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# Programmatic Environmental Assessment

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## LOUISIANA'S COASTAL PRAIRIE RESTORATION CONSERVATION RESERVE ENHANCEMENT PROGRAM AGREEMENT



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

**DRAFT**

**April 2007**



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## COVER SHEET

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**Proposed Action:** The United States Department of Agriculture (USDA), Commodity Credit Corporation (CCC) and the state of Louisiana have agreed to implement the Louisiana Conservation Reserve Enhancement Program (CREP), a component of the Conservation Reserve Program. USDA is provided the statutory authority by the provisions of the Food Security Act of 1985, as amended (16 U.S.Code 3830 et seq.), and the Regulations at 7 Code of Federal Regulations 1410. In accordance with the 1985 Act, USDA/CCC is authorized to enroll lands through December 31, 2007. The Farm Service Agency (FSA) of USDA proposes to enter into a CREP agreement with the state of Louisiana. CREP is a voluntary land conservation program for state agricultural landowners.

**Type of Document:** Programmatic Environmental Assessment

**Lead Agency:** USDA, FSA

**Sponsoring Agency:** Louisiana Farm Service Agency

**Cooperating Agency:** USDA, Natural Resource Conservation Service

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**Comments:** This Programmatic Environmental Assessment was prepared in accordance with USDA FSA National Environmental Policy Act implementation procedures found in 7 CFR 799, as well as the National Environmental Policy Act of 1969, Public Law 91-190, 42 U.S.C. 4321-4347, 1 January 1970, as amended. Once this document is finalized a Notice of Availability will be printed in the Federal Register. Following the Notice of Availability FSA will provide a public comment period prior to any FSA decision. A copy of this Programmatic Environmental Assessment can be found at:  
<http://www.fsa.usda.gov/FSA/webapp?area=home&subject=ecrc&topic=nep-cd>

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## **EXECUTIVE SUMMARY**

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This Programmatic Environmental Assessment describes the potential environmental consequences resulting from the proposed implementation of Louisiana's Coastal Prairie Restoration Conservation Reserve Enhancement Program. 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 an action.

This Programmatic Environmental Assessment has been prepared by the United States Department of Agriculture, Farm Service Agency in accordance with the requirements of the National Environmental Policy Act of 1969, the Council on Environmental Quality regulations implementing the National Environmental Policy Act, and 7 Code of Federal Regulations 799 Environmental Quality and Related Environmental Concerns – Compliance with the National Environmental Policy Act.

### **Purpose and Need for the Proposed Action**

The purpose of the Proposed Action is to implement Louisiana's Coastal Prairie Restoration Conservation Reserve Enhancement Program. Under the program, current agricultural production practices would be discontinued on eligible farmland in the coastal prairie region and approved conservation practices, such as establishing native vegetation and restoring rare and declining habitat, would be implemented. Producers would receive annual rental payments and would be eligible for one-time payments to support the implementation of conservation practices.

Louisiana's Conservation Reserve Enhancement Program Agreement is needed to meet the following goals:

- Enhance and restore habitat for wildlife including that historically used by the endangered Attwater's Prairie Chicken and Whooping Crane;
- Improve water quality, groundwater recharge, and protect drinking water; and
- Restore up to 28,000 acres of Louisiana tall grass coastal prairie.

### **Proposed Action and Alternatives**

The Proposed Action would implement Louisiana's Coastal Prairie Restoration Conservation Reserve Enhancement Program. Current agricultural production practices would be discontinued on up to 28,000 acres of eligible farmland and approved conservation practices would be established on the land. This document has been prepared to analyze the potential environmental of the Proposed Action and the No Action Alternative. Under the No Action Alternative, no lands would be enrolled in the Conservation Reserve Enhancement Program. None of the conservation practices or rental payments described above would be implemented.

### **Summary of Environmental Consequences**

It is expected that there would be long term positive impacts associated with the implementation of the Proposed Action. Temporary minor negative impacts to some resources may occur during preparation of lands for the establishment of conservation practices. A summary of the potential impacts is given in Table ES-1.

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

<b>Resource</b>	<b>Proposed Action</b>	<b>No Action Alternative</b>
<b>Biological Resources</b>	<p>Long term positive impacts to vegetation, wildlife, and threatened and endangered species are expected to occur as a result the Proposed Action. The conservation would make possible the establishment of native grasses, shallow water areas for wildlife and would restore rare and declining habitat resulting in increased plant species diversity and reestablishing native vegetative communities and habitat for wildlife and protected species. Improved water quality is also expected to positively impact wildlife and protected species.</p>	<p>If the proposed action were not implemented, the disturbed lands associated with agriculture would be susceptible to invasion by exotic plant species. Runoff of agricultural chemicals and soils would degrade adjacent surface waters and thus aquatic habitats for aquatic wildlife and protected species. The homogenous and disturbed terrestrial habitats associated with agriculture would attract a limited number of animal species.</p>
<b>Cultural Resources</b>	<p>The potential for encountering archaeological resources is high. Ground disturbing practices beyond what is normally disturbed by activities associated with agricultural production have the potential to impact such resources. Archaeological surveys in accordance with the guidelines of the Louisiana State Historic Preservation Office are required prior to implementing ground-disturbing project activities. Recommendations resulting from the survey should receive concurrence from the office. Activities that result in modification to historic architectural structures would also require surveys prior to implementation and concurrence from the State Historic Preservation Office. Consultation with tribes would be required where project activities affect traditional cultural properties</p>	<p>The No Action Alternative is not expected to result in impacts to known or unknown archaeological or architectural resources or traditional cultural properties.</p>
<b>Soil Resources</b>	<p>Long term positive impacts to topography and soils are expected to result from the implementation of the Proposed Action. The conservation practices would establish permanent vegetation resulting in the stabilization of soils and reduced erosion by wind and water.</p>	<p>Erosion of soils by wind and water would be expected to continue if the proposed action were not implemented.</p>

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

<b>Resource</b>	<b>Proposed Action</b>	<b>No Action Alternative</b>
<b>Water Resources</b>	<p>Long term positive impacts to surface and groundwater quality and quantity are expected to occur as a result of the implementation of the Proposed Action. The conservation practices establish permanent native vegetation where agricultural production currently occurs. It is expected that this would reduce runoff of sediment, nutrients, and agricultural chemicals and would decrease the withdrawal of waters from aquifers, potentially reducing the likelihood and extent of saltwater intrusion into aquifers. During the establishment of conservation practices, activities that remove vegetation or disturb soil may result in temporary minor increases in runoff which may temporarily affect surface water quality.</p>	<p>Continued use of lands for agricultural production is expected to result in degradation of surface water quality resulting from runoff of sediments and agricultural chemicals. Groundwater would be used for irrigation, resulting in overdrafting of some aquifers and increasing the likelihood and/or extent of saltwater intrusion into the aquifers.</p>
<b>Air Quality</b>	<p>Currently the parishes where the proposed activities could occur are in attainment with all National Ambient Air Quality Standards. It is not expected that the proposed action would result in a change in that status. Temporary minor impacts to localized air quality could result from land preparation activities such as tilling, burning, and the use of heavy equipment. Tilling, burning, and use of heavy equipment would temporarily increase respirable particulate matter. Burning and heavy equipment could also result in the release of carbon monoxide, hydrocarbons and nitrogen dioxide. None of these impacts is considered significant.</p>	<p>No change to existing air quality conditions is expected to result from the No Action Alternative.</p>
<b>Socioeconomics</b>	<p>The proposed action is expected to have a slightly beneficial impact to the economy of the area, as the expenditure of more than \$41 million associated with the project exceeds the losses that are anticipated to result from reduced expenditures on labor, fertilizer and chemicals.</p>	<p>If the proposed action is not implemented, socioeconomic conditions are expected to follow current trends.</p>

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

<b>Resource</b>	<b>Proposed Action</b>	<b>No Action Alternative</b>
<b>Environmental Justice</b>	None of the Parishes where activities are proposed is considered an area of concentrated minority population. In Acadia, Evangeline and St. Landry Parishes the percent of residents living below the national poverty threshold exceeds 20 percent, thus these are considered impoverished areas. However, no adverse environmental impacts are expected to result from the proposed action, therefore no disproportionate impacts to impoverished populations are expected to occur.	Under the No Action Alternative, the proposed LA CREP II activities would not be implemented and no impacts would occur.



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## ACRONYMS AND ABBREVIATIONS

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CAA	Clean Air Act
CMD	Coastal Management Division
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	carbon monoxide
CP	conservation practice
CREP	Conservation Reserve Enhancement Program
CRP	Conservation Reserve Program
CZMA	Coastal Zone Management Act
EO	Executive Order
EPA	Environmental Protection Agency
EQIP	Environmental Quality Incentives Program
ESA	Endangered Species Act
Farm Bill	Farm Security and Rural Investment Act of 2002
FEMA	Federal Emergency Management Agency
FIRM	flood insurance rate maps
FR	Federal Register
FSA	Farm Service Agency
LA CREP II	Louisiana's Coastal Prairie CREP Agreement
LDED	Louisiana Department of Economic Development
LDEQ	Louisiana Department of Environmental Quality
LDHP	Louisiana Department of Historic Preservation
LDWF	Louisiana Department of Wildlife and Fisheries
LSU	Louisiana State University
Mgd	millions of gallons per day
NAAQS	National Ambient Air Quality Standards
National Register	National Register of Historic Places
NEPA	National Environmental Policy Act
NO <sub>2</sub>	nitrogen dioxide
NRCS	Natural Resource Conservation Service
O <sub>3</sub>	ozone
Pb	lead

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## **ACRONYMS AND ABBREVIATIONS (cont'd)**

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PEA	Programmatic Environmental Assessment
PM <sub>2.5</sub>	fine particulate matter
PM <sub>10</sub>	coarse particulate matter
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO <sub>2</sub>	sulfur dioxide
TCP	traditional cultural properties
TNC	The Nature Conservancy
TSP	Technical Service Providers
USACE	U.S. Army Corps of Engineers
USBLS	U.S. Bureau of Labor Statistics
USCB	U.S. Census Bureau
USDA	U.S. Department of Agriculture
USDOJ	U.S. Department of the Interior
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WHIP	Wildlife Habitat Incentive Program
WRP	Wetland Reserve Program

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## **1.0 PURPOSE AND NEED FOR THE ACTION**

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### **1.1 BACKGROUND**

The United States Department of Agriculture (USDA) Farm Service Agency (FSA) proposes to implement Louisiana's Coastal Prairie Restoration Conservation Reserve Enhancement Program (CREP) Agreement (LA CREP II). This Programmatic Environmental Assessment (PEA) has been prepared to analyze the potential environmental consequences associated with implementation of the Proposed Action and its alternatives.

