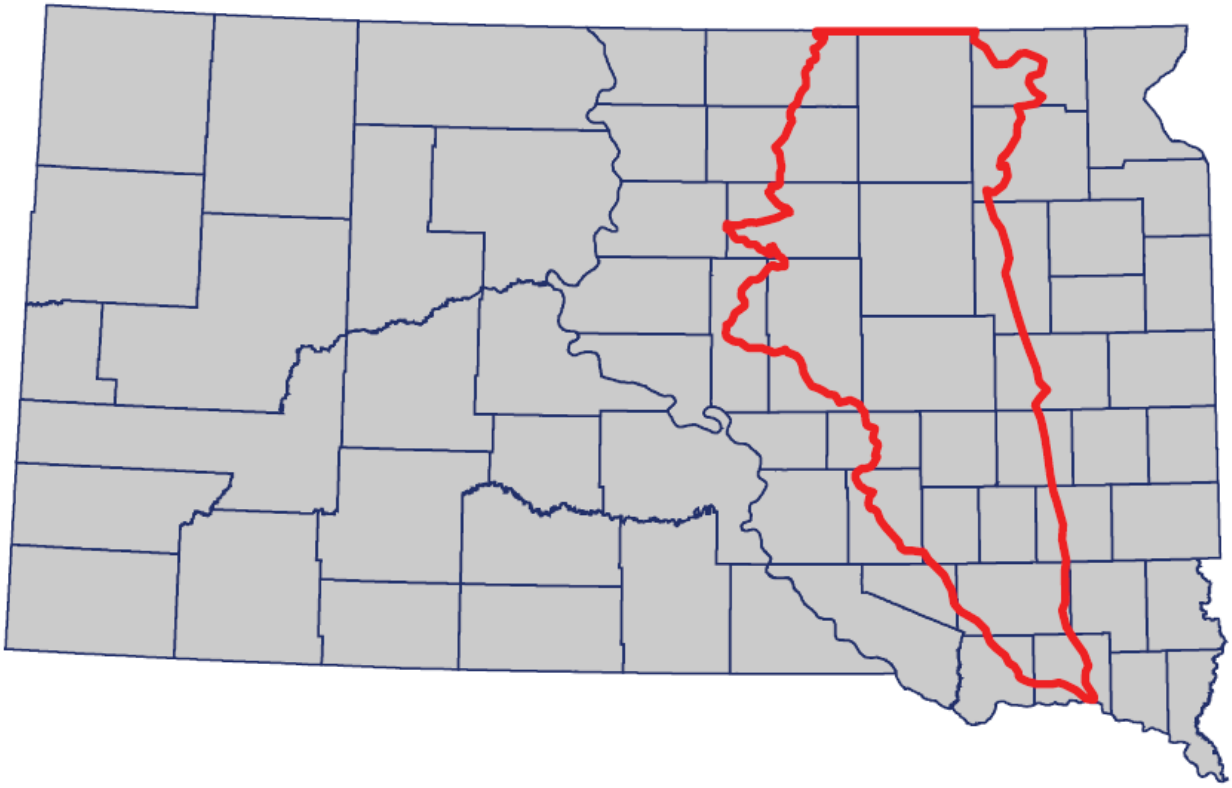

Map - Outline of James River Watershed Basin in Eastern South Dakota over county boundaries

October 17, 2008

Mr. Dave Templeton

South Dakota Department of Environmental and Natural Resources

523 E. Capitol Ave.
Pierre, South Dakota 57501

Re: Draft Programmatic Environmental Assessment for the Proposed James River Watershed Basin (JRWB) Conservation Reserve Enhancement Program (CREP).

Dear Mr Templeton:
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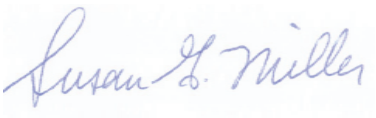

