

Sport Hunting  
Decision Document Package  
for  
**GRAND COTE NWR**

**Contents**

1. EAS

UNITED STATES FISH AND WILDLIFE SERVICE

ENVIRONMENTAL ACTION STATEMENT

Within the spirit and intent of the Council on Environmental Quality's regulations for implementing the National Environmental Policy Act (NEPA), and other statutes, orders, and policies that protect fish and wildlife resources, I have established the following administrative record and determined that the proposed Hunting Plan for Grand Cote National Wildlife Refuge in Avoyelles Parish, Louisiana:

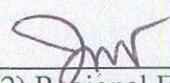
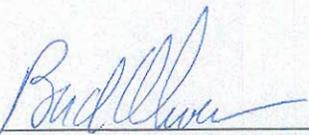
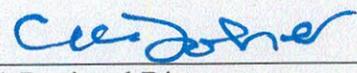
Check One:

- is a categorical exclusion as provided by 516 DM 2, Appendix 1 and 516 DM 6, Appendix 1, Section 1.4 A (4). No further NEPA documentation will therefore be made.
- is found not to have significant environmental effects as determined by the attached Environmental Assessment and Finding of No Significant Impact.
- is found to have significant effects and, therefore, further consideration of this action will require a notice of intent to be published in the Federal Register announcing the decision to prepare an EIS.
- is not approved because of unacceptable environmental damage, or violation of Fish and Wildlife Service mandates, policy, regulations, or procedures.
- is an emergency action within the context of 40 CFR 1 506.1 1. Only those actions necessary to control the immediate impacts of the emergency will be taken. Other related actions remain subject to NEPA review.

Other Supporting Documents:

Endangered Species Act, Section 7 Consultation, 2007  
Compatibility Determination, 2002

Signature Approval:

 _____ (1) Originator	<u>4-10-07</u> Date	 _____ (2) Regional Environmental Coordinator	<u>4/19/07</u> Date
 _____ (3) Regional Chief, NWRS, Southeast Region	<u>4/19/2007</u> Date	 _____ (4) Regional Director, Southeast Region	<u>4/24/07</u> Date

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3. EA

**Environmental Assessment**

**Sport Hunt Plan**

on

GRAND COTE NATIONAL WILDLIFE REFUGE  
Avoyelles Parish, Louisiana

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Marksville, Louisiana  
February 2007

## TABLE OF CONTENTS

Chapter 1	PURPOSE AND NEED FOR ACTION .....	26
Chapter 2	ALTERNATIVES INCLUDING THE PROPOSED ACTION .....	27
Chapter 3	AFFECTED ENVIRONMENT .....	27
Chapter 4	ENVIRONMENTAL CONSEQUENCES.....	34
Chapter 5	CONSULTATION AND COORDINATION WITH OTHERS.....	50
Appendix	LITERATURE REFERENCES .....	51
Appendix	RESPONSE TO PUBLIC COMMENTS .....	54

Figure 1. The location of Central Louisiana National Wildlife Refuge Complex in Avoyelles Parish, Louisiana

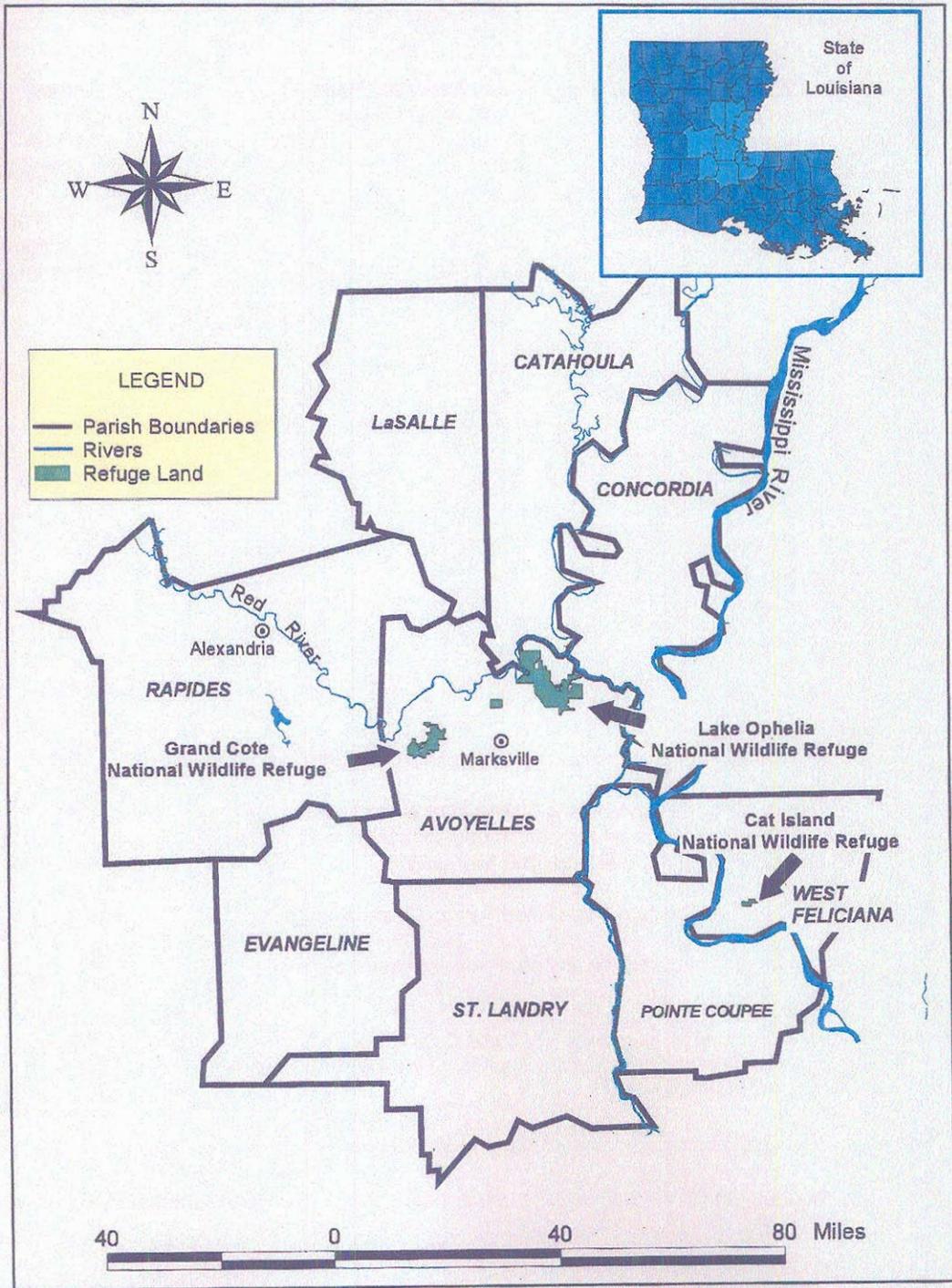
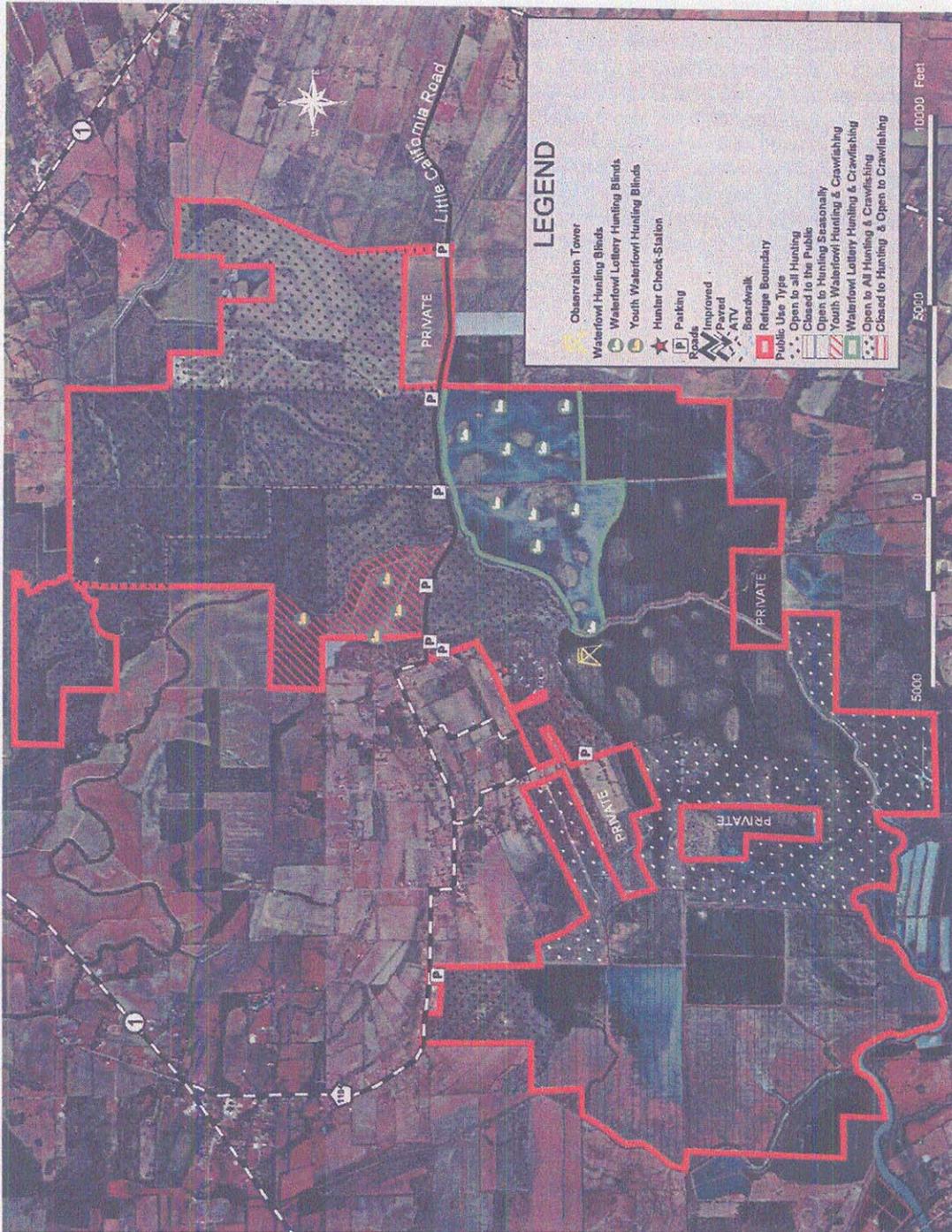