#### **1.1.1 The Conservation Reserve Program**

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.

CREP was established in 1997 under the authority of CRP to address agriculture related environmental issues by establishing conservation practices (CPs) on agricultural lands using funding from State, Tribal, and Federal governments as well as non-government sources. CREP addresses high priority conservation issues in defined geographic areas such as watersheds. Producers who enroll their eligible lands in CREP receive financial and technical assistance for establishing CPs on their land as well as annual rental payments and other one-time payments. Once eligible lands are identified, site specific environmental reviews and consultation with and permitting from other Federal agencies are completed as appropriate.

#### **1.1.2 Regulatory Compliance**

This PEA is prepared to satisfy the requirements of the National Environmental Policy Act (NEPA; Public Law 91-190, 42 U.S. Code 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,
- Coastal Zone Management Act
- Endangered Species Act,
- Clean Air Act,
- Clean Water Act,
- EO 11514, Protection and Enhancement of Environmental Quality,
- EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, and
- EO 11988, Floodplain Management.

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## **1.2 PURPOSE AND NEED**

The purpose of the Proposed Action is to implement the proposed LA CREP II project . Under the Agreement, current agricultural production practices on eligible agricultural land would be discontinued and approved CPs would be implemented. Producers would receive annual rental payments and would be eligible for one-time payments in return for establishing approved CPs.

The need for the Proposed Action is to meet the overall goals of CREP, specifically, to provide habitat for declining grassland wildlife species, improve water quality and ground water recharge, and protect major drinking water sources.

## **1.3 LOUISIANA CREP AND ITS OBJECTIVES**

Of the estimated two and a half million acres of coastal prairie that once existed in southwest Louisiana, less than 500 acres remain. The remaining acres exist in narrow and fragmented strips due to alteration of hydrology and historic fire regimes, removal of native grazers and intensive agricultural and residential development. The region historically supported as many as 500 different species of native grasses, forbs, and legumes and was once home to the endangered Attwater Prairie Chicken and Whooping Crane.

CREP Agreements are designed to meet specific regional conservation goals and objectives related to agriculture. The LA CREP II has the following specific objectives:

- Enhance and restore habitat for wildlife including that historically used by the endangered Attwater's Prairie Chicken and Whooping Crane;
- Improve water quality, groundwater recharge, and protect drinking water;
- Restore up to 28,000 acres of Louisiana tall grass coastal prairie through the establishment of:
  - 22,400 acres of native grasses
  - 2,800 acres of shallow water areas, and
  - 2,800 acres of rare and declining habitat.

## **1.4 ORGANIZATION OF PEA**

This PEA assesses the potential impacts of the Proposed Action and the No Action Alternative on potentially affected environmental and economic resources. Chapter 1.0 provides background information relevant to the Proposed Action, and discusses its purpose and need. Chapter 2.0 describes the Proposed Action and alternatives. Chapter 3.0 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 resource. Chapter 4.0 describes potential environmental consequences on these resources. Chapter 5.0 includes analysis of cumulative impacts and irreversible and irretrievable resource commitments. Chapter 6.0 is a list of the preparers of this document and Chapter 7.0 contains a list of persons and agencies contacted during the preparation of this document. Chapter 8.0 contains references.



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## 2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

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### 2.1 PROPOSED ACTION

FSA proposes to implement LA CREP II by enrolling up to 28,000 acres of environmentally sensitive agricultural lands in seven Parishes in Louisiana’s Coastal Prairie: Acadia, Allen, Calcasieu, Cameron, Evangeline, Jeff Davis, and St. Landry. The Proposed Action would include establishing contracts with owners/operators of eligible lands in order to implement approved CPs. Producers would receive support for the costs of installing and maintaining such practices as well as annual rental payments for lands enrolled in the program.

#### 2.1.1 Eligible Lands

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 the Natural Resources Conservation Service (NRCS) or Technical Service Providers (TSPs) prior to entering into contracts. Lands within these Parishes eligible for enrollment in the proposed LA CREP II would be required to meet the cropland eligibility criteria in accordance with policy set forth by the Food Security Act of 1985, as amended, and detailed in the FSA Handbook: 2-CRP Agricultural Resource Conservation Program for State and County Offices. Eligible cropland must:

- have been planted or considered planted to agricultural commodity during four of the six crop years from 1996 through 2001;
- be physically and legally capable of being planted in a normal manner to an agricultural commodity as determined by County Committee;
- have been owned for 12 months by the same owner prior to offer submission;
- 10-20 percent of each offered acreage must be suitable for the establishment of CP25, Rare and Declining Habitat; and
- be determined suitable for the restoration of native grasses by NRCS or TSP.

Table 2.1-1 illustrates the current land use in the proposed CREP area. Most of the land in the proposed area is in some form of agricultural production with cropland accounting for 63% of the acreage. Table 2.1-2 contains acreages of the specific crops by Parish.

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**Table 2.1-1 Current Land Use in the proposed LA CREP II area**

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<b>Agricultural Land</b>	<b>Acres</b>	<b>Percent of Total</b>
Cropland	534,150	63
Pastureland	59,510	7
Forestland	167,100	20
Rangeland	34,800	4
Other	46,493	6
<b>Total</b>	<b>842,053</b>	<b>100</b>

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**Table 2.1-2 Acreages of crops grown in each Parish in the LA CREP II area**

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	Rice (irrigated)	Soybeans (non- irrigated)	Sugar Cane (non- irrigated)	Feed Grains (non- irrigated)	Idle Cropland	Total
<b>Acadia</b>	48,982	2,293	456	49	8,905	60,685
<b>Allen</b>	10,272	756	0	0	8,572	19,600
<b>Calcasieu</b>	34,742	1,300	1,329	213	54,616	92,200
<b>Cameron</b>	3,200	0	140	13	2,290	5,643
<b>Evangeline</b>	75,901	7,751	799	647	9,069	94,167
<b>Jefferson Davis</b>	155,427	5,751	4,132	3,347	84,597	253,254
<b>St. Landry</b>	5,300	860	0	200	2,241	8,601
<b>Total</b>	333,824	18,711	6,856	4,469	170,290	534,150

Sources: USDA 2006, Louisiana State University 2005

### 2.1.2 Establish and Maintain Conservation Practices

CREP CPs that are proposed for implementation under LA CREP II are listed in Table 2.1-3. Also listed are the acreages proposed for each practice and the duration of contracts. Descriptions of the CPs are available in Appendix C.

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**Table 2.1-3 Proposed Conservation Practices**

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Conservation Practice	Acres	Contract Duration (years)
CP-2: Establishment of Permanent Native Grasses	22,400	14 or 15
CP-9: Shallow Water Areas for Wildlife	2,800	14 or 15
CP-25: Rare and Declining Habitat	2,800	14 or 15

Sources: USDA 2006

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

- removal of existing vegetation;
- use of equipment to prepare seedbed including disk, harrow, cultipacker, roller or similar equipment;
- application of nutrients, minerals, and seed;
- application of approved herbicides and pesticides;
- removal of brush;

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- restoration of local hydrology by removal of crop levees, terraces or other conditions that cause ponding of water and smoothing of rills and gullies;
  - prescribed burning; and
  - for cover maintenance, haying, mowing and grazing as often as twice per year (CP2 only).

### **2.1.3 Provide Financial Support**

Producers enrolled in LA CREP II would enter into contracts for a minimum of 14 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. Additionally, one-time cost sharing and incentive payments are available to participants to aid in establishing CPs.

The estimated cost of implementing the proposed LA CREP II Agreement is \$41,483,120, with an estimated Federal commitment of \$33,186,496 (80%) and State, local and non-government organization contributions of \$8,296,624 (20%).

## **2.2 SCOPING**

Scoping is a process used to identify the scope and significance of issues related to a Proposed Action while involving 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 included Federal, State and local agencies, and any other interested persons or groups. One function of scoping is to resolve any conflicts or concerns prior to publication of a proposed project. The input gathered from scoping efforts is used during preparation of the proposed project.

The Louisiana Department of Agriculture and Forestry, Office of Soil and Water Conservation through the State CREP coordinator will coordinate the LA CREP II and organize public outreach. Landowners and operators will be advised of the opportunity to participate through meetings, direct newsletter mailings, local print and electronic media, and outreach by organizations involved in the project. Several organizations have been and continue to be, involved in promoting LA CREP II. These include:

- USDA FSA and Natural Resources Conservation Service
- Louisiana Department of Agriculture and Forestry
- Louisiana Department of Environmental Quality
- Louisiana Department of Wildlife and Fisheries
- Louisiana State University Cooperative Extension Service
- The Nature Conservancy
- Ducks Unlimited

## **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

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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. In accordance with §1501.7, noise was eliminated from detailed analysis in this PEA. Implementing the Proposed Action or alternative would not permanently increase ambient noise levels at or adjacent to the project area. It is expected that only normal farm machinery would be used to establish and maintain covers. Any increase in noise levels associated with implementing CPs would be minor, temporary, localized, and would cease once implementation of the approved CPs was completed.

