DRAFT ENVIRONMENTAL ASSESSMENT

A PROPOSAL TO ESTABLISH A NONMIGRATORY FLOCK OF WHOOPING CRANES IN SOUTHWESTERN LOUISIANA AT WHITE LAKE WETLANDS CONSERVATION AREA

VERMILION PARISH, LOUISIANA

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Abstract: This environmental assessment (Assessment) considers the biological, environmental, and socioeconomic effects of establishing a self-sustaining nonmigratory flock of whooping cranes *(Grus americana)* in Southwestern Louisiana at the White Lake Wetlands Conservation Area (White Lake) in Vermilion Parish, Louisiana. The Louisiana Department of Wildlife and Fisheries (LDWF), Regions 2 and 4 of the U. S. Fish and Wildlife Service (Service), U.S. Geological Survey (USGS) and the Canadian Wildlife Service are cooperating in this endeavor. This action has been recommended by the Canadian-U.S. Whooping Crane Recovery Team (Recovery Team). This action is considered essential in the long-term recovery of the endangered whooping crane. Alternatives considered in this environmental assessment include: (1) No Action or Delayed Action; (2) Establish a second nonessential experimental Eastern Migratory Population of whooping cranes that winters at Marsh Island Wildlife Preserve in Iberia Parish, Louisiana and breeds at a location to be determined; (3) Establish a nonessential experimental population of nonmigratory whooping cranes at White Lake Wetlands Conservation Area, Vermilion Parish, Louisiana as a Nonessential Experimental Population (Proposed Action).

TABLE OF CONTENTS

1.0 PURPOSE AND NEED FOR ACTION

1.1 Introduction

The whooping crane is an endangered species found only in North America. It was first listed an endangered species in 1967, under the law that proceeded the current Endangered Species Act (ESA)(32 FR 4001, March 11, 1967). Reasons for decline of the species and, ultimately, its listing included hunting and specimen collection, human disturbance, and conversion of the primary nesting habitat to hay, pastureland, and grain production (Allen 1952, Erickson and Derrickson 1981). Through the use of two independent techniques of population estimation, Banks (1978) derived estimates of 500 to 700 whooping cranes in 1870. By 1941, the migratory population contained only 16 individuals. A total of about 550 whooping cranes survive as of winter 2010, including around 400 individuals in the wild in 3 populations and 150 individuals in captivity at eleven locations.

The whooping crane is still vulnerable to extinction in the wild. The species adheres to ancestral breeding area, migration route, and wintering grounds, leaving little possibility of pioneering into new regions. The existing wild populations can be expected to continue utilizing their present habitats with little likelihood of expansion, except locally.

The only self-sustaining, natural wild population nests in Canada's Wood Buffalo National Park and winters along the Texas Gulf Coast in and near Aransas National Wildlife Refuge (NWR). It is referred to as the Aransas/Wood Buffalo Population (AWBP). In their restricted winter range distribution, they are vulnerable to annihilation by catastrophic events like a hurricane, red tide, severe drought, or a contaminant spill which could destroy their habitat, eradicate their food resources or kill the birds directly as a result of ingestion of toxins. The principal threat to the wild population continues to be a contaminant spill along the Gulf Intracoastal Waterway that bisects the winter range. A spill could destroy and /or degrade habitat and affect the whooping crane adversely, perhaps even fatally.

The second wild population is referred to as the Eastern Migratory Population. This population is found in the eastern U.S. and breeds in Wisconsin and winters from Indiana, Kentucky, and Tennessee south through Alabama, Georgia, South Carolina, and Florida. The Eastern Migratory Population is designated as a "nonessential experimental population" and is part of an ongoing reintroduction effort. The third wild flock, the Florida Nonmigratory Population, also designated as a "nonessential experimental population," is low in numbers (26 including 8 pairs) and remains from an effort to establish a resident population on the Kissimmee Prairie of Florida. A captive breeding program has been built by taking eggs from nests of the wild AWBP population, and raising the resulting young in captivity. Cranes raised from these eggs form the nucleus of the captive breeding flock, now located at five breeding facilities.