Susan G. Miller, Project Manager

**SGM/attachments**

**Cc: (w/attachments)**

**Bill Smith, SDGFP**

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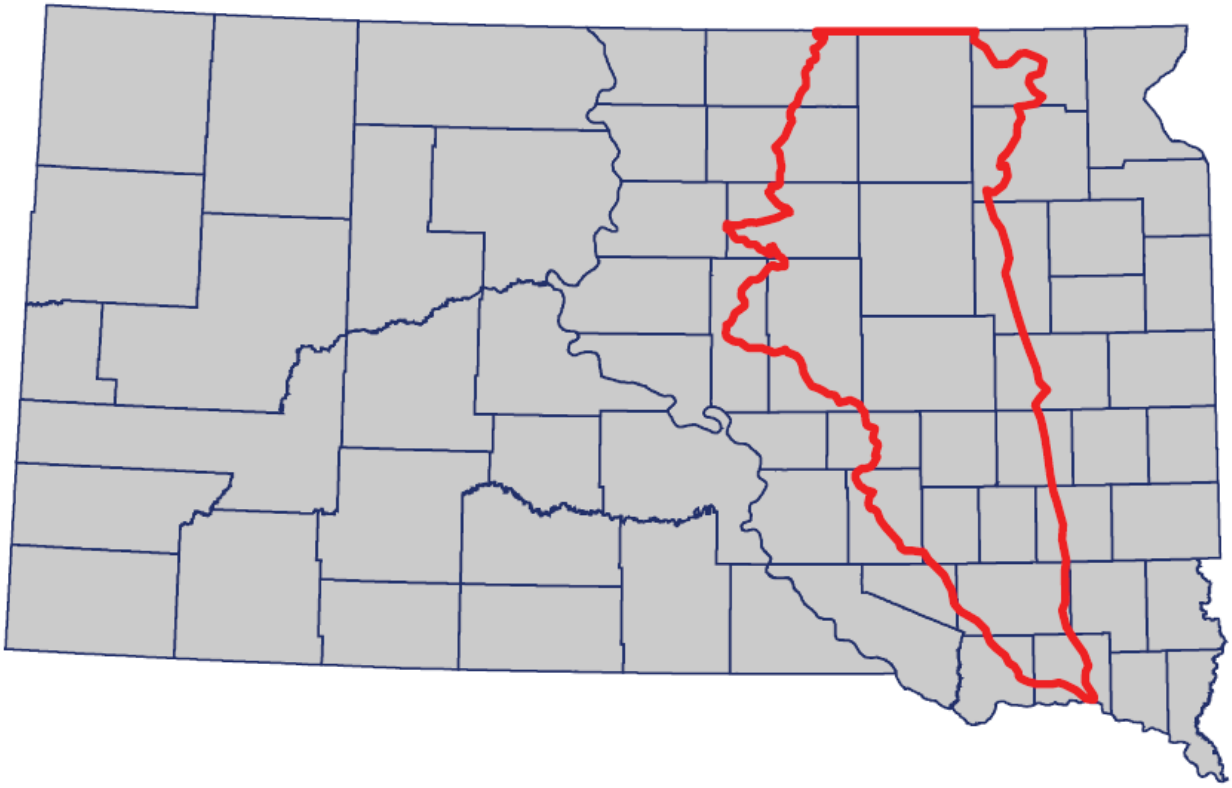

Map - Outline of James River Watershed Basin in Eastern South Dakota over county boundaries

October 17, 2008

Mr. Pete Gober

U.S. Fish and Wildlife Service

420 S. Garfield Ave., Suite 40
Pierre, South Dakota 57501-5408

Re: Draft Programmatic Environmental Assessment for the Proposed James River Watershed Basin (JRWB) Conservation Reserve Enhancement Program (CREP).

Dear Mr Gober:
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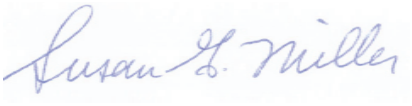
We appreciate your review of this material and any comments on any issues that would be of concern to your office.

Please provide your comments to me by November 30, 2008.

Sincerely yours,



Susan G. Miller, Project Manager

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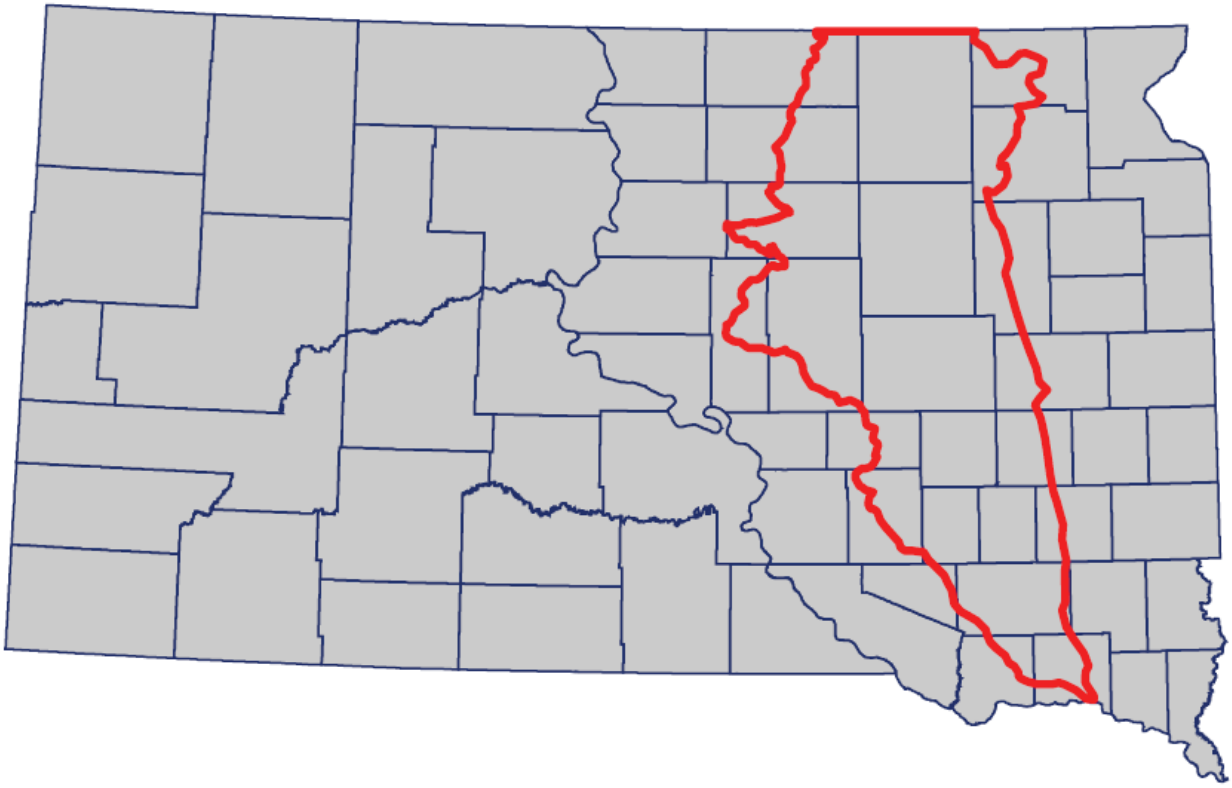

Map - Outline of James River Watershed Basin in Eastern South Dakota over county boundaries.