## **2.4 ALTERNATIVES ELIMINATED FROM ANALYSIS**

During the development of LA CREP II, including a larger part of coastal Louisiana and other CPs, including hardwood tree planting (CP3), were considered. Because funding was limited, it was decided to focus the CREP on a smaller area where the project's environmental improvement goals were likely to be met. Thus the current area, once a part of Louisiana's Coastal Prairie, was chosen. The CPs included in the LA CREP II were selected to restore native grassland vegetation.

## **2.5 ALTERNATIVES SELECTED FOR ANALYSIS**

### **2.5.1 Alternative A – Preferred**

Under Alternative A, LA CREP II would be fully implemented as described above. Current agricultural practices on a full 28,000 acres of eligible lands in seven Parishes in the Coastal Prairie Region would be discontinued. CPs would be established and maintained on those lands and producers would receive one-time and annual rental payments.

### **2.5.2 Alternative B – No Action**

Under the No Action Alternative, the LA CREP II would not be implemented. No land would be enrolled in CREP and the goals of the CREP would not be met. Though eligible lands could be enrolled in CRP or other conservation programs, the benefits of CREP – targeting environmentally sensitive agricultural land in Louisiana's Coastal Prairie Region for enrollment, providing financial incentives to producers, using non-Federal financial resources – would not be realized. This alternative does not satisfy the 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

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### 3.1 BIOLOGICAL RESOURCES

#### 3.1.1 Definition of Resource

Biological Resources include plant and animal species and the habitats in which they occur. For this analysis, biological resources are divided into the following categories: vegetation; wildlife; and protected species including threatened and endangered species and their designated critical habitat. Vegetation and wildlife refer to the plant and animal species, both native and introduced which characterize a region. Threatened and endangered species refer to those species that are protected by the Endangered Species Act (ESA). Critical habitat is designated by the U.S. Fish and Wildlife Service (USFWS) as essential for the recovery of threatened and endangered species, and like those species, is protected under ESA.

#### 3.1.2 Affected Environment

##### 3.1.2.1 *Vegetation*

Vegetation is often described in terms of ecoregions, areas of relatively homogenous soils, vegetation, climate and geology (Bailey 1995). There are four levels of ecoregions: domain, division, province and section (also called subregion). Domains are large scale areas of similar climates. There are four domains in the United States. Within domains, there are a number of divisions, delineated by finer-scale climatic differences. Divisions are subdivided into provinces which are differentiated based on vegetation. Provinces are divided into sections based on geology and soils.

The LA CREP II area lies in the Gulf Coast Prairies and Marshes Division, Outer Coastal Plain Mixed Forest Plain Province and the Louisiana Coast Prairies and Marshes Section. The natural vegetation of the area includes prairie grasses such as little bluestem (*Schizachyrium scoparium*), indiagrass (*Sorghastrum nutans*), switchgrass (*Panicum virgatum*), and big bluestem (*Andropogon gerardii*) (Louisiana Department of Wildlife and Fisheries [LDFW] 2007, U.S. Forest Service [USFS] 2007).

The coastal prairie once covered an estimated 2.5 million acres in southwest Louisiana. Today less than 500 acres of original native grass and legume covers remain due to agricultural and urban development and fire suppression (USDA 2006). Chinese tallow tree (*Triadica sebifera*) is an invasive nonnative tree introduced to the United States in the 1700s as an ornamental. It has since become naturalized and grows in a variety of conditions, tolerating sun or shade, wet and dry soils. It is known to occur in all of the LA CREP II counties (USDA 2007a, USDA 2007b).

##### 3.1.2.2 *Wildlife*

The LA CREP II area once provided habitat for grassland birds such as the Sandhill Crane, Whooping Crane and Attwater's Prairie Chicken, species now considered rare or extirpated from Louisiana. Today the area supports a number of grassland birds including numerous species of sparrows as well as water birds like White-faced Ibis and Olivaceous Cormorant and raptors such as Northern Harrier and Red-tailed Hawk. The coastal prairie region is located in the Mississippi Flyway and is important to hundreds of thousands of migratory waterfowl, shorebirds, and songbirds. Mammalian wildlife typical of the area include coyote, red wolf, ringtail, eastern wood rat, and nutria. Herpetofauna include American alligator, Gulf coast toad, and diamondback terrapin. Insect species diversity is high and includes a number of grasshoppers,

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wasps, ants, beetles, butterflies, dragonflies and bees (USDA 2006, USFS 2007, The Nature Conservancy [TNC] 2007).

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

There are 14 species of federally threatened or endangered plants and animals known to occur in the LA CREP II parishes. Seven of these species are marine or estuarine species and are not expected to occur within the LA CREP II area (Hawksbill, Kemp's Ridley, Green, Loggerhead, and Leatherback Sea Turtles; West Indian Manatee; and Gulf Sturgeon). Table 3.1-1 lists the species that could occur in the area, the Parishes where each is known to occur, and descriptions of the habitats of each (USFWS 2007). Jeff Davis and Acadia Parishes do not have any federally threatened or endangered species. No critical habitat for threatened or endangered species exists within the LA CREP II area.

## **3.2 CULTURAL RESOURCES**

### **3.2.1 Definition of Resource**

Cultural resources consist of prehistoric and historic sites, structures, districts, artifacts, or any other physical evidence of human activities considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. Cultural resources can be divided into three major categories: archaeological resources (prehistoric and historic), architectural resources, and traditional cultural properties. Archaeological resources are locations and objects from past human activities. Architectural resources are those standing structures that are usually over 50 years of age and are of significant historic or aesthetic importance to be considered for inclusion in the National Register of Historic Places (National Register). Traditional cultural resources hold importance or significance to Native Americans or other ethnic groups in the persistence of traditional culture.

The significance of such resources relative to the American Indian Religious Freedom Act, the Archaeological Resources Protection Act, Native America Graves Protection and Repatriation Act, EO 13007, and/or eligibility for inclusion in the National Register is considered a part of the EA process. The regulations and procedures in 36 CFR 800, which implements Section 106 of the National Historic Preservation Act, requires Federal agencies to consider the effects on properties listed in or eligible for inclusion in the National Register. Prior to approval of the proposed action, Section 106 requires that the Advisory Council on Historic Preservation be afforded the opportunity to comment.

### **3.2.2 Affected Environment**

#### **3.2.2.1 *Archaeological Resources***

Several thousand prehistoric and historic archaeological sites have been recorded in Louisiana. The following reviews the principal prehistoric and historic periods relevant to the overall CREP agreement area.

#### **Prehistoric Period**

The prehistory of Louisiana is typically divided into three periods – Paleo-Indian, Meso-Indian, and Neo-Indian. As early as 11,000 B.C., Paleo-Indians lived in small nomadic groups that remained in areas where animals and plant foods were plentiful. Paleo-Indians camped near streams in temporary shelters made of branches, grass, and hides. They also occupied high

**Table 3.1-1 Threatened and Endangered Species That Could Occur in the LA CREP II Area**

Species	ESA Status*	Parishes	Habitat
<b>Plant</b>			
American Chaffseed ( <i>Schwalbea Americana</i> )	E	Allen	Moist acidic soils with a fluctuating water table in open pitch pine lowland forests, seepage bogs, or palustrine pine savannahs.
<b>Animals</b>			
Pallid Sturgeon ( <i>Scaphirhynchus albus</i> )	E	St. Landry	Adapted for living close to the bottom of large, silty rivers with swift currents. The preferred habitat is comprised of sand flats and gravel bars.
Piping Plover ( <i>Charadrius melodius</i> )	T	Cameron	Prefer a wide, sandy beach along coastal shores in areas that have scant vegetation and scattered stones.
Brown Pelican ( <i>Pelecanus occidentalis</i> )	E	Cameron	Nesting occurs in colonies mostly on small coastal islands. Sand spits and offshore sand bars are used as daily loafing and nocturnal roost areas.
Red-cockaded Woodpecker ( <i>Picoides borealis</i> )	E	Allen, Calcasieu, Evangeline	Require large and open old growth pine stands maintained by fire to nest, roost and forage.
Bald Eagle ( <i>Haliaeetus leucocephalus</i> )	T	Calcasieu, Cameron, St. Landry	Require mature trees associated with bays, river systems, and lakes for nesting, roosting and feeding.
Louisiana Black Bear ( <i>Ursus americanus luteolus</i> )	T	St. Landry	Require food, water, cover, and denning sites spatially arranged across large, relatively remote blocks of land.

E – Endangered, T- Threatened  
Source: USFWS 2007

ground where game could be observed. They raised no animals or crops, did not have metal implements, and used spears tipped with lanceolate stone points made from carefully selected stone from neighboring regions. Paleo-Indian sites in Louisiana are not common because few artifacts were left at any location. Changing landscape, rising sea levels, and erosion led to the disappearance of sites (Neuman and Hawkins 1993).

By 6000 B.C. the gradual transition from the late Paleo-Indian to the early Meso-Indian period (6000–2000 B.C.) had occurred. Meso-Indians (also called Archaic Indians) lived in small nomadic groups and remained longer in each camp location and exploited smaller geographical areas. Meso-Indians had a varied diet, consuming seeds, roots, nuts, fruits, fish, clams, reptiles, amphibians, birds, and mammals. Although population movements were influenced by hunting and gathering seasons, streams were the focus of settlement due to the availability of shellfish and

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fish. They used fishhooks, traps, and nets, and a spear thrower (atlatl) to kill larger mammals (Neuman and Hawkins 1993). Meso-Indians also collected plants in the spring, fruits in the summer, and acorns, pecans, and walnuts in the fall.

