

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 Red River National Wildlife Refuge in Bossier, Natchitoches, and Red River Parishes, Louisiana:

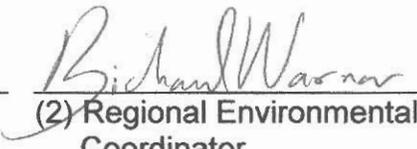
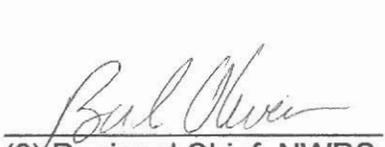
Check One:

- 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	3/16/07 _____ Date	 _____ (2) Regional Environmental Coordinator	04/17/07 _____ Date
 _____ (3) Regional Chief, NWRS, Southeast Region	4/19/2007 _____ Date	 _____ (4) Regional Director, Southeast Region	4/23/07 _____ Date

Sport Hunting
Decision Document Package
for
RED RIVER NWR

Contents

2. Environmental Assessment

Environmental Assessment

Sport Hunt Plan

on

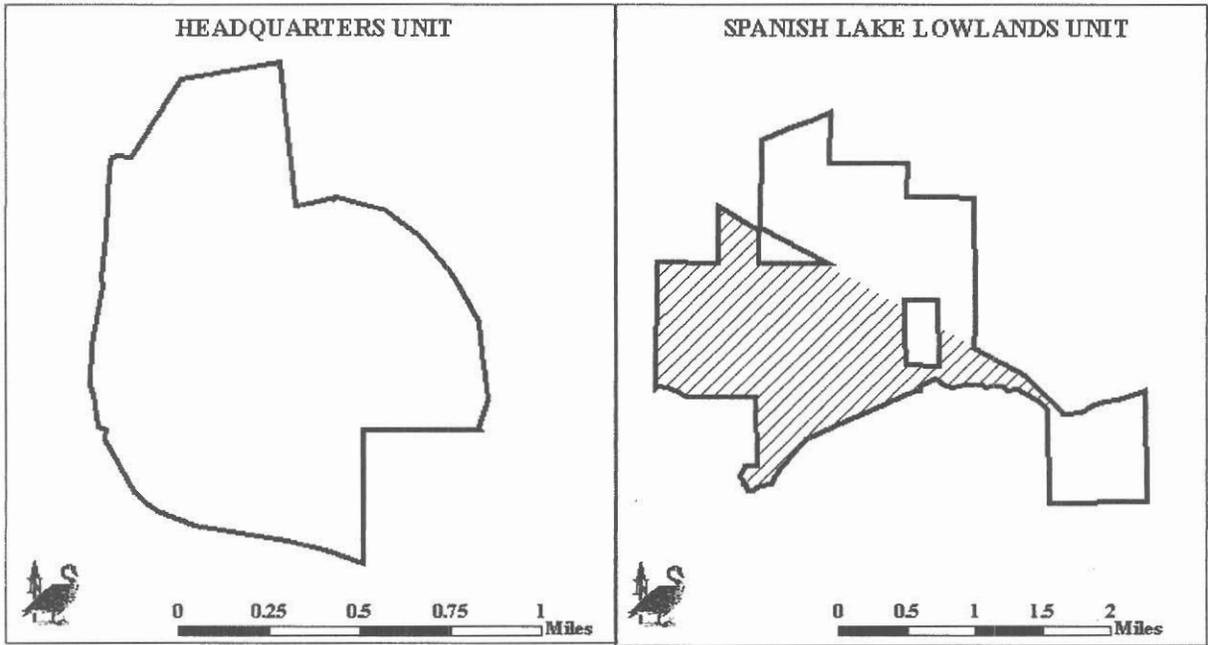
RED RIVER NATIONAL WILDLIFE REFUGE
Natchitoches, Bossier, and Red River Parishes, Louisiana

For Further Information, Contact:
Refuge Manager
U. S. Fish and Wildlife Service
Red River National Wildlife Refuge
11372 Hwy 143
Farmerville, LA 71241

Prepared by:
U. S. Department of Interior
Farmerville, Louisiana
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 Proposed area for opening to hunting
 Refuge Boundary