October 17, 2008

Mr. Kurt Forman

U.S. Fish and Wildlife Service

P.O. Box 247
Brookings, South Dakota 57006

Re: Draft Programmatic Environmental Assessment for the Proposed James River Watershed Basin (JRWB) Conservation Reserve Enhancement Program (CREP).

Dear Mr Forman:
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- Reduce excess sediment and nutrients entering waterways from lands adjacent to enrolled riparian buffers by 50%; and

- Stabilize 90% of the channels in reaches where riparian buffers are installed by removing livestock and establishing riparian vegetation.

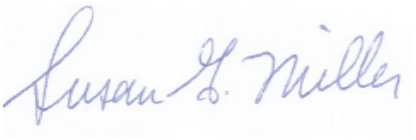
Under the JRWB CREP, farmers and ranchers voluntarily enter into contracts with the federal government for 10 to 15 years, agreeing to remove enrolled lands from agricultural production and plant them to an approved conservation practice (CP). Also, the JRWB CREP allows free access for recreational hunting and fishing on privately owned lands, which are approved for the program, thus decreasing crowding on publicly, owned hunting lands. All access is foot traffic only and does not require prior approval from the landowner.

The purpose of the proposed action is to implement the JRWB CREP Agreement in Eastern South Dakota. The need for the JRWB CREP is to expand wildlife habitat, decrease soil erosion, improve water quality, and reduce the potential for flooding within the JRWB watershed. Because program participation is voluntary, the locations and sizes of specific parcels that would be enrolled are not known. However, site-specific evaluation of potential impacts to all applicable environmental and natural resources for each individual contract would occur prior to acceptance of any eligible property into the program. Evaluation of impacts to natural resources includes determining the potential for the existence of federally listed threatened and endangered species or their habitat on each property site and if consultation in accordance with Section 7 of the Endangered Species Act would be required.

We appreciate your review of this material and any comments on any issues that would be of concern to your office.

Please provide your comments to me by November 30, 2008.