During the ensuing Neo-Indian period (2000 B.C. – A.D. 1600), population expanded and some groups became sedentary, staying in one place for extended periods. Tools and other objects used by Neo-Indians included stone and pottery vessels, baked clay balls, as well as decorative or ceremonial objects. Neo-Indians also constructed large earthen mounds. The Neo-Indian period included the following cultures: Poverty Point, Tchefuncte, Marksville, Troyville-Coles Creek, Caddo, and Plaquemine-Mississippian (Neuman and Hawkins 1993). A major Neo-Indian period settlement site is Poverty Point, a large earthwork located in West Carroll Parish.

### **Protohistoric and Historic Period**

During the period of early Spanish and French exploration, Louisiana was occupied by Caddoan-speaking groups that included the Adaes, Doustioni, Natchitoches, Ouachita, and Yatasi. The territory of these groups stretched from the Ouachita River west to the Sabine River and south to the mouth of Cane River. The earliest contacts with Europeans in Louisiana are poorly documented; however, the best accounts were left by Henri de Tonti who had reached a Natchitoches village in 1690. The Ouachita lived in the Ouachita River basin and by 1720 had completely fused with the Natchitoches. In 1701 Governor Bienville and Louis Juchereau de St. Denis, guided by the Tunica chief Bride les Boeufs or Buffalo Tamer; arrived at the Natchitoches area. They visited the Doustioni, Natchitoches, and Yatasi villages in attempt to obtain livestock and salt for French settlements in lower Louisiana. After St. Denis returned to Red River in 1714, the Caddoan people in Louisiana were in regular contact with European immigrants (Webb and Gregory 1990).

Beginning in 1541 with Hernando de Soto's claim of the region for Spain, Louisiana has seen a minimum of ten governing bodies. Louisiana has been a subject of Great Britain, France, Republic of West Florida, and the United States. At the outbreak of the Civil War, Louisiana became an independent republic for six weeks before joining the Confederacy. In 1803, Louisiana had become a part of the United States because of the region's importance to the trade and security of the American Midwest. New Orleans and the surrounding territory controlled the mouth of the Mississippi River upon which produce from the Midwest was transported to markets. In 1803 President Thomas Jefferson negotiated the Louisiana Purchase with Napoleon in order to obtain American control over this vast territory. With the acquisition of Louisiana, Jefferson nearly doubled the size of the United States and made it a world power. Thirteen states or parts of states were eventually carved out of the Louisiana Purchase territory (Louisiana Department of Economic Development 1994).

Through much of its early history, Louisiana was a trading and financial center. The fertility of its land also made it one of the richest agricultural regions in America as first indigo, then sugar and cotton, rose to prominence in world markets. Many Louisiana planters were among the wealthiest men in America. However, the plantation economy was shattered by the Civil War although the state continued to be a powerful agricultural region. The discovery of sulphur in 1869 and oil in 1901, coupled with the rise of forestry sent the state on a new wave of economic growth. Eventually, Louisiana became a major American producer of oil and natural gas and a center of petroleum refining and petrochemicals manufacturing (Louisiana Department of Economic Development 1994).

### **Archaeological Sites**

No archaeological sites are listed on the National Register within the CREP area parishes (Louisiana Division of Historic Preservation [LDHP] 2007). However, many other archaeological



sites whose National Register eligibilities have not been determined are found throughout rural areas encompassed by the CREP agreement.

Historic period (1750-present) archaeological sites include both Native American and non-Native American sites. European traders, settlers, soldiers, and missionaries, encountered and interacted with the aforementioned Native groups. Historic archaeological sites may represent areas of large settlements or individual plantation, or residences, remnants of transportation systems, or other early industrial activities, educational, religious, social, or commercial structures, ditches, dams or refuse dumps, and cemeteries or family burial plots.

### 3.2.2.2 *Historic Architectural Resources*

Louisiana historic architectural resources include historic buildings such as plantation houses, courthouses or churches, historic structures such as old bridges, lighthouses or forts, and historic districts such as old residential or commercial neighborhoods. Five historic districts and 80 individual properties are listed in the National Register within the LA CREP II area (Table 3.7-1).

**Table 3.2-1 Numbers of National Register Listed Historic Districts and Individual Historic Properties in the LA CREP II Area.**

	National Register Listed Historic Districts	National Register Listed Properties
Acadia	1	5
Allen	0	4
Calcasieu	1	13
Cameron	0	2
Evangeline	0	5
Jefferson Davis	0	18
St. Landry	3	33
<b>TOTAL</b>	<b>5</b>	<b>80</b>

*Source: LDHP 2007*

### 3.2.2.3 *Traditional Cultural Properties*

A traditional cultural property is defined as a property that is eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community. Traditional cultural properties may be difficult to recognize and may include a location of a traditional ceremonial location, a mountaintop, a lake, or a stretch of river, or culturally important neighborhood. (U.S. Department of the Interior 1998).

Federally recognized tribes with traditional ties to Louisiana include the Alabama-Coushatta Tribe of Texas, the Caddo Tribe of Oklahoma, the Chitimacha Tribe of Louisiana, the Jena Band of Choctaw Indians, the Mississippi Band of the Choctaw, the Quapaw Tribe of Oklahoma, and the Tunica-Biloxi Indians of Louisiana (Federal Register 2002). The LDHP does not maintain a list of traditional cultural properties within the state.

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### **3.3 WATER RESOURCES**

#### **3.3.1 Definition of Resource**

The Clean Water Act, the Safe Drinking Water Act, the Water Quality Act, and the Coastal Zone Management Act (CZMA) are the primary Federal laws that protect the nation's waters including lakes, rivers, aquifers, and wetlands. For this analysis, water resources include surface water, groundwater and aquifers, wetlands, floodplains, and coastal zone management.

Surface water includes streams and rivers, lakes, and reservoirs. Impaired waters are defined by the Environmental Protection Agency (EPA) as those surface waters with levels of pollutants that exceed State water quality standards (EPA 2006b). Every two years, States must publish lists, called the 303(d) lists, of those rivers, streams, and lakes that do not meet their designated uses because of excess pollutants. Total maximum daily loads of pollutants must be established and approved by EPA for impaired streams (EPA 2006a).

Groundwater refers to subsurface hydrologic resources that are used for domestic, agricultural, and industrial purposes. Groundwater is contained in natural geologic formations called aquifers. In areas with few or no alternative sources to the groundwater resource, an aquifer may be designated as a sole source aquifer by EPA, which requires EPA review of any proposed projects within the designated areas that are receiving Federal financial assistance (EPA 2005).

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 (USACE 1987). Wetlands can be associated with groundwater or surface water and are identified based on specific soil, hydrology, and vegetation criteria defined by USACE.

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.

The CZMA encourages States to preserve, protect, develop, and, where possible, restore or enhance valuable natural coastal resources such as wetlands, floodplains, estuaries, beaches, dunes, barrier islands, and coral reefs, as well as the fish and wildlife supported by those habitats. The CZMA requires Federal activities that are reasonably likely to affect use of lands or waters, or natural resources of the coastal zone to be consistent to the maximum extent practicable with the enforceable policies of the State's Coastal Zone Management Plan.

#### **3.3.2 Affected Environment**

##### **3.3.2.1 *Surface Water***

The proposed CREP area lies within the Mermentau River Basin. This watershed is approximately 734,000 acres and is divided by Louisiana Highway 82 into two distinct subbasins. The Lakes Subbasin is north of the highway and the Chenier Subbasin is south of the highway (LaCoast 2006). The major tributaries of the Mermentau Basin divide the basin into a series of broad, flat areas ideal for agriculture (U.S. Geological Survey [USGS] 2003).

Much of the basin has been altered for growing rice, the most important agricultural crop produced in the basin (USGS 2003). In 2006, there were 333,824 acres of rice fields within the seven parishes of the proposed CREP area. This represented 54% of the total rice production in the State (LSU 2005b). Production of a rice crop requires a large input of agricultural chemicals

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which includes, on average 120 pounds of nitrogen, 51 pounds of phosphate, 51 pounds of potash, 17 pounds of fungicides, and 6.5 quarts of herbicides per acre (LSU 2005c). Increased turbidity and high concentrations of chemicals are found in the basin during the spring months associated with the release of the rice field water, known as tailwater (USGS 2003).

Two waterbodies of the Mermentau watershed are listed as impaired (EPA 2007). These are the Bayou Queue de Tortue and the Intracoastal Waterway from Mermentau River to Vermillion Locks. Causes of impairment are Carboufuran, Fipronil, Nitrate/Nitrite, Nitrogen, Ammonia, Dissolved Oxygen, Turbidity, Suspended Solids, Total Phosphorus, and Sedimentation (EPA 2007). The suspected source of impairment is irrigated crop production (USDA 2006).

### **3.3.2.2 *Groundwater and Aquifers***

The Chicot Aquifer system is the principal source of fresh groundwater within the proposed CREP area. Although only 16% of Louisiana water use is from groundwater sources, three of the twelve major aquifer systems are being over-drafted, including the Chicot Aquifer. Approximately 70% of the 800 million gallons per day (Mgd) withdrawn from the Chicot Aquifer is estimated to be used for rice irrigation and aquaculture, primarily crawfish (Southern Region Water Quality Planning Committee [SRWQPC] 2007). Salt water occurs in the Chicot Aquifer along the coast and in isolated bodies north of the coast. The Chicot Aquifer is recharged by infiltration of rainwater. Over-drafting of the Chicot Aquifer can cause inland movement of salt water.

### **3.3.2.3 *Wetlands***

Louisiana wetlands are nationally recognized for both their extent and productivity. They support large recreational and commercial uses as well as provide storm and flood protection (Louisiana Department of Environmental Quality [LDEQ] 2004). Freshwater and estuarine wetlands cover approximately 28% of Louisiana's surface area. Louisiana's wetland acreage has been significantly reduced by floodplain clearing, leveeing, canal dredging, saltwater intrusion, and natural processes. Wetland loss in Louisiana (an average of 25-35 square miles per year) accounts for 90% of the coastal wetland loss in the lower 48 states (LDEQ 2004).