RED RIVER
National Wildlife Refuge

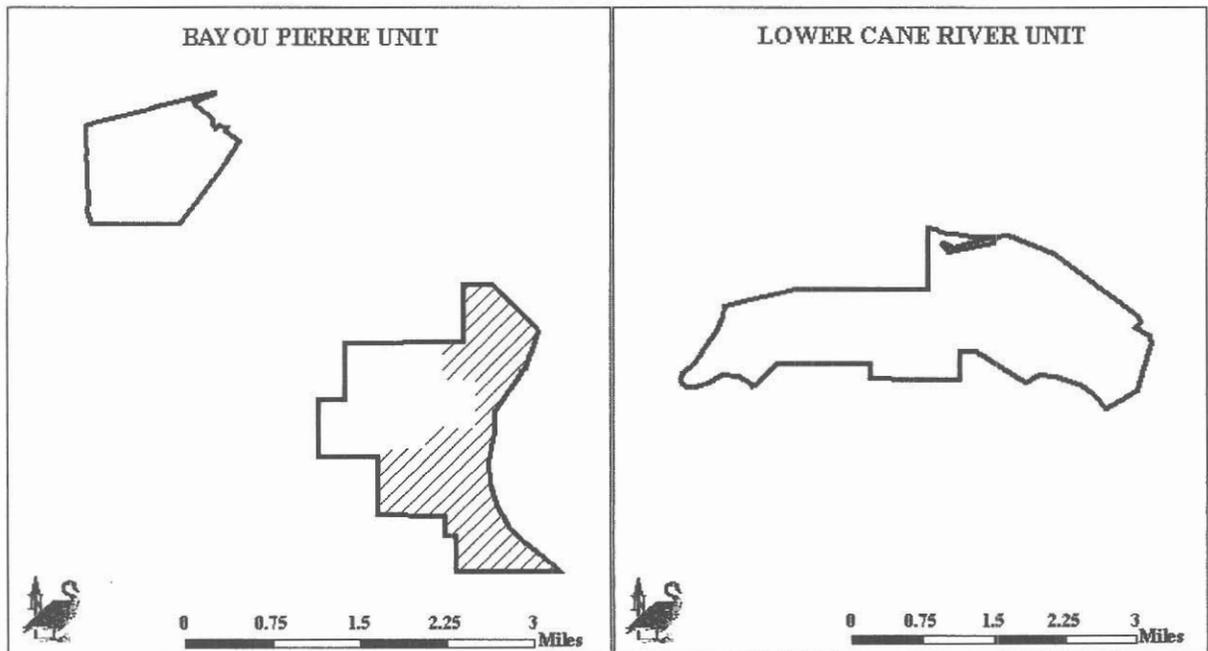


Figure 1. Area proposed for opening hunting on Red River National Wildlife Refuge.