Figure 1. Current visitor facilities on Grand Cote National Wildlife Refuge



## **Chapter 1            Purpose and Need for Action**

Grand Cote National Wildlife Refuge was established in 1989 under the authority of the Fish and Wildlife Act of 1956, which calls for:

“...the development, advancement, management, conservation, and protection of fish and wildlife resources....” [16 USC 742f(a)(4)];

Under the authority of the Emergency Wetlands Resources Act of 1986, which calls for:

“...the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions....” (16 USC 3901 (b), 100 Stat. 3583);

and under the authority of the Migratory Bird Conservation Act as amended in 1989, which calls for:

“...use as an inviolate sanctuary, or any other management purpose, for migratory birds.” (USC 715d);

The National Wildlife Refuge System Administration Act of 1966 as amended by the National Wildlife Refuge System Improvement Act of 1997 (16 U.S.C. 668dd et seq.) provides authority for the Service to manage the Refuge and its wildlife populations. In addition it declares that compatible wildlife-dependent public uses are legitimate and appropriate uses of the Refuge System that are to receive priority consideration in planning and management. There are six wildlife-dependent public uses: hunting, fishing, wildlife observation, wildlife photography, environmental education and interpretation. It directs managers to increase recreational opportunities including hunting on National Wildlife Refuges when compatible with the purposes for which the Refuge was established and the mission of the National Wildlife Refuge System.

In response to a 2003 lawsuit filed by the Fund for Animals, the U.S. Fish and Wildlife Service (Service) will amend or rewrite environmental assessments that describe hunting programs at twenty-three national wildlife refuges located in the Southeast Region. The new environmental assessments will address the cumulative impacts of hunting at all refuges which were named in or otherwise affected by the lawsuit. This document addresses the hunting programs at Grand Cote National Wildlife Refuge in Louisiana.

The purpose of this Environmental Assessment is to evaluate the feasibility of opening Grand Cote National Wildlife Refuge to hunting on previously closed land and open hunting on species, including deer, feral hogs, ducks, geese, gallinules, coots, woodcock, dove, snipe, rails, rabbit, nutria, coyote, and beaver in areas along Little California Road and limited areas south of HWY 1194 concurrent with State seasons and bag limits (see Sport Hunting Plan Grand Cote NWR).

The proposed action is needed to implement the Sport Hunting Plan for Grand Cote NWR which would provide the public with a high quality recreational experience and provide the refuge with a wildlife management tool to promote the biological integrity of the refuge.

## **Chapter 2 Alternatives Including the Proposed Action**

This chapter discusses the alternatives considered for hunting on Grand Cote National Wildlife Refuge. These alternatives are described below.

### **2.1 Alternative A: Sport Hunting Plan for Grand Cote NWR – Proposed Action**

Under this alternative, hunting would be open to species, including deer, feral hogs, ducks, geese, gallinules, coots, woodcock, dove, snipe, rails, rabbit, nutria, coyote, and beaver in areas along Little California Road and limited areas south of HWY 1194 on the refuge. All or parts of the refuge may continue to be closed to hunting at any time if necessary for public safety, to provide wildlife sanctuary, or for administrative reasons. The hunt program would comply with all State, Federal, and refuge-specific regulations, and U.S. Fish & Wildlife Service policies and directives.

Refer to Sport Hunting Plan for Grand Cote NWR for specific regulations.

### **2.2 Alternative B: No Action - No Recreational Hunting on Entire Refuge**

Alternative A would not allow any recreational hunting to occur on Grand Cote National Wildlife Refuge. There would be no change in public use opportunities or management strategies on the refuge.

### **2.3 Alternative C: Open Entire Refuge to Hunting**

This alternative would allow recreational hunting on all areas of Grand Cote National Wildlife Refuge.

## **Chapter 3 Affected Environment**

Grand Cote National Wildlife Refuge is in west-central Avoyelles Parish, Louisiana, about 10 miles west of the city of Marksville (population 6,087) and 20 miles southeast of the city of Alexandria (population 46,000), south of Highway 1, west of Highway 115, and north and east of Highway 114. The refuge is part of the Central Louisiana National Wildlife Refuge Complex, which includes Grand Cote, Lake Ophelia, and Cat Island Refuges (Figure 1). The refuge covers 6,075 acres are included in the approved acquisition boundary of 13,000 acres. The refuge was established in 1989 to provide wintering habitat for mallards, pintails, blue-winged teal, and wood ducks, and

production habitat for wood ducks to meet the goals of the North American Waterfowl Management Plan.

Currently, the refuge provides a mix of various habitat types, including moist-soil waterfowl impoundments, cropland "hot food" waterfowl impoundments, remnant pieces of mature bottomland hardwood forests, reforested areas, cypress sloughs, and upland forests. Many species of migratory birds, resident birds, mammals, fish, and other wildlife utilize these habitats.

### **3.1 Physical Environment**

Grand Cote Refuge is a natural sump that is bordered by the higher ridge lands of the Red River on the north and east and by the terrace uplands on the west and south. Prior to the 1960s, the area that is now Grand Cote Refuge was a large, bottomland hardwood swamp. The refuge is dissected by two water bodies: Choctaw Bayou and Coulee des Grues. Choctaw Bayou is an outlet for the Chatelain Lake Canal, which provides drainage for the city of Alexandria and other areas north of the refuge. During significant rainfall events, water from the Chatelain Lake Canal causes backwater flooding onto the Refuge via Choctaw Bayou and Coulee des Grues.

The Choctaw Bayou frequently backs up after a major rainfall event causing backwater flooding on most of the refuge because of its slight relief and sump-like nature. When the land was cleared, an extensive set of levees were constructed to protect farm fields from flooding. These levees still protect farm fields during specific times of the year, but also serve as a means to capture flood-water and maximize shallow-water habitat.

Flood control measures off-refuge, including the Chatelain Lake Canal and the Red River levee system, also have impacted historic hydrologic regimes. Extensive land clearing for agriculture off-refuge has also increased sediment, nutrient, and contaminant inputs into Choctaw Bayou and Coulee des Grues, and into other water bodies located outside of the refuge. Additionally, a cannery located adjacent to the refuge may discharge effluent periodically.

Prior to its establishment, the area encompassing the refuge was intensively farmed, and a series of man-made levees, irrigation ditches, pumps, and water control structures were constructed to facilitate farming. Most of those structures are still present on the refuge today, and are used to manage water levels for waterfowl and shorebirds. The natural hydrology of the area, however, has been altered by those structures. In addition to the structures above, the refuge uses laser land leveling on some cooperatively farmed fields, which produces uniform topography, and influences hydrology.

The climate at the refuge is humid subtropical and is primarily influenced by the refuge's subtropical latitude and proximity to the Gulf of Mexico. The climate is controlled by two principal air masses. Warm, moist air from the Gulf of Mexico generally dominates in the spring and summer, and cooler, drier air from the Central Plains prevails during the winter months. Extended hot, sultry summers and moderately cool winters are the norm.

The refuge lies within the Mississippi Alluvial River Plain section of the Coastal Plain Province (Beccasio et al. 1983), to the west of the confluence of the Mississippi and Red Rivers in Avoyelles Parish. The topography of the refuge has been greatly influenced by the aggrading Mississippi and Red Rivers, and much of the geology is from Quaternary (1.8 million years ago to present) alluvial deposits. The soils at the refuge demonstrate the influence that the Mississippi and Red Rivers have had on the terrain. The refuge contains mostly hydric soils that fall into four broad series of soil groups. The dominant soil series on the refuge are Latanier Clay, Moreland Clay, and Solier Clay.

Grand Cote NWR is within the Mississippi Alluvial Valley and is a part of the Lower Mississippi River Ecosystem.

### 3.2 Vegetation

Currently, the refuge provides a mix of various habitat types, including small remnant pieces of mature bottomland hardwood forests; reforested areas; upland hardwood forests; waterfowl impoundments (moist-soil areas); and waterfowl impoundments (cropland) (Table 1).

