Draft Sport Hunting

Decision Documents

for

Cameron Prairie NWR
Draft 8/08

Contents

1. Draft Sport Hunting

Decision Documents

for

Cameron Prairie NWR

Contents

DRAFT SPORT HUNTING PLAN

UNITED STATES FISH AND WILDLIFE SERVICE

CAMERON PRAIRIE NATIONAL WILDLIFE REFUGE
(GIBBSTOWN UNIT)

2008

Recommended by _____Date:_____
Refuge Manager

Reviewed by _____Date:_____
Refuge Supervisor

Concurrence by _____Date:_____
Regional Chief, NWRS

Approved:_____Date:_____
Regional Director

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I. INTRODUCTION

Created in 1988, Cameron Prairie National Wildlife Refuge (NWR) was the 447th refuge established within the National Wildlife Refuge System and the first created under the goals of the North American Waterfowl Management Plan, a continental conservation effort among Canada, Mexico, and the United States. Land was purchased on December 28, 1988, with funding provided by the Migratory Bird Stamp Act (USFWS 2003; 1998). The Refuge administers two units, the 9,621-acre Gibbstown Unit (Figure 1) and the 14,927-acre East Cove Unit, originally established under nearby Sabine National Wildlife Refuge but managed by Cameron Prairie NWR.

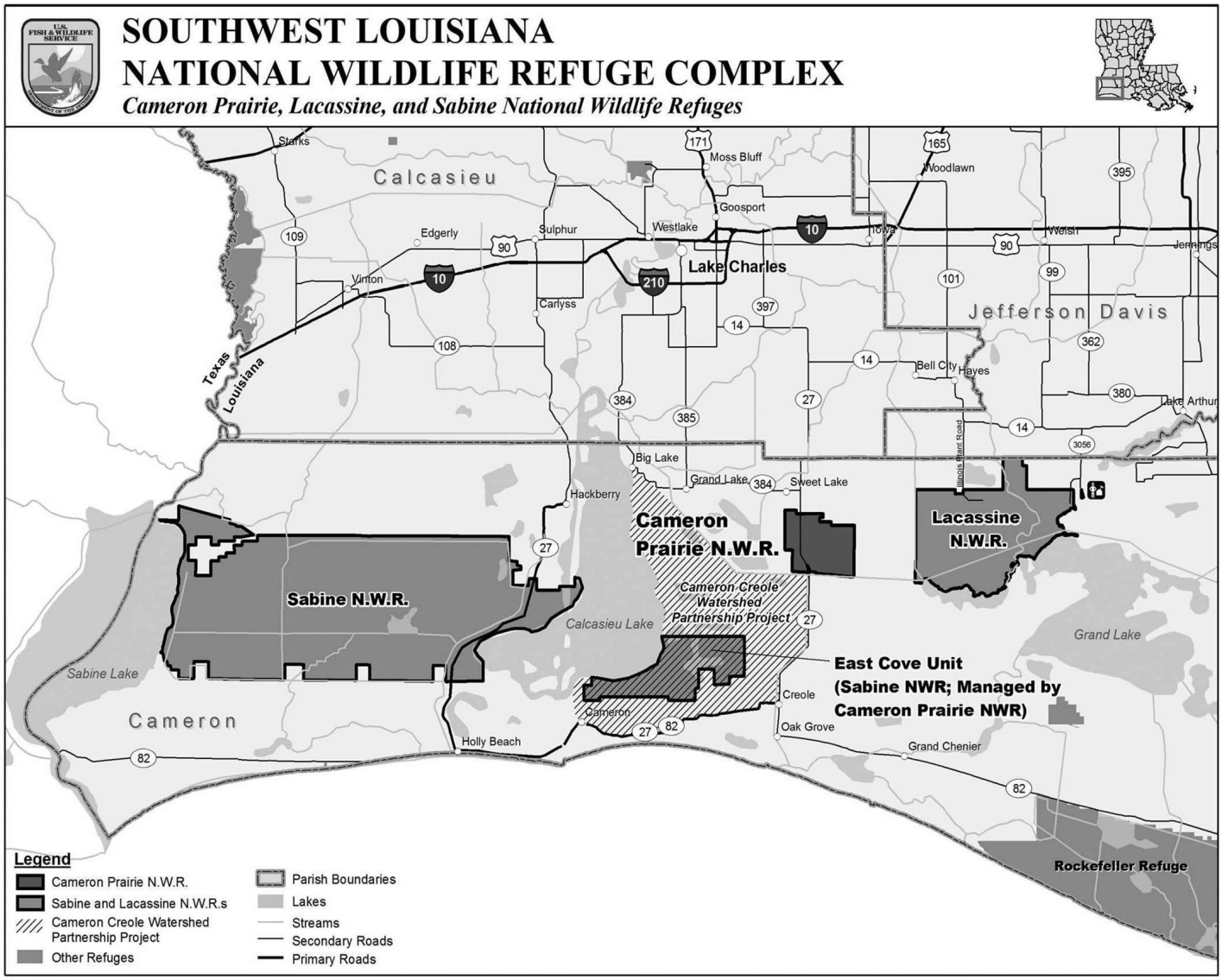
The Refuge was administratively combined with nearby Sabine National Wildlife Refuge in 2000, and is now part of the Southwest Louisiana National Wildlife Refuge Complex (USFWS CCP 2006). Lacassine National Wildlife Refuge joined the Complex in April of 2004 and Shell Keys in 2005. Cameron Prairie serves as the Headquarters for the Complex.

Cameron Prairie National Wildlife Refuge is located about 25 miles southeast of Lake Charles, Louisiana, in north central Cameron Parish (county). The 9,621-acre Gibbstown tract, the 14,927 acre East Cove tract and the 64,000-acre multi-agency Cameron Creole Watershed Project, managed by Cameron Prairie, contains freshwater marsh, coastal prairie, and moist soil units and is managed to preserve and protect wintering waterfowl and their habitat. It is located four miles west of the western boundary of Lacassine National Wildlife Refuge, and is bordered on the north and west by private land. The Gulf-Intracoastal Waterway forms the southern boundary of the unit, while North Canal forms the eastern boundary (USFWS CCP 2006).

Resource management programs on Cameron Prairie NWR are directed at preserving, protecting, and improving wildlife habitat. Historically, approximately 4,969 acres within the Refuge were farmed for rice. This land is now managed for annual plants that provide food for wildlife. Prairie lands within the Refuge are being restored by periodic burning, disking, and mowing, while earthen levees and water control structures have been repaired or installed to maximize water management in the marshes. Certain marshes are drained or burned periodically to promote the growth of natural waterfowl and shorebird foods

Cameron Prairie NWR has been open to big game and migratory bird hunting for years through appropriate Service Policy. This plan is being updated to be consistent with the Cameron Prairie NWR Comprehensive Conservation Plan and Environmental Assessment completed during 2006 and brings the former Cameron Prairie NWR Hunt Plan into conformance with recent policy changes and step-down management plan formatting.

Figure 1


SOUTHWEST LOUISIANA
NATIONAL WILDLIFE REFUGE COMPLEX
Cameron Prairie, Lacassine, and Sabine National Wildlife Refuges
Starks
Calcasieu
Moss Bluff
Woodlawn
Goosport
Edgerly
Sulphur
Westlake
Lake Charles
Iowa
Welsh
Jennings
Vinton
Carlyss
Jefferson Davis
Texas
Louisiana
Bell City
Hayes
Lake Arthur
Big Lake
Grand Lake
Sweet Lake
Hackberry
Cameron Prairie N.W.R.
Lacassine N.W.R.
Sabine N.W.R.
Cameron Creole Watershed Partnership Project
Calcasieu Lake
Grand Lake
Sabine Lake
East Cove Unit
(Sabine NWR; Managed by Cameron Prairie NWR)
Creole
Cameron
Oak Grove
Holly Beach
Grand Chenier
Rockefeller Refuge
Legend
Cameron Prairie N.W.R.
Sabine and Lacassine N.W.R.s
Cameron Creole Watershed Partnership Project
Other Refuges
Parish Boundaries
Lakes
Streams
Secondary Roads
Primary Roads

II. CONFORMANCE WITH STATUTORY AUTHORITY

Cameron Prairie National Wildlife Refuge was established "*... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds*" (16 U.S.C. 715d (Migratory Bird Conservation Act)).

This plan supports the priority public use provisions of the National Wildlife Refuge System Improvement Act of 1997. Hunting as specified in this plan is a wildlife-dependent recreational use and the law states that as such, it "shall receive priority consideration in national wildlife refuge planning and management." The Secretary of Interior may permit hunting on a refuge if he/she determines that such use is compatible with the refuge purpose for which it was established. The hunting program would not materially interfere with or detract from the fulfillment of the purposes of the Refuge or mission of the National Wildlife Refuge System (603 FW).

Public hunting on Cameron Prairie NWR (Gibbstown Unit only) is an appropriate and compatible form of wildlife oriented public recreation which is compatible with the purpose for which the refuge was established. Hunting, being a viable management tool when used wisely, often inhibits the overpopulation of species within a given habitat community and can provide for greater wildlife diversity. In this way the environment is preserved for the benefit of a variety of wildlife. The hunting program is designed to minimize potential conflicts with Refuge purposes. Hunting of big game (whitetail deer,) and migratory birds (doves, ducks, gallinules, snipe, coots, and geese) are permitted except within designated closed areas.

Annual hunt administration costs including salary, equipment, hunt area boundary, waterfowl hunting blind maintenance and sign maintenance, fuel, etc. total $23,000. Less than one full time employee equivalent is expended in conducting hunt-related activities. Funds are available to meet the conditions set forth in the Refuge Recreation Act. It is anticipated that funding would continue to be sufficient to continue the hunting program in the future. In summary, funds are available to continue the existing hunt program and proposed hunting activities should not interfere with the primary purposes for which the refuge was established.

III. STATEMENT OF OBJECTIVES

During acquisition planning, justification for the Refuge included the following:

1) Provide additional sanctuary to wintering waterfowl that would offer additional management opportunities, particularly for geese;

2) assure long-term preservation of important wintering habitat for waterfowl as the Louisiana coastline continues to move further inland;

3) provide additional sanctuary for wintering waterfowl in the leading harvest parish in North America;

4) provide additional relief or another alternative resting location to the high concentrations of waterfowl found at Lacassine National Wildlife Refuge; and

5) provide a variety of quality recreational opportunities such as hunting, fishing, wildlife observation, photography, and other compatible wildlife-dependent activities.