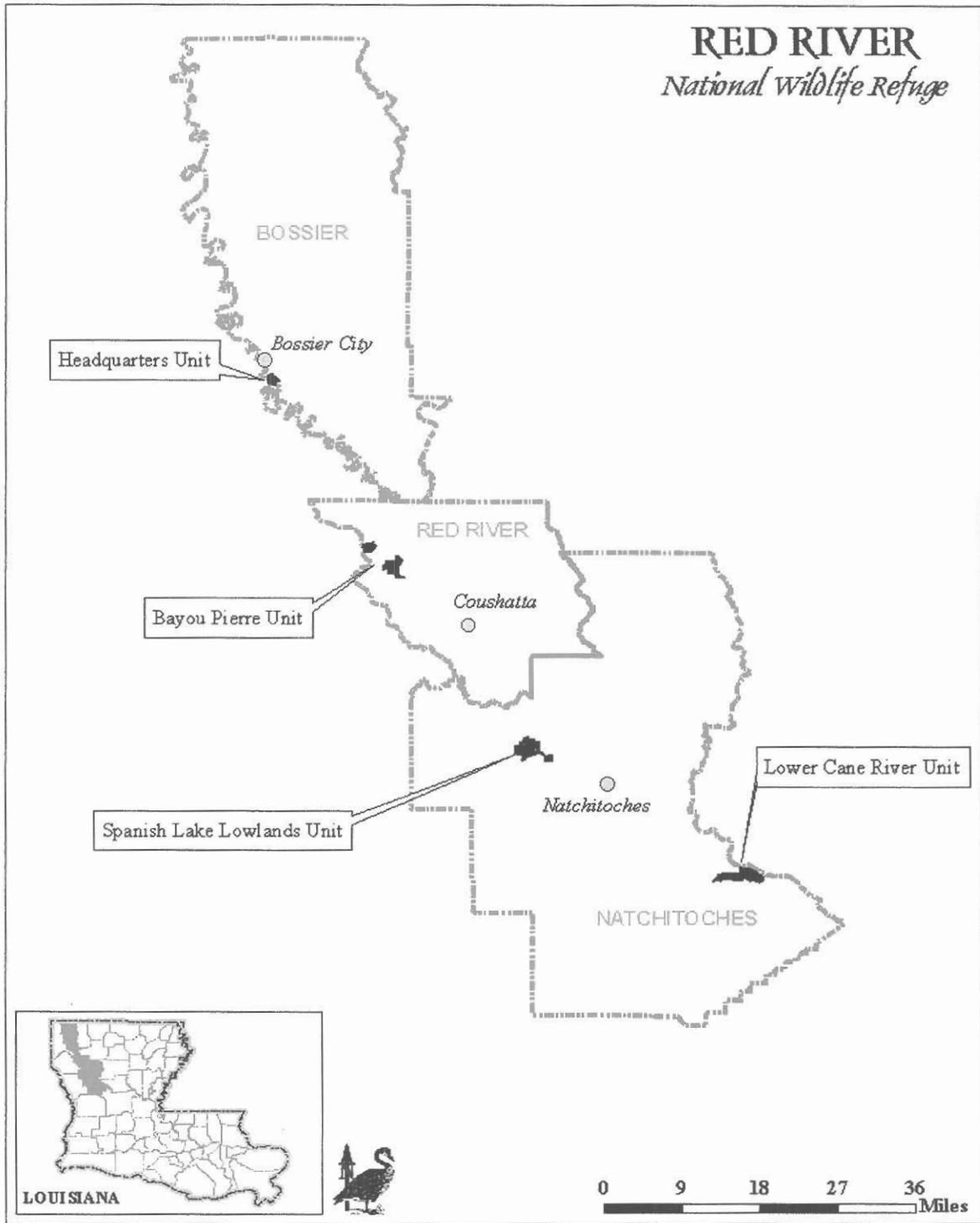


Figure 2. Location of Red River National Wildlife Refuge

Chapter 1 Purpose and Need for Action

The purpose for which Congress authorized the establishment of the Red River National Wildlife Refuge was to provide for the restoration and conservation of fish and wildlife habitats in the Red River Valley ecosystem in northwest Louisiana. The Red River National Wildlife Refuge Act was signed into law on October 13, 2000 creating the framework by which the eventual 50,000 acre refuge would be established within five preplanned focus areas of land acquisition. Currently, the refuge is 7,721 acres.

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 Red River National Wildlife Refuge (NWR) in Louisiana. The purpose of this Environmental Assessment is to evaluate the feasibility of opening Red River National Wildlife Refuge to hunting on previously closed land (see Sport Hunting Plan Red River NWR).

The proposed action is needed to implement the Sport Hunting Plan for Red River 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 Red River National Wildlife Refuge. These alternatives are the 1) no action which continues with no hunt program and 2) proposed action which implements the Refuge's Sport Hunting Management Plan.

2.1 No Action Alternative: Current Management

Under this alternative, recreational hunting on Red River National Wildlife Refuge would not occur. There would be no change in public use opportunities or management strategies on the refuge.

2.2 Proposed Action: Sport Hunting Plan for Red River NWR

The proposed action would allow migratory game bird (ducks, geese, coots, and woodcock), upland game (quail, squirrel, rabbit, raccoon, and opossum) and big game (deer) hunting as well as incidental take of beaver, feral hogs, and coyotes (Figure 1). 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.

Refer to Sport Hunting Plan for Red River NWR for specific regulations.

Chapter 3 Affected Environment

Red River National Wildlife Refuge (NWR) was formally established on October 22, 2002. Currently, the refuge contains 7,721 acres of fallow agricultural lands, moist soils, shrub scrub, and restored bottomland hardwood forest located in Natchitoches, Bossier, and Red River Parishes of northwest Louisiana (Figure 2). These acres are broken into four geographically independent management units. Another 1,100 acres of lands are under a management agreement at the Spanish Lakes Lowlands Unit. Red River NWR is situated in the West Gulf Coastal Plain Bird Conservation Region, the Lower Mississippi River Ecosystem and in the Mississippi Flyway.

3.1 Physical Environment

3.1.1 Climate

Temperatures normally range between 20° F to 70° F during winter and 70° F to 95° F during summer. The average annual growing season is 237 days. Mean annual precipitation is 49.6 inches with 50% of the total occurring in the wettest months, April through September. Snowfall and ice storms are uncommon occurrences with 50% of the winters showing no measurable snowfall.

3.1.2 Geology and Topography

As the climate has changed on the Earth, marine and deltaic sediments have been deposited in alternating cycles in Louisiana. Geologists have determined from studying these deposits that a major river system, corresponding to the modern Red River, has persisted here at least since the Gulf of Mexico began to form (Louisiana Geologic Survey, 1990).

The topography of the Refuge has been greatly influenced by the actions of the Red River and much of the geology is from Quaternary alluvial deposits. Although the continental ice sheets did not reach this far south, the Lower Red River Valley carried glacial meltwaters and outwash in a braided-stream pattern that concurrently widened and aggraded the valley during periods of waning glaciation. As each glacial cycle progressed and the sediment loads and stream discharges declined, the river abandoned its braided stream configuration in favor of a single-channel meandering pattern. This alluvium has been sorted, reworked, and deposited many times by riverine processes.

The Red River has a narrow floodplain, averaging 6-8 miles in width, and the lands in the valley can, in general, be classified as alluvial floodplain or terrace uplands. The formations of alluvium described above comprise the bulk of the Refuge. Relict channels and natural levees, often referred to as ridge and swale topography, are easily seen by visitors to the Refuge. Human disturbances, including artificial levees and channelization

projects, have drastically altered these natural alluvial processes within the Red River floodplain.