**Table 1. Summary of existing habitat types at Grand Cote National Wildlife Refuge**

Habitat Type	Existing Acreage
Remnant Bottomland Hardwood Forest	35
Natural Regeneration	1,576
Reforestation	1,186
Upland Forest	273
Waterfowl Impoundments - Cropland	1,945
Waterfowl Impoundments - Moist-soil	585
Bayous/Levees/Roads/Parking and Facilities	475
<b>TOTAL</b>	<b>6,075</b>

#### 3.2.1 Bottomland Hardwood Forest

Clearing of what is now Grand Cote Refuge began in the late 1960s. The land is now largely cleared except a few remnant tracts of mature bottomland hardwood forests totaling 35 acres. Approximately 1,576 acres have naturally regenerated to bottomland hardwood forest species and refuge staff have reforested 1,186 acres to bottomland hardwood forest species, totaling 2,797 acres overall. Species planted include nuttall oak, water oak, willow oak, bitter pecan, and cypress.

### **3.2.2 Upland Forest**

The refuge currently has 273 acres of upland forest located next to the Headquarters' Office. There has been little to no management of this upland forest and species composition consists of mainly nonnative tree species including Chinese tallow and long leaf pine.

### **3.2.3 Waterfowl Impoundments**

The refuge currently contains about 1,945 acres of waterfowl impoundments in agricultural crops that are managed to provide wintering waterfowl habitat. To manage the cropland program more efficiently, the refuge is divided into two farm units. This division is along Choctaw Bayou, which divides the refuge into East Farm and West Farm Units. Within these units, cooperative farmers operate within distinct boundaries. The West Farm Unit is located west of Choctaw Bayou while the East Farm Unit is located east of the bayou.

The refuge currently contains about 585 acres of moist-soil waterfowl impoundments that are managed to provide wintering waterfowl habitat. Moist-soil management propagates natural, wetland plants that produce seeds or tubers high in protein and other nutrients that are a seasonally important component of the diets of migrating and wintering waterfowl. These areas also produce habitats rich in invertebrates, which are an important source of protein for waterfowl during spring and fall migration. Cover created in most moist-soil units are also a crucial habitat component for ducks, particularly during the pair-bonding period.

Some common desirable moist-soil plants found in impoundments on the refuge are annual smartweed, sprangletop, red-rooted sedge, and wild millets (barnyard grass and jungle rice). Estimated pounds/acre of seeds for these moist-soil plants (Laubhan 1992) have ranged from 252 to 588 pounds per acre (minus red rooted sedge, with red rooted sedge = 403- 19,297 lbs./acre) in moist-soil sites on the refuge during 2002 and 2003. Red vine, alligator weed, coffeeweed, trumpet creeper, cocklebur, button bush, and willow trees are some common nuisance plants found in moist-soil units on the refuge. Disking, flooding, and applying herbicides are common practices used when nuisance plants become a problem. Generally units are disked and planted in millet at least once every three years for nuisance plant control.

### **3.3 Wildlife Resources**

Wildlife species found on the refuge are typical of bottomland hardwood forests, moist soils, early successional forest and upland hardwood/pine habitat. The refuge provides habitat for thousands of wintering ducks and geese and year-round habitat for nesting wood ducks. Although no large rookeries are located on the refuge, thousands of wading and water birds, such as white ibis, herons, egrets, roseate spoonbills, and wood storks, forage in the sloughs, bayous, and in the agricultural fields. Resident game species include fox and gray squirrels, swamp and eastern cottontail rabbits, and white-tailed

deer. Furbearers present include opossum, muskrat, nutria, mink, river otter, beaver, and red and gray foxes. Although the refuge is within the range of the American alligator, few are seen, probably due to fluctuating water levels, which is not preferred alligator habitat.

### **3.4 Threatened and Endangered Species**

Although no bald eagles have been reported on the refuge in recent history, the potential for wintering birds is possible due to the large concentrations of waterfowl that occur on the refuge. Black bear habitat on the refuge is very limited and the possibility of a dispersing or wandering Louisiana black bear visiting the refuge is remote, but possible. Eleven adult female Louisiana black bears and 26 cubs were released on Lake Ophelia Refuge (approximately 30 miles to the north) during the spring of 2003 and 2004 as part of the Louisiana black bear repatriation project.

#### **3.4.1 Species of Concern**

Ospreys, wood storks, northern harriers, swallow-tail kites, and alligator snapping turtles are all species of special concern occasionally reported in this area. Late season draw downs of waterfowl impoundments often attract post-breeding wood storks to the refuge.

### **3.5 Fishery Resources**

Permanent water is the main factor that limits the fisheries resource on Grand Cote Refuge with Choctaw Bayou and Coulee Des Grues being its only permanent water. Fish species that occur in these bayous are freshwater drum, bigmouth and small mouth buffalo, channel catfish, shortnose and spotted gar, bowfin, largemouth bass, black crappie and bluegill. Numerous species of mussels are also thought to occur within these bayous. A limited amount of spawning by fish trapped by backwater flooding occurs within flooded impoundments in early spring before draw downs occur, with fry being released into the bayous during draw downs.

Crawfish is an important fisheries resource on the refuge with many thousands of pounds being harvested from April through May by recreational fisherman. Although abundance of crawfish has not been quantified, their numbers appear to be dependent on impoundment management activities, such as timing of fall flood and spring draw downs. Numbers are generally higher after several wet years and lower after several dry years. Wading birds, raccoons, and mink are a few of the species that are seasonally dependent on crawfish for food.

### **3.6 Cultural Resources**

The body of federal historic preservation laws has grown dramatically since the enactment of the Antiquities Act of 1906. Several themes recur in these laws, their promulgating regulations, and more recent Executive Orders. They include: 1) each agency is to systematically inventory the "historic properties" on their holdings and to scientifically assess each property's eligibility for the National Register of Historic

Places; 2) federal agencies are to consider the impacts to cultural resources during the agencies' management activities and seek to avoid or mitigate adverse impacts; 3) the protection of cultural resources from looting and vandalism are to be accomplished through a mix of informed management, law enforcement efforts, and public education; and 4) the increasing role of consultation with groups, such as Native American tribes, in addressing how a project or management activity may impact specific archaeological sites and landscapes deemed important to those groups. The U.S. Fish and Wildlife Service, like other federal agencies, are legally mandated to inventory, assess, and protect cultural resources located on those lands that the agency owns, manages, or controls. The Service's cultural resource policy is delineated in 614 FW 1-5 and 126 FW 1-3. In the FWS's Southeast Region, the cultural resource review and compliance process is initiated by contacting the Regional Historic Preservation Officer/Regional Archaeologist (RHPO/RA). The RHPO/RA will determine whether the proposed undertaking has the potential to impact cultural resources, identify the "area of potential effect," determine the appropriate level of scientific investigation necessary to ensure legal compliance, and initiates consultation with the pertinent State Historic Preservation Office (SHPO) and federally recognized Tribes.

The refuge has not been subjected to systematic archaeological and historic investigations. However, a number of archaeological investigations has occurred in the vicinity; the majority being conducted by the Works Progress Administration in association with Louisiana State University between 1938 through 1941. Jones and Shuman (1989 and 1990) verified the locations of 37 mound sites scattered across Avoyelles Parish, documented their current status, and created base maps.

A number of older and modern stream courses, like Bayou Des Grues, Choctaw Bayou, and Bayou Rouge, flow through the land form. Many of these occupy former channels of the Red or Mississippi Rivers. The Prairie Terrace, as well as the natural levees of the stream courses, provided living surfaces for pre-columbian and historic occupations. The refuge is described as a giant natural sump south and west of the Red River. The bottomland hardwood forest that covered this area was cleared for agricultural purposes in the 1970s. To facilitate drainage, a system of levees was subsequently constructed. The archaeological potential, which was low due to the topography, the hydrological regime, and the presence of poorly drained clayey soils, was further reduced.

### **3.7 Socio Economic Resources**

Avoyelles Parish is primarily rural, with a total estimated population of 41,981 in 2004 (Louisiana Department of Economic Development 2004). The parish actually lost population between 1980 and 1990. The 1980 population of Avoyelles Parish was 41,393, but by 1990 the population had declined to 38,159 (U.S. Department of Commerce 1980, 1990). The largest town and parish seat is Marksville (6,087).

In 2000, most of the population was Caucasian, 29 percent was African-American; 1.0 percent was Hispanic; and 1.0 percent was Native American. In 2000, the median family

income was \$23,851, with 24 percent of the population falling below the poverty level (Louisiana Department of Economic Development 2000).

Hunting is a traditional form of outdoor recreation for many people in Avoyelles Parish and for some households, hunting participation provides food at a much cheaper cost. The number of licenses sold to hunters in Avoyelles Parish during the 2004/05 hunting season was 5,791 (*LDWF, personal comm.*). After adjusting for the 15% of Louisiana hunters that are seniors over age 65 and youth under age 16 that are not required to buy licenses, the number of hunters by parish increases to 5,971 for Avoyelles Parish (*LDWF, personal comm.*).