Since establishment, management goals for Cameron Prairie are to:

1. Provide the highest quality wintering waterfowl habitat possible.

2. Allow compatible public uses, such as hunting, fishing, environmental education, wildlife observation and photography.

3. Promote research on marsh and aquatic wildlife (USFWS CCP 2006).

4. Provide for the needs of any endangered plants and animals.

The objective of the refuge hunt program is as follows:

Offer quality hunting experiences for hunters and review the Refuge hunting program on an annual basis to monitor its success using the following strategies:

Strategy (a) — Waterfowl (ducks, geese, coots, and gallinules) hunting will include youths only with adult supervision, seniors age 50 and older, and if appropriate the general public in accordance with State and Federal regulations. All waterfowl hunts will be managed through a lottery system.

Strategy (b) — Archery deer hunting will be permitted within existing Refuge seasons and as appropriate in accordance with State and Federal regulations. Short duration experimental modern/primitive firearms hunts may be implemented. If implemented they will be held in accordance with state regulations and within the state deer season.

Strategy (c) – Snipe hunting will be permitted during the remaining portion of the State-designated season following the closure of the State waterfowl season. State regulations are applicable.

Strategy (d) – Hunting for dove will be permitted in a manner that will not conflict with other public uses. State regulations are applicable.

Strategy (e) – All hunters must posses a signed copy of the Refuge hunting regulations. Following all hunts, hunters may be required to fill out a self-clearing harvest information form.

Strategy (f) — The Refuge staff will investigate the feasibility of enrolling in the Recreational Fee Program to charge a nominal fee for youth waterfowl hunting to replace equipment (decoys) and maintain quality of blinds.

Strategy (h) — The Refuge will offer on-site programs for the state hunter safety course. This strategy could only be fulfilled with the hiring of an additional staff member (i.e., law enforcement officer or park ranger).

Conducting a well-managed hunt on Cameron Prairie National Wildlife Refuge (Gibbstown Unit) would assist the refuge in meeting one of its primary objectives, which provides the general public with quality wildlife-oriented recreational programs that are compatible with the purposes for which it was established. It will also aid in fulfilling the U S Fish and Wildlife Services Strategic Plan, Goal 3 relating to public use. The special youth-only waterfowl hunt provides a unique opportunity for the refuge to introduce young hunters to the National Wildlife Refuge System and educate them on the importance of wildlife conservation. Seniors hunts give this respected segment of society easy access to hunting in a manner which allows them to continue their hunting heritage.

Refer to Decision Document Package, Environmental Assessment for additional information.

IV. ASSESSMENT

1. Compatibility with Refuge Objectives

Hunting is one of the six wildlife-oriented recreational uses prioritized by the Refuge Improvement Act of 1997. The Secretary of Interior may permit hunting on a refuge if he/she determines that such use is compatible with the refuge purpose for which it was established. As published in the final Cameron Prairie NWR Comprehensive Conservation Plan, (USFWS CCP 2006) the hunting program would not materially interfere with or detract from the fulfillment of the purposes of the Refuge or mission of the National Wildlife Refuge System (603 FW). Hunting meets refuge objectives 3 and 4 by providing a wildlife-dependant recreation and also by enhancing indigenous species of wildlife.

2. Biological Soundness

<u>Deer</u>

Deer hunts have proven to be not only compatible with refuge objectives but also beneficial in meeting them. Deer harvest is essential to maintain the herd at or below

habitat carrying capacity. When deer are overpopulated, they overbrowse their habitat, which can completely change the plant composition of an area. Overpopulation can also lead to outbreaks of devastating diseases such as epizootic hemorrhagic disease (EHD) and bluetongue (BTV) which have been found locally in overpopulated herds. Overpopulation leads to starvation, increased car-deer collisions and poor overall herd health.

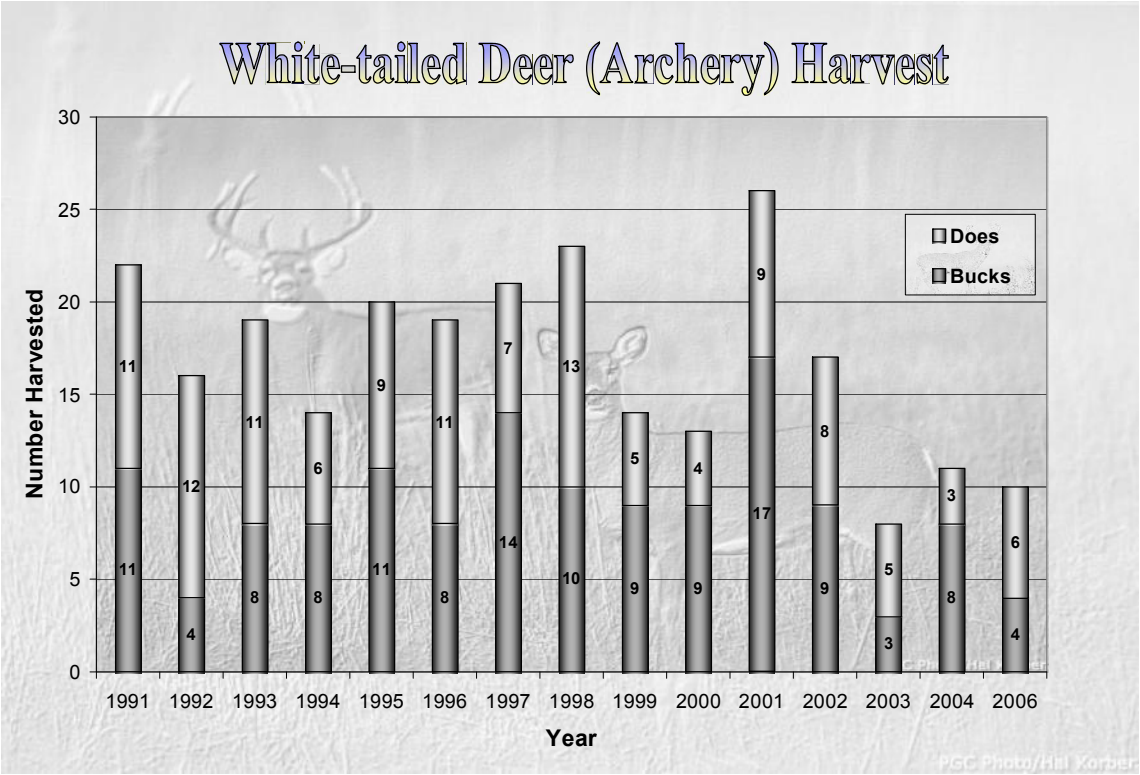
Abomasal parasite counts (APC) are periodically conducted on deer populations throughout the state to assist in determining herd health. Blood samples and serum samples are taken from deer collected for APC or other research to monitor the occurrence of bluetongue virus (BTV) and epizootic hemorrhagic disease (EHD). These samples are sent to the Southeast Cooperative Wildlife Disease Study (SCWDS) in Georgia for laboratory analyses. SCWDS also assists with other disease and parasite problems concerning species other than white-tailed deer. Samples from sick or dead wildlife also are sent to SCWDS for analysis. SCWDS provides reports to LWDF indicating the cause of death or illness along with information concerning implications to other wild animals, domestic livestock, and human health (LDWF 2007)

Chronic Wasting Disease (CWD) is a neurodegenerative disease that has been identified in deer and elk. It is a poorly understood disease that is related to other spongiform encephalopathies such as scrapie in sheep, bovine spongiform encephalopathy (mad cow disease) in cattle, and Creutzfeld-Jakob disease in humans. This disease has recently become a major wildlife issue in several states. At this time, CWD is not known to occur in Louisiana (LDWF 2007).

Deer are very active during the peak of the breeding season. The Louisianan Department of Wildlife and Fisheries (LDFW) attempts to set hunting seasons during these times to increase hunter success. Breeding season dates are established from fetal measurements and backdating from the harvest date. A 1966 investigation indicated three-distinct breeding seasons for deer in Louisiana. Additional studies affirmed these three distinct times; however, isolated deer herds with different breeding seasons within the same hunting season area also were documented. Data collected from these two activities allow biologists to determine peak breeding activity times for the herd and recommend hunting seasons that coincide with these times. Season dates are especially important for those clubs and landowners involved with quality and trophy deer managment (LDWF 2007)

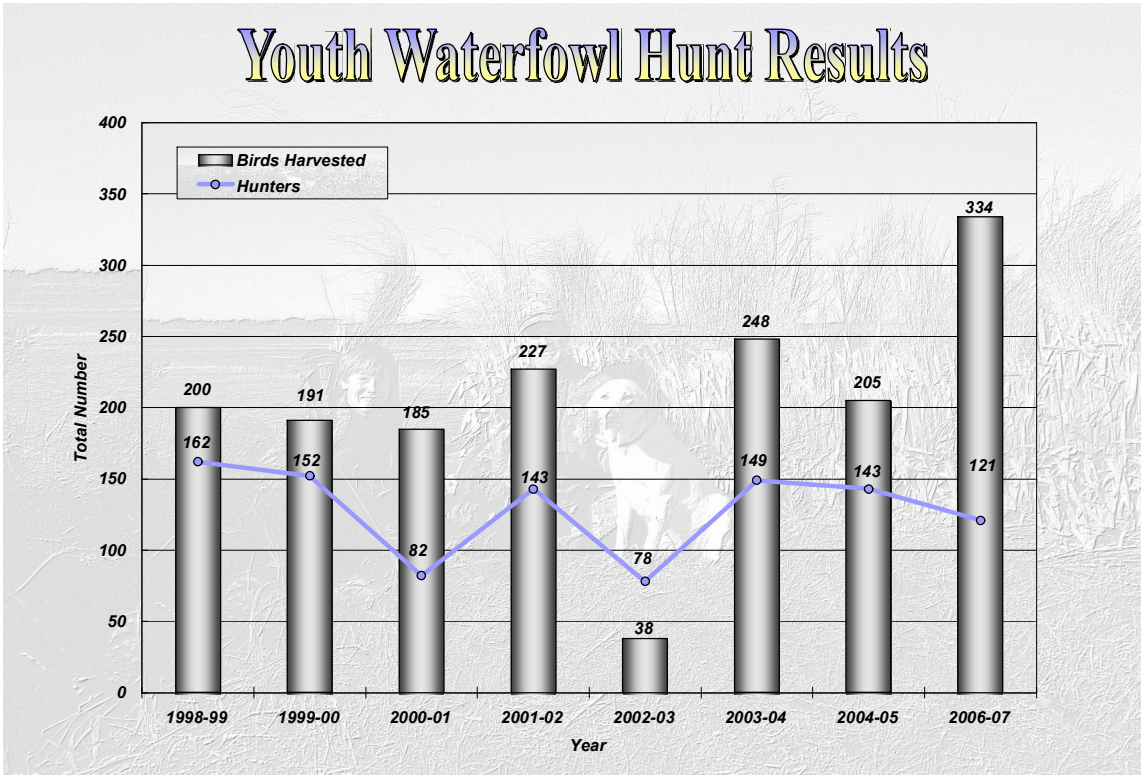
The Louisiana Department of Wildlife and Fisheries recorded deer harvest rates from 1996-2006 from various hunting clubs within Cameron Parish. An average of 95 deer per year was harvested during the 10-year period. (*Personal comm*.).