The elevation at the Refuge averages 150 feet above sea level at its lower end below Natchitoches to 250 feet near the Arkansas border. The topography is complex, with numerous stream channels, small tributaries and depressions, old river meanders and oxbow lakes, multiple river terraces in various stages of erosion and deposition, and adjacent poorly drained lowlands. Added to this complexity are farming activities that have modified the hydrology of the area, resulting in a subtle but complex topography that has given rise to the flora and fauna found on the Refuge.

3.1.3 Soils

The soils of the floodplains range from loamy to clayey and from well-drained to very poorly drained. The loamy soils are on higher, natural levees of rivers and bayous. These soils are fertile and have few limitations for crops. Some of the clayey soils are flooded by runoff and stream overflow. The clayey soils, which are in the lower areas, are limited by wetness. The soils historically supported a diverse bottomland hardwood forest.

3.1.4 Hydrology

Drainage in Louisiana is into the Gulf of Mexico. The Red River basin comprises the largest drainage area in the state. The Red joins with the Atchafalaya and Old Rivers, the latter forming an outlet to the Mississippi River. Most of the water from the Red flows to the Gulf through the Atchafalaya system. At times, the Mississippi River is at higher levels causing much of its flow to be through Old River and then into the Atchafalaya. In times of high water the lower Black basin, near the confluence of the Black and the Red, becomes a backwater storage basin. Because of an extensive artificial levee system there is not much drainage directly into the Mississippi within the state. Lowlands bordering the Red and upper Atchafalaya are also protected by levees.

The hydrology of the Refuge is dominated by the Red River and the impacts of the Red River Waterway Project. For 500 years or more before it was finally cleared in 1870, the Great Red River Raft dominated hydrologic character along the stretch of the Red River that is now occupied by the four units of the Refuge. The Red River raft was a result of the highly erodible soils of the Red River alluvial valley being carved by each high water event on the river. As the river moved back and forth across its alluvial plain, trees were undermined along the riverbanks and fell into the river. These trees formed a discontinuous series of logjams that extended approximately 150 miles along the river from the vicinity of present day Natchitoches to the Louisiana-Arkansas State line. The raft artificially raised the banks of the river and forced the creation of numerous distributaries of the Red – evidence of which can still be seen today.

Also formed were numerous raft lakes along the river in low spots along the tributaries to the Red. These raft lakes were transitory in nature. The raft was not stationary, rather it

was inexorably moving upstream at about a fifth of a mile per year. As pieces of the raft broke up and floated downstream on the lower end, new logs and debris were added to the upper end. As the channel naturally cleared on the lower end, the Red River channel would deepen and drain the raft lakes and close off the distributaries leaving a single river channel.

Piecemeal attempts were made to clear the raft starting in the 1830s. Portions of the raft were cleared for a brief period but would eventually reform. Captain Henry Miller Shreve dramatically increased the pace of the natural clearing of the logjam with the invention of the snag-boat. By the mid 1870s, the raft had been cleared. Steamboats plying the Mississippi River could now go up the Red River to Shreveport and points north as well as west into Texas along Cypress Bayou to Jefferson, Texas. However as the railroad commerce expanded in the late 1800s, steamboat commerce declined. Removal of the Red River raft caused the river to scour its channel deeper making the river have unusually high banks. Because of these unnaturally high banks, bank erosion became a tremendous problem on the river. Thousands and thousands of acres of productive land were eroded by the river and deposited downstream as less productive sandbars. This continual erosion also led to shoaling in the river making navigation treacherous.

High turbidity levels, wide fluctuations in river depth, and edge-to-edge farm practices had a dramatic impact on the carrying capacity of the land for wildlife. This began to change with the initiation of the Red River Waterway project, which Congress authorized in 1964. This project, completed in 1994, consists of five lock and dam complexes located between the Old River Lock on the Mississippi River to a point just south of Shreveport and Bossier City. Since the completion of the Waterway Project, habitats for certain species of wildlife (i.e., migratory waterfowl) and fish (i.e., largemouth bass) have improved. The river's water levels are now higher and more constant, and its turbidity levels have been greatly reduced. Water quality has also improved, and the seasonal retention of water levels has resulted in a rich diversity of aquatic plants.

Increased water levels on the river have improved some adjacent habitats. Flooded timber and farm fields with wet, depressional areas are now common. United States Department of Agriculture (USDA) programs such as the Wetlands Reserve Program (WRP) and Conservation Reserve Program (CRP) are restoring valuable wildlife habitats through the reforestation of previously cleared and highly erodible lands in the Red River Valley. Changes in agricultural practices have also resulted in an increase in rice production and additional migratory bird habitat.