### **3.8 Visitor Services**

The National Wildlife Refuge System Improvement Act of 1997 allows six priority public uses on national wildlife refuges as long as they are compatible with the purposes for which the refuge was established. These include hunting, fishing, wildlife observation, wildlife photography, and environmental education and interpretation. With the establishment of a hunting program, the refuge now provides hunting, fishing, and limited wildlife observation

#### **3.8.1 Hunting**

Grand Cote Refuge is strategically located in central Louisiana and is influenced by both the Mississippi and Central Flyways. Catahoula Lake (30 miles north) and Lacassine and Sabine National Wildlife Refuges (120 miles south) have historically held a large number of wintering waterfowl, especially northern pintails. Grand Cote Refuge is positioned between Catahoula Lake and the coastal refuges and provides an important sanctuary area between these two historic wintering areas. Due to the strategic location, the refuge was established to provide critical habitat for migratory waterfowl. Currently, approximately 3,675 acres are maintained as sanctuary where all public entry is prohibited from November 1 to February 28 each year.

The refuge opened to hunting for the first time during the fall hunting season of 2003. The refuge was opened for waterfowl, deer, mourning dove, rails, snipe, woodcock, and rabbit hunting. Also, beaver, feral hogs, nutria, and coyote may be taken incidental to any refuge hunt with weapons legal for that hunt. Hunting is permitted in designated areas only. Retrieving dogs are permitted for waterfowl hunts and rabbit dogs are permitted after the close of the Louisiana deer gun season. The refuge requires an annual hunting permit for all hunters 16 years of age or older. A youth waterfowl hunt is offered under a lottery system. There are three blinds available for this hunt. The refuge participates in the state Youth Waterfowl Weekend. Special arrangements can be made to accommodate persons with bona fide disabilities. The refuge also offers space blind waterfowl lottery hunts. Hunters under the age of 16 must possess proof of completion of an approved Hunter Safety Course and be accompanied at all times by an adult 21 years of age or older. Archery hunters (regardless of age) must possess proof of completion of the International Bow Hunter Education Course. Refuge staff participates in the annual

Louisiana State Hunt Coordination meeting hosted by the Louisiana Department of Wildlife and Fisheries.

### **3.8.2 Fishing**

Sport fishing is permitted year-round in the Coulee Des Grues along Little California Road. Anglers may harvest any fish species on the refuge that is permitted by state regulations. State fish size and bag limits apply. Creel limits, boating safety, and license requirements are in accordance with state regulations unless otherwise specified in the fishing brochure. Recreational crawfishing is permitted in designated areas of the refuge with pyramid nets from March 15 through May 31. The harvest is limited to 100 pounds per permit holder per day. No commercial crawfishing is permitted. All crawfishing gear, including nets, boats, bait, and trash must be removed from refuge property after each visit. Crawfishing has been the primary public use on the refuge with approximately 1000 - 2000 people utilizing the refuge annually.

### **3.8.1 Non-consumptive Uses**

Grand Cote Refuge has one paved, handicap-accessible hiking trail, boardwalk, and observation tower, as well as designated levees accessible for hiking during certain times of the year. This trail and levees provide the public an opportunity for wildlife observation and wildlife photography.

## **Chapter 4 Environmental Consequences**

This chapter describes the foreseeable environmental consequences of implementing the two management alternatives described in Chapter 2. When detailed information is available, a scientific and analytic comparison between alternatives and their anticipated consequences is presented, which is described as "impacts" or "effects." When detailed information is not available, those comparisons are based on the professional judgment and experience of refuge staff and Service and State biologists.

### **4.1 Effects Common to all Alternatives**

#### **4.1.1 Environmental Justice**

Executive Order 12898 "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" was signed by President Bill Clinton on February 11, 1994, to focus federal attention on the environmental and human health conditions of minority and low-income populations with the goal of achieving environmental protection for all communities. The Order directed federal agencies to develop environmental justice strategies to aid in identifying and addressing disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. The Order is also intended to promote nondiscrimination in federal programs substantially affecting human health and the environment, and to provide minority and low-income communities

access to public information and participation in matters relating to human health or the environment. This assessment has not identified any adverse or beneficial effects for either alternative unique to minority or low-income populations in the affected area. Neither alternative will disproportionately place any adverse environmental, economic, social, nor health impacts on minority or low-income populations.

#### **4.1.2 Refuge Physical Environment**

Impacts of each alternative on the refuge physical environment would have similar minimal to negligible effects. Some disturbance to surface soils and topography would occur in areas open for hunting; however effects would be minimal and similar to areas closed to hunting.

Impacts to the natural hydrology would have negligible effects. The refuge expects impacts to air and water quality to be minimal and only due to refuge visitors' automobile and off-road vehicle emissions and run-off from road and trail sides. The effect of these refuge-related activities on overall air and water quality in the region are anticipated to be relatively negligible. Existing State water quality criteria and use classifications are adequate to achieve desired on-refuge conditions; thus, implementation of any of the alternatives would not impact adjacent landowners or users air and water quality beyond the constraints already implemented under existing State standards and laws.

#### **4.1.3 Cultural Resources**

Under each alternative, hunting, regardless of method or species targeted, is a consumptive activity that does not pose any threat to historic properties on and/or near the Refuge.

#### **4.1.4 Facilities**

Maintenance or improvement of existing facilities (i.e. parking areas, roads, trails, and boat ramps) will cause minimal short term impacts to localized soils and waters and may cause some wildlife disturbances and damage to vegetation.

### **4.2 Summary of Effects**

#### **4.2.1 Impacts to Habitat**

##### *Alternative A – Proposed Action*

The biological integrity of the refuge would be protected under this alternative, and the refuge purpose of conserving wetlands for wildlife would be achieved. Limited hunting of migratory and resident birds while providing areas of sanctuary will produce benefits to both habitat and populations. Most waterfowl hunting is limited to individual space blinds, therefore, reducing the trampling of vegetation. Limiting the areas open to deer, rabbit, feral hog, nutria, and beaver, hunting also will reduce the amount of vegetation.

affected. The hunting of deer, feral hogs, nutria, and beaver would positively impact wildlife habitat by promoting plant health and diversity, reducing hog wallowing which destroys vegetation and compacts soils, and increasing tree seedling survival. Hunting of beavers would decrease their populations and in effect, increase the health of forested wetlands.

Impacts to vegetation should be minor. Hunter density is estimated to be an average of 1 hunter/1,000 acres throughout the hunting season except in space blind areas. Refuge-regulations would not permit the use of ATVs off of designated trails. Vehicles would be confined to existing roads and parking lots.

#### *Alternative B – No Hunting*

Under this alternative, the Refuge would not be opened to deer, feral hogs, ducks, geese, gallinules, coots, woodcock, dove, snipe, rails, rabbit, nutria, coyote, and beaver hunting. When deer are overpopulated, they overbrowse their habitat, which can change the structure and plant composition of a forest. The refuge has reforested or allowed natural regeneration on approximately 2,762 acres with bottomland hardwood tree species in recent years. Young tree seedlings (1-9 years old) can be killed by overbrowsing. Failure to establish this forest would have negative impacts on future resident and non-resident wildlife populations as well as the purpose of the refuge. Feral hogs are considered a threat to the biological integrity of the refuge because they are an extremely invasive, non-native species. By rooting and wallowing, feral hogs destroy wildlife habitat. Damage includes erosion along waterways and wetlands and the loss of native plants. Beavers can kill thousands of acres of bottomland hardwood trees by damming sloughs and brakes. Forests inundated into the growing season quickly show signs of stress and trees eventually die. Beavers can have negative impacts on future resident and non-resident wildlife by killing large portions of the few remaining intact bottomland hardwood forests remaining in the United States.

Although hunters would not be traversing across approximately 4,000 acres currently open to hunting, which could cause damage to individual plants by trampling vegetation, non-consumptive users would still be able to walk throughout the area.

#### *Alternative C – Open Entire Refuge to Hunting*

The biological integrity of the refuge would be not protected under this alternative, and the refuge purpose of conserving wetlands for wildlife would not be achieved. Sanctuary areas for migratory and resident game birds would not be provided and impacts to habitat would increase above Alternative A and B. Without limiting the areas open to hunting the amount of vegetation affected will increase. The hunting of deer, feral hogs, nutria, and beaver would positively impact wildlife habitat by promoting plant health and diversity, reducing hog wallowing which destroys vegetation and compacts soils, and increasing tree seedling survival. Hunting of beavers would decrease their populations and in effect, increase the health of forested wetlands. This effect on habitat may initially

be beneficial; however, it is possible that hunted species populations could be overhunted and in turn benefits of harvesting on habitat could be reversed.

Impacts to vegetation would be more than Alternative A and B levels. Hunter density is estimated to be an average of 1 hunter/1,000 acres throughout the hunting season; however, this would occur on all areas of the refuge. Refuge-regulations would not permit the use of ATVs off of designated trails. Vehicles would be confined to existing roads and parking lots.

#### **4.2.2 Impacts to Hunted Wildlife**

##### *Alternative A – Proposed Action*

Additional mortality of individual hunted animals would occur under this alternative, estimated by the refuge to be a maximum of 10 deer, 500 ducks, 5 snow geese, 5 white-fronted geese, 20 snipe, 20 rail, 20 woodcock, and 20 dove annually. Estimates for other hunted species (beaver, nutria, rabbit, feral hog) would be less than 80 individuals per species.