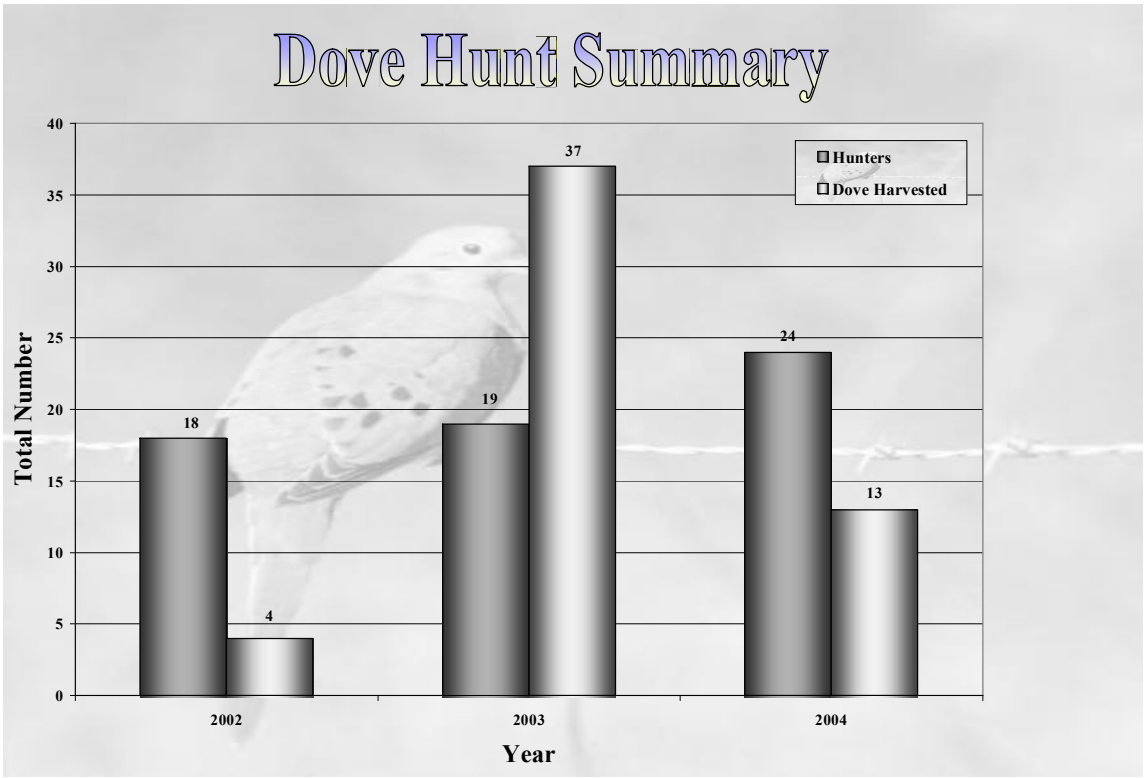
Cameron Prairie NWR (Gibbstown Unit)



3. Migratory Birds

Eight-six percent (8,288 acres) of the Gibbstown unit and the entire 14,297 acre East Cove unit is closed to waterfowl hunting, providing sanctuary for ducks and geese**.** Current migratory bird hunts are limited to dove, ducks, gallinules, snipe, coots, and geese. Dove hunting is usually limited to a short, one week period. Very little traditional dove habitat exists resulting in few dove hunters on the refuge. The hunting of gallinules and coots are permitted only by waterfowl hunters participating in the refuge waterfowl hunt. Snipe hunting occurs only after the closure of waterfowl hunting season and is normally open mid January through the month of February in accordance with state of Louisiana and the Service's Migratory Bird Hunting Frameworks and regulations.


Youth Waterfowl Hunt Results
Birds Harvested
Hunters
Total Number
Year
400
350
300
250
200
150
100
50
0
200
191
185
227
38
248
205
334
162
152
82
143
78
149
143
121
1998-99
1999-00
2000-01
2001-02
2002-03
2003-04
2004-05
2006-07


Dove Hunt Summary
Hunters
Dove Harvested
Total Number
Year
40
35
30
25
20
15
10
5
0
18
4
19
37
24
13
2002
2003
2004

Cameron Prairie NWR (Gibbstown Unit) Snipe Hunting Data.

Year	Total Hunters	Total Snipe Bagged	Harvest per Hunter	Total Hours Hunted	Average Hunt Length Hrs
2002	13	22	1.7	31.5	2.4
2003	0	0	0	0	0
2004	5	6	1.2	9	1.8
2005	20	43	2.15	55	2.75
2007	9	8	1	6	1.5

4. Economic Feasibility

Annual hunt administration costs including salary, equipment, hunt area boundary and sign maintenance, hunting blind maintenance, fuel, etc. total $23,000. Less than 1.0 full time staff equivalent is expended in conducting hunt-related activities. Funds are available to meet the conditions set forth in the Refuge Recreation Act. It is anticipated that funding would continue to be sufficient to continue the hunting program in the future.

5. Relationship with other Refuge Programs

None of the proposed hunts offer major conflicts with other hunts or with non-consumptive users. Archery hunting of deer opens during the month of October and ends the day before the waterfowl season opens and does not conflict with other hunts. Other forms of deer hunting (modern/primitive firearms, and archery) if permitted would be of limited duration. Non-consumptive users on the refuge during the migratory bird hunting season enjoy an 8,238 acre area which is closed to hunting but open to other priority public uses. During the deer hunting season, an area consisting of 600 acres (Management Units 6 & 9) on the southeastern corner of the refuge (The Pintail Wildlife Drive and birding trail) has been closed to hunting in an effort to provide an opportunity for wildlife observation and photography during this hunt. The area immediately adjacent to the Visitor Center is also closed to hunting but available to wildlife observation and photography year round.

6. Recreational Opportunity

The nature of Cameron Prairie NWR dictates that much of the area will be under-utilized as compared to other areas its size. Several factors contribute to this situation. Foremost, the refuge overlies actively managed impounded marsh land that was once rice fields.. Ground conditions make road building and upkeep difficult. Although all-weather roads have been recently established to help improve public access, most of the refuge is still difficult to access. Accessible ATV trails are available during hunting season to help with individuals that have special needs only, and in accordance with State of Louisiana Physically Challenged Hunter Program.

V. DESCRIPTION OF HUNTING PROGRAM

As a basis on which to establish a compatible hunting program, only specific portions of the refuge are open to hunting at any given time.

Listed species include big game (deer,) migratory birds, (gallinules, snipe, dove, coots, geese, ducks). Seasons and bag limits may be more restrictive but not more liberal than those set by the state of Louisiana.

Annual consultation with the Louisiana Department of Wildlife and Fisheries will continue. Spring meetings are held prior to the State's finalizing their regulations to ensure that any changes are properly coordinated. Proposed hunts that are more restrictive than state regulations include waterfowl and snipe. All hunts are restricted to a portion of the season. All hunters are required to use non-toxic shot.

Currently the youth waterfowl hunts will continue to occur on selected days during the Louisiana West Zone waterfowl hunting season. In addition, a senior's hunt will be offered one day a week during the entire waterfowl hunting season. Hunting blinds hold a maximum of two adults for the senior's hunt or one adult and two youths during the youth hunts. Hunters will be selected through a lottery system. The dove season is open to all hunters during the first split of the dove season. State and federal regulations apply. The snipe season is open to all hunters after the waterfowl hunting season. The refuge is not open to snipe hunting during the waterfowl hunting season.

Enforcement of hunt regulations is primarily carried out by the full-time refuge law enforcement officer, supplemented with assistance from two other refuge officers when needed. Self check-in and out stations will be used to monitor the success of the hunt unless volunteers are available. It is estimated that 1.0 full-time equivalent involving three employees or volunteers would be required to perform the minimal duties associated with refuge hunts. Cost for salaries, materials and equipment upkeep would be approximately $23,000 annually.

VI. MEASURES TAKEN TO AVOID CONFLICTS WITH OTHER MANAGEMENT OBJECTIVES

A. Biological Conflicts

Refer to the Decision Document Package, Section 7 Evaluation.

B. Public Use Conflicts

The refuge attracts little non-consumptive use during the hunting season. An 8,238-acre "no hunting area" has been set aside for wildlife observation and photography to minimize conflicts between hunters and non-consumptive users during migratory bird hunts. A 600 acre area (the wildlife drive and birding trail) is closed to hunting throughout the year.

There are no known conflicts between other groups of consumptive users.

C. Administrative Conflicts

The staffing and funding available to administer this hunt is adequate. Presently, little labor intensive data is collected during the hunts. Staggered tours of duty by law enforcement personnel minimize staffing shortages.

VII. CONDUCT OF THE HUNT

A. Refuge-specific hunting regulations

General Hunting Regulations

Hunting regulations are designed to protect the sportsman and wildlife populations. The regulations below supplement the general regulations which govern hunting on national wildlife refuges as set forth in Title 50, Code of Federal Regulations. Hunting will be in accordance with applicable State regulations subject to the following conditions.

Individuals using Cameron Prairie National Wildlife Refuge are subject to inspections of permits, licenses, hunting, equipment, bag limits, boats, vehicles, and their contents by refuge or state officers.

Permits

Permits are required for all hunters. When signed and in the hunters possession, the permit provided in the Southwest Louisiana National Wildlife Refuge Complex hunting brochure serves as a permit for all refuge hunts except those requiring limited lottery drawn permits. The signed permit acknowledges the hunters understanding of the regulations contained within the brochure. Limited lottery drawn permits are required for youth and senior waterfowl hunts. If a modern weapons/muzzleloader deer hunt is implemented it will also be managed through a lottery hunt program.

Youth hunters (ages 10-15 or as amended by state and federal law) must be supervised by an adult 21 years old or older, and the youth must possess proof of completion of a hunter education course prior to applying. For waterfowl hunts, adults may supervise no more than two youths. For big game hunts, the adult may supervise only one youth.