### **3.3.2.4 *Floodplains***

In accordance with EO 11988, Federal agencies must review FEMA flood insurance rate maps (FIRMs) or other available floodplain maps to determine whether a proposed action is located in or will impact 100-year floodplains. FIRMs are generally developed for developed and densely populated areas with flood potential and are not available for the CREP area. Additional floodplain studies and maps of the counties in the CREP project area may be available at the Louisiana Department of Natural Resources or town planning offices. Soil survey maps, aerial photography, and topographical maps may also be consulted where no floodplain maps are available.

### **3.3.2.5 *Coastal Zone Management***

The Coastal Management Division (CMD) of the Louisiana Department of Natural Resources is responsible for implementing the Louisiana Coastal Resources Program. The broad intent of the Coastal Resources Program is to promote multiple uses of resources and adequate economic growth while minimizing the adverse effects of one resource use upon another (CMD 2007). Cameron Parish is the only proposed CREP area located within Louisiana's designated coastal zone, however, the activities proposed under CREP have the potential to indirectly affect the nearby coastal zone.

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## **3.4 SOIL RESOURCES**

### **3.4.1 Description**

For this analysis, soil 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 association.

### **3.4.2 Affected Environment**

#### **3.4.2.1 Topography**

Southern Louisiana lies within the Outer Coastal Plain Mixed Province and the Lower Mississippi Riverine Forest Province (Bailey 1995). The Outer Coastal Plain Mixed Province encompasses six of the seven Parishes considered under this PEA, with the seventh, St. Landry Parish, falling within both the Outer Coastal Plain Mixed Province and the Lower Mississippi Riverine Forest Province. The Outer Coastal Plain Mixed Province comprises the flat and irregular Gulf Coastal Plain, characterized by rolling hills sloping gently toward the coast. Local relief in this Province is less than 300 ft (Bailey 1995). The mean elevation of Louisiana is 98 feet above sea level with elevations in southwestern Louisiana ranging from 10 feet above sea level at the coast and swamp lands to 60 feet at the prairie and alluvial lands (Wikipedia 2007). The Lower Mississippi Riverine Forest Province consists of flat to gently sloping broad floodplain and low terraces (Bailey 1995). This area is mostly flat with an average southward slope of less than 8 inches per mile. River terraces, swales, and levees provide the main elements of relief.

#### **3.4.2.2 Soils**

Soils in the Outer Coastal Plain Mixed Province are typically Ultisols, Spodosols, and Entisols (Bailey 1995). These soils are primarily derived from coastal plain sediments ranging from heavy clay to gravel, with sandy materials predominant. Near the coast, beaches, swamps, and mud flats are developed and maintained through the deposition of materials from streams and rivers and shore zone processes (McNab 1994). Ultisols and Spodosols typically support forests, while Entisols support agriculture due to the deposition of materials from streams and rivers and shoreline deposits (University of Idaho 2007). Soils in the Lower Mississippi Riverine Forest Province are a mosaic of Inceptisols, Alfisols, and Mollisols (Bailey 1995). Inceptisols are relatively young soils composed of medium textured sediments deposited by flowing water. These soils have adequate moisture available for vegetation during the growing season (McNab 1994). Alfisols are a fine-grained wind blown loam found in river valleys in temperate humid and subhumid regions of the world. Alfisols are very productive soils for both agricultural and silvicultural use (University of Idaho 2007). Mollisols typically form in areas with swampy vegetation, and are characterized by a fertile surface horizon resulting from the long-term addition of organic materials derived from plant roots (University of Idaho 2007). Mollisols are one of the most productive agricultural soils in the world.

## **3.5 AIR QUALITY**

### **3.5.1 Definition of Resource**

The Clean Air Act (CAA) requires the maintenance of National Ambient Air Quality Standards (NAAQS). NAAQS, developed by the EPA to protect public health, establish limits for six criteria pollutants: ozone (O<sub>3</sub>), nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), sulfur dioxide

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(SO<sub>2</sub>), lead (Pb), and inhalable particulates (course particulate matter greater than 2.5 micrometers and less than 10 micrometers in diameter [PM<sub>10</sub>] and fine particles less than 2.5 micrometers in diameter [PM<sub>2.5</sub>]). The CAA requires states to achieve and maintain the NAAQS within their borders. Each state may adopt requirements stricter than those of the national standard. Each state is required by EPA to develop a State Implementation Plan (SIP) that contains strategies to achieve and maintain the national standard of air quality within the state. Areas that violate air quality standards are designated as non-attainment areas for the relevant pollutants. Areas that comply with air quality standards are designated as attainment areas for relevant pollutants.

### **3.5.2 Affected Environment**

The LDEQ Environmental Evaluation Division, Air Analysis Section, monitors the air quality in the state of Louisiana. The LDEQ maintains 44 monitoring stations throughout the state that collect data on the following criteria pollutants: O<sub>3</sub>, SO<sub>2</sub>, NO<sub>2</sub>, CO, Pb, and particulate matter. The LDEQ monitors trends in the air quality and ensures compliance with NAAQS and the Louisiana SIP. All parishes within the proposed CREP are in attainment of NAAQS (EPA 2006).

## **3.6 SOCIOECONOMICS**

### **3.6.1 Definition of Resource**

For this analysis, socioeconomics includes investigations of farm and non-farm employment and income, farm production expenses and returns, and agricultural land use. The region of influence for analysis of impacts to socioeconomics are those parishes where lands eligible for enrollment in the proposed CREP are located, namely, Acadia, Allen, Calcasieu, Cameron, Evangeline, Jefferson Davis, and St. Landry Parishes.

### **3.6.2 Affected Environment**

#### **3.6.2.1 *Non-Farm Employment and Income***

The 1990 and 2000 civilian labor force within the region of influence grew from 141,036 in 1990 to 178,835 in 2000 (United States Census Bureau [USCB] 1990, USCB 2003). Non-agricultural industries employed 135,908 and 237,795 persons in 1990 and 2000 respectively (USCB 1990, USCB 2000). The unemployment rate within the region in August 2005 by parish was 5.8% in Acadia and Calcasieu, 7.6% in Allen, 4.6% in Cameron, 6.4% in Evangeline, Jefferson Davis was 5.1% and St. Landry had 6.2% (U.S. Bureau of Labor Statistics [USBLS] 2005). In 1989, median household income ranged between \$13,797 in Evangeline Parish to \$25,164 in Cameron Parish. In 1999, Calcasieu Parish enjoyed the highest median household income at \$35,372 and Evangeline Parish was at the lower end of the range at \$20,532. (USCB 1990, USCB 2000).

#### **3.6.2.2 *Farm Employment and Income***

In 2002, there were 4,007 farm workers on 4,907 farms within the region accounting for a payroll of \$21,701,000 (USDA 2002). Table 3.6-1 lists the hired farm and contract labor costs per county within the region and labor costs as a percentage of total production costs. Realized net cash farm income of operations was in excess of \$14,185,000 in 2002 (USDA 2002). Total government payments to farms within the region exceeded \$37.6 million in 2002, an increase of over \$19 million (49 percent) over the 1997 government payments to farms within the region (USDA 1997).

**Table 3.6-1 Farm Labor as a Percentage of Total Production Expenses**

	2002				1997			
	Hired Farm Labor (\$000)	Contract Labor (\$000)	Total Production Expenses (\$000)	Labor as a Percent of Total Production Expenses	Hired Farm Labor (\$000)	Contract Labor (\$000)	Total Production Expenses (\$000)	Labor as a Percent of Total Production Expenses
Acadia	4,024	323	39,048	11.13%	3,332	275	41,113	8.77%
Allen	967	27	10,380	9.58%	376	61	10,312	4.24%
Calcasieu	1,729	347	19,993	10.38%	1,243	171	18,329	7.71%
Cameron	510	(D)	7,297	NA	698	30	9,873	7.37%
Evangeline	2,753	200	27,833	10.61%	2,835	293	29,272	10.69%
Jefferson Davis	2,519	497	41,155	7.33%	1,800	349	35,022	6.14%
St. Landry	9,199	348	59,552	16.03%	5,048	304	54,342	9.85%
<b>Total</b>	<b>21,701</b>	<b>1,742</b>	<b>205,258</b>	<b>11.42%</b>	<b>15,332</b>	<b>1,483</b>	<b>198,263</b>	<b>8.48%</b>

Source: USDA 2002

(D) Withheld to avoid disclosing data for individual farms.

### 3.6.2.3 Farm Production Expenses and Returns

In 2002, farm production expenses exceeded \$205,258,000 within the region an increase of 3.4 percent over 1997 (USDA 2002). Using the 2002 acreage of land in cropland (1,709,006 acres), the average cost per acre within the region in 2002 was \$120.10 (USDA 2002). Using 2002 cropland, the cost per acre of agricultural chemicals inputs, including fertilizers and lime, was \$27.49 (USDA 2002). Average net cash income from operations within the region was \$3,064.86 per farm in 2002 (USDA 2002). Table 3.6-2 lists the average farm production expenses and return per dollar of expenditure from 2002 within each of the counties within the region. Table 3.6-3 lists the average value of land and buildings and the average value of machinery and equipment per farm within each of the counties within the region.

### 3.6.2.4 Current Agricultural Land Use Conditions

In 2002, 582,958 acres of land within the region were harvested; this was a decrease of approximately 23 percent from the 1997 figures (761,334 acres) (USDA 2002). Table 3.6-4 lists the acreage for different agricultural land uses in 1997 and 2002 and the percent change during the period. Active conservation programs acreage for all program years in 2002 included 8,494 acres (active CRP), 256.6 acres (continuous non-CREP) and 126.8 acres (tree practices) within the region (USDA 2006).