Sincerely yours,



Susan G. Miller, Project Manager

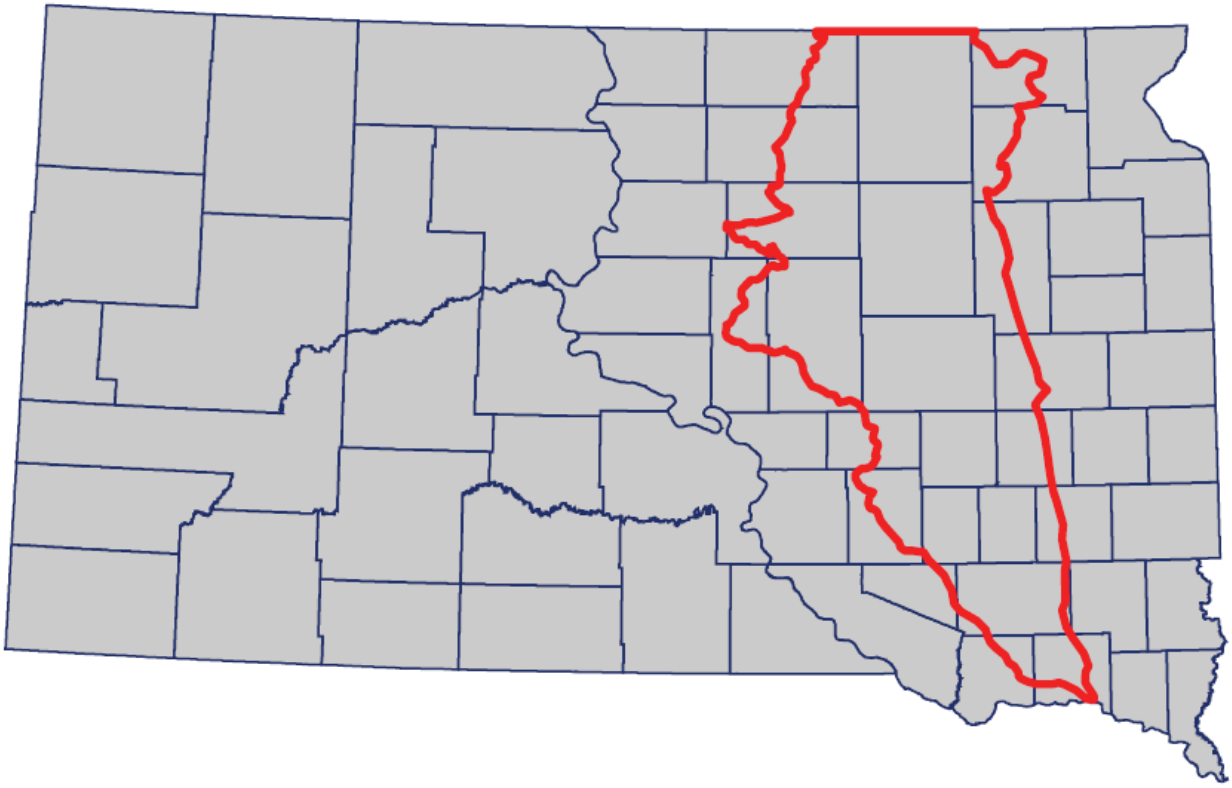
**SGM/attachments**

**Cc: (w/attachments)**

**Bill Smith, SDGFP**

**Summary of Components of the 2008 James River Watershed Basin CREP Agreement**

| | Current Agreement |
|---|---|
| ***Acreage*** | • 100,000 acres (22,000 acres of wetlands; 63,000 acres of permanent upland vegetation; 15,000 of buffers and marginal pastureland) |
| ***CREP Duration*** | • 15 years |
| ***Funding*** | • Federal and state funding for incentives and rental payments up to $171.0 million (excluding non-federal in kind services) |
| ***Geographic Area*** | • James River Watershed Basin |
| ***Counties*** | • 23 |
| ***Conservation Practices*** **(estimated acreages)** | • CP-4D Permanent Wildlife Habitat (33,000 acres)<br>• CP-10 Grass Already Established (30,000 acres)<br>• CP-21 Filter Strip (5,000 acres)<br>• CP-23 Wetland Restoration Floodplain (11,000 acres)<br>• CP-23A Wetland Restoration (Non-Floodplain) (11,000 acres)<br>• CP-29 Marginal Pastureland-Wildlife Buffer (5,000 acres)<br>• CP-30 Marginal Pastureland-Wetland Buffer (5,000 acres) |
| ***Contract Duration*** | • Minimum of 10 to 15 years |
| ***Cost Share*** | • Up to 50% cost share for establishing permanent cover |



Map - Outline of James River Watershed Basin in Eastern South Dakota over county boundaries.

October 17, 2008

Ms. Janet Oertly

U.S. Department of Agriculture – Natural Resources Conservation Service

200 4th Street SW
Huron, South Dakota 57350

Re: Draft Programmatic Environmental Assessment for the Proposed James River Watershed Basin (JRWB) Conservation Reserve Enhancement Program (CREP).

Dear Ms Oertly:
The United States Department of Agriculture (USDA) Commodity Credit Corporation (CCC) is proposing to implement the James River Watershed Basin Conservation Reserve Enhancement Program (CREP) in the eastern portion of South Dakota. Farm Service Agency administers the CREP on behalf of CCC, and is preparing a Draft Programmatic Environmental Assessment (PEA) to assess to the impacts of implementing the JRWB CREP. South Dakota Department of Game, Fish, and Parks (GFP) will administer the JRWB CREP on behalf of the State. Geo-Marine has been contracted by the GFP to complete the Draft PEA. CREP is a voluntary program authorized by the Farm Security and Rural Investment Act of 2002 that provides annual rental payments as well as cost share incentives to producers who remove eligible land from agricultural production and establish conservation practices (CPs). With this letter, we request your review of the proposed program and comments on any issues that would be of concern to your office. The details of the proposed action are described below and summarized in the attached table, and the JRWB CREP area is identified on the attached map.
The general goals of the proposed James River Watershed Basin CREP are to enhance wildlife habitat; provide recreational access; reduce flooding by restoring the hydrology of prairie pothole wetlands with associated upland buffers, as well as establishing permanent vegetation along drainages leading to the James River; and establish vegetative buffers to improve surface water quality by reducing agricultural chemicals and sediment entering waters of the State. Target goals of the CREP include enlisting 100,000 acres within the basin area with a minimum size of 40.0 acres of contiguous land.

**The JRWB CREP is designed to meet specific conservation goals and objectives related to agriculture:**

- Restore the environmental functions of 32,000 acres of wetlands and riparian and buffer areas to address flood issues related to the James River;
- Establish 68,000 acres of permanent vegetation to serve as natural cover for migratory and resident wildlife species and buffer areas;
- Provide free public hunting and fishing access for the duration of the CREP contracts on enrolled lands;
- Reduce soil erosion on fields planted in row crops to reduce sedimentation of waterways by 90%;
- Reduce phosphorous and nitrogen pollution from row crop agriculture by 65%;
- Reduce excess sediment and nutrients entering waterways from lands adjacent to enrolled riparian buffers by 50%; and

- Stabilize 90% of the channels in reaches where riparian buffers are installed by removing livestock and establishing riparian vegetation.

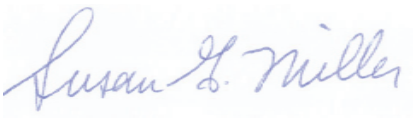
Under the JRWB CREP, farmers and ranchers voluntarily enter into contracts with the federal government for 10 to 15 years, agreeing to remove enrolled lands from agricultural production and plant them to an approved conservation practice (CP). Also, the JRWB CREP allows free access for recreational hunting and fishing on privately owned lands, which are approved for the program, thus decreasing crowding on publicly, owned hunting lands. All access is foot traffic only and does not require prior approval from the landowner.