Hunting of migratory birds would fit well within Mississippi flyway objectives and national, regional, and local populations would not be adversely affected. Hunting of deer, hog, beaver, coyote, rabbit, and nutria would help maintain their populations at or below carrying-capacity. The likelihood of starvation and diseases, such as bluetongue and EHD in deer and distemper and rabies in raccoon and opossum, would be decreased as would deer-vehicle collisions. Reduction of the hog population would decrease risk of transmitting fatal diseases by hogs to other wildlife species. Fewer hogs would decrease competition for food with native wildlife, such as deer, bear, turkey, and squirrel.

All seasons will be coordinated with and within the framework of the Louisiana Department of Wildlife & Fisheries Commission. Some hunting regulations may be more restrictive than State regulations to meet refuge objectives. The recreational hunting program will be an adaptive program. If necessary, modifications may be made to refuge specific regulations and/or the hunt program based on harvest data and/or public use issues.

This alternative will allow the refuge to maintain existing sanctuary areas. Since the primary refuge objective is to preserve wintering habitat for mallards, pintails, and wood ducks, care will be taken to minimize human disturbance in the sanctuary areas. Sanctuary areas will be seasonally closed to all activities.

##### *Alternative B – No Hunting*

Mortality of individual hunted animals would not occur under this alternative. Disturbance by hunters to hunted wildlife would not occur; however, other public uses that cause disturbance, such as wildlife observation and photography, would still be permitted.

Deer, hog, beaver, coyote, and nutria populations could increase above the habitat's carrying capacity in the area not opened to hunting on the Refuge. Migratory and resident game birds could overpopulate an area and cause large groups of birds to congregate. The likelihood of starvation and diseases, such as bluetongue and EHD in deer and avian cholera and bird flu in migratory and resident birds, would increase, as would vehicle-deer collisions. Feral hogs can harbor several infectious diseases, some of which can be fatal to wildlife. Additionally, feral hogs compete directly for food with deer, bears, turkeys, squirrels and many other birds and mammals.

#### *Alternative C – Open Entire Refuge to Hunting*

Additional mortality of individual hunted animals would occur under this alternative, estimated by the refuge to initially be a maximum of 20 deer, 1,000 ducks, 25 snow geese, and 25 white-fronted geese annually. Estimates for other hunted species (nutria, rabbit, snipe, rail, dove, woodcock, and hog) would be less than 80 individuals per species. This estimate would possibly decrease substantially after the first few years of hunting.

Hunting of migratory birds would fit well within Mississippi flyway objectives and national, regional, and local populations would not be adversely affected; however the use of the refuge would most likely decrease due to not maintaining closed areas. If the entire refuge is open to hunting waterfowl sanctuary areas would not be maintained and the refuge could not provide the undisturbed habitat needed to support the recommended population objectives or the objectives for which the refuge was established.

Hunting of deer, hog, beaver, coyote, rabbit, and nutria would help maintain their populations at or below carrying-capacity; however deer, beaver, coyote, and populations may be kept so far below carrying-capacity it may affect local populations on the Refuge. The likelihood of starvation and diseases, such as bluetongue and EHD in deer and distemper would be decreased, as would deer-vehicle collisions. Reduction of the hog population would decrease risk of transmitting fatal diseases by hogs to other wildlife species. Fewer hogs would decrease competition for food with native wildlife, such as deer, bear, turkey, and squirrel.

All seasons will be coordinated with and within the framework of the Louisiana Department of Wildlife & Fisheries Commission. Some hunting regulations may be more restrictive than State regulations to meet refuge objectives.

#### **4.2.3 Impacts to Non-hunted Wildlife**

##### *Alternative A – Proposed Action*

Depredation rates of birds, turtles and their nests would decrease as populations of coyotes would be decreased through hunting under this alternative. Feral hog populations would be reduced thereby decreasing predation of deer fawns, turkeys and small mammals.

Disturbance to non-hunted wildlife would increase slightly. However, significant disturbance would be unlikely for the following reasons. Small mammals, including bats, are inactive during winter when hunting season occurs. These species are also nocturnal. Both of these qualities make hunter interactions with small mammals very rare. Hibernation or torpor by cold-blood reptiles and amphibians also limits their activity during the hunting season when temperatures are low. Hunters would rarely encounter reptiles and amphibians during most of the hunting season. Invertebrates are also not active during cold weather and would have few interactions with hunters during the hunting season. The refuge has estimated current hunter density on peak days to be no more than 1 hunter/1,000 acres. Refuge regulations further mitigate possible disturbance by hunters to non-hunted wildlife. Vehicles are restricted to roads and the harassment or taking of any wildlife other than the game species legal for the season is not permitted. Disturbance to the daily wintering activities, such as feeding and resting, of birds might occur, but would be transitory as hunters traverse habitat. Disturbance to birds by hunters would probably be commensurate with that caused by non-consumptive users.

#### *Alternative B – No Hunting*

Ground and shrub nesting birds and turtles are subject to high egg depredation rates if raccoon, coyotes, and opossum populations are not kept in check through harvest. In North Louisiana, research conducted on one population of alligator snapping turtles has shown that raccoons are responsible for depredating 93% of turtle nests (USFWS 2002).

Under this alternative, feral hog populations would increase dramatically. Non-native hogs are predators of small mammals and deer fawns as well as ground-nesting birds such as turkeys.

Increased disturbance to non-hunted wildlife would not occur in the 4,762-acre area; however, non-consumptive users would still be permitted to access this land, which might cause disturbance to wildlife.

#### *Alternative C – Open Entire Refuge to Hunting*

Same as Alternative A except disturbance to non-hunted species would increase above levels outlined above.

### **4.2.4 Impacts to Endangered and Threatened Species**

#### *Alternative A – Proposed Action*

This alternative is would not have adverse affects to threatened and endangered species on the refuge. A Section 7 Evaluation associated with this assessment was conducted, and it was determined that the proposed action is not likely to adversely affect bald eagle, and have no effect on Louisiana black bear or Interior least tern (Refer to Section 7 Evaluation for Sport Hunting on Grand Cote NWR).

### *Alternative B – No Hunting*

Because current public use levels on the refuge would remain the same, there would be no increased chance of adversely affecting threatened and endangered species.

### *Alternative C – Open Entire Refuge to Hunting*

Same as Alternative A.

## **4.2.5 Impacts to Refuge Facilities (roads, trails, parking lots, levees)**

### *Alternative A – Proposed Action*

Additional damage to roads and ATV trails due to hunter use during wet weather periods might occur. The current refuge hunt program on 4,000 acres for the past three years has shown these impacts to be minimal. There would be some costs associated with a hunting program in the form of road and ATV trail maintenance, instructional sign needs, and law enforcement. These costs should be minimal relative to total refuge operations and maintenance costs and would not diminish resources dedicated to other refuge management programs.

### *Alternative B – No Hunting*

Additional damage to roads and ATV trails due to hunter use during wet weather periods would not occur; however, other users would still be using roads, thereby necessitating periodic maintenance. Additionally, costs associated with an expanded hunting program in the form of road and levee maintenance, instructional sign needs, and law enforcement would not be applicable.

### *Alternative C – Open Entire Refuge to Hunting*

Same as Alternative A.

## **4.2.6 Impacts to Wildlife Dependant Recreation**

### *Alternative A – Proposed Action*

As public use levels expand across time, unanticipated conflicts between user groups may occur. Experience has proven that time and space zoning (e.g., establishment of separate use areas, use periods, and restrictions on the number of users) is an effective tool in eliminating conflicts between user groups. Rabbit hunters would not be able to use dogs until after the last Louisiana deer season has closed to ensure conflicts do not arise. This would also limit disturbance to wildlife during the spring and summer when most species reproduce. Youth waterfowl hunts coincides with other hunt season and would provide youth the opportunity to hunt without having to compete with adults. Conflicts between

hunters and non-consumptive users might occur but would be mitigated by time (non-hunting season) and space zoning. The refuge would focus non-consumptive use (mainly birdwatching and other wildlife viewing) in the 2,000 acres that is closed to hunting.

There will also be a “no hunting” area around the headquarters building where there is an established hiking trail and observation tower. Implementation of these “no hunting” zones on the refuge would facilitate all six of the Priority Public Uses as defined in the Refuge Improvement Act of 1997.

The public would be allowed to harvest a renewable resource, and the refuge would be promoting a wildlife-oriented recreational opportunity that is compatible with the purpose for which the refuge was established. The public would have an increased awareness of Grand Cote NWR and the National Wildlife Refuge System and public demand for more hunting would be met. Waterfowl and white-tailed deer hunting are both very popular activities in Central Louisiana. Opening designated areas of the refuge to hunting would allow the general public an opportunity that was once afforded only to paying lease-holders. The refuge, when owned by the previous landowner, had approximately 12 duck blinds leased for \$1,000 each per season. Waterfowl hunting was the primary use for the lease-holders, there has never been much resident game hunting. Hunting will allow for the consumptive use of a renewable resource without adversely impacting wildlife populations, habitat, or other refuge objectives. Resident and migratory game animals will be harvested at levels sufficient to provide a quality, recreational experience while maintaining healthy, viable wildlife populations. This alternative would allow youth the opportunity to experience a wildlife-dependant recreation, instill an appreciation for and understanding of wildlife, the natural world and the environment and promote a land ethic and environmental awareness.