**Table 3.6-2 Average Farm Production Expense and Return Per Dollar of Expenditure (2002)**

<b>Area</b>	<b>Average Size of Farm (acres)</b>	<b>Average Total Farm Production Expense (\$)</b>	<b>Average Cost Per Acre (\$)</b>	<b>Average Net Cash Income/Farm (\$)</b>	<b>Average Net Cash Income/Acre (\$)</b>	<b>Average % Return / \$ Expenditure</b>
Acadia	342	52,065	152.24	3,206	9.37	6.16%
Allen	286	29,075	101.66	-207	-0.72	-0.71%
Calcasieu	349	22,928	65.70	-1,077	-3.09	-4.70%
Cameron	608	17,668	29.06	4,425	7.28	25.05%
Evangeline	284	44,180	155.56	5,807	20.45	13.14%
Jefferson Davis	504	64,204	127.39	6,988	13.87	10.88%
St. Landry	236	48,654	206.16	2,312	9.80	4.75%
<b>Total</b>	<b>372.71</b>	<b>39824.86</b>	<b>119.68</b>	<b>3,064.86</b>	<b>8.14</b>	<b>7.80%</b>

Source: USDA 2007

**Table 3.6-3 Average Value per Farm of Land and Buildings and Machinery and Equipment**

<b>Area</b>	<b>Average Size of Farm (acres)</b>	<b>Average Value of Land &amp; Buildings (\$ per farm)</b>	<b>Average Value of Machinery &amp; Equipment (\$ per farm)</b>
Acadia	342	593,093	93,611
Allen	286	398,810	60,523
Calcasieu	349	592,337	37,110
Cameron	608	825,369	40,752
Evangeline	284	367,702	65,466
Jefferson Davis	504	586,401	69,656
St. Landry	236	325,464	60,581

Source: USDA 2002

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**Table 3.6-4 Agricultural Land Use Acreage within the LA CREP II Area**

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Land Use	2002 Acreage	1997 Acreage	Percent Change
Acres Harvested	582,958	745,428	21.80%
Cropland <sup>1</sup>	1,122,686	1,135,737	1.15%
Pastureland <sup>2</sup>	135,363	127,363	-6.28%
Woodland <sup>3</sup>	61,534	88,473	30.45%
CRP <sup>4</sup>	31,781	25,894	22.74%
<b>Total Land in Farms<sup>5</sup></b>	<b>1,709,006</b>	<b>1,766,127</b>	<b>3.23%</b>

<sup>1</sup>Cropland excludes all harvested hayland and cropland used for pasture or grazing

<sup>2</sup>Pastureland, excluding woodlands

<sup>3</sup>Woodlands not pastured

<sup>4</sup>CRP acreages are included as active agricultural lands

<sup>5</sup>Total land in farms includes cropland, hay land, pastureland, woodlands and house lots, etc.

Source: USDA 2002; \*

## **3.7 ENVIRONMENTAL JUSTICE**

### **3.7.1 Definition of Resource**

EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires a Federal agency to “make achieving environmental justice part of its mission by identifying and addressing as appropriate, disproportionately high human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” A minority population can be defined by race, by ethnicity, or by a combination of the two classifications.

According to CEQ, a minority population can be described as being composed of the following groups: American Indian or Alaska Native, Asian or Pacific Islander, Black, not of Hispanic origin, or Hispanic and exceeding 50 percent of the population in an area or the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population (CEQ 1997). The USCB defines ethnicity as either being of Hispanic origin or not being of Hispanic origin. Hispanic origin is further defined as “a person of Cuban, Mexican, Puerto Rican, South or Central America, or other Spanish culture or origin regardless of race” (USCB 2001).

Each year the USCB defines the national poverty thresholds, which are measured in terms of household income and are dependent upon the number of persons within the household. Individuals falling below the poverty threshold are considered low-income individuals. USCB census tracts where at least 20 percent of the residents are considered poor are known as poverty areas (USCB 1995). When the percentage of residents considered poor is greater than 40 percent, the census tract is considered an extreme poverty area.



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## 3.7.2 Affected Environment

### 3.7.2.1 Demographic Profile

The total population within the region was 432,438 persons in 2000, which was an approximately 8 percent increase over the population of 1990 (USCB 1990, 2000). Approximately 60 percent of the population lives in urban areas or urban clusters except for Cameron Parish where 100 percent of the population lives in a rural setting (USCB 2000). Only 4,451 persons (1 percent of the total population) resided on farms, a slight decrease from the 1990 farm population which was 6,122 (USCB 1990, 2000).

Demographically the LA CREP II area population was 70.8 percent White, non-Hispanic; 26.2 percent Black or African American, non-Hispanic; 0.3 percent Native American or Alaska Native, non-Hispanic; 0.4 percent Asian, non-Hispanic; 0.02 percent Native Hawaiian or Pacific Islander, non-Hispanic; 0.8 percent all other races or combination of races, non-Hispanic; and 1.3 percent Hispanic (USCB 2000). The total minority population within the LA CREP II area was 125,971 persons or 29.1 percent of the total regional population (USCB 2000). The region is not a location of a concentrated minority population.

In 2002, there were 6,772 primary farm operators running 4,907 farms in the area; of these, Whites operated 4,601 farms; Hispanics operated 101 farms; Black or African Americans operated 314 farms; and Native Americans operated 16 farms (USDA 2002).

### 3.7.2.2 Income and Poverty

In 1989, median household income ranged between \$13,797 in Evangeline Parish to \$25,164 in Cameron Parish. In 1999, Calcasieu Parish had the highest median household income at \$35,372 and Evangeline Parish was at the lower end of the range at \$20,532 (USCB 1990, USCB 2000). Table 3.7-1 shows the number and percentage of families living below the poverty level in each parish in 2000. The percent of families living below poverty level in 2000 was above 20% in Acadia, Evangeline, and Jefferson Davis Parishes. Thus these areas are considered impoverished.

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**Table 3.7-1 Households below the poverty level in the LA CREP II Parishes**

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Parish	Households below the poverty level	
	Number	Percent
Acadia	3,310	21
Allen	1,079	18
Calcasieu	6,304	13
Cameron	247	9
Evangeline	2,523	27
Jefferson Davis	1,558	18
St Landry	5,773	25

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Source: USCB 2000

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## **4.0 ENVIRONMENTAL CONSEQUENCES**

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### **4.1 BIOLOGICAL RESOURCES**

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

#### **4.1.1 Vegetation**

##### **4.1.1.1 *Alternative A – Preferred Alternative***

Implementing the Preferred Alternative is expected to result in positive impacts to vegetation. Establishing permanent native grasses (CP2) and restoring rare and declining habitat (CP25) where crops were once grown would result in restoration of native vegetative communities and greater vegetative species diversity, as areas of agricultural monocultures are replaced with a number of native plant species. Establishing permanent vegetation is expected to reduce runoff of agricultural chemicals and soils, thus improving the quality of habitats for aquatic plants. Decreased turbidity and enrichment from fertilizers are expected to result in more light available to submerged rooted plants. The occurrence of invasive and exotic species is expected to be reduced because native plants are more able to out-compete such species than the monocultures currently in place.

##### **4.1.1.2 *Alternative B – No Action Alternative***

Under the No Action Alternative the proposed LA CREP II would not be implemented. Lands that would have been eligible for enrollment would remain in agricultural production. The continued use of land for agriculture would increase susceptibility to invasion by exotic species which are adapted to invade highly disturbed environments. Runoff of agricultural chemicals, animal wastes and sediment would also continue to degrade water quality and therefore potentially degrade habitat for native aquatic plants and animals.

#### **4.1.2 Wildlife**

##### **4.1.2.1 *Alternative A – Preferred Alternative***

The establishment of native vegetation (CP2), shallow areas for wildlife (CP9) and the restoration of rare and declining habitat (CP25) are expected to increase the quantity and quality of terrestrial and aquatic wildlife habitat and thus wildlife species diversity. Increasing diversity among plant species and restoring native plant communities and habitats are expected to result in increased animal species diversity, as native animal species move in to inhabit newly created habitats where homogenous and highly disturbed habitat existed before. Species diversity is expected to increase among all terrestrial animal groups, including insects which historically were abundant and diverse in the Coastal Prairie ecosystem. Reduced runoff of agricultural chemicals and soils is expected to improve the quality of habitats for aquatic animals as decreased turbidity and reduced enrichment from fertilizers result in more dissolved oxygen and fewer contaminants. Species would be impacted directly by the new habitat made available through the establishment of CPs and indirectly by improved water quality resulting from reduced runoff of sediment, nutrients and other chemicals.

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#### **4.1.2.2 *Alternative B – No Action Alternative***

If the LA CREP II were not implemented lands that could have been enrolled in the program would remain in agricultural production. None of the improvements expected to result from the program would be realized. Agricultural monocultures would remain in place and such homogeneous and highly disturbed habitat would continue to attract a limited number of animal species. The continuation of current agricultural practices is expected to result in runoff of agricultural chemicals and sediment which degrade aquatic habitat by increasing turbidity and contaminants and over-enriching waters, resulting in a reduction in light available to aquatic plants and ultimately less dissolved oxygen available to aquatic animals.

#### **4.1.3 Threatened and Endangered Species**

##### **4.1.3.1 *Alternative A – Preferred Alternative***

As with vegetation and wildlife, some threatened and endangered species are expected to benefit from the improvements in surface water quality both within and downstream of the project area and the restoration of native terrestrial habitats. The aquatic habitat used by the pallid sturgeon is expected to improve as a result of reduced runoff of agricultural chemicals and soil erosion. Such water quality improvements are also expected to improve the foraging habitat of Bald Eagle, Brown Pelican and Piping Plover. The Louisiana black bear, a habitat generalist, could be positively impacted by restoration of native vegetation which could result in larger tracts of habitat that are not fragmented by agricultural fields. Both the Red Cockaded Woodpecker and American chaffseed are species that occur in pine forests. Like the Louisiana black bear, these species could benefit if the proposed action resulted in larger tracts of unfragmented habitat.