Hunters selected for lottery hunts that are not able to use their hunt day are encouraged to contact the refuge as soon as possible so the hunting opportunity can be made available to another hunt party. A standby list will be maintained by each refuge. If an advance cancellation occurs than the refuge manager will use the standby list to fill the available hunting opportunity.

ADDITIONAL REGULATIONS

Requirements

Each hunting party is required to complete and return a waterfowl harvest data form to the check station or designated drop box after each hunt.

Disabled access

Individuals with disabilities are encouraged to contact the refuge manager for information on special accommodations which are available. Hunters with disabilities must possess a Disabled Hunter Permit issued by the Louisiana Department of Wildlife and Fisheries. State regulations and access conditions apply.

Access

Motors, including trolling motors may not be used in refuge marshes. Airboats and ATV's are not permitted on the refuges.

Trail marking

Marking trails with tape, ribbons, paper, paint, etc. is also prohibited on the refuges.

Weapon possession

Archery equipment and firearms in vehicles on refuge roads or in boats on refuge waterways must be unloaded and either encased or dismantled. The only weapons which may be possessed while in the field and in refuge waterways are:

(1) archery equipment during the refuge archery deer season;
(2) shotguns with non-toxic shot during the dove, waterfowl and snipe seasons in designated hunt areas. The weapon can not hold more than three shells. Possession of any weapon or ammunition on ANY refuge in any situation not listed above is prohibited.
(3) Modern firearms/muzzleloaders during the experimental deer hunt.

Blinds/stands

Hunting from a permanent blind or stand is prohibited. All hunting-related equipment must be removed immediately following each days hunt. Hunting from a tree in which a metal object has been drive to support a hunter is prohibited. The use of climbing spikes is prohibited. Cutting or removing any live vegetation, limbs, etc. (except for Chinese tallow trees) and/or importing Pragmites species (a.k.a. Roseau cane) for blind material or covers is prohibited.

Youth Hunters

Hunters under the age of 15 are subject to the following rules and regulations:

For all hunting opportunities on the refuges youth hunters must be supervised by an adult 21 years of age or older, and must remain in sight of normal voice contact of the adult. For waterfowl hunts, adults may supervise no more than two youths. For big game hunts, the adult may supervise only one youth. Any hunter under 16 years of age must possess proof of completion of an approved hunter safety course.

Restricted Activities

The Following Activities are Restricted or Prohibited and Common to all Refuges.

Hunting within 150 feet of any public refuge road or designated hiking trail is prohibited.

Littering

Littering is prohibited on all the refuges. Please pack out all trash and leave a clean marsh.

Camping and overnight parking

No camping is permitted and vehicles must be removed from the refuge at night.

Fires

Do not light fires.

Collecting

Do not gather or carry away any plants, flowers, firewood, artifacts, etc. Permits are issued for special activities.

Harassing wildlife

All wildlife is protected on all refuges. Only hunting and fishing activities which are authorized by refuge regulations are permitted.

Trapping

Only alligator and furbearer trapping authorized by refuge manager is permitted. Permits are required.

Vehicles

All motor vehicles are restricted to designated roads and parking areas. Roads and trails may be closed at any time due to adverse conditions.

Swimming

Swimming is prohibited on all refuges.

Horseback riding

Horses are prohibited on all refuges.

Pets

All pets must be kept on leashes. Hunting dogs used during refuge waterfowl hunts must be kept under control at all times.

Baiting or hunting over bait

No person may possess or distribute bait or hunt over bait, including any grain, salt, minerals or other feed on all refuges.

Alcoholic beverages

Consumption of alcohol is prohibited on all refuges.

Spotlighting

Using lights to observe or hunt wildlife is prohibited on all refuges.

Disabled Access

Individuals with all disabilities are encouraged to contact the refuge manager for information on special accommodations which are available. Hunters with disabilities must possess a Disabled Hunter Permit issued by the Louisiana Department of Wildlife and Fisheries. State regulations and access conditions apply.

Target practice

Target practice with any weapon is prohibited.

Parking

Blocking gates or roadways with vehicles is prohibited. Parking is permitted only in designated areas

Refuge-specific hunting regulations for this program:

Deer Archery	Oct. 1 until the opening day of the LA Southwest waterfowl hunting season. Bag limit – In accordance with state regulations.
Deer Other	Experimental Modern/primitive firearm hunts in accordance with state regulations and special FWS permit.
Waterfowl Youth Lottery Hunt	Saturday and select days until noon during state season Permitted by lottery drawing only
Waterfowl Seniors Lottery Hunt	One day per week. during the open waterfowl season - Permitted by lottery drawing only
Snipe	In accordance with state regulations following closure of state waterfowl season
Dove	Open in accordance with State regulations. First split of dove season only.

B. Anticipated Public Reaction to the Hunt

The public has generally supported the refuge hunting program with exceptions usually being a demand for more hunting, more access and longer seasons. Generally, the local public desires more hunting than less on the refuge. Public reaction from surrounding communities to all refuge hunts has been very favorable and should continue to be the same in the future. Nationally, there are some anti-hunting sentiments, and many organizations are opposed to hunting on national wildlife refuges. It is possible that some objections may be voiced to some or all of the hunts within this plan even though they have been open for years. During scoping and the development of the Cameron Prairie NWR CCP hunting never emerged as an issue.

C. Hunter Application Procedures

Limited lottery hunt dates are published during September each year. Permit applications will be accepted September 1 through October 20. Applicants may contact the refuge in September for hunt dates and application requirements. Applicants will be limited to choose three dates. Duplicate or incomplete applications will be discarded. Successful applicants will be notified.

D. Description of Hunter Selection Process

None required for open refuge hunts.

The youth and senior hunt are selected by lottery.

The Experimental deer hunts are selected by lottery

E. Media Selection for Publicizing the Hunt

Newspapers throughout Southwest Louisiana are provided copies of an annual news release covering hunts. Brochures are printed and dispensed at the refuge office and local stores. Local radio and TV stations in southwest Louisiana will broadcast public announcements advising hunters to contact the refuge for information.

F. Description of Hunter Orientation

No specific effort is made toward hunter orientation other than previously mentioned media coverage, brochures and personal contacts. Pre-hunt scouting is allowed since non-consumptive wildlife observation is open year round. A refuge brochure which contains maps and regulations and also serves as a permit is available to all hunters. This brochure contains maps and regulations.

G. Hunter Requirements

(1) Age: Region 4 policy is adopted. In summary, all youth under age 16 must complete a hunter education course and carry a relevant card or certificate. Youths must be closely supervised (in sight and in normal voice contact) by an adult at least 21 years old. An adult may supervise only one youth under 16 years old on a big game hunt and no more than two youths under 16 years old on a small game or waterfowl hunt.

(2) Allowable equipment: Boats, deer stands, blinds, decoys and other personal property must be removed at the end of each day's hunt. Vehicles are restricted to designated public use roads.

(3) Toxic shot is prohibited.

(4) License and permits: Hunting permit on brochure required. The license requirements are those required by the State of Louisiana and the federal duck stamp.

(5) Reporting harvest Hunters are required to check out of the hunt area at designated locations.

(6) Hunter safety requirements: All hunters born on or after September 1, 1969 are required to complete a firearm and hunter education course.

Draft Sport Hunting

Decision Document

For

CAMERON PRAIRIE NATIONAL WILDLIFE REFUGE (GIBBSTOWN UNIT) Draft 2008

Contents

Draft Environmental Assessment

Sport Hunting Plan

on

CAMERON PRAIRIE NATIONAL WILDLIFE REFUGE
(Gibbstown Unit)
Cameron Parishes, Louisiana

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Prepared by:
U. S. Department of Interior
Bell City, Louisiana
August 2008

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Chapter 1 Purpose and Need for Action

The federally legislated purposes for which Cameron Prairie Wildlife Refuge (NWR) was established are "for use as an inviolate sanctuary, or for any other management purpose, for migratory birds" (Migratory Bird Conservation Act, 16 U.S.C. 7153);

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.

The purpose of this Environmental Assessment is to evaluate the feasibility of expanding hunting opportunities on land currently open to hunting on the Cameron Prairie National Wildlife Refuge (Gibbstown Unit). The new hunts would include the addition of one day of waterfowl hunting per week for seniors (age 50 and older) during the entire waterfowl hunting season, within the existing 1,333 acres currently open to migratory bird hunting; and, a limited duration experimental modern firearms/muzzleloader deer hunt within the existing area currently open to archery deer hunting. Hunting regulations would be the same as those currently imposed on hunters currently using the refuge. This hunting plan and environmental assessment also implements the recommendations found in the Cameron Prairie NWR Comprehensive Conservation Plan and Environmental Assessment completed during 2006 and updates the former Cameron Prairie NWR Hunt Plan into conformance with recent policy changes and step-down management plan formatting. This plan and environmental assessment will become an appendix to the Southwest Louisiana National Wildlife Refuge Complex Visitor Services Plan.

The proposed action is needed to implement the 2009 Sport Hunting Plan for Cameron Prairie 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 the 9,621 acre Cameron Prairie National Wildlife Refuge (Gibbstown Unit). The 14,927 acre East Cove Unit will remain closed to hunting. These alternatives are the 1) no action which continues with current management of the hunt program and 2) proposed action which implements the Refuge's 2009 Sport Hunting Management Plan

2.1 No Action Alternative: Current Management

Under this alternative deer hunting would continue to be limited to 9,621 acres (excluding administrative sites and the wildlife drive area) and waterfowl hunting would continue to be open on 1,333 acres of the Cameron Prairie NWR Gibbstown Unit. Species currently allowed to be hunted, include deer, ducks, geese, gallinules, coots, snipe, and dove. There would be no change to current public use and wildlife management programs.

2.2 Proposed Action: 2008 Sport Hunting Plan for Cameron Prairie NWR

The proposed action would not increase any new land open to hunting. However 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 2009 Sport Hunting Plan for Cameron Prairie NWR for specific regulations.