The purpose of the proposed action is to implement the JRWB CREP Agreement in Eastern South Dakota. The need for the JRWB CREP is to expand wildlife habitat, decrease soil erosion, improve water quality, and reduce the potential for flooding within the JRWB watershed. Because program participation is voluntary, the locations and sizes of specific parcels that would be enrolled are not known. However, site-specific evaluation of potential impacts to all applicable environmental and natural resources for each individual contract would occur prior to acceptance of any eligible property into the program.

We appreciate your review of this material and any comments on any issues that would be of concern to your office.

Please provide your comments to me by November 30, 2008.

Sincerely yours,



Susan G. Miller, Project Manager

**SGM/attachments**
**Cc: (w/attachments)**

**Bill Smith, SDGFP**

**Summary of Components of the 2008 James River Watershed Basin CREP Agreement**

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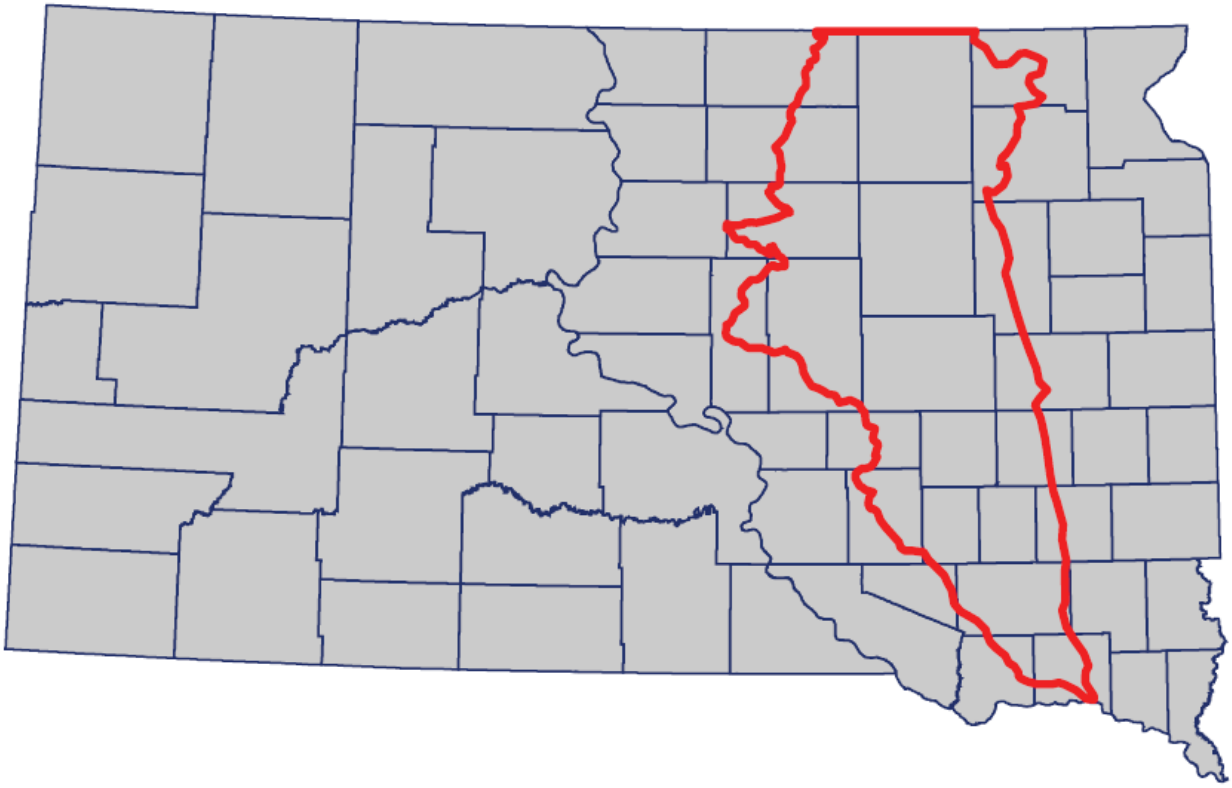

Map - Outline of James River Watershed Basin in Eastern South Dakota over county boundaries.

# United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
420 South Garfield Avenue, Suite 400
Pierre, South Dakota 57501-5408

October 28, 2008

Ms. Susan G. Miller, Project Manager
Geo-Marine Incorporated
950 Isom Road, Suite 102
San Antonio, Texas 78216-4170

Re: Draft Programmatic Environmental Assessment for the Proposed James River Watershed Basin Conservation Reserve Enhancement Program

Dear Ms. Miller:

This letter is in response to your request dated October 17, 2008, for environmental comments regarding the initiation of the above referenced draft programmatic environment assessment which will evaluate the implementation of the U.S. Department of Agriculture's Conservation Reserve Enhancement Program (CREP) in the James River Watershed Basin of South Dakota.

