

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 Bayou Teche National Wildlife Refuge in St. Mary 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.

X 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.

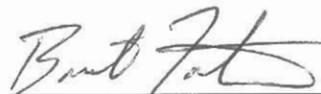
_____ is not approved because of unacceptable environmental damage, or violation of Fish and Wildlife Service mandates, policy, regulations, or procedures.

_____ 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, 2007

Signature Approval:

 _____ 4/6/07 _____
(1) Originator Date (2) Regional Environmental Coordinator Date

 _____ 04/19/07 _____
Date

 _____ 4/19/2007 _____
(3) Regional Chief, NWRS, Southeast Region Date

 _____ 4/24/07 _____
(4) Regional Director, Southeast Region Date

Sport Hunting
Decision Document Package
for
BAYOU TECHE NWR

Contents

2. EA/FONSI

Environmental Assessment

2007 Sport Hunting Plan

on

BAYOU TECHE NATIONAL WILDLIFE REFUGE
St. Mary Parish, Louisiana

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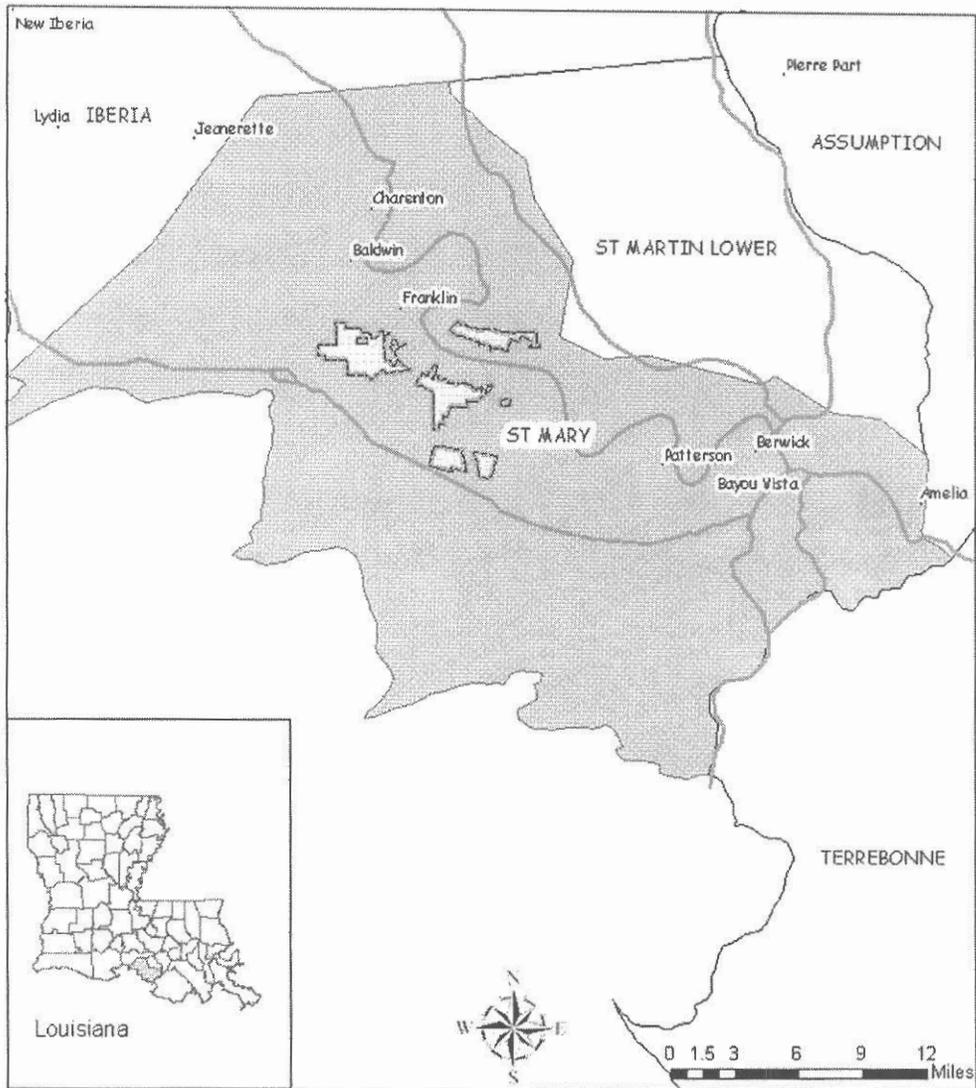


Figure 1. Location of Bayou Teche National Wildlife Refuge.