Chapter 3 Affected Environment

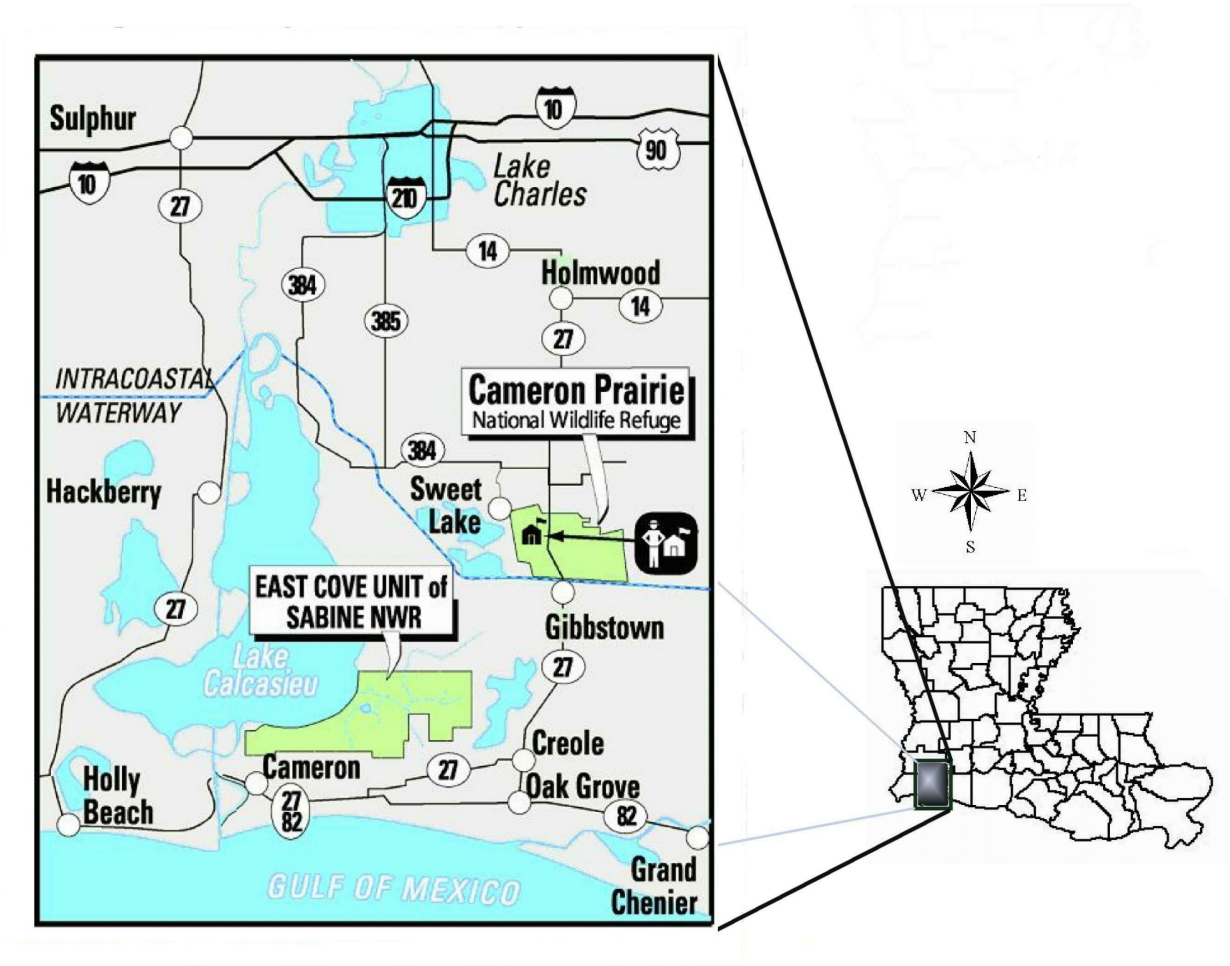
3.1 Physical Environment

The Cameron Prairie NWR was administratively combined with nearby Sabine National Wildlife Refuge in 2000. Lacassine National Wildlife Refuge joined the Complex in April of 2004 and Shell Keys NWR in 2006. The four Refuges now comprise the Southwest Louisiana National Wildlife Refuge Complex with Cameron Prairie serving as Complex Headquarters and also being responsible for management of the 64,000 acre Cameron Creole Joint Venture Watershed Project. The Complex also has a unique administrative oversight role with the Louisiana Department of Wildlife and Fisheries Rockefeller Refuge.

Cameron Prairie National Wildlife Refuge is located approximately 25 miles southeast of Lake Charles, Louisiana, in north central Cameron Parish, and consists of two separate and distinct units (Figure A). The Gibbstown Unit contains 9,621 acres of freshwater marsh, coastal prairie, and early successional wetlands, and is managed to preserve and protect wintering waterfowl and their habitat. This unit is located four miles west of the western boundary of Lacassine National Wildlife Refuge, and is bordered on the north

and west by private land. The Gulf-Intracoastal Waterway forms the southern boundary of the unit, while north canal forms the eastern boundary, (USFWS CCP 2006).

Cameron Prairie NWR Gibbstown Unit Location



The East Cove Unit was established in 1937 as part of Sabine National Wildlife Refuge. This unit, administratively transferred to Cameron Prairie NWR from Sabine in 1992, consists of 14,927 acres of brackish to intermediate marsh, which are managed as a nursery for brown and white shrimp, blue crab, and many fish species. Located in Cameron Parish in the southwest corner of Louisiana, the East Cove Unit is bordered on the west by Calcasieu Lake, and on the north, east, and south by privately owned marshes, (USFWS CCP 2006).

3.2 Habitat

The Cameron Prairie NWR Gibbstown Unit (Gibbstown Unit) consists of 9,621 acres of freshwater marsh, coastal prairie, and former agriculture (rice) fields converted to moist soil habitat.

Wetlands (Marshes and Moist Soil Areas)

The Gibbstown Unit is located at the point of transition between prairie habitat and that of coastal marsh habitat. The 9,621-acre Refuge contains these habitat types along with habitats created through purposeful human manipulations of the land. Prior to the establishment of the Refuge, these manipulations were for commercial production of rice. Current manipulations are for the creation of early successional wetlands. These wetlands are now managed for the production of annual plants that produce both vegetation and seeds for use by geese, ducks and other wetland bird species. Early successional wetlands are commonly known as moist soil habitats. The name, moist soil, refers to the way water is used to create the desired plant community. As was done with rice farming, moist soil habitats are manually disturbed using mechanical equipment, tractors and disks. Following this artificial disturbance, native plant seeds already existing within the soil are allowed to germinate and then the soil is flooded to a shallow depth. Once plants reach maturity, fields are once again disturbed using tractors and water buffalos to create interspersed open water areas; it is the target to produce a 50:50 ratio of open water to standing vegetation in a design that produces maximum amounts of edge habitat between the two. Once accomplished, these broken vegetation styles are referred to as a "hemi-marsh.

Marsh and moist soil habitat account for 8,784 acres on the Refuge. Water level management in the marshes is conducted with the use of earthen levees and other water control structures. Some of the marshes are occasionally drained or treated with prescribed fire to promote native vegetation and reduce undesired species. These areas are flooded in early winter to benefit waterfowl

Marsh management has been difficult on the Refuge due to insufficient pumping capabilities, changes to natural hydrology, and increases in populations of invasive species. In particular, management by pumping water off of Units 1 and 2, which are large impounded freshwater systems, has been largely ineffective , (USFWS CCP 2006).

In 2002, water level management was made somewhat easier with the addition of new stoplog structures. These structures allow the Refuge to hold the desired water level in the marsh, while allowing excess rainwater to leave the impoundments by gravity drainage. The structures were effective for much of the year, with the exception of September through December, during which time rainfall was well above average and water levels outside of the impoundment backed water into the impoundment , (USFWS CCP 2006). In the late 1990's and early 2000's, the Refuge's flooded freshwater marshes

suffered from below normal precipitation. As a result, the substrate in several units was exposed, allowing invasive species to become established. The most common of these species crowding the open water region are frogbit *(Limnobium spongia*), cattail (*Typa spp.*), maidencane (*Panicum hemitomon*), cutgrass (*Zizaniopsis miliacea*) and California bulrush (*Scirpus californicus)* (USFWS CCP 2006).

Moist soil management occurs on the upland areas of Units 5, 6, 7, 9, 14A and 14B of the Refuge. Historic levees constructed during the rice farming days have complicated the Refuge's ability to move water as efficiently as new moist soil management techniques require. The Refuge has redesigned its moist soil units to maximize acreages and improve water movement ability (USFWS CCP 2006).

The public use area behind the Visitor Center is managed for moist soil plants. This field is water buffaloed each fall to increase bird usage and provide quality viewing for the public, (USFWS CCP 2006). In the past, many of the Refuge's moist soil areas did not allow for water level management across the units. Due to drier than normal conditions in early 2000, Cameron Prairie NWR staff were able to remedy this by constructing or rehabilitating approximately 16,000 feet of levee in Unit 14b and installing 18 new water control structures. This project provided nearly 158 acres of moist soil units that are capable of optimal water level management. In fall 2000, after a wet summer, dry conditions returned to the Refuge allowing a second moist soil project. The area had been dominated by an undesirable species, Vasey grass (*Paspalum urvillei*). Construction of a new levee in the unit would allow the Refuge to better manage water levels in the field and provide better habitat for moist soil species as well as minimize Vasey grass. Due to heavy rains in November 2000, this project was not able to be completed as scheduled, (USFWS CCP 2006). Heavy precipitation also prevented total completion of the project in 2002, (USFWS CCP 2006).

In 2003, Refuge staff renovated some fields in Unit 14A). New levees were constructed to create subunits for improved water management capability. The new fields were disced and leveled. Vegetation in these fields responded well as did wintering waterfowl in the area. On several occasions 2,000 geese and 1,000 ducks used the area. Preparing moist soil fields for wintering waterfowl usually requires either mowing or rolling to provide an open area for birds to land in. In 2003, instead of opening up entire fields, Refuge staff used the hemi-marsh concept and tried to create a more natural marsh appearance. Waterfowl responded very well to the created marsh conditions, especially ducks and feeding geese. Since snow geese seem to prefer fields that are more open, a combination of opening an entire field surrounded by the hemi-marsh pattern may provide the best situation for all wintering waterfowl.

Forests

Trees on the Refuge are limited to those along levees and spoil banks. The most common trees include black willow (*Salix nigra*), hackberry (*Celtis laevigata*), Chinese tallow (*Sapium sebiferum*), and toothache tree (*Zanthoxylum clava-herculis*). Woody shrubs include wax-myrtle (*Myrica cerifera*) and baccharis (*Baccharis halimifolia*). There are

also a few pine and cypress trees, which are important to perching birds (USFWS CCP 2006).