In past correspondences with the U.S. Army Corps of Engineers (Corps) (an October 27, 2003, letter and a July 27, 2006, Planning Aid Letter, both to the Corps' Omaha District), this office submitted that CREP may be a viable option to enhance and to protect some of the properties located along the James River. Restoration of various habitats, allowing flood plain areas to function naturally, and compensating landowners who enroll their land in the CREP may be the best solution currently available to alleviate concerns related to the James River flooding. Thus, we support this cooperative effort of State, Federal and private entities, and anticipate significant benefits from the application of the program in the James River Watershed Basin. However, since the contract period for CREP easements is limited, we encourage continued coordination with other entities for application/pursuit of other easement programs or land purchases whenever possible and appropriate to achieve perpetual conservation of the James River and its flood plain.

In accordance with section 7(c) of the Endangered Species Act, as amended, 16 U.S.C. 1531 et seq., we have determined that the following federally listed and candidate species may occur in the project area (this list is considered valid for 90 days):

| Species | Status | Expected Occurrence |
|---|---|---|
| Whooping crane (Grus americana) | Endangered | Migration. |
| Western prairie fringed orchid (Platanthera praeclara) | Threatened | Possible habitat, no recent specimens. |

| | | |
|---|---|---|
| Eskimo curlew (Numenious borealis) | Endangered | Extremely rare migrant. |
| Topeka shiner (Notropis topeka) | Endangered | Known resident in James River tributaries. |
| Dakota skipper (Hesperia dacotae) | Candidate | Resident. |

Please note that, in addition to the above species, the bald eagle (Haliaeetus leucocephalus) occurs throughout South Dakota in all seasons, and new nests are appearing each year. While Endangered Species Act protections for the bald eagle have been removed, effective since August 8, 2007, the species will continue to be protected under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). These laws protect bald eagles from a variety of harmful actions and impacts. Our agency has developed guidance for the public regarding means to avoid take of the bald eagle under these laws. The "National Bald Eagle Management Guidelines" are available online at http://www.fws.gov/migratorybirds/baldeagle.htm. We recommend reviewing these guidelines as they serve to advise of circumstances where these laws may apply and to assist in avoiding potential violations on future projects.

The only self-sustaining wild population of whooping cranes in existence migrates through South Dakota on the way to northern breeding grounds and southern wintering areas. These birds occupy numerous habitats such as cropland and pastures; wet meadows; shallow marshes; shallow portions of rivers, lakes, reservoirs, and stock ponds; and both freshwater and alkaline basins for feeding and loafing. Overnight roosting sites frequently require shallow water in which they stand and rest. Should actions proposed under the CREP occur during spring or fall migration, the potential for disturbances to whooping cranes exists. Disturbance (flushing the birds) stresses them at critical times of the year. There is little that can be done to reduce disturbance besides ceasing actions at sites where the birds have been observed. The birds normally do not stay in any one area for long during migration. Any whooping crane sightings should be reported to this office.

The Western prairie fringed orchid has not recently been documented in South Dakota; however, the life cycle of the plant often makes it difficult to detect. Populations currently exist in the neighboring states of Nebraska, Iowa, Minnesota, and North Dakota, and potential habitat may still be found in South Dakota. Although the plant is typically associated with intact native prairie, the Western prairie fringed orchid has also been found on disturbed sites. Potential habitats generally include mesic upland prairies, wet prairies, sedge meadows, subirrigated prairies, and swales in sand dune complexes. If these habitats exist within any areas proposed for inclusion in the CREP, surveys for the Western prairie fringed orchid should be considered prior to ground disturbing actions.

The possibility of an appearance of an Eskimo curlew along the James River is unlikely due to the extreme rarity of the species. The Eskimo curlew has not recently been documented alive; the last confirmed sighting (an individual shot and collected) was in 1963. However, please note that unconfirmed reports of Eskimo curlew sightings continue to occur occasionally. The Eskimo curlew is identified as a migrant in South Dakota, not known to nest in the state, but occurring in the open grasslands as it passes between its Canadian breeding grounds and South American wintering sites.

The Topeka shiner is a known resident of numerous tributaries of the James River. While it has not been documented within the James River itself, the species historically utilized the large river as a dispersal corridor and likely occasionally occupies the James River today, although the river does not represent typical Topeka shiner habitat. It may be anticipated that the CREP actions would ultimately benefit this species; however, actions such as ground-disturbing activities adjacent to stream or in-stream work within James River tributaries have the potential to impact this species. Further consultation may be required to determine the level of effects to the Topeka shiner as a result of individual CREP projects.

The Dakota skipper is a candidate species and accordingly is not at present provided Federal protection under the Endangered Species Act. Their candidate status defines these butterflies as a species in decline that the U.S. Fish and Wildlife Service (Service) believes needs to be listed as threatened or endangered, but listing is currently precluded by other priorities. Dakota skippers are obligate residents of high quality prairie ranging from wet-mesic tallgrass prairie to dry-mesic mixed grass prairie. In northeastern South Dakota, Dakota skippers inhabit dry-mesic hill prairies with abundant purple coneflower but also use mesic to wet-mesic tallgrass prairie habitats characterized by wood lily and smooth camas. While we suspect that such habitats would not be disturbed by actions that may occur under the CREP, if any ground-disturbing activities are proposed in potential Dakota skipper habitat, further consultation with this office may be appropriate.

If the Farm Service Agency, or their designated representative, determines that implementation of the CREP "may adversely affect" listed species in South Dakota, it should request formal consultation from this office. If a "may affect - not likely to adversely affect" determination is made for this project, it should be submitted to this office for concurrence. If a "no effect" determination is made, further consultation may not be necessary. However, a copy of the determination should be sent to this office.