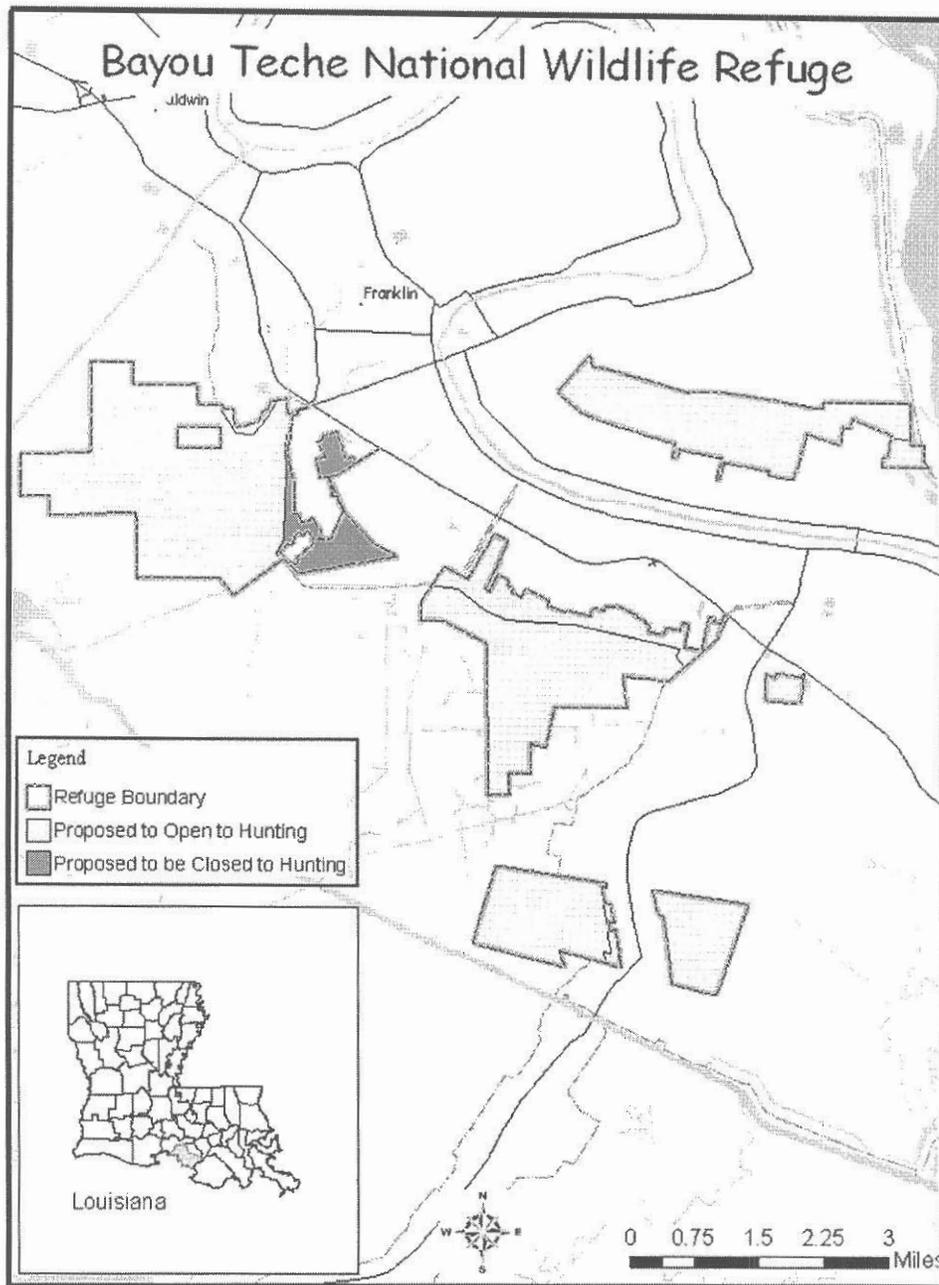


Figure 2. Bayou Teche National Wildlife Refuge, with proposed open and closed hunt areas indicated.

Chapter 1 Purpose and Need for Action

The federally legislated purposes for which Bayou Teche National Wildlife Refuge (NWR) was established are "... to conserve (A) fish or wildlife which are listed as endangered species or threatened species or (B) plants ..." 16 U.S.C. § 1534 (Endangered Species Act of 1973).

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, including that for Bayou Teche NWR. The new environmental assessments, including this one, will address the cumulative impacts of hunting at all refuges which were named in or otherwise affected by the lawsuit. Although hunting has been on-going on Bayou Teche NWR (2002-2006), this document re-addresses the hunting programs at Bayou Teche NWR in Louisiana. Bayou Teche NWR is one of eight refuges managed as part of the Southeast Louisiana Refuge Complex.

The proposed action is needed to implement the 2007 Sport Hunting Plan for Bayou Teche 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 Bayou Teche NWR. These alternatives are the 1) the proposed action, in which the 2007 Sport Hunting Plan would be implemented to open the Refuge to hunting, 2) the no action alternative, in which the Refuge would remain closed to all hunting, 3) an alternative in which specific areas of the refuge would be closed to harvest, and 4) an alternative in which hunting would be open throughout the entire refuge.

2.1 Proposed Action: 2007 Sport Hunting Plan for Bayou Teche NWR

The proposed action would permit hunting on Bayou Teche NWR, but would administratively limit it to those areas specified in the refuge-specific regulations. All or parts of the refuge may be closed to hunting at any time if necessary for public safety, to provide wildlife sanctuary, or for administrative reasons.

2.2 No Action Alternative: Current Management

Under this alternative, hunting would not be opened on Bayou Teche NWR, and there would be no change to current public use and wildlife management programs.

2.3 Action Alternative: Close Specific Areas to Harvest

Under this alternative, the Service would provide variable hunting opportunities during the hunting seasons.

2.4 Action Alternative: Open Entire Refuge to Harvest

Under this alternative, the Service would provide hunting opportunities throughout the hunting seasons.

Chapter 3 Affected Environment

The Bayou Teche National Wildlife Refuge (NWR) was established on October 31, 2001. It is located in St. Mary Parish in south central Louisiana (Figure 1). The refuge contains 9,028 acres in six discrete land units that are located in the immediate vicinity of the town of Franklin, Louisiana, specifically south of the Atchafalaya Basin levee, west of the Calumet Cut Canal, east of the Charenton Canal and north of the Intra-Coastal Waterway. All units of the refuge are contained within an area of 10 by 8 miles within St. Mary Parish and are surrounded by private lands. The refuge property does not intersect the Bayou Teche waterway, but units of the refuge are located in it's vicinity, to both the north and the south of the Bayou.

The acquisition area for Bayou Teche NWR was established in 1999 with the Conceptual Management Plan for Bayou Teche NWR (Louisiana Black Bear Habitat Protection Project, Final Environmental Assessment and Land Protection Plan). Both the Black Bear Conservation Committee, made up of representatives from over 50 agencies and organizations, and the Service prepared a restoration or recovery plan for the Louisiana black bear that included federal acquisition of the habitat associated with the current Bayou Teche NWR. A single private land-owner approached the Service to express a willingness to sell lands within what was subsequently designated as the acquisition area. The Trust for Public Lands facilitated the acquisition of the Refuge by acquiring the roughly 9,000 acre parcel and subsequently selling it to the Service. Only the surface rights to the land were acquired, with mineral rights reserved in perpetuity, including all oil and gas deposits found under the land and all future rights to whatever uses of the surface may be necessary to explore for and/or extract these minerals.

Funding and authorization for the refuge acquisition was provided through the Endangered Species Act of 1973.

3.1 Physical Environment

Bayou Teche NWR lies within the Gulf Coastal Prairie Region and within the Coastal Zone of Louisiana, although the primarily bottomland hardwood forested habitat functions more similarly in some respects to habitats of the Mississippi Alluvial Valley.

St. Mary Parish occupies part of three deltas of the Mississippi River, each of which has built up from alluvial materials derived from different sources and deposited during different ages. The Bayou Teche NWR is within both the Teche/Vermillion and Atchafalaya Basins. The Bayou Teche waterway, namesake for the Refuge, occupies one of the historic channels of the Mississippi River. Natural levee ridges have been built up along the Bayou Teche and other small streams and range in elevation from near sea level to 16 feet. The relief is level to gently sloping. Drainage is south to the Gulf of Mexico. The average annual temperature

is 70 degrees with a winter average of 58 degrees and a summer average of 82 degrees. The average annual rainfall is 55 inches and average elevation is 5 feet.

Although this region of the coast is geologically stable, geomorphologic and hydrologic conditions have been altered by the dredging of navigation and petroleum access canals and the construction of spoil banks and levees. The effects of these alterations vary greatly from place to place, but generally they have created artificial barriers between wetlands and wetland maintenance processes, or removed natural barriers between wetlands and wetland decay processes. Historically, distributaries of the Mississippi River, such as the nearby Atchafalaya River, provided afluvium and regenerative organic soils for the vicinity of the present-day Bayou Teche NWR. In the present-day, the Refuge properties are disconnected from these natural wetland maintenance processes and are bisected by roughly 14 miles of manmade (U.S. Army Corps of Engineers) levees and 9 miles of canals. Man-made levees on the Atchafalaya River to the north and east and the east-west running Intra-Coastal Waterway to the south of the refuge are significant features which interrupt the natural hydrology of the refuge and surrounding habitat.