Impacts associated with solitude are expected to be minimal given time and space zone management techniques, such as seasonal access and area closures, used to avoid conflicts among user groups.

#### *Alternative B – No Hunting*

The public would not have the opportunity to harvest a renewable resource, participate in wildlife-oriented recreation that is compatible with the purposes for which the refuge was established, have an increased awareness of Grand Cote NWR and the National Wildlife Refuge System; nor would the Service be meeting public use demand. Public relations would not be enhanced with the local community. Under this alternative, youth would be unable to experience hunting. This would be a missed opportunity to promote youth, wildlife-dependant recreation.

#### *Alternative C – Open Entire Refuge to Hunting*

Same as Alternative A except as public use levels expand across time, conflicts between user groups would occur under this alternative. Experience has proven that time and space zoning (e.g., establishment of separate use areas, use periods, and restrictions on

the number of users) is an effective tool in eliminating conflicts between user groups. Under this alternative, the entire refuge, with the exception of a small area around the headquarters, would be open to hunting throughout the entire hunting season. No areas would be closed to hunting or specifically designated as sanctuary areas, as proposed in Alternative "A". Conflicts between non-consumptive and consumptive users would occur.

Impacts associated with solitude are expected to increase given time and space zone management techniques would not be used to avoid conflicts among user groups.

### **4.3 Cumulative Impacts Analysis**

#### **4.3.1 Anticipated Direct and Indirect Impacts of Proposed Action on Wildlife Species.**

##### **4.3.1.1 Migratory Birds**

The U.S. Fish and Wildlife Service, working with partners, annually prescribe frameworks, or outer limits, for dates and times when hunting may occur and the number of birds that may be taken and possessed. These frameworks are necessary to allow State selections of season and limits for recreation and sustenance; aid Federal, State, and tribal governments in the management of migratory game birds; and permit harvests at levels compatible with population status and habitat conditions. Because the Migratory Bird Treaty Act stipulates that all hunting seasons for migratory game birds are closed unless specifically opened by the Secretary of the Interior, the Service annually promulgates regulations (50 CFR Part 20) establishing the frameworks from which States may select season dates, bag limits, shooting hours, and other options for the each migratory bird hunting season. The frameworks are essentially permissive in that hunting of migratory birds would not be permitted without them. Thus, in effect, Federal annual regulations both allow and limit the hunting of migratory birds.

Migratory game birds are those bird species so designated in conventions between the United States and several foreign nations for the protection and management of these birds. Under the Migratory Bird Treaty Act (16 U.S.C. 703-712), the Secretary of the Interior is authorized to determine when "hunting, taking, capture, killing, possession, sale, purchase, shipment, transportation, carriage, or export of any ... bird, or any part, nest, or egg" of migratory game birds can take place, and to adopt regulations for this purpose. These regulations are written after giving due regard to "the zones of temperature and to the distribution, abundance, economic value, breeding habits, and times and lines of migratory flight of such birds, and are updated annually (16 U.S.C. 704(a)). This responsibility has been delegated to the U.S. Fish and Wildlife Service as the lead federal agency for managing and conserving migratory birds in the United States. Acknowledging regional differences in hunting conditions, the Service has administratively divided the nation into four Flyways for the primary purpose of managing migratory game birds. Each Flyway (Atlantic, Mississippi, Central, and Pacific) has a Flyway Council, a formal organization generally composed of one member

the opening of hunting as stated in the proposed action should have no cumulative effects on their local, regional or flyway populations. Woodcock hunting is not popular in Central Louisiana, the refuge draws less than 10 woodcock hunters a year.

Because the Service is required to take abundance of migratory birds and other factors in to consideration, the Service undertakes a number of surveys throughout the year in conjunction with the Canadian Wildlife Service, State and Provincial wildlife-management agencies, and others. To determine the appropriate frameworks for each species, the Service considers factors such as population size and trend, geographical distribution, annual breeding effort, the condition of breeding and wintering habitat, the number of hunters, and the anticipated harvest. After frameworks are established for season lengths, bag limits, and areas for migratory game bird hunting, migratory game bird management becomes a cooperative effort of State and Federal Governments. After Service establishment of final frameworks for hunting seasons, the States may select season dates, bag limits, and other regulatory options for the hunting seasons. States may always be more conservative in their selections than the Federal frameworks but never more liberal. Season dates and bag limits for National Wildlife Refuges open to hunting are never longer or larger than the State regulations. In fact, based upon the findings of an environmental assessment developed when a National Wildlife Refuge opens a new hunting activity, season dates and bag limits may be more restrictive than the State allows. At Grand Cote NWR, season length is more restrictive for waterfowl, snipe, rail, woodcock, and doves than the State allows.

NEPA considerations by the Service for hunted migratory game bird species are addressed by the programmatic document, "Final Supplemental Environmental Impact Statement: Issuance of Annual Regulations Permitting the Sport Hunting of Migratory Birds (FSES 88- 14)," filed with the Environmental Protection Agency on June 9, 1988. We published Notice of Availability in the Federal Register on June 16, 1988 (53 FR 22582), and our Record of Decision on August 18, 1988 (53 FR 31341). Annual NEPA considerations for waterfowl hunting frameworks are covered under a separate Environmental Assessment, "Duck Hunting Regulations for 2006-07," and an August 24, 2006, Finding of No Significant Impact. Further, in a notice published in the September 8, 2005, Federal Register (70 FR 53376), the Service announced its intent to develop a new Supplemental Environmental Impact Statement for the migratory bird hunting program. Public scoping meetings were held in the spring of 2006, as announced in a March 9, 2006, Federal Register notice (71 FR 12216). More information may be obtained from: Chief, Division of Migratory Bird Management, U.S. Fish and Wildlife Service, Department of the Interior, MS MBSP-4107-ARLSQ, 1849 C Street, NWR, Washington, DC 20240.

#### 4.3.1.2 Resident Big Game

##### 4.3.1.2.1 Deer

Deer hunting does not have regional population impacts due to restricted home ranges. The average home range of a male deer in Mississippi is  $1,511 \pm 571$  S.D hectares. (Mott

*et al.* 1985). Therefore, only local impacts occur.

Deer herd health checks are conducted every 5 years on Grand Cote NWR by the Southeast Cooperative Wildlife Disease Study at the University of Georgia. In 2003, the health check report stated that "...from a health perspective the [deer] population density probably needs to be contained near its present level". The approximately 4,000 acres of refuge lands currently open to archery hunting only have averaged less than 2.5 deer harvested per year.

Harvest and survey data confirm that decades of deer hunting on private lands surrounding Grand Cote National Wildlife Refuges (using bait and a longer season) have not had a local cumulative effect on the deer population. LDWF estimate 209,200 deer were harvested throughout the state in 2005/06. The average annual statewide harvest since 1995 is 234,000 deer. Grand Cote NWR estimates an additional maximum 10 deer would be harvested under the proposed action, representing only 0.0004% of the long-term average state harvest. Archery hunting on refuge lands in a very limited area should not have cumulative impacts on the deer herd.

#### 4.3.1.2.2 Feral Hogs

Feral hogs are an extremely invasive introduced, non-native species and is not considered a game species by the State of Louisiana. No bag limits are established for feral hogs. Hunting of feral hogs provides the refuge with another management tool in reducing this detrimental species, and at the same time, is widely enjoyed by local hunters. Cumulative effects to an exotic, invasive species should not be of concern because the refuge would like to extirpate this species on refuge lands. Hunting of hogs is not considered detrimental to the biological integrity of the refuge, is not likely to create conflict with other public uses and is within the wildlife dependant public uses to be given priority consideration. Since hogs are exotic, they are a priority species for refuge management only in terms of their negative impacts on refuge biota and need for eradication. They are a popular game species though, and the public interest would best be served by allowing this activity on the refuge. However, even with hunting, feral hogs are likely to always be present because they are prolific breeders.

#### 4.3.1.3 Small Game (Rabbit, Nutria, Coyote, and Beaver)

Rabbit and nutria cannot be affected regionally by refuge hunting because of their limited home ranges. Only local effects will be discussed. Studies have been conducted within and outside of Louisiana to determine the effects of hunting on the population dynamics of small game. Results from studies have consistently shown that small game, such as rabbits and nutria, are not affected by hunting, but rather are limited by food resources. The refuge consulted with biologists at the Louisiana Dept of Wildlife and Fisheries (LDWF) in association with this assessment on the cumulative impacts of hunting on rabbits. LDWF estimated 255,200 rabbits killed by hunters in the 2005/06 season. On Grand Cote NWR, from 2003-2007, hunter harvest data reports indicated a peak of 79 rabbits/season, representing 0.0003% of the state's harvest. Under the proposed action,

the refuge estimates a maximum additional 80 rabbits would be harvested, representing only 0.0003% of the statewide harvest. Eastern cottontails, swamp rabbits, and nutria are prolific breeders and their populations have never been threatened by hunting in Louisiana even prior to the passing of hunting regulations as we know them today.