If changes are made or if additional information becomes available, the Service should be informed so that the above determinations can be reconsidered.

The Service appreciates the opportunity to provide comments. If you have any questions regarding these comments, please contact Natalie Gates of this office at (605) 224-8693, Extension 234.

Sincerely,

Pete Gober
Field Supervisor
South Dakota Field Office

cc: Secretary, SDDGFP; Pierre, SD
(Attention: Leslie Peterson/Bill Smith)
USFWS/Sand Lake NWR; Columbia, SD
(Attention: Bill Schultze)
USACE; Omaha, NE
(Attention: Eric Laux)
USDA/FSA; Huron, SD
(Attention: Steve Cutler)

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# Appendix E
# Federally Listed Threatened and Endangered Species and Critical Habitat

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**Endangered Species County List for the James River Watershed Area**

| County | Species | Certainty of Occurrence | Federal Status |
|---|---|---|---|
| 1. Aurora | Whooping Crane | Known | E |
| | Topeka Shiner | Known | E |
| 2. Beadle | Whooping Crane | Known | E |
| | Topeka Shiner | Known | E |
| 3. Bon Homme | Piping Plover | Known | T (CH) |
| | Least Tern | Known | E |
| | Pallid Sturgeon | Known | E |
| 4. Brown | Eskimo Curlew | Extremely Rare | E |
| | Topeka Shiner | Known | E |
| 5. Clark | Whooping Crane | Known | E |
| | Topeka Shiner | Known | E |
| 6. Davison | Topeka Shiner | Known | E |
| 7. Day | Piping Plover | Known | T |
| 8. Douglas | Whooping Crane | Known | E |
| 9. Edmunds | Whooping Crane | Known | E |
| 10. Faulk | Whooping Crane | Known | E |
| 11. Hand | Whooping Crane | Known | E |
| 12. Hanson | Topeka Shiner | Known | E |
| 13. Hutchinson | Topeka Shiner | Known | E |
| | Western Prairie Orchid | Possible | T |
| 14. Hyde | Whooping Crane | Known | E |
| 15. Jerauld | Whooping Crane | Known | E |
| | Topeka Shiner | Known | E |

| | | | |
|---|---|---|---|
| **16. Kingsbury** | **Whooping Crane**<br>**Piping Plover**<br>**Topeka Shiner** | **Known**<br>**Known**<br>**Known** | **E**<br>**T**<br>**E** |
| **17. Marshall** | | | |
| **18. McCook** | **Topeka Shiner**<br>**Western Prairie Orchid** | **Known**<br>**Possible** | **E**<br>**T** |
| **19. McPherson** | **Whooping Crane** | **Known** | **E** |
| **20. Miner** | **Topeka Shiner**<br>**Western Prairie Orchid** | **Known**<br>**Possible** | **E**<br>**T** |
| **21. Sanborn** | **Topeka Shiner** | **Known** | **E** |
| **22. Spink** | **Whooping Crane** | **Known** | **E** |
| **23. Yankton** | **Eskimo Curlew**<br>**Piping Plover**<br>**Least Tern**<br>**Topeka Shiner**<br>**Pallid Sturgeon**<br>**Scaleshell Mussel**<br>**Higgins Eye Pearlymussel**<br>**Western Prairie Orchid** | **Extremely Rare**<br>**Known**<br>**Known**<br>**Possible**<br>**Possible**<br>**Missouri River**<br>**One Dead Specimen Found**<br>**Possible** | **E**<br>**T(CH)**<br>**E**<br>**E**<br>**E**<br>**E**<br>**E**<br>**T** |

Source: (USFWS 2008c) USFWS *Mountain-Prairie Region* South Dakota Ecological Services Field Office 2008. Endangered Species by County List – South Dakota
http://www.fws.gov/southdakotafieldoffice/endsppbycounty.htm

# Appendix F
## JRW Total Cropland and CRP Acre Percentage by County

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Percentage of CRP Enrolled Acres by Total Cropland by County within the JRW Region 2008

| County | Total Cropland | Land Enrolled in CRP | CRP as a Percentage of Total Cropland |
|---|---|---|---|
| Aurora | 226,143 | 13,391 | 5.92% |
| Beadle | 586,921 | 19,167 | 3.27% |
| Bon Homme | 272,131 | 6,850 | 2.52% |
| Brown | 897,181 | 76,902 | 8.57% |
| Clark | 365,169 | 30,392 | 8.32% |
| Davison | 223,040 | 7,945 | 3.56% |
| Day | 375,052 | 60,459 | 16.12% |
| Douglas | 182,533 | 6,750 | 3.70% |
| Edmunds | 379,841 | 16,893 | 4.45% |
| Faulk | 338,388 | 6,117 | 1.81% |
| Hand | 508,883 | 22,359 | 4.39% |
| Hanson | 202,903 | 6,055 | 2.98% |
| Hutchinson | 413,245 | 13,505 | 3.27% |
| Hyde | 188,814 | 6,899 | 3.65% |
| Jerauld | 192,124 | 11,877 | 6.18% |
| Kingsbury | 425,502 | 10,367 | 2.44% |
| Marshall | 339,758 | 37,770 | 11.12% |
| McCook | 284,027 | 8,994 | 3.17% |
| McPherson | 289,954 | 33,440 | 11.53% |
| Miner | 209,719 | 18,420 | 8.78% |
| Sanborn | 263,717 | 19,242 | 7.30% |
| Spink | 721,591 | 30,676 | 4.25% |
| Yankton | 288,927 | 7,642 | 2.64% |