3.2 Vegetation

Bayou Teche NWR is forested, excepting features such as waterways, maintained levees and other right-of-ways. Bayou Teche NWR is located in the Atchafalaya floodplain, but outside the major levee system that defines the Atchafalaya Basin such that sediment deposition within coastal swamp forests of Bayou Teche NWR is minimized.

Approximately 7,100 acres of a total acquired area of 9,028 acres for BT-NWR are composed of bald cypress-tupelo forests. These are swamps are dominated by bald cypress (*Taxodium distichum*), water tupelo (*Nyssa aquatica*), swamp tupelo (*Nyssa biflora*), Drummond red maple (*Acer rubrum* var. *drummondii*), waxmyrtle (*Myrica cerifera*), and persimmon (*diospyrus virginiana*). The sites are always very wet, and surface water stands most often throughout the growing season. Soils are generally organic mucks. A variety of herbaceous plants are common and take the form of flotants, emergents, and submergents. Understory vegetation is generally a floatant mat of grasses, forbes and shrubs.

Drier site bottomland hardwood forests make up the remaining roughly 1,800 acres of forested habitat. These areas are segmented within the Refuge properties and found along spoil banks and on areas interior to maintained levees, with areas ranging from <20 to 200 acres. Live oak (*Quercus virginiana*), water oak (*Quercus nigra*), sugarberry (*Celtis laevigata*), and American elm (*Ulmus americana*) are common overstory species. Flowering dogwood (*Cornus florida*), and deciduous holly (*Ilex decidua*) are typical midstory species, with a ground-cover dominated by dwarf palmetto (*Sabal minor*) being typical.

Forested wetlands of the Lower Mississippi River Deltaic Plain were historically connected to the River and its tributaries through seasonal inputs of nutrient- and sediment-laden floodwaters. Of these tributaries, the Atchafalaya River serves as a repository for approximately 30% of the combined flows of both the Mississippi and Red Rivers from Simsport, Louisiana, south to the coastal wetlands. Extensive anthropogenic modifications

within the historic floodplain of the lower Mississippi River, including the Atchafalaya floodplain, have affected the stability of coastal forests by reducing their capacity to offset subsidence. Impacts include levee construction along both rivers to prevent overbank flooding, reduction of water flow to the swamps in the Terrebonne and Barataria watersheds, oil and gas mining, and canal dredging (Salinas et al. 1986; Pezeshki et al. 1987; 1990; Day et al. 2000). Collectively, these impacts influence the persistence of coastal wetland forests such that approximately 230,000 additional acres of swamp forest is expected to be degraded or killed in Louisiana by the year 2050 (Chambers et al. 2005).

3.3 Wildlife Resources

The old spoil banks and other elevated lands and their associated woodland habitats represent the core habitat for Louisiana black bears (*Ursus americanus luteolus*) in this section of the subspecies's range and provide important summer and fall food resources as well as winter ground denning sites. The spoil banks are used as travel paths within the swamp and as connecting links to ridges that extend into the marshes. Cypress-tupelo swamp habitats provide spring and summer food resources as well as winter denning habitat in rare remnant hollow cypress trees. The habitat of Bayou Teche NWR represents a complex of important bear habitats that offer food, cover, travel corridors, and den sites.

This area of Louisiana hosts bald eagle nests and eagles are commonly seen. The marshes, swamps, and bayous provide excellent foraging habitat for eagles and other raptors.

The woodlands of this area offer a diverse habitat that is used by neotropical birds for breeding as well as winter range. Forests of and in the vicinity of Bayou Teche NWR play an important role in bird migration by virtue of their geographic position along important migration pathways. Each spring and autumn, millions of nearctic-neotropical migratory landbirds move through the forests along the coast of the Gulf of Mexico as they migrate across and around the Gulf. The coastal area where Bayou Teche NWR is located is used by many migrants moving west around the Gulf or staging prior to migrating across the northwest Gulf of Mexico making landfall on along the coasts of Texas or Mexico. Coastal forests and wetlands of south Louisiana are known to support large wintering concentrations of birds. Wintering birds depend on the dense cover provided by the remnant live oak-bottomland hardwood forest patches, insects, insect eggs, fleshy-fruit, and mast for winter survival.

Waterfowl use in this area is primarily by wood ducks, mallards, gadwalls, and green-winged teal. Resident waterfowl include wood ducks, which are common in refuge habitats during both summer breeding and winter seasons. Mottled ducks occur rarely in refuge habitats. Migratory waterfowl are common in the vicinity of the refuge but most commonly use marsh habitat neighboring the Refuge.

Other wildlife include white-tailed deer, swamp rabbit, cottontail rabbit, grey squirrels, fox squirrels, raccoon, bobcat, otter, nutria, muskrat, opossum, mink, and flying squirrels. Alligators are common and are commercially harvested in the area.

3.4 Threatened and Endangered Species

3.4.1 Bald Eagle

Many bald eagles (*Haliaeetus leucocephalus*) are seen during the year on and in the vicinity of the refuge, most commonly during winter on the nearby Bayou Teche. The majority of eagles found in Louisiana are in the coastal areas from New Iberia to the Mississippi state line. St. Mary Parish held 27 active nests in the 2007 nesting season. Eagle nests have increased in Louisiana through time, from 5 nests in 1974 to 284 in 2007, with a large proportion of these nests in the Coastal Zone.

3.4.2 Louisiana Black Bear

Louisiana black bears utilize the refuge throughout the year. The natural levees, old spoil banks, and other elevated lands and their associated woodland habitats represent core habitat for bears in this section of the Louisiana black bear's range. The spoil banks are used as travel zones within the marsh and as connecting links to ridges that extend into the marshes. It is apparent that the project area represents a complex of important bear habitats that offer food, cover, travel corridors, and den sites.

3.5 Fishery Resources

The natural bayous and numerous pipeline canals in the Bayou Teche project area contain a rich mixture of game fish, including crappie, bass, bream, and catfish. Waterways are used for public fishing where access is provided. Some of the abandoned oil field canals are gated by landowners to prevent access, and water hyacinths prevent access to others. The long growing season and rich land contribute to a productive fishery resource.

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 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 U.S. Fish & Wildlife Service'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 SHPO indicated that the proposed action would not likely affect any cultural resources found on Bayou Teche NWR. During the course of Refuge development, the discovery of cultural resources would be reported immediately to the SHPO. A letter of concurrence dated May 04, 1999 from SHPO regarding cultural resources on the refuge was issued.