For further information on the status, history and ecology of the species, see the Whooping Crane Recovery Plan (USFWS 2007).

1.2 Purpose

At the recommendation of the Recovery Team, the Service in partnership with the LDWF, proposes to establish a self-sustaining, nonmigratory wild population of whooping cranes *(Grus americana)* in southwestern Louisiana. The purpose of the reintroduction would be to implement a primary recovery action for the federally listed endangered whooping crane.

Reintroduction of the proposed nonmigratory population would help meet the objective of establishing two additional wild populations of whooping cranes within the species' historic range, with each population consisting of at least 25 nesting pairs. That objective must be met before any consideration could be given to down listing the species to threatened. The new population may also serve as a source of donor animals to augment reintroduction at other sites.

The purpose of this environmental assessment is to evaluate the available alternatives and determine the best technique and location of release to satisfy the Service's goal.

1.3 Need

The vulnerability of the whooping crane in the wild illustrates the need for establishing additional self-sustaining wild populations which are isolated from the existing wild population.

The Recovery Plan (USFWS 2007) identified a recovery objective of at least 40 nesting pairs in the only natural wild flock, plus the establishment of 2 additional wild populations of 25 nesting pairs each within the species' historic range, sustained for a minimum of 10 years, in order to downlist the whooping crane to threatened. To accomplish this, it will be necessary to reintroduce whooping cranes at additional sites. A long-term objective identified by the Recovery Plan is to establish 2 additional self-sustaining wild populations separate from the AWBP and this task is identified as Recovery Action 3: Establish two additional wild populations. The Service and Canadian Wildlife Service should coordinate their research and management efforts to establish at least two discrete, self-sustaining populations, each consisting of a minimum of 25 nesting pairs by year 2035.

The Florida Nonmigratory Population is found in the Kissimmee Prairie area of central Florida. This reintroduction project is facilitated by the Florida Fish and Wildlife Conservation Commission (Florida FWC). The Service designated this population as a "nonessential experimental population" on January, 22 1993 (58 FR 5647). Between 1993 and 2004, 289 captive born, isolation-reared whooping cranes were released into Osceola, Lake and

Polk Counties in an effort to establish this nonmigratory flock. The last releases took place in the winter of 2004-2005. As of April 2010, there were only 26 individuals which includes eight pairs and one fledgling from 2009. Since the first nest attempt in 1999, there have been a total of 72 nest attempts, 33 chicks hatched and only 10 chicks successfully fledged. One pair has produced and fledged three of these chicks. Problems with survival and reproduction, both of which have been complicated by drought, are considered major challenges for this flock.

The Eastern Migratory Population reintroduction project is facilitated by the Whooping Crane Eastern Partnership (WCEP). The Service designated this population as a "nonessential experimental population" on June 26, 2001 (66 FR 33903). Since 2001, eggs from the breeding population have been reared at Patuxent Wildlife Research Center in Laurel, Maryland in the spring and brought to the central Wisconsin summering area. The chicks are trained to fly behind ultralight aircraft by Operation Migration and led to the central Gulf coast of Florida during the fall. This release methodology has established a migratory population of whooping cranes with a core breeding area at Necedah NWR in central Wisconsin and a primary wintering area from Tennessee south to Florida. Since 2005, additional captive chicks reared at the International Crane Foundation in Baraboo, Wisconsin, have been released directly into groups of older whooping cranes in central Wisconsin prior to the fall migration to follow older cranes during migration. The Eastern Migratory Population currently numbers 105 cranes (59 males and 46 females, January 2010). During the 2009 spring breeding season, all 12 first nests of the season were abandoned, as have all first nests during the previous years. Since 2005, there have been a total of 41 nests (including seven renests); only two renests have hatched chicks and only one chick has been successfully fledged. Nesting failure is currently this project's foremost concern.