3.1.5 Air Quality

The ambient air quality within the boundaries of the four units of the Refuge can vary considerably from impacts due to varying sources such as electric power generation, paper mills, and proximity to a major metropolitan area. The Shreveport-Bossier City Metropolitan Statistical Area in northwest Louisiana has recorded ambient ozone

concentrations that approach the maximum concentration permitted by the NAAQS for 8-hour ozone concentrations (Chambers *et. al.* 2005).

3.1.6 Water Quality and Quantity

Water quality within the Red River has been affected by mercury contamination from an unknown source (LDEQ 1998). Recently, 26 refuges in the Mississippi Alluvial Valley were surveyed for chemical contamination. Samples of water, sediment, and fish were collected and passive sampling devices deployed. Residues of current use pesticides, organochlorine pesticides, polychlorinated biphenyls, polycyclic aromatic hydrocarbons, and mercury were measured and limited toxicity testing was conducted (Shea *et. al.* 2001). All of these chemical contaminants were detected at Lake Ophelia NWR (located at the base of the Red River watershed), but none were detected at levels of concern to human health or fish/wildlife. Furthermore, the Environmental Protection Agency's *Index of Watershed Indicators* shows that most water bodies within the lower Red River watershed are meeting designated uses, and the streams in this area are characterized as having good overall water quality and a low vulnerability to problems related to runoff.

3.2 Vegetation

The refuge includes 3,742 acres of reforested bottomland hardwood forest, 317 acres of bottomland forest, 261 acres of riparian habitat, 194 acres of cypress swamp, and 600 acres of moist soils. In addition, approximately 500 acres of 1,100 acres will be planted in rice each year with the remainder in moist soils. Another 1,572 acres of fallow agricultural fields was reforested in 2006. The remaining acreage consists of a 124-acre pecan grove, a 64-acre stand of *Baccharis*, a 217-acre area of locust, and a 153-acre old field. An additional 1,200 acres of bottomland hardwood forest is currently being acquired in the Bayou Pierre Unit. The permanent water areas (443 acres) on the refuge consist of oxbow lakes, tributaries of the Red River, borrow pits, and irrigation ditches. No part of the Red River is owned in fee title nor is any of its shoreline.

The primary woody species in the lowest areas of bottomland forest are baldcypress, buttonbush, and swamp privet. Slightly higher on the floodplain are overcup oak, water hickory, Nuttall oak, persimmon, cedar elm, willow oak and water locust. The understory largely consists of swamp privet, greenbrier, poison ivy, and buttonbush. Riparian habitats consist of black willow, cottonwood, and sycamore.

The cleared bottomlands have been planted back to species that would have originally inhabited the area which include willow oak, water oak, overcup oak, Nuttall oak, shumard oak, cherrybark oak, sweet pecan, sycamore, sweetgum, green ash and baldcypress. Moist soil plants vary depending on the timing of draw downs and soil disturbance, but usually consist of panic grass, sprangletop, millet, toothcup, coffeeweed, barnyard grass, dallas grass, smartweed and a variety of sedges.

3.3 Wildlife Resources

Wildlife species found on the refuge are typical of forested wetlands and fields. The refuge provides habitat for thousands of wintering waterfowl and year-round habitat for nesting wood ducks. The Red River is a historic migration corridor for migratory birds that use the Central and Mississippi Flyways on their journey to the Gulf Coast. Species range from diving ducks such as scaup, ring-necked duck, redhead, and canvasback to traditional puddle ducks like mallards and teal. More than 300 species of Neotropical migrants use the Red River at various times of the year. Priority species for conservation include swallow-tailed kite, cerulean warbler, Swainson's warbler, American woodcock, yellow-billed cuckoo, prothonotary warbler, worm-eating warbler, Louisiana waterthrush, Kentucky warbler and hooded warbler. Listed species include the bald eagle and interior least tern which nests on riverine sandbars. Other migratory birds such as woodcock and mourning doves are common in the cleared fields, while wading birds and shorebirds are numerous on sandbars, shallow flooded fields and mudflats.

Resident game and furbearer species along the river include white-tailed deer, swamp rabbit, cottontail rabbit, gray and fox squirrels, mink, muskrat, beaver, fox and coyote. The valley also supports a variety of nongame mammals, amphibians and reptiles.

3.4 Threatened and Endangered Species

The biological review for Red River NWR revealed that federally listed species which may occur on, or near, the refuge include: the bald eagle (*Haliaeetus leucocephalus*), interior least tern (*Sterna antillarum*), pallid sturgeon (*Scaphirhynchus albus*) and wood stork (*Mycteria Americana*); however only the U. S. breeding population of the wood stork is covered under the Endangered Species Act listing, which is not defined to occur within Louisiana.