3.7 Socio Economic

St. Mary Parish is largely rural in character with an economy based on agriculture, oil and gas production, and light industry. Agriculture is dominated by sugarcane production. The U.S. Census Bureau reports the following statistics for the Parish: population estimate (53,500); households (19,317); median annual household incomes (\$31,422); and 87.3 persons per square mile (U.S. Census Bureau 2000).

The number of licenses sold to hunters in St. Mary Parish during the 2005/2006 hunting season was 6,672 (*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, an estimate of the number of hunters increases to 7,672 for St. Mary Parish (*LDWF, personal comm.*).

Chapter 4 Environmental Consequences

This chapter describes the foreseeable environmental consequences of implementing the four management alternatives 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

As described in Chapter 2, four alternatives are being considered:

Proposed Action (Preferred Alternative): The proposed action would open the 9,028 acre Bayou Teche NWR (Figure 2.) to hunting, as specified in the 2007 Sport Hunting Plan for Bayou Teche NWR, including space and time restrictions and refuge-specific regulations. All or parts of the refuge may be closed to hunting at any time if necessary for public safety, to provide wildlife sanctuary, or for administrative reasons.

No Action Alternative: Under this alternative, hunting would not be opened on Bayou Teche NWR. The Refuge would remain closed to hunting, although other approved public uses would continue.

Close Specific Areas to Harvest: Under this alternative, the Service would provide variable hunting opportunities during the hunting seasons.

Open Entire Refuge to Harvest: Under this alternative, the Service would provide hunting opportunities throughout the hunting seasons.

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 Public Health and Safety

Each alternative would have similar effects or minimal to negligible effects on human health and safety.

4.1.3 Refuge Physical Environment

Impacts of each alternative on the refuge physical environment would have similar minimal to negligible effects. Some disturbance to surface soils, topography, and vegetation would occur in areas selected for hunting; however minimal. Hunting may 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.

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, boat, and off-road vehicle emissions and run-off. 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 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.

4.1.4. 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.

4.1.5. 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

Proposed Action Alternative

The biological integrity of the refuge would be protected under this alternative, and the refuge purpose of conserving habitat for threatened and endangered species would be achieved. The deer hunting would positively impact wildlife habitat by promoting plant health and diversity.

The refuge would be utilized more by the public (hunters) than previously which might cause increased trampling of vegetation. Impacts to vegetation should be minor. Hunter density is estimated to be an average of 1 hunter/150 acres throughout the hunting season. Refuge-regulations would not permit the use of ATVs off of designated trails. Vehicles would be confined to existing roads and parking lots.

Hunting, as proposed by this alternative, has been conducted on Bayou Teche NWR (2002-2006) with minimal impacts to habitat.

No Action Alternative

Under this alternative, additional acreage would not be opened to deer hunting. When deer are overpopulated, they overbrowse their habitat, which can change the structure and plant composition of a forest. Bottomland hardwood forests are a threatened ecosystem. The forests of Bayou Teche NWR are stressed by chronic flooding, and successful regeneration is important to maintain forested habitat. Failure to maintain this forest would have negative impacts on future resident and non-resident wildlife populations as well as the purpose of the refuge.

Although hunters would not be traversing across the 9,028 acres, which could cause damage to individual plants by trampling vegetation, non-consumptive users would still be able to walk throughout the area.

Close Specific Areas to Harvest:

Under this alternative, the Service would close predetermined areas to hunting for the entire hunting season. As in the no action alternative, additional acreage would not be opened to deer hunting. When deer are overpopulated, they over-browse their habitat, which can change the structure and plant composition of a forest. Bottomland hardwood forests are a threatened ecosystem. The forests of Bayou Teche NWR are stressed by chronic flooding, and successful regeneration is important to maintain forested habitat. Failure to maintain this forest would have negative impacts on future resident and non-resident wildlife populations as well as the purpose of the refuge. This alternative does not allow for the application of time and space zoning to meet refuge objectives as conditions (e.g. public use pressure, habitat conditions) change.

Although hunters would not be traversing across the entire 9,028 acres, which could cause damage to individual plants by trampling vegetation, non-consumptive users would still be able to walk throughout the area.

Open Entire Refuge to Harvest:

Under this alternative, the entire refuge would be opened to hunting for full state seasons. As with the proposed action, the refuge purpose of conserving habitat for threatened and endangered species would be achieved, however other aspects of management for the refuge purpose would not be able to be met. The deer hunt would positively impact wildlife habitat by promoting plant health and diversity.

The refuge would be utilized more by the public (hunters) than previously which might cause increased trampling of vegetation. Impacts to vegetation should be minor. Hunter density is estimated to be an average of 1 hunter/150 acres throughout the hunting season. Refuge-regulations would not permit the use of ATVs off of designated trails. Vehicles would be confined to existing roads and parking lots. This alternative does not allow for the application of time and space zoning to meet refuge objectives as conditions (e.g. public use pressure, habitat conditions) change.

4.2.2 Impacts to Hunted Wildlife

Proposed Action Alternative

Additional mortality of individual hunted animals would occur under this alternative, estimated by the refuge to be a maximum of 10 deer and 100 ducks annually. Estimates for other small mammals (squirrel and rabbit) would be less than 200 individuals per species. Hunting causes some disturbance to not only the species being hunted but other game species as well. However, time and space zoning established by refuge regulations would minimize incidental disturbance.

Hunting of deer 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.

Hunting, as proposed by this alternative, has been conducted on Bayou Teche NWR (2002-2006) with minimal impacts to hunted wildlife.

No Action Alternative

Additional 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 populations could increase above the habitat's carrying capacity in the area not opened to hunting. The likelihood of starvation and diseases, such as bluetongue and EHD in deer would increase.

Close Specific Areas to Harvest:

Under this alternative, the Service would close predetermined areas to hunting for the entire hunting season. As in the no action alternative, additional mortality of some individual hunted animals would not occur under this alternative. Disturbance by hunters to hunted wildlife would occur to a lesser degree; however, other public uses that cause disturbance, such as wildlife observation and photography, would still be permitted. This alternative does not allow for the application of time and space restrictions to meet refuge objectives as conditions (e.g. public use pressure, habitat conditions) change.

Although hunters would not be traversing across the entire 9,028 acres, which could cause damage to individual plants by trampling vegetation, non-consumptive users would still be able to walk throughout the area.

Open Entire Refuge to Harvest:

Under this alternative, the entire refuge would be opened to hunting for full state seasons. As with the proposed action, additional mortality of individual hunted animals would occur under this alternative, estimated by the refuge to be a maximum of 10 deer and 100 ducks annually. Estimates for other small mammals (squirrel and rabbit) would be less than 200 individuals per species. Hunting causes some disturbance to not only the species being hunted but other game species as well. This alternative does not allow for time and space zoning established by refuge regulations to minimize incidental disturbance.