##### **4.1.3.2 *Alternative B – No Action Alternative***

Under the No Action Alternative, the conservation practices proposed would not be implemented and farming practices would continue. This is expected to result in continued erosion of soils and inputs of agricultural chemicals into the terrestrial and aquatic ecosystems, continued fragmentation of native vegetative communities, further degradation of habitats for wildlife and protected species, and increased occurrence of invasive plant species.

## **4.2 CULTURAL RESOURCES**

Impacts to cultural resources would be significant if it resulted in: the destruction or alteration of a National Register-eligible cultural or historic property without prior consultation with the State Historic Preservation Office (SHPO); the introduction of visual, audible or atmospheric elements that are out of character with a National Register-eligible site; or the disturbance of important sites of religious or traditional cultural properties to American Indians.

### **4.2.1 Archaeological Resources**

#### **4.2.1.1 *Alternative A – Preferred Alternative***

Due to the long history of human occupation in the CREP agreement area, 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 have the potential to impact known and yet unknown archaeological resources. Such practices may include mechanical removal of vegetation and brush, and

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restoration of local hydrology by removal of crop levees, terraces or other conditions that cause ponding of water and smoothing of rills and gullies.

In order to determine whether proposed ground-disturbing practices would impact archaeological resources listed in or eligible for listing in the National Register, an archaeological survey would be required prior to implementation of the contract. The archaeological survey should meet all survey guidelines set forth by the Louisiana SHPO. Results and recommendations from the survey should receive concurrence for the Louisiana SHPO prior to project implementation.

#### **4.2.1.2 *Alternative B – No Action Alternative***

The no action alternative would result in no change to archeological resources, known and unknown, at within proposed CREP project eligible lands.

### **4.2.2 Architectural Resources**

#### **4.2.2.1 *Alternative A – Preferred Alternative***

The CREP agreement area contains a rich architectural history related to early settlement and plantation themes of Louisiana’s history (see Table 3.2-1). Should proposed conservation practices include the removal or modification of historic architectural resources included in or eligible for the National Register, a historic architectural resources survey would be required in order to determine whether such resources are present. Coordination and consultation with the Louisiana SHPO would minimize or eliminate potential impacts.

#### **4.2.2.2 *Alternative B – No Action Alternative***

The no action alternative would result in no change to architectural resources, known and unknown, at within proposed CREP action lands.

### **4.2.3 Traditional Cultural Properties**

#### **4.2.3.1 *Alternative A – Preferred Alternative***

Because the areas of potential effect of CREP actions are not yet defined, no Native American sacred sites or traditional cultural properties are identified. Once these areas are defined, consultation with Native American groups that have traditional ties to the lands may be needed to determine whether such properties exist on affected lands. Federally recognized tribes with traditional ties to Louisiana include the Alabama-Coushatta Tribe of Texas, the Caddo Tribe of Oklahoma, the Chitimacha Tribe of Louisiana, the Jena Band of Choctaw Indians, the Mississippi Band of the Choctaw, the Quapaw Tribe of Oklahoma, and the Tunica-Biloxi Indians of Louisiana (FR 2002).

#### **4.2.3.2 *Alternative B – No Action Alternative***

The no action alternative would result in no change to traditional cultural resources, known and unknown, within proposed CREP action lands.

## **4.3 WATER RESOURCES**

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

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#### **4.3.1 Alternative A – Preferred Alternative**

Implementation of the proposed LA CREP II would have long term positive impacts to water resources. The CPs listed in Section 2.1 are designed to improve water quality and quantity in the coastal prairie as well as restore shallow waters and rare habitat. Activities such as vegetation clearing and soil disturbance may occur during the installation of CPs. These activities could result in temporary and minor negative impacts to surface water quality resulting from runoff associated with these activities. Use of filter fencing or similar practices would reduce these impacts. These impacts would be localized and cease with land preparation activities.

The LA CREP II proposal estimates that implementation of the agreement would reduce the amount of sediment entering the project area streams by 160,000 to 480,000 tons over ten years. Agricultural chemical inputs that would be substantially reduced over the life of the program would include 9,600 tons of nitrogen, 4,080 tons of phosphorous and potash, 1,360 tons of fungicides and 260,000 gallons of herbicides. Reduction of these chemical inputs would greatly improve water quality in the Mermentau River Basin. This improvement could ultimately lead to removing some streams, rivers, and bayous currently found on the Louisiana Section 303(d) list. Implementation of CP2 (Establish native grasses) and CP25 (Restore rare habitat) would help stabilize soils within the CREP area and further reduce sedimentation and turbidity from runoff.

Implementing the proposed agreement would reduce groundwater consumption by an estimated 15.6 billion gallons per year (USDA 2006). This reduction would occur from converting 16,000 acres of irrigated rice fields to other land uses. Reducing the irrigation needs within the project area would improve the water quantity of the Chicot Aquifer. When overdrafting causes depletion of fresh water in the Chicot Aquifer (which is recharged primarily by infiltration of rainfall), the saltwater that exists along the coast and in isolated pockets in the aquifer could encroach further into the fresh water source. It is expected that reduced pumping would reduce the likelihood and extent of saltwater intrusion into the Aquifer.

The proposed CREP activities would improve the quality of the Mermentau watershed and its associated natural resources. Protection and enhancement of these resources would be consistent with the goals of the Coastal Resources Program. Much of the proposed CREP area is outside of the coastal zone, however, improvements in the CREP area watershed would relay downstream.

#### **4.3.2 Alternative B – No Action Alternative**

Under the No Action Alternative, the proposed CPs would not be implemented. Eligible lands could be enrolled in other conservation programs, but the enhanced benefits of the CREP targeting the coastal prairie and adjacent marsh habitat would not be realized. Use of these lands for agricultural purposes is expected to result in the continued degradation of surface water quality resulting from runoff of sediments and agricultural chemicals. Groundwater would continue to be used for irrigation, resulting in overdrafting of some aquifers and making saltwater intrusion into aquifers possible.

### **4.4 SOIL RESOURCES**

Impacts to soil resources would be considered significant if implementation of the proposed CREP Agreements resulted in increased erosion and sedimentation, or affected topographical or unique soil conditions.

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#### **4.4.1 Alternative A – Preferred Alternative**

Under Alternative A, long-term positive impacts to soil resources are expected to occur with the implementation of the proposed CPs resulting in localized stabilization of soils and topography as a result of increased soil moisture, reduced erosion and runoff. Restoration of riparian areas will reduce stream bank destabilization, resulting in reduced rates of sedimentation and subsequent improvements to water quality (see Section 4.3 for a discussion of surface water quality). Establishing permanent vegetation on former croplands would reduce wind and water erosion commonly associated with bare land. Short-term disturbance to soils during implementation of CPs could include tilling, or installation of various structures such as fences, breakwaters and roads. These activities may result in temporary minor increases in soil erosion.

#### **4.4.2 Alternative B – No Action Alternative**

Under Alternative B the CPs would not be implemented and the benefits discussed above would not occur. Erosion of soils by wind and water is expected to continue on lands that remain in production.

### **4.5 AIR QUALITY**

Any impacts to air quality in attainment areas would be considered significant if pollutant emissions associated with the proposed action: caused, or contributed to a violation of any national, state, or local ambient air quality standard; exposed sensitive receptors to substantially increased pollutant concentrations; or exceeded any significance criteria established by Louisiana's SIP.

#### **4.5.1 Alternative A – Preferred Alternative**

Implementation of Alternative A would result in the establishment of CPs as described in Section 2.1 on 28,000 acres of agricultural land in seven parishes in the coastal prairie region. It is not expected that any of these practices would change the current attainment status or violate Louisiana's SIP standards.

Preparing lands for CPs could include activities such as tilling, burning, and installation or removal of various structures in water or on land. These activities would have localized temporary minor impacts to air quality. Tilling would temporarily increase the PM<sub>10</sub> concentrations in the immediate area; however, this increase is not expected to be significant. Watering exposed soils during and after tilling would reduce the release of PM<sub>10</sub>. The amount of open burning that would take place in conjunction with clearing and preparing lands for installation of CPs is not known. Burning could release PM<sub>10</sub>, PM<sub>2.5</sub>, CO, hydrocarbons and NO<sub>2</sub> into the atmosphere (EPA 1992). The type and quantity of these pollutants would be determined by the type of vegetation being burned, the configuration of the burned material, and the weather conditions. It is not anticipated, however, that this burning would have a significant impact on the local air quality. Open burning is prohibited in the state of Louisiana (LDEQ 2006). Those landowners choosing to use burning during implementation of CPs would need to apply for a permit from LDEQ.

Heavy equipment and construction vehicles used to clear vegetation, hay, mow, and remove levees, terraces, and other structures would release CO and PM<sub>10</sub>. Like tilling and burning, impacts from the use of heavy equipment is expected to be temporary and minor and limited to the immediate construction area. In the long term, positive effects would result from removing land from production by reducing emissions from tractors and other farm machinery.

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#### **4.5.2 Alternative B – No Action Alternative**

Implementation of Alternative B, the No Action alternative would not change existing air quality conditions.

### **4.6 SOCIOECONOMICS**

Significance of an impact to socioeconomics varies with the setting of the proposed action, but 40 CFR 1508.8 states that indirect effects may include those that are growth inducing and others related to induce changes in the pattern of land use, population density, or growth rate. Under CEQ regulations, a socioeconomic impact can not be a sole cause for the preparation of an Environmental Impact Statement.