In addition to listed species, the U. S. Fish and Wildlife Service is reviewing the status of the Louisiana slimy salamander (*Plethodon kisatchie*) and is actively involved with development of spawning and culture techniques at the Natchitoches National Fish Hatchery for the paddlefish (*Polyodon spathula*); both of which may occur on, or near, the Refuge

3.5 Fishery Resources

The Red River Basin supports 133 species of fish ranging from game species such as largemouth bass, crappie and catfish to big river species such as shovelnose sturgeon, freshwater drum and gar. Two species of management concern, the blue sucker and paddlefish, are also found in the Red River.

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. To date, no properties on the Refuge have been determined to be eligible for the RHPO/RA.

3.7 Socio Economic

The Refuge is divided into four separate refuge units spread over 120 miles of the Red River Valley from the Arkansas/Louisiana state line to near Alexandria, Louisiana. The refuge units are located in parts of Bossier, Red River, and Natchitoches Parishes, Louisiana. The Red River Valley in Louisiana felt the pressure of European colonialization at an early stage. Continued agricultural development throughout the 1800’s and early 1900’s caused almost all the historic bottomland hardwood forest to be cleared. The valley is now one of the most degraded environmentally in the state. Three of the refuge units are in a rural setting; the fourth unit is located in the major metropolitan area of Shreveport and Bossier City. Table 1 below provides an overview of the demographics of the three parishes that contain portions of the Refuge.

Table 1 Demographics of Bossier, Natchitoches, and Red River Parishes, Louisiana – based on 2000 Census data

Parish	Population	Households	Population (indiv/sq.mi.)	Median Income
Bossier	105,541	36,628	117.1	40,581
Natchitoches	38,541	14,263	31.1	27,272
Red River	9622	3414	24.7	23,153

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 in 2004, the refuge currently provides hunting, fishing, and limited non-consumptive uses.

3.8.1 Hunting

The refuge opened to hunting for the first time during the fall hunting season of 2004. Currently there is public use on only two of the refuge units. Portions of the Spanish Lake Lowlands unit and Bayou Pierre unit are open to hunting. Species hunted are ducks, geese, coot, quail, woodcock, squirrel, raccoon, opossum, feral hogs, coyotes, beaver, and deer. Deer hunting is archery only. The hunting seasons on the Refuge are the same as the state seasons. Although the Spanish Lake Lowlands unit is open to hunting, there is no good access point to the unit nor is there a developed parking area.

3.8.2 Fishing

Fishing and boating on Spanish Lake Lowlands unit and Bayou Pierre unit are permitted year round during daylight hours only. Licenses, limits, and boating safety requirements are the same as those adopted by the Louisiana Department of Wildlife and Fisheries. As with hunting access, there is no good way for the fishing public to access the Spanish Lake Lowlands fishing area. There is public interest for opening the Headquarters unit to fishing; however, currently no legal public access exists.

3.8.1 Non-consumptive Uses

Wildlife observation and photography are encouraged. However, currently the fee title land base is minimal, with very little public access. As acquisition continues, management foresees an increase in this use. For now, there are no designated hiking trails, no observation platforms, and no photo blinds. Partnership opportunities exist to expand these activities. The American Wetland Birding Trail has expressed interest in establishing some stops for birders on the Refuge, and the Natural Resources Conservation Service has offered to help establish a variety of habitats at the Headquarters Unit to increase birdwatching and other wildlife observation opportunities.

The Refuge does not have an environmental education program at present. Kiosks, interpretive panels, and interpretive programs are not available at the Refuge. As the Refuge continues to buy land, there will be trails and observation areas developed. Funding has been provided to build an office/visitor center at the Headquarters Unit. Once the building is completed and associated trails and kiosk are built, the Refuge will then have the facilities for an education program; however, the Refuge does not currently have staff to conduct an environmental education program or to staff the visitor center once it is opened.

Chapter 4 Environmental Consequences

This chapter describes the foreseeable environmental consequences of implementing the two 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

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 effects 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.

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 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.

4.2 Summary of Effects

4.2.1 Impacts to Habitat

No Action Alternative

Under this alternative, the refuge would not be opened to deer, beaver and hog hunting. When deer are overpopulated, they overbrowse their habitat, which can change the structure and plant composition of a forest. The refuge has reforested approximately 3,742 acres with bottomland hardwood tree species in recent years. Young tree seedlings (1-9 years old) can be killed by overbrowsing. Bottomland hardwood forests are a threatened ecosystem. 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 the refuge, which could cause damage to individual plants by trampling vegetation, non-consumptive users would still be able to walk throughout the area.

Proposed Action Alternative

The biological integrity of the refuge would be protected under this alternative, and the refuge purpose of conserving wetlands for wildlife would be achieved. The hunting of hogs, beavers and deer 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.

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/1,000 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.

4.2.2 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, hog, beaver, coyote, raccoon and opossum 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 and distemper and rabies in raccoon and opossum, 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.