Coyotes and beaver cannot be affected regionally by refuge hunting because of their limited home ranges. Only local effects will be discussed. Coyotes and beaver reproduce rapidly, are overpopulated, and can have adverse effects on their habitats. Coyotes depredate small mammals, songbirds and their nests, turkey and quail nests and any other animal they opportunistically encounter. When coyote numbers are high, local wildlife populations can be negatively affected. Coyotes are probably the most resilient species in North America. Today regulated hunting has no cumulative impact on their populations. Hunting of both coyotes and beaver is beneficial in helping meet refuge objectives.

#### 4.3.1.4 Non-hunted Wildlife

Non-hunted wildlife would include non-hunted migratory birds such as songbirds, wading birds, raptors, and woodpeckers; small mammals such as voles, moles, mice, shrews, and bats; reptiles and amphibians such as snakes, skinks, turtles, lizards, salamanders, frogs and toads; and invertebrates such as butterflies, moths, other insects and spiders. Except for migratory birds and some species of migratory bats, butterflies and moths, these species have very limited home ranges and hunting could not affect their populations regionally; thus, only local effects will be discussed.

Disturbance to non-hunted migratory birds could have regional, local, and flyway effects. Regional and flyway effects would not be applicable to species that do not migrate such as most woodpeckers, and some songbirds including cardinals, titmice, wrens, chickadees, etc. The cumulative effects of disturbance to non-hunted migratory birds under the proposed action are expected to be negligible for the following reasons. Hunting season would not coincide with the nesting season. Long-term future impacts that could occur if reproduction was reduced by hunting are not relevant for this reason. Disturbance to the daily wintering activities, such as feeding and resting, of birds might occur. Disturbance to birds by hunters would probably be commensurate with that caused by non-consumptive users.

The cumulative effects of disturbance to non-hunted wildlife under the proposed action are expected to be negligible for the following reasons. However, disturbance would be unlikely for the following reasons. Small mammals, including bats, are inactive during winter when hunting season occurs. These species are also nocturnal. Both of these qualities make hunter interactions with small mammals very rare. Hibernation or torpor by cold-blood reptiles and amphibians also limits their activity during the hunting season when temperatures are low. Hunters would rarely encounter reptiles and amphibians during most of the hunting season. Encounters with reptiles and amphibians in the early fall are few and should not have cumulative effects on reptile and amphibian populations. Invertebrates are also not active during cold weather and would have few interactions with hunters during the hunting season. The refuge has estimated current hunter density

on peak days to be no more than 1 hunter per 160 acres. During the vast majority of the hunting season, hunter density is much lower (1 hunter/1,000 acres). Refuge regulations further mitigate possible disturbance by hunters to non-hunted wildlife. Vehicles are restricted to roads and the harassment or taking of any wildlife other than the game species legal for the season is not permitted.

Although ingestion of lead-shot by non-hunted wildlife could be a cumulative impact, it is not relevant to Grand Cote NWR because the use of lead shot would not be permitted on the refuge for any type of hunting.

Some species of bats, butterflies and moths are migratory. Cumulative effects to these species at the "flyway" level should be negligible. These species are in torpor or have completely passed through Central Louisiana by peak hunting season in Nov-Jan. Some hunting occurs during September and October when these species are migrating; however, hunter interaction would be commensurate with that of non-consumptive users.

#### 4.3.1.5 Endangered Species

The only species of special status that may utilize the refuge is bald eagle. A Section 7 Evaluation was conducted in association with this assessment for opening hunting on Grand Cote NWR. It was determined that the proposed alternative would not likely affect this endangered species.

Bald eagles may winter in areas that are open to waterfowl, deer, and small game hunting without noticeable adverse effects. Actually, bald eagles wintering have been rarely observed even prior to opening hunting on the refuge.

Refer to the Section 7 Evaluation for the Sport Hunting on Grand Cote NWR for more information.

### **4.3.2 Anticipated Direct and Indirect Impacts of Proposed Action on Refuge Programs, Facilities, and Cultural Resources.**

#### 4.3.2.1 Wildlife-Dependant Recreation

Cumulative impacts to the wildlife-dependant recreation program are expected to be negligible. As public use levels expand across time, unanticipated conflicts between user groups may occur. The Refuge's visitor use programs would be adjusted as needed to eliminate or minimize each problem and provide quality wildlife-dependent recreational opportunities. Experience has proven that time and space zoning (e.g., establishment of separate use areas, use periods, and restrictions on the number of users) is an effective tool in eliminating conflicts between user groups.

The level of recreation use and ground-based disturbance from visitors would be largely concentrated at trails and the Refuge's office and maintenance areas. This, combined with the addition of hunting opportunity, could have a negative effect on nesting bird

populations. However, the hunting season is during the winter and not during most birds' nesting period. It is unlikely that bald eagles would establish nests near developed facilities or during the hunting season.

The opportunities for hunting would open under the proposed action. High deer numbers are recognized as a problem causing crop damage, reducing some forest understory species, and reducing reforestation seedling survival. Hunting would be used to keep the deer herd and other resident wildlife in balance with the habitat's carrying capacity, resulting in long-term positive impacts on wildlife habitat.

The refuge would control access under this alternative to minimize wildlife disturbance and habitat degradation, while allowing current and proposed compatible wildlife-dependent recreation. Some areas, such as waterfowl sanctuaries, would be closed seasonally to hunting to minimize disturbance to wintering waterfowl.

#### 4.3.2.2 Refuge Facilities

Cumulative impacts to refuge facilities are expected to be negligible. The Service defines facilities as: "Real property that serves a particular function(s) such as buildings, roads, utilities, water control structures, raceways, etc." Under the proposed action those facilities most utilized by hunters are: roads, parking lots, trails and boat launching ramps. Maintenance or improvement of existing facilities (i.e. parking areas, roads, trails, and boat ramps) will cause minimal short term impacts to localized soils and waters and may cause some wildlife disturbances and damage to vegetation. The facility maintenance and improvement activities described are periodically conducted to accommodate daily refuge management operations and general public uses such as wildlife observation and photography. These activities will be conducted at times (seasonal and/or daily) to cause the least amount of disturbance to wildlife. Siltation barriers will be used to minimize soil erosion, and all disturbed sites will be restored to as natural a condition as possible. During times when roads are impassible due to flood events or other natural causes those roads, parking lots, trails and boat ramps impacted by the event will be closed to vehicular use.

#### 4.3.2.3 Cultural Resources

Hunting, regardless of method or species targeted, is a consumptive activity that does not pose any threat to historic properties on and/or near the Refuge. In fact, hunting meets only one of the two criteria used to identify an "undertaking" that triggers a federal agency's need to comply with Section 106 of the National Historic Preservation Act. These criteria, which are delineated in 36 CFR Part 800, state:

- 1- an undertaking is any project, activity, or program that can alter the character or use of an archaeological or historic site located within the "area of potential effect;" and
- 2- the project, activity, or program must also be either funded, sponsored, performed, licenses, or have received assistance from the agency.

Consultation with the pertinent State Historic Preservation Office and federally recognized Tribes are, therefore, not required.

#### 4.3.2.4 Anticipated Impacts of Proposed Hunt on Refuge Environment and Community.

The refuge expects no sizeable cumulative impacts of the proposed action on the refuge environment which consists of soils, vegetation, air quality, water quality, hydrology, topography, and solitude. Some disturbance to surface soils and vegetation would occur in areas selected for hunting; however impacts would be minimal. Hunting would benefit vegetation as it is used to keep many resident wildlife populations in balance with the habitat's carrying capacity. The refuge would also control access to minimize habitat degradation.

The refuge expects impacts to air and water quality to be minimal and only due to refuge visitors' automobile and off-road vehicle emissions and run-off on road and trail sides. The effect of these refuge-related activities, as well as other management activities, on overall air and water quality in the region are anticipated to be relatively negligible, compared to the contributions of industrial centers, power plants, and non-refuge vehicle traffic. Existing State water quality criteria and use classifications are adequate to achieve desired on-refuge conditions; thus, implementation of the proposed action would not impact adjacent landowners or users beyond the constraints already implemented under existing State standards and laws.

Impacts associated with solitude are expected to be minimal given time and space zone management techniques, such as seasonal access and area closures, used to avoid conflicts among user groups.

The refuge would work closely with State, Federal, and private partners to minimize impacts to adjacent lands and its associated natural resources; however, no indirect or direct impacts are anticipated. The newly opened hunts would result in a net gain of public hunting opportunities positively impacting the general public, nearby residents, and refuge visitors. The refuge expects increased visitation and tourism to bring additional revenues to local communities but not a significant increase in overall revenue in any area.

#### 4.3.2.5 Other Past, Present, Proposed, and Reasonably Foreseeable Hunts and Anticipated Impacts

Cumulative effects on the environment result from incremental effects of a proposed action when these are added to other past, present, and reasonably foreseeable future actions. While cumulative effects may result from individually minor actions, they may, viewed as a whole, become substantial over time. The proposed hunt plan has been designed so as to be sustainable through time given relatively stable conditions. Changes in refuge conditions, such as sizeable increases in refuge acreage or public use, are likely

to change the anticipated impacts of the current plan and would trigger a new hunt planning and assessment process.

The implementation of any of the proposed actions described in this assessment includes actions relating to the refuge hunt program (see Sport Hunting Plan for Grand Cote NWR). These actions would have both direct and indirect effects (e.g., new site inclusion would result in increased public use, thus increasing vehicular traffic, disturbance, etc); however, the cumulative effects of these actions are not expected to be substantial.