Hunting of deer would help maintain their populations at or below carrying-capacity. The likelihood of starvation and diseases, such as bluetongue and EHD in deer would be decreased. This alternative does not allow for the application of time and space zoning to meet refuge objectives as conditions (e.g. public use pressure, habitat conditions) change.

4.2.3 Impacts to Non-hunted Wildlife

Proposed Action Alternative

Non-hunted wildlife (such as songbirds) would benefit from the decrease of deer populations through hunting under this alternative, making it unlikely that deer would negatively affect forest regeneration and habitat quality for other species through over-browsing.

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. 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.

Hunting, as proposed by this alternative, has been conducted on Bayou Teche NWR (2002-2006) with minimal impacts to non-hunted wildlife.

No Action Alternative

Deer may become overpopulated, negatively affecting forest regeneration and habitat quality for other species through over-browsing.

Increased disturbance to non-hunted wildlife would not occur in the 9,028-acre area; however, non-consumptive users would still be permitted to access this land, which might cause disturbance to wildlife.

Close Specific Areas to Harvest:

Under this alternative, the Service would close predetermined areas to hunting for the entire hunting season. As in the no action alternative, deer may become overpopulated, negatively affecting forest regeneration and habitat quality for other species through over-browsing. This alternative does not allow for the application of time and space restrictions to meet refuge objectives as conditions (e.g. public use pressure, habitat conditions) change.

Open Entire Refuge to Harvest:

Under this alternative, the entire refuge would be opened to hunting for full state seasons. As with the proposed action, populations of deer would be somewhat decreased through hunting under this alternative, making it unlikely that they would negatively affecting forest regeneration and habitat quality for other species through over-browsing.

Disturbance to non-hunted wildlife would increase slightly across the entire area. 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. Disturbance to birds by hunters would probably be commensurate with that caused by non-

consumptive users, however the disturbance pressure would be distributed across the entire refuge, without refugia. This alternative does not allow for the application of time and space zoning to meet refuge objectives as conditions (e.g. public use pressure, habitat conditions) change.

4.2.4 Impacts to Endangered and Threatened Species

Proposed Action Alternative

A potential disadvantage of this alternative is its effect on threatened and endangered species on the refuge such as the bald eagle and Louisiana black bear. However, a Section 7 Evaluation associated with this assessment was conducted, and it was determined that the proposed action is not likely to affect these species (Refer to 2007 Section 7 Evaluation for Sport Hunting on Bayou Teche NWR).

No Action Alternative

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

Close Specific Areas to Harvest:

Under this alternative, the Service would close predetermined areas to hunting for the entire hunting season. As in the no action alternative, because public use levels on the refuge would remain low on specific areas, there would be little increased chance of affecting threatened and endangered species. This alternative does not allow for the application of time and space zoning to meet refuge objectives as conditions (e.g. public use pressure, habitat conditions) change.

Open Entire Refuge to Harvest:

Under this alternative, the entire refuge would be opened to hunting for full state seasons. As with the proposed action, a potential disadvantage of this alternative is its effect on threatened and endangered species on the refuge such as the bald eagle and Louisiana black bear. This alternative does not allow for time and space zoning to be used if necessary in order to meet refuge objectives. The hunting program as proposed in the 2007 Sport Hunt Plan is designed to minimize potential disturbance to resident Louisiana black bears and seasonal use by bald eagles. This alternative does not allow for the application of time and space restrictions to meet refuge objectives as conditions (e.g. public use pressure, habitat conditions) change.

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

Proposed Action Alternative

Additional damage to access roads and ATV trails due to hunter use during wet weather periods might occur. The current refuge hunt program on 9,028 acres for the past five years has shown these impacts to be within manageable limits. The Refuge currently has few roads and no ATV trails on the refuge, therefore this cost is 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.

Hunting, as proposed by this alternative, has been conducted on Bayou Teche NWR (2002-2006) with minimal impacts to refuge facilities.

No Action Alternative

Additional damage to access 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.

Close Specific Areas to Harvest:

Under this alternative, the Service would close predetermined areas to hunting for the entire hunting season. As in the no action alternative, additional damage to access roads and ATV trails due to hunter use during wet weather periods would occur to a lesser degree; 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 also be less. This alternative does not allow for the application of time and space zoning to meet refuge objectives as conditions (e.g. public use pressure, habitat conditions) change.

Open Entire Refuge to Harvest:

Under this alternative, the entire refuge would be opened to hunting for full state seasons. As with the proposed action, additional damage to access roads and ATV trails due to hunter use during wet weather periods might occur. The current refuge hunt program on 9,028 acres for the past five years has shown these impacts to be within manageable limits. The Refuge currently has few roads and no ATV trails on the refuge, therefore this cost is minimal. There would be costs associated with a hunting program in the form of road and ATV trail maintenance, instructional sign needs, and law enforcement. These costs would be more than that for the preferred alternative and may not be minimal relative to total refuge operations

and maintenance costs. This alternative does not allow for the application of time and space zoning to meet refuge objectives as conditions (e.g. public use pressure, habitat conditions) change.

4.2.6 Impacts to Wildlife Dependant Recreation

Proposed Action Alternative

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. Squirrel and rabbit hunting is conducted in the same areas as deer hunting, but is closed on gun deer hunting days. Archery hunting of deer rarely conflicts with other hunts. Waterfowl and small game hunters generally use different habitat types and so rarely are in conflict. This would also limit disturbance to wildlife during the spring and summer when most species reproduce. 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) during hunting seasons in the 500 acres that is closed to hunting.

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 Bayou Teche NWR and the National Wildlife Refuge System and public demand for more hunting would be met. The public would also have the opportunity to harvest a renewable resource in a traditional manner, which is culturally important to the local community. This alternative would also allow the public to enjoy hunting at no or little cost in a region where private land is leased for hunting, often costing a person \$300-\$2000/year for membership. 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.

Hunting, as proposed by this alternative, has been conducted on Bayou Teche NWR (2002-2006) with minimal impacts to wildlife dependent recreation.

No Action Alternative

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 Bayou Teche 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.

Close Specific Areas to Harvest:

Under this alternative, the Service would close predetermined areas to hunting for the entire hunting season. As in the no action alternative, the public would have less opportunity to harvest a renewable resource, participate in wildlife-oriented recreation that is compatible with the purposes for which the refuge was established, or gain an awareness of Bayou Teche NWR and the National Wildlife Refuge System; nor would the Service be meeting public use demand. This alternative does not allow for the application of time and space restrictions to meet refuge objectives as conditions (e.g. public use pressure, habitat conditions) change.

Open Entire Refuge to Harvest:

Under this alternative, the entire refuge would be opened to hunting for full state seasons. As with the 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, however these options would not be available under this alternative. This alternative does not allow for the application of time and space restrictions to meet refuge objectives as conditions (e.g. public use pressure, habitat conditions) change.

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 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 from each State and Province in that Flyway. Bayou Teche NWR is within the Mississippi Flyway.