Proposed Action Alternative

Additional mortality of individual hunted animals would occur under this alternative, estimated by the refuge to be a maximum of 12 deer, 200 ducks, 10 snow geese, and 10 white-fronted geese annually. Estimates for other hunted species (raccoon, opossum, quail, squirrel, rabbit, feral hog) would be less than 20 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 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, raccoon and opossum 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 one of the primary refuge objectives 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.

4.2.3 Impacts to Non-hunted Wildlife

No Action Alternative

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 on the refuge; however, non-consumptive users would still be permitted to access this land, which might cause disturbance to wildlife.

Proposed Action Alternative

Populations of raccoon, coyotes, and opossum would be decreased through hunting under this alternative. Depredation rates of songbirds, turkeys, turtles and their nests would decrease. 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 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. 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.

4.2.4 Impacts to Endangered and Threatened Species

No Action Alternative

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.

Proposed Action Alternative

A Section 7 Evaluation associated with this assessment was conducted, and it was determined that the proposed action is not likely to adversely affect any listed, proposed, or candidate species (Refer to 2007 Section 7 Evaluation for Sport Hunting on Red River NWR).

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

No Action Alternative

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. Costs associated with road and levee maintenance, instructional sign needs, and law enforcement would be minimal.

Proposed Action Alternative

Additional damage to roads and ATV trails due to hunter use during wet weather periods might occur. 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.

4.2.6 Impacts to Wildlife Dependant 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 Red River 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.

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. Because hunting would be during fall and winter disturbance to wildlife during the spring and summer when most species reproduce would not occur. 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 areas closed to hunting on the Refuge.

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 Red River 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.

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 from each State and Province in that Flyway. Red River 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).

Under the proposed action, Red River NWR estimates a maximum additional 200 ducks, 10 snow geese, and 10 white-fronted geese would be harvested each year. Waterfowl hunting is only allowed until noon each day during the season, which is more restrictive than regulations set forth by Louisiana Department of Wildlife and Fisheries (LDWF). This harvest impact represents 0.0002% and negligible take of geese of Louisiana's four-year average harvest of 921,990 ducks, 60,830 snow geese, and 72,611 white-fronted geese (USFWS 2005). Waterfowl hunting should not have cumulative impacts 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. Red River NWR regulations are more 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.

Although woodcock are showing declines in numbers on their breeding grounds, habitat loss is considered to be the culprit, not hunting. This assertion was tested in a study conducted by the U.S. Geological Patuxent Wildlife Research Center in 2005 (McAuley *et al.* 2005). Results showed no significant differences in woodcock survival between hunted and non-hunted areas. Furthermore, the authors concluded that hunting was not having a considerable impact on woodcock numbers in the Northeast (McAuley *et al.* 2005).

An estimated 24,000 woodcock were harvested in the 2005/06 season in the state of Louisiana. Louisiana's harvest of 24,000 woodcock represented 0.5% of the estimated 4.6 million North American woodcock population. Limited woodcock habitat exists on the refuge. When more woodcock habitat becomes available, they may experience higher harvest rates. With so few woodcock occurring on the refuge, 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 North Louisiana, the refuge draws less than 5 woodcock hunters a year.

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 private lands (using bait and a longer season) in North Louisiana 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 12 deer would be harvested under the proposed action, representing only 0.00005% of the long-term average state harvest. Allowing this very limited archery only hunt 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 are 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 (Squirrel, Rabbit, Raccoon, Opossum, Coyote, Beaver and Quail)

Squirrels, rabbit, raccoon, and opossum cannot be affected regionally by refuge hunting because of their limited home ranges. Only local effects will be discussed. Opossum and raccoon are hunted primarily at night. Raccoon are more sought after than opossum by the public. Hunting helps regulate opossum and raccoon populations; however, unless the popularity of this type of hunting increases, raccoons and opossums numbers will always be higher than desired. When these species become extremely overabundant, diseases such as distemper and rabies reduce the populations. However, waiting for disease outbreak to regulate their numbers can be a human health hazard. Cumulative impacts to raccoon and opossum are unlikely considering they reproduce quickly, are difficult to hunt due to their nocturnal habits, and are not as popular for hunting as other game species.

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. LDWF estimated 255,200 rabbits killed by hunters in the 2005/06 season. 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.

Quail are non-migratory and therefore are not regionally affected by hunting. Only local effects will be discussed. The early successional habitat that quail favor is not abundant on the refuge; therefore, quail hunting is limited. Studies by the LDWF indicate that a harvest of <30% in the southeast should be sustainable. The refuge predicts less than 10 quail per year would be harvested and should not have cumulative effects on their local population.

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 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 negative 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 Red River 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 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

Endangered and threatened species that may utilize the refuge are bald eagle, interior least tern, and pallid sturgeon. A Section 7 Evaluation was conducted in association with this assessment for opening hunting on Red River NWR. It was determined that the proposed alternative would not likely adversely affect these endangered species.