Prairie

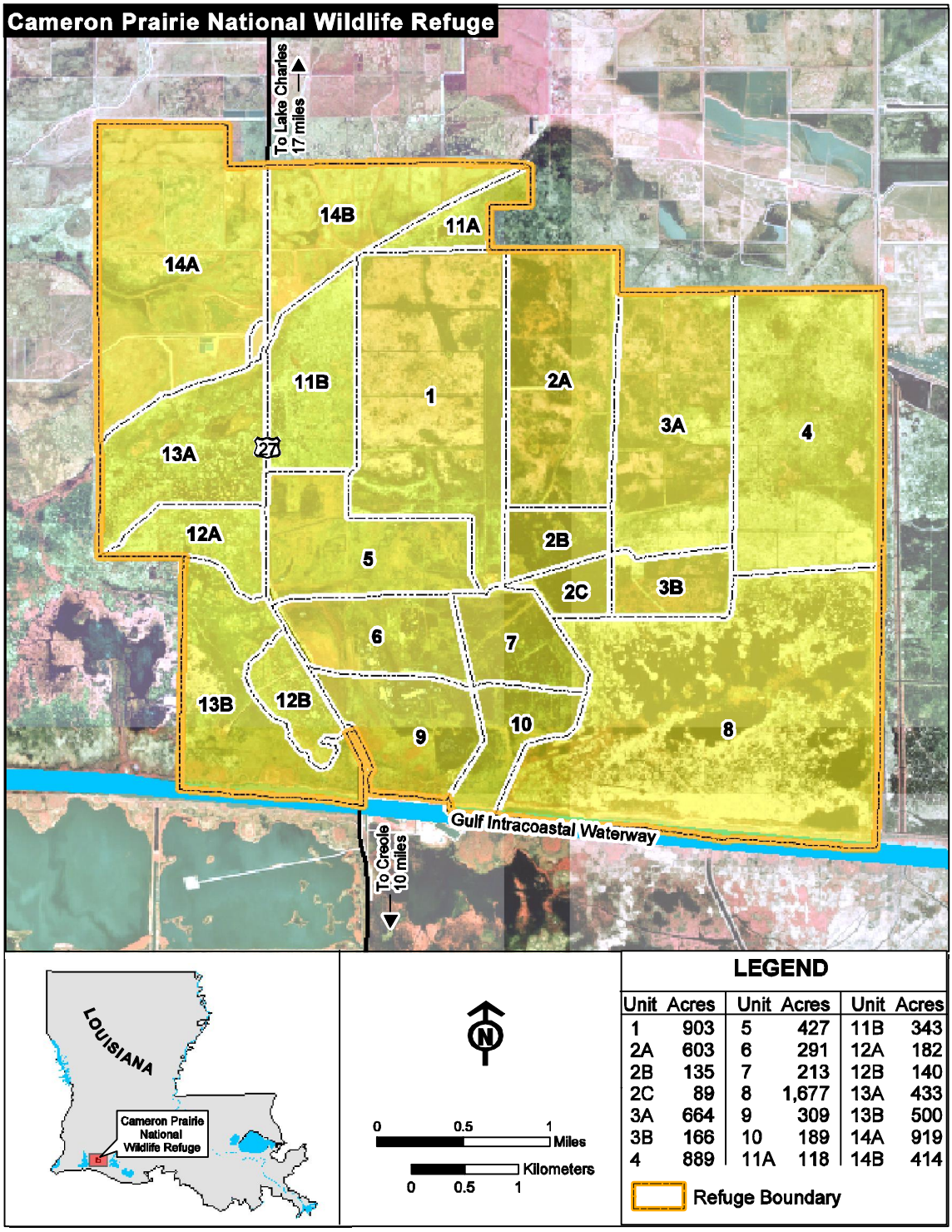
There are approximately 315 acres of high marsh habitat classified as "prairie" on the Refuge. This prairie habitat is interspersed with "pimple mounds," geologic formations about 20 to 40 feet in diameter that are 1 to 1.5 feet above the elevation of the surrounding terrain. One species of interest occurring in prairie habitat on the Refuge is gamma grass (*Tripsacum dactyloides*), which has been identified as a native plant to coastal prairies (USFWS 2001). The Cameron Prairie staff are restoring and maintaining prairie habitat on the Refuge by periodic prescribed burning, mowing, and discing (USFWS CCP 2006). In October 2001, Unit 14A, Field A, 121 acres, was prescribed burned and subsequently disked. This was the first prescribed burn that occurred on the Refuge since 1998 (USFWS CCP 2006).

3.3 Wildlife Resources

Waterfowl

The Refuge is managed to provide habitat for wintering waterfowl (Figure 1 Gibbstown Unit) and other water birds and provides a winter home to about 24,000 ducks and 8,000 geese, and a spring and summer home to numerous migrating songbirds (USFWS CCP 2006). During migration the Refuge is a critical stopover point for songbirds. Refuge management units are shown in Figure 6.

Aerial waterfowl surveys are periodically conducted to estimate the number of birds using the Refuge. Fluctuations in waterfowl numbers are often attributed to environmental conditions beyond the Refuge's control, i.e. temperature, rainfall, etc. Approximately 3,230 acres (34 percent) of the Refuge are surveyed, and an expansion multiplier of 2.94 is used to estimate the total number of waterfowl across the entire Refuge (USFWS 2001)..



The most abundant duck on the refuge during the spring and summer is the mottled duck. This species is a year round resident and frequently nests on the refuge. Mottled duck broods can be observed using a variety of the Refuge's habitat types, (USFWS CCP 2006). In 2000, 26 mottled duck pairs with fairly well established territories were frequently observed using the Refuge. The total estimated number of nesting mottled ducks was 37 pairs, (USFWS CCP 2006). In 1993, a grit site was placed on the Refuge; two more sites were added in 1995. Two of these sites (one in Unit 6 and one in Unit 14b) have experienced excellent daily use by geese during winter. The third grit site, located behind the Visitor Center in Unit 14a, had increased goose use toward the end of the 2000 wintering period, (USFWS CCP 2006).

Wading Birds (Water and Marsh Birds)

Cameron Prairie NWR boasts high wading bird diversity and abundance with a peak of 15,000 or more wading birds roosting on the Refuge. Common nesting and visiting water birds on the Refuge include: white, white-faced, and glossy (*Plegadis falcinellus*) ibis; green, great blue, tri-colored, and little blue herons (*Egretta caerulea*); yellow-crowned (*Nycticorax violacea*) and black-crowned (*Nycticorax nycticorax*) night herons; American and least bitterns *(Ixobrychus exilis*); snowy, great, and cattle egrets; and roseate spoonbills, (USFWS CCP 2006).

Unit 1 on the Refuge typically has the highest populations of roosting and nesting birds on the Refuge. Nesting and roosting habitat for wading birds on Cameron Prairie NWR is provided by levees and old oil locations grown over by shrubs and trees, such as willow, Chinese tallow, and Macartney rose (*Rosa bracteata*). Stands of California bulrush (*Scirpus californicus*) provide good nesting habitat for the white, white-faced, and glossy ibis, as well as black-crowned night herons. The largest rookery for roseate spoonbills and snowy, great, and cattle egrets is located at an old oil operation in Unit 2. The preferred nesting area for green herons consists of shrubs in Unit 1 (USFWS CCP 2006).

Results of the 2001 Aerial Nesting Wading Birds Survey

Species	Number of Birds Observed				
	Unit 1 North	Unit 1 Central	Unit 1 South	Unit 1 Location	Bank Fishing Road
Cattle egret		485		50	
Snowy egret		195			
Great egret		275		20	
Cormorant		120		20	
Anhinga		5		2	
Roseate spoonbill		80		5	
White faced ibis	300	450	500		
White ibis	500		5		
Little blue heron		35		2	20
Tri-colored heron		15			
Great blue heron		50			
Black-crowned night heron		20			
Green heron		30			
Source: USFWS 2002a					

Sandhill Cranes

Sandhill cranes (*Grus canadensis*) have been observed using the Holmwood area, approximately eight miles north of Cameron Prairie. Yearly surveys to determine the wintering population in the area have been conducted since 1989, when only 12 individuals were recorded. This number increased to approximately 670 sandhill cranes by 1999. During the winters of 2001 and 2002, approximately 550 and 650 sandhill cranes were estimated in the Holmwood area respectively, (USFWS CCP 2006).

Shorebirds, Gulls, Terns, and Allied Species

The three most widespread birds of this group found on the Refuge are the killdeer (*Charadrius vociferus*), black-necked stilt (*Himantopus mexicanus*), and Forster's tern (*Sterna forsteri*). Common snipe (*Gallinago gallinago*) are also prevalent on the Refuge during the winter. Yellowlegs and dowitchers are found on the Refuge's shallow water areas during the fall and winter. In addition, four woodcock were repeatedly observed on the Refuge in early 2000, (USFWS CCP 2006).

Shorebird management is likely to increase in the future, as more areas are restored to allow better water management, including early flooding, timely dewatering, and water buffaloing (use of mechanized farm equipment in combination with land rolling equipment to improve seed-soil contact) (Figure 9) of moist soil units to create muddy areas (USFWS 2001).

Raptors

Cameron Prairie's raptors include red-tailed hawks (*Buteo jamaicensis*), sharp-shinned hawks (*Accipter striatus*), merlins (*Falco columbarius*), kestrels, Cooper's hawks (*Accipter cooperi*), northern harriers (*Circus cyaneus*), and occasionally peregrine falcons (*Falco peregrinus*) and ospreys (*Pandion haliaetus*). (USFWS CCP 2006).

The American kestrel (*Falco sparverius*), northern harrier, and red-tailed hawk are the most common raptors on the Refuge. Peregrine falcons have also been observed. During the winter of 1999-2000, one peregrine falcon was repeatedly seen in Unit 6 near the observation blind. In the fall of 2000, two peregrine falcons were observed on the Refuge: one in Unit 6 and one near the Visitor Center , (USFWS CCP 2006). Again, in 2001, wintering peregrine falcons were commonly reported on the Refuge. On two occasions, a peregrine was seen taking a drake northern shoveler (*Anas clypeata*) in mid-flight, (USFWS CCP 2006).

The Refuge recorded a new raptor species, the Northern caracara (*Caracara cheriway*), in March 2000. During rehabilitation of moist soil units in Unit 14b, a single caracara was observed on the newly created bare earth areas, (USFWS CCP 2006).

Other Migratory Birds

One major attraction of Cameron Prairie Refuge is the considerable number of neotropical migratory birds that rest here each spring after their trans-Gulf flight. While the Refuge does not have many trees or shrubs for these species to use, those that are available are extremely important to the migrants. Mourning doves (Zenaida macroura) are commonly seen along fencerows, levees, roads, and disked fields at the Refuge. Blackbirds, including red-winged (*Agelias phoeniceus*) and grackles (*Quiscalus quiscula*), are also common, (USFWS CCP 2006).