The process for adopting migratory game bird hunting regulations, located in 50 CFR part 20, is constrained by three primary factors. Legal and administrative considerations dictate how long the rule making process will last. Most importantly, however, the biological cycle of migratory game birds controls the timing of data-gathering activities and thus the dates on which these results are available for consideration and deliberation. The process of adopting migratory game bird hunting regulations includes two separate regulations-development schedules, based on "early" and "late" hunting season regulations. Early hunting seasons pertain to all migratory game bird species in Alaska, Hawaii, Puerto Rico, and the Virgin Islands; migratory game birds other than waterfowl (e.g. dove, woodcock, etc.); and special early waterfowl seasons, such as teal or resident Canada geese. Early hunting seasons generally begin prior to October 1. Late hunting seasons generally start on or after October 1 and include most waterfowl seasons not already established. There are basically no differences in the processes for establishing either early or late hunting seasons. For each cycle, Service biologists and others gather, analyze, and interpret biological survey data and provide this information to all those involved in the process through a series of published status reports and presentations to Flyway Councils and other interested parties (USFWS 2006).

Currently, Bayou Teche NWR has an average harvest of 20 ducks (primarily wood ducks). Under the proposed action, Bayou Teche NWR estimates a maximum of 100 ducks would be harvested each year. This harvest impact represents 0.01% of Louisiana's four-year average harvest of 921,990 ducks (USFWS 2005). Waterfowl hunting is only allowed until noon, during the hunting season, which is more restrictive than regulations set forth by the Louisiana Department of Wildlife and Fisheries (LDWF). Waterfowl hunting should have no cumulative effects on waterfowl populations.

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 Bayou Teche NWR, season length and bag limits conform to State regulations.

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, 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.

Harvest and survey data confirm that decades of deer hunting on surrounding private lands (using bait and a longer season) have not had a local cumulative adverse 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. The refuge estimates an additional maximum 10 deer would be harvested under the proposed action, representing only 0.004% of the long-term average state harvest. Expansion of hunting on refuge lands for a very limited deer gun hunt (only 5 days without bait) and full State season archery hunt (without bait) should not have cumulative impacts on the deer herd.

4.3.1.3 Small Game (Squirrel and Rabbit)

Squirrels and rabbit 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 squirrels, 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 and squirrel. The statewide Louisiana harvest for 2005/06 was estimated at 1,253,900. On Bayou Teche NWR, from 2002-2006, hunter harvest data reports indicated a peak of 101 squirrels/season, representing 0.008% of the state's harvest. LDWF estimated 255,200 rabbits killed by hunters in the 2005/06 season. Under the proposed action, the refuge estimates a maximum additional 50 rabbits would be harvested, representing only 0.02% of the statewide harvest. Gray squirrels, fox squirrels, eastern cottontails, and swamp rabbits 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.

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 seasons 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 migratory birds 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 150 acres. During the vast majority of the hunting season, hunter density is

much lower. 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 Bayou Teche 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 North Louisiana by peak hunting season in November –January. 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

Endangered and threatened species that utilize the refuge are bald eagle and Louisiana black bear. A Section 7 Evaluation was conducted in association with this assessment for opening hunting on Bayou Teche NWR. It was determined that the proposed alternative would not likely to affect these endangered species.

Bald eagles currently winter in areas that are open to waterfowl, deer, and small game hunting without noticeable effects. Many bald eagles are seen during the year on and in the vicinity of the refuge, most commonly during winter on the nearby Bayou Teche. Eagles continue to thrive and increase in coastal Louisiana regardless of active hunting throughout available seasons on the privately owned lands that make up much of the Coastal Zone. Eagle nests have increased in Louisiana through time, from 5 nests in 1974 to 284 in 2007.

Louisiana black bear currently reside in areas that are open to waterfowl, deer, and small game hunting. Bears continue to reside in coastal Louisiana regardless of active hunting throughout available seasons on the privately owned lands that make up much of the occupied area. Potential impacts would be disturbance to bears during the period of fall hyperphagia (period of high feeding and weight gain activity) thereby affecting winter and spring weights, or disturbance to reproductive female bears in dens on the ground thereby affecting reproduction. However, these potential impacts are expected to be negligible under the proposed alternative because bears are mobile in fall and can avoid widely spaced hunters, areas of the refuge are largely inaccessible to hunters, and time and space zoning will be used as necessary in order to meet refuge Louisiana black bear objectives. Strategies used to date have included closing hunting after November 30 in areas that have historically provided denning habitat for bears. Prohibiting the use of bait minimizes interactions between hunters and feeding bears. No cumulative impact is expected on this species.

Refer to the Section 7 Evaluation for the 2007 Sport Hunting on Bayou Teche 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

As public use levels expand across time, 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, levees and spoil banks. This, combined with the addition of increased hunting opportunity, could have a effect on nesting bird populations, or resident wildlife habitat use. 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. Resident wildlife (e.g., bears, deer, rabbits) use narrow spoil banks for feeding and travel in largely wet areas. However, these wildlife are able to avoid refuge visitors by temporarily moving off spoil banks into adjacent wet habitats that are not normally accessed by visitors.

The opportunities for hunting would expand under the proposed action. High deer numbers are recognized as a potential problem reducing some forest understory species and overstory 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 wildlife sanctuaries, would be closed seasonally to hunting to minimize disturbance to wintering waterfowl.

4.3.2.2 Refuge Facilities

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 impacts of the proposed action on the refuge environment which consists of soils, vegetation, air quality, water quality 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 2007 Sport Hunting Plan for Bayou Teche 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.

The refuge hunting program (2002-2006) has been similar to the proposed action in season lengths, species hunted, and bag limits. The refuge does not foresee any changes to the proposed action in the way of increasing the intensity of hunting in the future.

4.3.2.6 Anticipated Impacts if Individual Hunts are Allowed to Accumulate

National Wildlife Refuges, including Bayou Teche NWR, conduct hunting programs within the framework of State and Federal regulations. Bayou Teche NWR is at least as restrictive as the State of Louisiana (waterfowl) and in many cases more restrictive (deer, squirrel, rabbit). 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 Department of Wildlife and Fisheries (LDWF). 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 Bayou Teche NWR (Refer to Letter of Concurrence). The 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.

Chapter 6 Regulatory Compliance

The actions proposed in the preferred alternative will be carried out according to all applicable local, state, and federal laws.

Bayou Teche National Wildlife Refuge Refuge Objectives

1. To protect important habitat utilized by the threatened Louisiana Black Bear.
2. To provide quality sport fishing opportunities.
3. To provide habitats for wintering waterfowl and woodcock.
4. To provide nesting habitat for wood ducks.
5. To provide habitats for a diversity of wildlife.
6. To provide habitat for non-game neotropical migratory birds.
- 7) To provide opportunities for environmental education, interpretation, and wildlife-oriented recreation.