Bald eagles currently winter in areas that are open to waterfowl, deer, and small game hunting without noticeable adverse effects. Active bald eagle nests have not been located on the refuge.

In Louisiana, the interior least tern historically occurred along the Mississippi River north of Baton Rouge. Few birds have been observed in Louisiana along the Mississippi River in surveys conducted over the last few years. Several nesting colonies have recently been found along the Red River in northwestern Louisiana. Recorded interior least tern nesting locations occur on the Red River from Arkansas south to Shreveport. Throughout the reach, the tern nests in shallow, inconspicuous depressions in open areas on sandbars and sand islands. These nests are subject to detrimental effects from a variety of predatory and non-predatory impacts. Non-predatory impacts include human recreational activity, most notably all terrain vehicles or other off road vehicles, livestock foraging and naturally occurring hydrologic conditions. The proposed action will not occur during the nesting season or when terns are present.

Refer to the Section 7 Evaluation for the Sport Hunting on Red River 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, 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, could have a negative effect on nesting bird populations.

The opportunities for hunting would be available 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

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.

4.3.3 Anticipated Impacts of Proposed Hunt on Refuge Environment and Community.

The refuge expects no sizeable adverse 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.

4.3.4 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 Red River 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.

Prior to refuge establishment, hunting would have been very similar to the proposed action in season lengths, species hunted, and bag limits. Changes to hunting on lands now owned by the USFWS more than likely are reduced from past practices. The refuge does not foresee any changes to the proposed action in the way of increasing the intensity of hunting in the future.

4.3.5 Anticipated Impacts if Individual Hunts are Allowed to Accumulate

National Wildlife Refuges, including Red River NWR, conduct hunting programs within the framework of State and Federal regulations. Red River NWR is at least as restrictive as the State of Louisiana (squirrel, rabbit, quail, woodcock) and in many cases more restrictive (deer, hog, waterfowl, raccoon, opossum, coyote, beaver). 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 Red River NWR (Refer to Letters of Concurrence). 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

We received 26 comments on our draft environmental assessment (EA) titled 2007 Sport Hunting Plan for Red River NWR, which was available for public comment from March 6 to April 6, 2007. 25 of these comments were in support of the Service's preferred Alternative in the draft EA. One comment was in opposition to the preferred Alternative.

One commenter, who supported the preferred alternative, wants the sanctuary areas opened to duck hunting later in the season. The Service believes that sanctuary areas are extremely important to wintering waterfowl as places to rest, feed, molt and pair bond. Thus, sanctuary areas will not be opened to waterfowl hunting.

Another commenter wants dove, snipe, turkey, bobcats, skunks, and nutria to be opened for hunting on the Refuge along with hog hunting the entire year and the use of black powder guns and shotguns with slugs or buckshot for deer hunting. The Service believes that current acreage is not sufficient to support these hunting activities.

Another commenter wants only archery and black powder deer hunting, using a lottery to keep the number of hunters low to increase deer quality. The Service is proposing an archery-only deer season. Acreage is not sufficient at this time to support a black powder hunt.

Another commenter, who was in favor of the preferred alternative, recommended emphasizing in the EA that the Service has consulted with the state fish and game agency. The commenter also recommends focusing less on detrimental cumulative effects of hunting and emphasizing positive effects. The Service emphasized the support by Louisiana Dept of Wildlife and Fisheries for the opening of hunting on Red River NWR in several places throughout the EA and sport hunt plan. The Service feels that cumulative impacts of hunting were analyzed objectively.

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.

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Contents

3. FONSI

FINDING OF NO SIGNIFICANT IMPACT

2007 Sport Hunting Plan for Red River National Wildlife Refuge

The U.S. Fish and Wildlife Service proposes to open hunting on Red River 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 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 and no action.

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

No action alternative - Under this alternative, recreational hunting on Red River National Wildlife Refuge would not occur. There would be no change in public use opportunities or management strategies on the refuge.

Proposed action The proposed action would allow migratory game bird (ducks, geese, coots, and woodcock), upland game (quail, squirrel, rabbit, raccoon, and opossum) and big game (deer) hunting as well as incidental take of beaver, feral hogs, and coyotes. 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.

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 Red River 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 Red River 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:

- time and space zoning of hunting activities
- targeted public outreach efforts
- Waterfowl hunting will be limited to 12:00 noon.
- 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, Division 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:

Red River National Wildlife Refuge
11372 Hwy 143
Farmerville, LA 71241

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 15-16)**

2. The actions will not have a significant effect on public health and safety (EA, page 15).
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 16, 19, 28).
4. The effects on the quality of the human environment are not likely to be highly controversial (EA, page 14).
5. The actions do not involve highly uncertain, unique, or unknown environmental risks to the human environment (EA, page 15, 16).
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 28, 29).
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 20-29).
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 12-13, 16, 27).
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 29).

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



Regional Director

4/23/07
Date