Source: NASS 2002a for the cropland area data

FSA 2008c for CRP enrollment data as of 10/31/08

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# Appendix G
# Top 15 Select Measures of JRW by County

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**Top 15 Ranking for Select Measures 2006-2007 for Counties within the JRW Region**

| County | 2006 Cash Receipts | | | | 2007 Crops | | | | | | | | | 01 Jan 2008 Livestock Inventory | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Crops | Livestock | Government Payments | Total Receipts | Corn, Grain | Soybeans | Sunflower | Wheat All | Wheat Spring | Wheat Winter | Oats | Hay All | Hay Alfalfa | All Cattle | Beef Cows | Milk Cows |
| Aurora | | | | | | | | | | | 12 | | | | | |
| Beadle | | 3 | 5 | 10 | 6 | 7 | | | | 13 | | 10 | 10 | 3 | 4 | 13 |
| Davison | | | | | | | | | | 15 | | | | | | |
| Day | | | 8 | | | | | | 4 | | | | | | | 10 |
| Douglas | | | | | | | | | | 11 | | | | | | |
| Edmunds | | | | | 12 | | 13 | 10 | 1 | | 11 | | | 14 | | |
| Faulk | | | | | | | | 9 | 5 | | | | | | | |
| Hand | | | | | | | | 2 | 7 | 2 | | 4 | 5 | 4 | 9 | |
| Hutchinson | | 4 | 12 | 5 | 14 | 5 | | 14 | | | | | | 12 | | |
| Marshall | | 5 | | 11 | | | | | | | | | | 12 | | |
| McCook | | | | | 15 | 10 | | | | | | | | | | 9 |
| McPherson | | 11 | | | | | | | | | 8 | 7 | 8 | | 15 | |
| Sanborn | | | | | | | | | | | | 11 | 13 | | | |
| Spink | 2 | 15 | 2 | 2 | 3 | 2 | | 6 | 2 | | | 12 | 12 | 9 | | |

Source: NASS 2008b

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# Appendix H

Number of Farms and Average Production Expenses, Agricultural Sales, and Other Farm Related Income per Farm 2002

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Number of Farms and Average Production Expenses, Agricultural Sales, and Other Farm Related Income per Farm, 2002

| County | Farm Production Expenses | | Total Agricultural Sales | | Other Farm Related Income | |
|---|---|---|---|---|---|---|
| | Number of Farms | Average Production Expenses Per Farm | Number of Farms | Average Agricultural Sales Per Farm | Number of Farms | Average Income Per Farm |
| Aurora | 400 | $120,989 | 401 | $129,315 | 249 | $9,500 |
| Beadle | 724 | $125,913 | 728 | $133,774 | 396 | $8,124 |
| Bon Homme | 662 | $95,303 | 665 | $100,095 | 364 | $9,626 |
| Brown | 1157 | $124,712 | 1155 | $146,469 | 646 | $4,886 |
| Clark | 589 | $160,691 | 588 | $174,250 | 369 | $8,517 |
| Davison | 482 | $73,787 | 481 | $88,860 | 220 | $10,357 |
| Day | 705 | $61,635 | 704 | $80,613 | 396 | $8,633 |
| Douglas | 397 | $137,737 | 394 | $157,793 | 258 | $6,055 |
| Edmunds | 386 | $171,371 | 386 | $194,441 | 241 | $4,633 |
| Faulk | 264 | $179,503 | 265 | $240,178 | 188 | $11,283 |
| Hand | 479 | $140,024 | 480 | $160,294 | 275 | $10,993 |
| Hanson | 319 | $120,135 | 319 | $152,243 | 165 | $11,759 |
| Hutchinson | 769 | $113,231 | 768 | $128,954 | 409 | $5,961 |
| Hyde | 186 | $118,243 | 187 | $122,032 | 123 | $6,544 |
| Jerauld | 271 | $113,609 | 272 | $125,282 | 145 | $7,189 |
| Kingsbury | 597 | $121,824 | 599 | $143,913 | 398 | $16,963 |
| Marshall | 539 | $95,821 | 539 | $134,932 | 325 | $12,248 |
| McCook | 413 | $116,158 | 413 | $146,208 | 246 | $6,928 |
| McPherson | 527 | $166,884 | 529 | $191,829 | 274 | $7,740 |
| Miner | 366 | $89,935 | 370 | $111,144 | 225 | $13,016 |
| Sanborn | 394 | $77,493 | 394 | $108,351 | 203 | $9,057 |
| Spink | 682 | $169,458 | 682 | $196,792 | 451 | $7,705 |
| Yankton | 691 | $86,690 | 690 | $113,458 | 328 | $14,902 |
| Total Region | 11,999 | $119,451 | 12,009 | $140,424 | 6,894 | $9,044 |

Source: NASS 2002b, NASS 2002c, and NASS 2002d