#### 4.3.2.6 Anticipated Impacts if Individual Hunts are Allowed to Accumulate

National Wildlife Refuges, including Grand Cote NWR, conduct hunting programs within the framework of State and Federal regulations. Grand Cote NWR is at least as restrictive as the State of Louisiana (rabbit, woodcock) and in many cases more restrictive (deer, hog, waterfowl, nutria, coyote, beaver, dove, snipe, and rail). By maintaining hunting regulations that are as, or more, restrictive than the State, individual refuges ensure that they are maintaining seasons which are supportive of management on a more regional basis. The proposed hunt plan has been reviewed and is supported by the Louisiana Dept. of Wildlife and Fisheries. Additionally, refuges coordinate with LDWF annually to maintain regulations and programs that are consistent with the State management program.

## **Chapter 5 Consultation and Coordination with Others**

The Louisiana Department of Wildlife and Fisheries (LDWF) concurs and fully supports the regulated consumptive public use of the natural resources associated with the Grand Cote NWR. Throughout the year, the Refuge consults with State LDWF Biologists and Enforcement Agents on various wildlife management issues. Additionally, the Service and State LDWF meet annually to present and receive feedback on proposed refuge hunting regulations for the upcoming hunting season. The Fish and Wildlife Service also provided an in depth review by the Regional Office personnel and staff biologists. Numerous contacts were made throughout the area of the refuge soliciting comments, views, and ideas into the development of the accompanying hunting plan.

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## Appendix Response to Public Comments

The Service solicited public comment for the draft Sport Hunt Plan and Environmental Assessment for Grand Cote National Wildlife Refuge from March 5- April 5, 2007. Copies of the document were placed in the refuge headquarters, the Avoyelles Parish Library in Marksville, Louisiana, and news releases announcing its availability for comment were placed in three local newspapers.

We received thirteen comments overall on our draft EA titled Sport Hunt Plan for Grand Cote National Wildlife Refuge. Eight of these comments were in support of the Service's Preferred Alternative in the draft EA, which proposes opening approximately half of the refuge to hunting, while still maintaining approximately half of the refuge as wildlife sanctuary. Four comments were in support of Alternative C, which proposed opening the entire refuge to hunting. One comment was in opposition to the Preferred Alternative.

We received a letter from the Humane Society of the United States that contained comments related to hunting on the National Wildlife Refuge System as a whole and containing elements related to litigation filed in 2003 by the Fund for Animals against the Service. These comments were not specific to this draft EA and are noted but not responded to here.

We received a letter from the Safari Club International (SCI) that "suggests the Hunt Plan and EA feature more prominently the refuge's consultation with the state fish and game agency," and include the state agency's input about how hunting on the refuge assists with their efforts to manage state wildlife populations. The Service agrees with this comment and adjusted the language in Chapter 5 of the EA to better reflect our working relationship and consultation efforts with the State fish and game agency.

SCI also recommends that the EA should include "an explanation of how the control and/or reduction of hunted populations, considered collectively with similar wildlife management efforts on numerous refuges throughout the National Wildlife Refuge System, conserves the cumulative health of the habitat of the flyway in which the refuge is located and the migratory birds that utilize that flyway." The Service notes the comment.

Sport Hunting  
Decision Document Package  
for  
**GRAND COTE NWR**

**Contents**

4. FONSI

## FINDING OF NO SIGNIFICANT IMPACT

### 2007 Sport Hunting Plan for Grand Cote National Wildlife Refuge

The U.S. Fish and Wildlife Service proposes to open areas of the refuge to hunting on Grand Cote NWR. Hunting activities will be permitted, but administratively limited to those areas specified in the refuge-specific regulations. All or parts of the refuge may continue to be closed to hunting at any time if necessary for public safety, to provide wildlife sanctuary, or for administrative reasons. Alternatives considered included: proposed action (open limited areas to hunting), no action (no hunting), and open entire refuge to hunting.

**The Service has analyzed the following alternatives to the proposal in an Environmental Assessment (copy attached):**

Proposed action- Under this alternative, hunting would be open to species including deer, feral hogs, ducks, geese, gallinules, coots, woodcock, dove, snipe, rails, rabbit, nutria, coyote, and beaver in areas along Little California Road and limited areas south of Hwy 1194 on the refuge. All or parts of the refuge may continue to be closed to hunting at any time if necessary for public safety, to provide wildlife sanctuary, or for administrative reasons. The hunt program would comply with all State, Federal, and refuge-specific regulations, and Service policies and directives.

No action alternative - Under this alternative, there would not be any recreational hunting on Grand Cote National Wildlife Refuge. There would be no change in public use opportunities or management strategies.

Open Entire Refuge- Under this alternative, recreational hunting would be allowed on  
To Hunting all areas of Grand Cote National Wildlife Refuge.

**The preferred alternative was selected over the other alternatives because:**

1. The preferred alternative would allow the refuge to manage wildlife populations, allow the public to harvest a renewable resource, promote a wildlife-oriented recreational opportunity, increase awareness of Grand Cote NWR and the National Wildlife Refuge System, and meet public demand.
2. The preferred alternative is compatible with general Service policy regarding the establishment of hunting on National Wildlife Refuges.
3. The preferred alternative is compatible with the purpose for which Grand Cote NWR was established.
4. This proposal does not initiate widespread controversy or litigation.

5. There are no conflicts with local, state, regional, or federal plans or policies.

**Implementation of the agency's decision would be expected to result in the following environmental, social, and economic effects:**

1. The refuge could better manage wildlife populations.
2. This would allow the public to harvest a renewable resource.
3. The public would have increased opportunity for wildlife-oriented recreation.
4. Local businesses would benefit from hunters visiting from surrounding parishes.
5. The Service will be perceived as a good steward of the land by continuing traditional uses of land in Louisiana and by allowing youth an opportunity to learn about hunting.

**Measures to mitigate and/or minimize adverse effects have been incorporated into the proposal. These measures include:**

1. "No hunt zones will be created on the refuge. Approximately 3,614 acres will be maintained as sanctuary area for migratory waterfowl and shorebirds and approximately 142 acres will be left around the headquarters office and hiking trail for non-consumptive public uses.
2. Motorized vehicles and ATV's will only be permitted on designated roads and ATV trails and only within the hunted areas of the refuge.
3. Refuge will be open to public access from 4:00 a.m. to one hour after sunset.
4. Refuge brochures and publications of hunt information in local newspapers and on the refuge's website will inform hunters of refuge regulations.
5. Waterfowl hunting will be limited to Wednesdays and Saturdays until 12:00 noon.
6. The refuge law enforcement program and closely regulated hunting season will ensure hunt regulation compliance and will protect refuge resources.

**The proposal is not expected to have any significant adverse effects on wetlands and flood plains, pursuant to Executive Orders 11990 and 11988 because this area has historically had a high use of recreational hunting with no detrimental long-term effect on wetlands.**

**The proposal has been thoroughly coordinated with all interested and/or affected parties. Parties contacted include:**

- U.S. Fish and Wildlife Service, Div. of Ecological Services, Lafayette, LA
- Louisiana Department of Wildlife and Fisheries, Office of the Secretary, Wildlife Division

**Copies of the Environmental Assessment are available by writing:**

Grand Cote National Wildlife Refuge  
401 Island Road  
Marksville, LA 71351

Therefore, it is my determination that the proposal does not constitute a major Federal action significantly affecting the quality of the human environment under the meaning of section 102(2)(c) of the National Environment Policy Act of 1969 (as amended). As such, an environmental impact statement is not required. This determination is based on the following factors (40 CFR 1508.27):

1. Both beneficial and adverse effects have been considered and this action will not have a significant effect on the human environment (EA, page 35-42).
2. The project will not significantly affect any unique characteristics of the geographic area such as proximity to historical or cultural resources, wild and scenic rivers, or ecologically critical areas (EA, page 35, 36, 40, 49).
3. The effects on the quality of the human environment are not likely to be highly controversial (EA, page 34).
4. The actions do not involve highly uncertain, unique, or unknown environmental risks to the human environment (EA, page 35, 36).
5. The actions will not establish a precedent for future actions with significant effects nor does it represent a decision in principle about a future consideration (EA, pages 49, 50).
6. There will be no cumulative significant impacts on the environment. Cumulative impacts have been analyzed with consideration of other similar activities on adjacent lands, in past action, and in foreseeable future actions (EA, pgs. 42-50).
7. The actions will not significantly affect any site listed in, or eligible for listing in, the National Register of Historic Places, nor will they cause loss or destruction of significant scientific, cultural, or historic resources (EA, pages 35, 48).
8. The actions are not likely to adversely affect endangered or threatened species, or their habitats (Intra-Service Sect. 7 Biological Evaluation Form attached to EA).
9. The actions will not lead to a violation of federal, state, or local laws imposed for the protection of the environment (EA, pages 50).

**References:** Environmental Assessment of 2007 Sport Hunt Plan for Grand Cote NWR, Hunting Plan, Compatibility Determination, Letters of Concurrence, Refuge-specific Regulations, Intra-Service Section 7 Evaluation.

  
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for Regional Director

4/24/07  
Date