Mammals

An abundant mammal on the Refuge is the non-native but naturalized nutria (*Myocastor coipus*), introduced to the United States from South America in 1899 (USFWS CCP 2006). Nutria were released, either intentionally, or accidentally, in the Louisiana marshes in the 1930's. Although the nutria can be destructive to levees and vegetation, the species is beneficial in that it is available as a food source for the Refuges alligator population. The Refuge also has an abundant coyote (*Canis latrans*) population, which feed on rabbits and other rodents that are plentiful. Other mammals commonly seen around Cameron Prairie include raccoons (*Procyron lotor*), otters (*Lutra canadensis*), opossum (*Didelphis marsupialis*), and mink (*Mustela vison*) (USFWS CCP 2006).

Three species of game mammals are found on the Refuge, all with productive populations: the white-tailed deer (Odocoileus virginianus), swamp rabbit (*Sylvilagus aquaticus*), and cottontail rabbit (*Sylvilagus floridanus*).

Amphibians and Reptiles.

Except for the American alligator (*Alligator mississippiensis*), little information is currently available about reptile and amphibian populations on the Refuge. A reptile and amphibian survey was conducted by Kansas State University on the Refuge in 2001, which resulted in the identification of 11 species, (USFWS CCP 2006). Species identified were: American alligator, eastern narrow-mouthed toad (*Gastrophryne carolinensis*), Gulf Coast toad (*Bufo valliceps valliceps*), Northern cricket frogs (*Acris crepitans crepitans*), eastern hog-nosed snake (*Heterodon platirhinos*) (Figure 10), western ribbon snake (*Thamnophis poximus proximus*), common kingsnake (*Lampropeltis getulus*), slider (*Trachemys scripta*), green anole (*Anolis carolinensis*), ground skink (*Scinella lateralus*), and five-lined skink (*Eumeces fasciatus*). Personal observations by staff include: pig frog (*Rana grylio*), bullfrog (*Rana catesbeiana*), mud snake (*Farancia abacura*), cottonmouth (*Agkinstodon piscivorous*), and stinkpot turtle (*Sternotherus odoratus*).

A 2002 survey discovered 18 alligator nests in Unit 8 of the Refuge. Alligators are harvested annually on the Refuge by two permittees chosen by random selection. Harvest quotas for Cameron Prairie are determined annually, approximating limits set by the Louisiana Department of Wildlife and Fisheries. These quotas are based on annual aerial alligator nesting surveys, (USFWS CCP 2006).

3.4 Threatened and Endangered Species

Cameron Prairie currently has no threatened and endangered species (USFWS 2002a), but some species of management concern are expected to occur on the Refuge. Those species are the alligator snapping turtle (*Macroclemys temminckii*), black rail (*Laterallus jamaicensis*), buff-breasted sandpiper (*Tryngites subruficollis*), and loggerhead shrike (*Lanius ludovicianus*) , (USFWS CCP 2006).

A 1988 amendment (Public Law 100-653, Title VIII) to the Fish and Wildlife Conservation Act of 1980 mandated the Service to " identify species, subspecies, and populations of all migratory non-game birds, that without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act of 1973 (ESA)." *Birds of Conservation Concern 2002* (BCC 2002) is the most recent effort to carry out this mandate. The report strives to accurately identify migratory and non-migratory bird species (beyond those already designated as Federally-threatened or endangered) that represent the Service's highest conservation priorities to draw attention to species in need of conservation action. BCC 2002 lists birds of conservation concern at three geographic scales – North American Bird Conservation Initiative Bird Conservation Regions, U.S. Fish and Wildlife Service Regions, and National – to maximize the utility of the lists for partners, agencies, and organizations.

In addition, three National Plans were used to place birds on the lists: Partners In Flight, United States Shorebird Conservation Plan, and the North American Waterbird Conservation Plan. Current conservation assessment scores for each species were taken from the three plans which were based on several factors, including population trends, threats, and distribution, abundance, and area importance.

3.5 Fishery Resources

Fish species present include gar, catfish, bowfin (*Amia calva*), bluegill (*Lepomis macrochirus*), largemouth bass (*Micropterus salmoides*), and crappie (USFWS CCP 2006).

3.6 Cultural Resources

In addition to the natural habitat and wildlife that Cameron Prairie National Wildlife Refuge encompasses, it also holds resources of archaeological and cultural value. The Refuge is located in a region with a rich human history and pre-history. While cultural resources or properties have yet to be discovered at Cameron Prairie, it should be emphasized that they may well be present.

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.

Prior to the arrival of Euro-Americans (pre-contact), it was inhabited by the Atakapa Indians. The Atakapa occupied the coastal and bayou areas of southwestern Louisiana and southeastern Texas until the early 1800s (USFWS CCP 2006). Archaeological evidence suggests that settlements have been present in this area since before American Indians learned to make pottery, approximately two thousand years ago. While “Atakapa” means "eaters of men" in the language of the neighboring Choctaw, it is unknown whether the Atakapas' supposed cannibalism was for subsistence or ritual. Pre-contact Atakapans were hunters, gatherers, and fishers. Their society consisted of loose bands that moved on a regular basis from place to place within a given territory, gathering, hunting, and fishing. The alligator was very important to them, because it provided meat, oil, hides, and even insect repellent (oil). The Atakapan language has fascinated linguists and is among the better-recorded Native American languages. At one time it was believed to be associated with other languages of the Lower Mississippi River, but later this theory was abandoned and it is now classified as an isolated language.

Most of what is known about the appearance and culture of the Atakapa comes from eighteenth and nineteenth century European descriptions and drawings. The Atakapan people were said to have been short, dark, and stout. Their clothing included breechclouts and buffalo hides. They did not practice polygamy or incest. Their customs included the use of wet bark for baby carriers and Spanish moss for diapers. According to another custom, a father would rename himself at the birth of his first son or if the son became famous. In the creation myth of the Atakapa, humans were said to have been cast up from the sea in an oyster shell. The Atakapas also believed that men who died from snakebite and those who had been eaten by other men were denied life after death, a belief that may have lent support to the notion that they practiced ritual cannibalism.

The various bands of the Atakapas were reported to have traded not only with other Indians but with early French and Spanish explorers and traders as well. After the appearance of these Europeans, the Atakapa dwindled rapidly. An estimated 3,500 still survived in 1698; by 1805, only 175 remained in Louisiana. Just nine known descendants were recorded in 1909. Their downfall was brought about primarily by the invasion of and devastation of European diseases rather than through any direct confrontation with European settlers.

The next major phase of the area's human habitation occurred after the Treaty of Paris in 1763 concluded the French and Indian Wars (Feldman 1998). The British had already expelled French-speaking settlers—the Acadians—from Nova Scotia (in what is now one of the Maritime Provinces of Canada), in 1755. Their exile occurred as a result of the widespread turmoil and upheaval sweeping through French and British colonies in North America as England gained the upper hand in its struggle with France for the control of North America. The Acadians first arrived in "New Acadia," now Louisiana, then a colony of Spain, in 1764, and this migration continued for the next two decades (Hebert 2003). Even after all their wanderings following their expulsion from Acadia, the adjustment from Maritime Canada, with its sub-arctic climate and rocky, hilly terrain, to the Mississippi Delta, with its nearly subtropical climate and bayous, must have been difficult for the Acadians. Yet over time, the Acadians, later referred to as Cajuns, flourished and developed their own subsistence culture based on hunting, fishing, trapping, and some agriculture, that produced a unique cuisine and music, among other things. One of the most vivid exhibits at Cameron Prairie's Visitor Center consists of a talking mannequin of a woman, Taunt Marie, in a boat with her fishing rod describing the intimate relationship of the Cajuns to the land, the bayou, and its wildlife and fish.

Southern Louisiana is also known for its Creole culture and cuisine, although these are more noted in urban areas like New Orleans. While the Cajuns were specifically French in origin, the Creoles trace their heritage to Spanish, African, Italian, as well as French influences, indeed, to any other peoples who chose to live in New Orleans (Royal Café no date). The roots of Creole culture date to the early 1700s, with the French settlement of La Nouvelle Orleans under its founder Jean Baptiste Le Moyne, Sieur de Bienville, governor of the Louisiana Territory. In 1763 the Louisiana Territory was traded to Spain, and Spanish influence increased. German and Italian immigrants and African slaves also contributed heavily to Creole culture, cuisine and music.

As stated above, no archaeological or historical sites have been documented at Cameron Prairie, but this does not mean they do not exist. The generally wet or even inundated condition of soils in the area, within marshes, bayous, and former rice fields, is not conducive to conducting archaeological surveys.

3.7 Socio Economic

Cameron Prairie Refuge is located in 1,313 square-mile Cameron Parish, Louisiana, one of the largest parishes (i.e., county equivalents) in the state. Cameron Parish is situated in the extreme southwestern corner of Louisiana, abutting the Gulf of Mexico to the south and Texas to the west. In 2003, the population of the parish was estimated at 9,708, a slight decline (3%) from the 2000 Census, (USFWS CCP 2006). The median household income of the parish in 1999 was $34,232, compared to $32,566 for Louisiana as a whole. The same relative prosperity is reflected in a poverty rate below the state average. Approximately 12% of Cameron Parish residents lived below the poverty line in 1999, compared to almost 20% for all of Louisiana. Educational attainment is below the state average however, with only 8% of the population aged 25 or higher having a Bachelor's degree or higher, as opposed to the statewide average of 19% , (USFWS CCP 2006).

In 2003 transportation and warehousing was the largest of 20 major economic and employment sectors in the parish ((USFWS CCP 2006).

Occupations of employed civilian population 16 years and older (2000)

Cameron Parish - Occupations of employed civilian population 16 years and older (2000)		
Occupation	**Number**	**Percent**
Management, professional, and related occupations	772	18.5
Service occupations	718	17.2
Sales and office occupations	954	22.8
Farming, fishing and forestry occupations	199	4.8
Construction, extraction and maintenance occupations	594	14.2
Production, transportation, and material moving	947	22.6
Source: U.S. Census Bureau, Census 2000, Summary File 3, Profile of Selected Economic Characteristics		

In terms of employment by industrial sector, the primary industries lumped as "agriculture, forestry, fishing and hunting, and mining" predominate in Cameron Parish, as shown in Table 6.