FINDING OF NO SIGNIFICANT IMPACT

Bayou Teche National Wildlife Refuge Hunting Plan

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

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

- A. No action alternative - under this alternative, Bayou Teche NWR would not be open to hunting.
- B. Close specific areas to hunting - under this alternative, the Service would provide variable hunting opportunities throughout the hunting seasons.
- C. Open entire refuge to hunting - under this alternative, the Service would provide hunting opportunities throughout the hunting seasons.

The preferred alternative was selected over the other alternatives because:

- A. The preferred alternative would allow the public to harvest a renewable resource, promote a wildlife-oriented recreational opportunity, increase awareness of Bayou Teche NWR and the National Wildlife Refuge System, and meet public demand.
- B. The preferred alternative is compatible with general Service policy regarding the establishment of hunting on National Wildlife Refuges.
- C. The preferred alternative is compatible with the purpose of which Bayou Teche NWR was established.
- D. This proposal does not initiate widespread controversy or litigation.
- E. 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:

- I. This would allow the public to harvest a renewable resource.
- II. The public would have increased opportunity for wildlife-oriented recreation.
- III. St. Mary Parish would benefit from hunters visiting from surrounding parishes.
- IV. The Service will be perceived as a good steward of the land by continuing traditional uses of land in South Louisiana.
- V. To maintain healthy resident game populations.

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

- No hunting will be allowed in the Franklin and Hanson Canals. These canals are frequently used by the public.
- Hunters will be limited to foot access only in wooded areas. ATVs will not be allowed in wooded property and existing trails will be blocked to prevent access. This will prevent major disturbance to black bears.
- Baiting will be prohibited. Due to the secretive nature of black bears, this factor alone will nearly eliminate human-bear contacts.
- An aggressive refuge law enforcement program 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 and commercial trapping 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, Division of Ecological Services, Lafayette, LA
- Louisiana Department of Wildlife and Fisheries, Office of the Secretary, Wildlife Division
- St. Mary Parish Government
- Miami Corporation (adjacent landowner)
- Jim Bailey (adjacent landowner)

Copies of the Environmental Assessment are available by writing:

Mandalay National Wildlife Refuge
 3599 Bayou Black Drive
 Houma, LA 70360

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):

(for each factor list the page numbers of the EA where the factor was discussed)

- 1. Both beneficial and adverse effects have been considered and this action will not have a significant effect on the human environment (EA, page 44).**

2. The actions will not have a significant effect on public health and safety (EA, page 44).
3. The project will not significantly effect 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 44).
4. The effects on the quality of the human environment are not likely to be highly controversial (EA, page 44).
5. The actions do not involve highly uncertain, unique, or unknown environmental risks to the human environment (EA, page 44).
6. 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 44-45).
7. 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, pages 44-45).
8. 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 44-45).
9. The actions are not likely to adversely affect endangered or threatened species, or their habitats (Intra-Service Section 7 Biological Evaluation Form attached to EA).
10. The actions will not lead to a violation of federal, state, or local laws imposed for the protection of the environment (EA, pages 43).

References: Environmental Assessment proposed opening of Bayou Teche NWR to hunting.
St. Mary Parish, Louisiana, Hunting Plan, Compatibility Statement, Letters of Concurrence, Refuge-specific Regulations, Intra-Service Section 7 Biological Form


Regional Director

4/24/07
Date

Appendix Literature References

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Response to Public Comments

The Service solicited public comment for the 2007 Sport Hunt Plan and associated Environmental Assessment. The 30-day review period began March 2, 2007 and ended on April 2, 2007. Copies of the document were placed in the main branch of the St. Mary Parish Library, on the Bayou Teche NWR website, and news releases announcing its availability for comment were placed in the local newspaper.

Twelve comments by the public were received, eleven of which were in favor of the Proposed Action to implement the 2007 Sport Hunt Plan which would open hunting on Bayou Teche NWR. Among the eleven comments in favor of the proposed action was a statement from the Louisiana Department of Wildlife and Fisheries. This letter is included with the hard copy of this document.

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.



News Release

Department of the Interior / U.S. Fish and Wildlife Service
Southeast Louisiana Refuges
Mandalay / Bayou Teche NWR
3599 Bayou Black Drive, Houma, LA 70360
(985) 853-1078 Fax (985) 853-1079

For Immediate Release

Info: Paul Yakupzack
Refuge Manager
985-853-1078

U.S. Fish & Wildlife Service Seeks Comments on Draft Hunting Plan, Environmental Assessment, and Compatibility Determination for Mandalay National Wildlife Refuge

A Sport Hunting Plan, draft Environmental Assessment, and Compatibility Determination for Mandalay National Wildlife Refuge (NWR) in Terrebonne Parish is available for public review on March 2, 2007. The comment period will extend until April 2, 2007.

The plan describes four alternatives for hunting on the refuge: (1) the **no action** alternative would not allow hunting, (2) the **proposed action** regulations would open the refuge to hunting, but would administratively limit it to those areas specified in the refuge-specific regulations as described in the 2007 Sport Hunting Plan, (3) the **close specific areas to harvest** alternative would provide variable hunting opportunities during the hunting seasons, and (4) the **open entire refuge to harvest** alternative would provide hunting opportunities throughout the hunting seasons. Although hunting has been ongoing on Mandalay National Wildlife Refuge, in response to a 2003 lawsuit filed by the Fund for Animals, the U.S. Fish and Wildlife Service (Service) developed environmental assessments that describe hunting programs at twenty-three national wildlife refuges located in the Southeast Region to address cumulative impacts of hunting. Under the proposed action, hunting of deer, hogs, and migratory birds such as waterfowl, coots, gallinule, and rails would occur. Hunting would be carried out in accordance with Federal and State of Louisiana regulations, and refuge-specific regulations.

Copies of the plan can be reviewed on the refuge web site at:
<http://www.fws.gov/mandalay/> and at the following library:

Terrebonne Parish Library: 151 Civic Center Boulevard, Houma, LA

Written comments or questions can be directed to Paul Yakupzack, Refuge Manager, at 3599 Bayou Black Drive, Houma, LA 70360; (985) 853-1078. Email comments can be provided to the following address: barret_fortier@fws.gov.

The Mandalay National Wildlife Refuge is currently over 4,200 acres of fresh marsh and associated ridges and is located in Terrebonne Parish, Louisiana. The refuge lies just southwest of Houma, LA to the north and south of the Gulf Intracoastal Waterway.

The U.S. Fish and Wildlife Service is the principal Federal agency responsible for conserving, protecting and enhancing fish, wildlife and plants and their habitats for the continuing benefit of the American people. The Service manages the 94 million acre National Wildlife Refuge System which encompasses more than 542 national wildlife refuges, thousands of small wetlands and other special management areas. It also operates 70 national fish hatcheries, 64 fishery resource offices and 78 ecological services field stations. The agency enforces Federal wildlife laws, administers the Endangered Species Act, manages migratory bird populations, restores nationally significant fisheries, conserves and restores wildlife habitat such as wetlands, and helps foreign governments with their conservation efforts. It also oversees the Federal Aid program that distributes hundreds of millions of dollars in excise taxes on fishing and hunting equipment to state fish and wildlife agencies.