#### **4.6.1 Alternative A – Preferred Alternative**

Implementing the Preferred Alternative would have a slight beneficial impact on the economy of the LA CREP II area. The agreement would result in an expenditure of up to \$41,483,120 in the Parishes eligible for enrollment.

For the region, the average net cash income was \$8.14 per acre in 2002. Cost of fertilizer and chemicals averaged \$27.49 per acre. The average annual expenditure on hired labor averaged \$12.70 per acre. The loss of 28,000 acres from production could be anticipated to result in a reduction of \$227,920 net cash income, \$769,720 in chemical inputs not purchased for agricultural use, and \$355,600 in labor expense. The average annual wage for persons engaged in crop and animal production was \$18,440 or an average weekly wage of \$356.28 (Louisiana Department of Labor [LADL] 2002). This equates roughly to 12.7 jobs at prevailing wages in the region. Current estimates indicate that agriculture employs 1,101 persons in the region so this loss would not be considered significant.

Flow down models calculate the value of the direct and indirect economic impacts that a proposed action would have on a regional economy. The proposed action would result in the addition of up to \$41,483,120 in annual rental payments over the duration of the 15 year contract period. As noted above, it would also result in diminished expenditures on seed and chemical inputs, likely resulting in slight reductions in employment. On balance, the overall result of the rental payments and reduced expenditures, including a multiplier effect to account for the flow of such dollars re-circulating through the economy over the years of the expenditure would have a positive future value. The current worth of that positive future value, its net present value, would be the value of future expenditures (after considering employment loss, reduced sales and purchase of chemical inputs) discounted for inflation and expressed in terms of current dollars. This is the standard method for assessing the impacts of long term projects on economies. It is estimated that the net present value of the direct and indirect economic impacts from implementing the LA CREP II proposed action would be \$27.8 million.

#### **4.6.2 Alternative B – No Action Alternative**

Under the No Action Alternative, the LA CREP II would not be implemented. Socioeconomic conditions would continue to follow current trends associated with the region.

### **4.7 ENVIRONMENTAL JUSTICE**

Environmental justice is achieved when everyone, regardless of race, culture, or income, enjoys the same degree of protection from environmental and health hazards and has equal access to the



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decision-making process. Significant environmental justice impacts would result if access to decision making documents were denied or if any adverse environmental effects occurred that would disproportionately affect minority or low-income populations.

#### **4.7.1 Alternative A – Preferred Action**

The LA CREP II area is not an area of concentrated minority population. In several of the parishes affected by the proposed action (Acadia, Evangeline, St. Landry), the percent of residents living below the national poverty threshold exceeds 20 percent, thus are considered an impoverished area. However, no adverse environmental impacts are expected to result from the proposed action, therefore no disproportionate impacts to impoverished populations are expected to occur.

#### **4.7.2 Alternative B – No Action Alternative**

Under the No Action Alternative, the proposed LA CREP II activities would not be implemented and no impacts would occur.

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## **5.0 CUMULATIVE EFFECTS**

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### **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 among the Proposed Action and other actions. 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.

In this PEA, the affected environment for cumulative impacts is those counties where lands are eligible for enrollment in CREP. For the purposes of this analysis, the goals and plans of Federal programs designed to mitigate the risks of degradation of natural resources are the primary sources of information used in identifying past, present, and reasonably foreseeable actions.

### **5.2 PAST, PRESENT, AND REASONABLY FORESEEABLE ACTIONS**

In addition to CREP, Louisiana 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 (WHIP), Environmental Quality Incentives Program (EQIP), and the WRP. Table 5.2-1 shows the acreages enrolled in each of these programs by Parish in the proposed LA CREP II area. In addition, the Lower Ouachita River Basin CREP will establish conservation practices on up to 50,000 acres of farmland in nine parishes in northeastern Louisiana.

#### **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, is expected to result in positive impacts to water, earth, and biological resources, both in the proposed CREP and in waters downstream. Table 5.2-2 summarizes cumulative effects.

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**Table 5.2-1 Acres Enrolled in USDA Programs by County in the LA CREP II Area**

<b>Parish</b>	<b>CRP</b>	<b>WHIP</b>	<b>EQIP</b>	<b>WRP</b>
<b>Acadia</b>	214	15,648	0	0
<b>Allen</b>	739	12,642	421	0
<b>Calcasieu</b>	-	17,289	0	-
<b>Cameron</b>	-	3,502	16	-
<b>Evangeline</b>	4,670	13,395	107	90
<b>Jefferson Davis</b>	1,066	22,786	0	0
<b>St. Landry</b>	3,455	4,557	50	9,776
<b>Total</b>	<b>10,144</b>	<b>89,818</b>	<b>594</b>	<b>9866</b>

*Sources: Smith 2007  
FSA 2007*

### **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 are expected.

**Table 5.2-2 Summary of Cumulative Effects**

<b>Resource</b>	<b>Past and Present Actions</b>	<b>Proposed Action</b>	<b>Future Actions</b>	<b>Cumulative Effects</b>
<b>Biological Resources</b>	Long term positive impacts to vegetation, wildlife and protected species are expected to result from the activities identified, which would convert farmlands into native habitats, restore wetlands 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.
<b>Cultural Resources</b>	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 proposed action.	Cultural Resources could be impacted if the activities associated with them resulted in the disturbance of previously undisturbed ground, the discovery of archaeological resources or affected TCPs. Appropriate consultation with the SHPO and Tribal governments would ensure protection of Cultural Resources and would eliminate potential negative impacts, both incremental and cumulative.
<b>Water Resources</b>	Long term positive impacts to water quality are expected to result from programs that replace agricultural production with conservation measures. The goal of many of these programs is to improve surface and groundwater quality, to restore wetlands and to stabilize floodplains.	Long term positive impacts to water quality, including wetlands restoration are expected to result from the proposed action. Ground and surface water quality are expected to benefit from reduced runoff of agricultural chemicals and decreased use of groundwater for irrigation.	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 5.2-2 Summary of Cumulative Effects (cont'd)**

<b>Resource</b>	<b>Past and Present Actions</b>	<b>Proposed Action</b>	<b>Future Actions</b>	<b>Cumulative Effects</b>
<b>Soil Resources</b>	Long term positive impacts to soil 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.
<b>Socioeconomics</b>	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.	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 adversely affect the economy. The influx of compensation for such programs could result in positive economic impacts.
<b>Environmental Justice</b>	Environmental Justice impacts to the impoverished populations of Acadia, Evangeline, and St. Landry Parishes could occur past and present actions resulted in a significant reduction the availability of employment, impacts to the economies of these parishes or environmental affects which disproportionately impact these populations.	No impacts to environmental justice since no negative environmental or economic impacts are expected result from the proposed action.	The likelihood of impacts is similar to that described for past and present actions.	It is possible that impacts to the impoverished populations of Acadia, Evangeline, and St. Landry Parishes could occur if the proposed action and past, present and future actions resulted in a significant reduction the availability of employment, significant impacts to the economies of these parishes or environmental affects which disproportionately impact these populations.

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**APPENDIX A: CREP AGREEMENT**

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**SCOPE (Revised)**  
**LA CREP II - "COASTAL PRAIRIE" RESTORATION**

The LA CREP II initiative will concentrate tall prairie grass restoration efforts in the Southwest portion of Louisiana within the historic range of the Louisiana Coastal Prairie in all or portions of the following parishes:

- Acadia
- Allen
- Calcasieu
- Cameron
- Evangeline
- Jeff Davis
- St. Landry



Louisiana historically had over 2.5 million acres of tall grass coastal prairie. Today, less than 1000 acres remain and only then in scattered remnants. Historically, there were as many as 500 different species of native grasses, forbs, and legumes that comprised this grassland mix. The original prairie had over 20 plant species per ¼ meter square. Typical restoration efforts will provide a 5 to 10 plant species mix per ¼ meter square.

This historical range was also home to the endangered and threatened "Attwater" Prairie Chicken, now only found in the 65,000 acres of tall grass prairie remaining in Texas. The "Attwater" Prairie Chicken is extinct to Louisiana due to an almost total loss of habitat. The wet-marsh area of this coastal prairie also provided habitat to the threatened and endangered "whooping crane".

LA CREP II Initiative:

- Goals – Restoration of **28,000** acres of Louisiana Coastal Prairie
- CREP Practices
  - CP2, Native Grasses (22,400 acres)
  - CP9, Shallow Water Areas (2,800 acres)
  - CP25, Rare and Declining Habitat (2,800)
- Total project cost (estimated) – **\$35,507,920** million
  - Cash contributions (committed)
    - Nature Conservancy - \$2,000,000
    - State of Louisiana (OSWC) – \$1,325,972
    - State In-Kind – estimates to be provided

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## **APPENDIX B: CONSERVATION PRACTICES**

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### **National CRP Practices**

A summary of the CRP Practices proposed in the LA CREP II is provided below. Requirements, policy, and other detailed information for each practice can be found in the FSA Handbook: Agricultural Resource Conservation Program (USDA 2003b).

<b>Practice</b>	<b>Title</b>	<b>Purpose</b>
<b>CP2</b>	<i>Establishment of Permanent Native Grasses</i>	The purpose of this practice is to establish a vegetative cover of native grasses on eligible cropland that will enhance environmental benefits.
<b>CP9</b>	<i>Establish Shallow Water Areas for Wildlife</i>	The purpose of this practice is to develop or restore shallow water areas to an average depth of 6 to 18 inches for wildlife. The shallow water area must provide a source of water for wildlife for the majority of the year.
<b>CP25</b>	<i>Rare and Declining Habitat</i>	The purpose of this practice is to restore the functions and values of critically endangered, endangered, and threatened habitats. The extent of the restoration is determined by the specifications developed at the State level.