In terms of its racial and ethnic breakdown, as reported in the 2000 Census, Cameron Parish is 92.5% white, non-Hispanic, 3.9% black or African American, 0.4% American Indian, 0.4% Asian, and 2.2% Hispanic or Latino origin , (USFWS CCP 2006). (The

percentages do not add up precisely to 100% because of the difference between designated races — white, black, Native American, and Asian — and ethnicities, which are Latino and non-Latino.) In addition, 1.6% in the Census reported some other race or two or more races. Overall, the population of Cameron Parish has a greater percentage of non-Hispanic whites (92.5%) than the state as a whole (62.5%). That is, it is less diverse and has fewer minorities. Employment of civilian population 16 years and older by industry (2000)

Cameron Parish – Employment of civilian population 16 years and older by industry (2000

Industry	Number	Percent
Agriculture, forestry, fishing and hunting, and mining	696	16.6
Construction	470	11.2
Manufacturing	295	7.1
Wholesale trade	143	3.4
Retail trade	426	10.2
Transportation and warehousing, and utilities	396	9.5
Information	52	1.2
Finance, insurance, real estate, and rental and leasing	155	3.7
Professional, scientific, management, administrative, and waste management services	206	4.9
Educational, health and social services	677	16.2
Arts, entertainment, recreation, accommodation and food services	269	6.4
Other services (except public administration)	213	5.1
Public administration	186	4.4
Source: U.S. Census Bureau, Census 2000, Summary File 3, Profile of Selected Economic Characteristics		

Hunting is a traditional form of outdoor recreation for many people in Southwest Louisiana and for some households, hunting participation provides food at a much

cheaper cost. The number of licenses sold to hunters in Cameron and Calcasieu Parishes during the2005/06 hunting season were 618 and 12,735 respectively (*LDWF, personal comm.*).

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 deer 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.

4.1.5. 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. The Service defines facilities as: "Real property that serves a particular function(s) such as buildings, roads, utilities, water control structures, raceways, etc."

4.2 Summary of Effects

4.2.1 Impacts to Habitat

No Action Alternative

Under this alternative, no additional acreage would be opened to deer, or waterfowl hunting. However additional hunting opportunities would be made available in the areas that exist. Non consumptive users would still have access to the 600 (Management Units 6 & 9) acre wildlife drive and birding trail.

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 deer would positively impact wildlife habitat by promoting plant health and diversity.

The additional hunts, a senior hunt and an experimental modern firearms or muzzleloader deer hunt would be utilized more by hunters than previously, which might cause

increased trampling of vegetation. However, impacts to vegetation should be minor. Hunter density is estimated to be an average of 1 hunter/1,000 acres throughout the hunting season during deer hunts. During the seniors waterfowl hunts the maximum expected usage in a given week will be 10 hunters. There are five waterfowl hunting blinds available and 2 people would be allowed to hunt through a lottery system per blind one day per week. 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

Migratory bird hunting would only occur on 1,333 acres of the Gibbstown Unit. Additional mortality of individual hunted animals would not occur under this alternative. Additional 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 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, could increase as would vehicle-deer collisions on State Hwy 27.

Proposed Action Alternative

Migratory bird hunting would continue to occur on 1, 333 acres of the Gibbstown Unit and the majority of the Gibbstown Unit would continue to be open to deer hunting. Administrative sites and the Wildlife drive area would be posted as closed areas during deer hunts. Additional mortality of individual hunted animals would occur under this alternative, estimated by the refuge to be a maximum of 50 deer, 630 ducks, 70 snow geese, and 30 white-fronted geese annually. Estimates for other hunted species (dove, snipe, gallinules) would be less than 30 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 to maintain their populations at or below carrying-capacity would continue. The likelihood of starvation and diseases, such as bluetongue and EHD in deer would be decreased as would deer-vehicle collisions.

4.2.3 Impacts to Non-hunted Wildlife

No Action Alternative

Increased disturbance to non-hunted wildlife would not occur in the Gibbstown Unit. The areas hunted are the same areas that have been hunted in the past. Non-consumptive users would still be permitted to access the 600 acre wildlife drive and birding trail.

Proposed Action Alternative

Disturbance to non-hunted wildlife would increase slightly. However, significant disturbance would be unlikely for the following reasons. Small mammals are less active 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, will increase by an additional 10 waterfowl hunters and as many as 9 deer hunters per day on hunt days. During the vast majority of the hunting season, the refuge is not open to waterfowl or deer hunting and the East Cove unit has no hunting at all. 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

There are no endangered species to be impacted

Proposed Action Alternative

There are no endangered species to be impacted

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

No Action Alternative

Additional damage to roads 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.

Proposed Action Alternative

Additional damage to roads trails due to hunter use during wet weather periods might occur. The current refuge hunt program on 9,621 acre Gibbstown Unit for the past

decade has shown these impacts to be minimal. There would be some costs associated with a hunting program in the form of road 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 Cameron Prairie 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.

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. Conflicts between hunters and non-consumptive users might occur but would be mitigated by time (non-hunting season) and space zoning.

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 Cameron Prairie 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 youths 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. Seniors would also be offered a unique opportunity to continue their traditional hunting in a user friendly area and that is conducive to their place in society.

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 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. Cameron Prairie NWR is within the Mississippi Flyway.

The process for adopting migratory game bird hunting regulations, located in 50 CFR parts 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, Cameron Prairie NWR estimates a maximum additional 1,000 ducks, 70 snow geese, and 10 white-fronted geese would be harvested each year. This harvest impact represents 0.1%, 0.1%, and 0.03%, respectively of Louisiana's four-year average harvest of 921,990 ducks, 60,830 snow geese, and 72,611 white-fronted geese (USFWS 2005).

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 Cameron Prairie NWR, season length is more restrictive for waterfowl and doves than the State allows.

NEPA considerations by the Service for hunted migratory game bird species are addressed by the programmatic document, ''Final Supplemental Environmental Impact Statement: Issuance of Annual Regulations Permitting the Sport Hunting of Migratory Birds (FSES 88– 14),'' filed with the Environmental Protection Agency on June 9, 1988. We published Notice of Availability in the Federal Register on June 16, 1988 (53 FR 22582), and our Record of Decision on August 18, 1988 (53 FR 31341). Annual NEPA considerations for waterfowl hunting frameworks are covered under a separate Environmental Assessment, "Duck Hunting Regulations for 2006-07," and an August 24, 2006, Finding of No Significant Impact. Further, in a notice published in the September 8, 2005,

Federal Register (70 FR 53376), the Service announced its intent to develop a new Supplemental Environmental Impact Statement for the migratory bird hunting program. Public scoping meetings were held in the spring of 2006, as announced in a March 9, 2006, Federal Register notice (71 FR 12216). More information may be obtained from: Chief, Division of Migratory Bird Management, U.S. Fish and Wildlife Service, Department of the Interior, MS MBSP-4107-ARLSQ, 1849 C Street, NWR, Washington, DC 20240.

4.3.1.2 Resident Big Game

4.3.1.2.1 Deer

When deer are overpopulated, they over browse their habitat, which can completely change the plant composition of an area. Overpopulation can also lead to outbreaks of devastating diseases such as epizootic hemorrhagic disease (EHD) and bluetongue (BTV) which have been found locally in overpopulated herds. Overpopulation also leads to starvation, increased car-deer collisions and poor overall herd health.

Abomasal parasite counts (APC) are periodically conducted on deer populations throughout the state to assist in determining herd health. Blood samples and serum samples are taken from deer collected for APC or other research to monitor the occurrence of bluetongue virus (BTV) and epizootic hemorrhagic disease (EHD). These samples are sent to the Southeast Cooperative Wildlife Disease Study (SCWDS) in Georgia for laboratory analyses. SCWDS also assists with other disease and parasite problems concerning species other than white-tailed deer. Samples from sick or dead wildlife also are sent to SCWDS for analysis. SCWDS provides reports to LWDF indicating the cause of death or illness along with information concerning implications to other wild animals, domestic livestock, and human health (LDWF 2007)

Chronic Wasting Disease (CWD) is a neurodegenerative disease that has been identified in deer and elk. It is a poorly understood disease that is related to other spongiform encephalopathies such as scrapie in sheep, bovine spongiform encephalopathy (mad cow disease) in cattle, and Creutzfeld-Jakob disease in humans. This disease has recently become a major wildlife issue in a several states. At this time, CWD is not known to occur in Louisiana (LDWF 2007).

Deer are very active during the peak of the breeding season. The Louisianan Department of Wildlife and Fisheries (LDFW) attempts to set hunting seasons during these times to increase hunter success. Breeding season dates are established from fetal measurements and backdating from the harvest date. A 1966 investigation indicated three-distinct breeding seasons for deer in Louisiana. Additional studies affirmed these three distinct times; however, isolated deer herds with different breeding seasons within the same hunting season area also were documented. Data collected from these two activities allow biologists to determine peak breeding activity times for the herd and recommend hunting seasons that coincide with these times. Season dates are especially important for those clubs and landowners involved with quality and trophy deer managment (LDWF 2007)

The Louisiana Department of Wildlife and Fisheries recorded deer harvest rates from 1996-2006 from various hunting clubs within Cameron Parish. An average of 95 deer per year was harvested during the 10-year period. (P*ersonal comm*.).

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 50 deer would be harvested under the proposed action, representing only 0.02% of the long-term average state harvest. Expansion of hunting on 4,762 acres of refuge lands for a very limited deer gun hunt should not have negative cumulative impacts on the deer herd.

4.3.1.3 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.

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 small animals under the proposed action are expected to be negligible for the following reasons. Small mammals are generally 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, estimated 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 Cameron Prairie NWR because the use of lead shot would not be permitted on the refuge for any type of hunting except deer 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 South Louisiana by peak hunting season in Nov-Jan. Some hunting occurs during October when these species are migrating; however, hunter interaction would be commensurate with that of non-consumptive users.

4.3.1.5 Endangered Species

There are no endangered species on Cameron Prairie NWR

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 increased hunting opportunity, could have a negative effect on nesting bird populations. However, the hunting is during the winter and not during most birds' nesting period.

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 and trails. Maintenance or improvement of existing facilities (i.e. parking areas, roads, and trails) 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 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 resident deer populations in balance with the habitat's carrying capacity. The refuge would also control access to minimize habitat degradation.

The refuge expects no impacts to air and water quality. 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 2008 Sport Hunting Plan for Cameron Prairie 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 past refuge hunting program has been very similar to the proposed action in season lengths, species hunted, and bag limits. Changes to the hunt program in the past decade have been made to provide more specialized hunts within the existing open area. 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 Cameron Prairie NWR, conduct hunting programs within the framework of State and Federal regulations. Cameron Prairie NWR is at least as restrictive as the State of Louisiana for deer archery hunting and more restrictive for deer modern fire arms or muzzleloader hunts, waterfowl, dove and snipe. 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) concur and fully support the regulated consumptive public use of the natural resources associated with the Cameron Prairie (Refer to Letter 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.

Appendix Literature References

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