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Should hunting be allowed on area refuges?

By **NIKKI BUSKEY**
The Courier

HOUMA -- Hunting could be banned on Mandalay and Bayou Teche National Wildlife Refuges. That's the intent of a 2003 lawsuit filed by an organization called Fund for Animals.

In the meantime, U.S. Fish and Wildlife officials want to get the public's opinion on how much hunting should be allowed on the refuge, according to Barret Fortier, a department biologist.

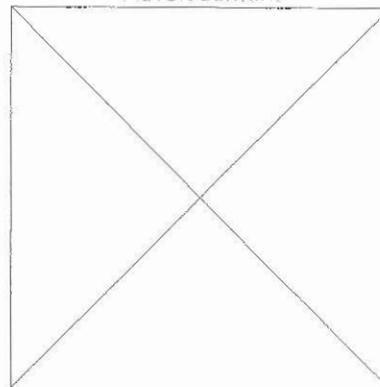
The refuges have been ordered to keep their hunting policies as-is pending the outcome of the court case. The case challenged the environmental-impact assessments of wildlife refuges, and suggested that refuges aren't fulfilling their purpose of protecting wildlife because they allow recreational hunting.

If judges rule in favor of the Fund for Animals, hunting at U.S. wildlife refuges would end for good. Otherwise, local U.S. Fish and Wildlife officials will decide on a new policy based on public input.

Fortier said he doesn't know when the ruling would come.

Both refuges currently allow free hunting on a small scale. Mandalay has allowed hunting since 2001 and Bayou Teche since 2002.

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Mandalay issues 150 permits for deer and hog bow hunting, and 175 permits are handed out in a lottery-based system annually for duck hunting.

Bayou Teche hands out about 175 duck-hunting permits, 40 deer-hunting lottery permits, 25 youth deer-hunting permits, and 150 small-game permits.

One option is to keep the hunting policy as is, Fortier said. Another is to allow everyone to hunt, and a third would close certain areas of the refuge to hunters.

The final option would end hunting at the refuge, an option that Fortier isn't considering.

"I know they do some control hunting out there, and I think that's good," said Lynn Olivier, a local hunter and employee at Songy's Sporting Goods in Houma. "There needs to be some population control out there, especially in the marshes."

Olivier said he'd prefer to keep a limited hunting option in place at the refuge.

Barry Songy, owner of Songy's Sporting Goods, said he thinks open hunting at the refuge would be a great change because people without access to private hunting leases would have an easy way to get out there.

He said the refuge should at least allow open duck hunting.

"I think a lot of people would use it," he said. "Then a guy could just take his son out there real easy."

Fortier doesn't see anything wrong with allow some hunting at the refuge, and said he is hopeful U.S. Fish and Wildlife Service will prevail in the lawsuit.

There are 24 refuges in Louisiana alone, and a ruling against them could seriously impact hunting in Louisiana, Fortier said.

"It would be a shame," Songy said. "And a loss for the parish."

The hunting-plan options are available for public review until April 2 at the Terrebonne Parish Library, 151 Civic Center Blvd.

[Start or join a forum on this topic.](#)

By DON SHOOPMAN
THE DAILY IBERIAN

HOUMA -- An anti-hunting group found a weakness in the system and attacked it to strike a blow that could close hunting in Bayou Teche National Wildlife Refuge, a scenic, marshy tract in St. Mary Parish near Franklin, as well as in Mandalay NWR near Houma.

Teche Area outdoorsmen are urged to rally around those and other refuges that are the target of a 2003 lawsuit filed by Fund for Animals. The U.S. Fish and Wildlife Service wants to know how much hunting should be allowed on the refuges, emphasized Paul Yakupzack, refuge manager for both the Mandalay NWR and Bayou Teche NWR, which opened in the fall of 2001 and allowed hunting starting in 2002.

The refuge manager for both NWRs said he hopes nothing comes of the case in the Funds for Animals' suit against the F&WS. Funds for Animals challenged environmental impact assessments on wildlife refuges and claimed the federal refuges aren't protecting wildlife because they allow hunting.

Yakupzack said last week that your opinion counts in the aftermath of the legal action that challenged the environmental impact, or the cumulative impact, of hunting on federal refuges. Refuges have been ordered to keep their hunting policies pending the ruling in the court case.

If the judge rules against the F&WS, hunting on federal refuges would cease. If the ruling favors F&WS, it has a new policy based on public comment.

"Anti-hunting groups. They'll do anything to stop hunting. It's an unfortunate thing. We just have to deal with it. The Service chose to deal with it by complying with the judge's order," Yakupzack said Friday from his Mandalay NWR office.

Meanwhile, a Sport Hunting Plan, draft Environmental Assessment, and Compatibility Determination for Bayou Teche NWR has been drawn up. The plan has four alternatives for hunting on the refuge:

¥ No action would ban hunting.

¥ Proposed action regulations would open the refuge to hunting, but would administratively limit it to those areas specified in the refuge-specific regulations as described in the 2007 Sport Hunting Plan.

¥ Close specific areas to harvest would provide variable hunting opportunities during the hunting seasons.

¥ Open entire refuge to provide hunting opportunities through the seasons.

Hunting plan options for Bayou Teche NWR are available for review at the St. Mary Parish Library in Franklin. Copies of the plan also can be reviewed on the Internet at <http://www.fws.gov/bayouteche/>. Public comment is being taken until April 2.

For review on the hunting plan for Mandalay NWR, go to the Terrebonne Parish Library.

Yakupzack and other outdoorsmen pointed out that this action by Fund for Animals is a wakeup call for the future of sport hunting in the United States. Louisiana has 24 National Wildlife Refuges.

Sure, he said, hunter use on Bayou Teche NWR isn't on the scale of somewhere like the Sherburne Wildlife Management Area, or similarly sized state WMA in Louisiana.

"I guarantee you it's important to those guys who get to go out there. Same thing at Mandalay refuge," Yakupzack said.

Bayou Teche NWR issues about 175 duck hunting permits, 40 deer hunting lottery permits, 25 youth deer hunting permits and 150 small game permits, he said.

Squirrel hunters enjoyed an above average season in 2006-07 by harvesting 100 squirrels, he said.

Hunting is an important tool in controlling populations of some species that might otherwise exceed the carrying capacity of the habitat, Yakupzack said.

He pointed out that in 1966 and 1997, Congress recognized the legitimacy of hunting on units of the refuge system and directed the F&WS to facilitate the opportunities whenever they are compatible.