1.4 Decision that Must be Made

The Service must decide whether to establish another population of whooping cranes, and if so, which alternative would best accomplish that objective. The Service's Regional Director of the Southeast Region also must determine whether that alternative would result in a significant impact to the human environment, thereby requiring an Environmental Impact Statement, or if a Finding of No Significant Impact (FONSI) is appropriate.

1.5 Issues and Concerns

Several issues of concern have been identified by the public, cooperating state, and groups potentially affected by the proposed reintroduction.

There are several areas of concern relating to agriculture, aquaculture, livestock, oil and gas exploration and extraction, land management, development interests, and recreation. One concern is related to the ability of property owners and managers to conduct day-to-day

management activities on their properties without the burden of restrictions that may be in place for most listed species. Depending upon circumstances, “take” in the form of harm, harassment or other disturbance could conceivably occur to many listed species as a result of normal and routine tasks. Some individuals would likely object to any new restrictions related to their routine activities.

Another concern is the ability of existing operations to expand. The presence of whooping cranes may somehow influence the review of any proposed project by a federal permitting or funding agency. Any restrictions on future use of lands adjacent to existing operations as a result of the presence of whooping cranes may be viewed as infringing upon an individual’s right to conduct his or her business.

An additional issue identified is the potential for crop or stock depredation. There is evidence that some sandhill cranes have caused locally substantial losses of newly-planted crops in some areas of Wisconsin. Concern has been raised that whooping cranes could engage in this type of behavior as well. As with other wading bird species and water dependent birds, concern has been raised that whooping cranes could engage in depredation of crawfish or fish stocks at aquaculture operations.

The reintroduction of whooping cranes in Louisiana could possibly affect sport hunting in at least two different ways. Some have expressed concern that certain areas may be closed to hunting subsequent to release of whooping cranes in the area. There is concern about certain areas being closed to hunting permanently, or more limited and short-term closures in response to the presence of individual birds wandering into an area where they are deemed vulnerable to accidental shooting.

Another issue relates to the amount of a fine imposed in the event of an accidental shooting. Significant penalties can be assessed as a result of illegal take under the ESA, and some feel that this is an overly severe punishment in the event of an innocent misidentification.

1.6 Scoping

A nonmigratory population of whooping cranes historically occurred in southwestern Louisiana near White Lake (Allen, 1952). About 13 individuals existed in 1940, but a hurricane in the mid-1940s led to loss of about half the population. The last individual was captured and moved to Aransas NWR in 1949. Louisiana was proposed as the first experimental release site in the late 1970s but the proposal was not supported by some Federal and State entities at that time.

In evaluating potential whooping crane reintroduction scenarios in 1998, Chassahowitzka NWR, Florida and Marsh Island, Louisiana were selected as the top two potential whooping crane wintering sites in the southeastern U.S. (Cannon 1998). In August 1998, the

Recovery Team recommended Chassahowitzka NWR over southwest Louisiana as a wintering site for the Eastern Migratory Population, because it was farther from the AWBP population and was located on the route used by the eastern greater sandhill crane population. The Recovery Team indicated that experiments should be done farther east of Louisiana to greatly reduce the chance of mixing an introduced population with the AWBP population.

In January 2001, the Recovery Team met at the Audubon Center for Research on Endangered Species in Belle Chasse, Louisiana. Highlights of the meeting included genetic management recommendations for the captive flock, an over flight of crane habitat in southwestern Louisiana, including White Lake and Marsh Island, and the recommendation to proceed with a migratory reintroduction of whooping cranes in the eastern United States. Following the Recovery Team meeting, the Louisiana Crane Working Group was formed to help with research and information needed to assess the potential for releasing whooping cranes in Louisiana.

In 2007, the Recovery Team held a meeting in Lafayette, Louisiana, to assess the status of whooping crane recovery efforts. This meeting included updates and recovery action recommendations for the AWBP, Florida, and Eastern Migratory populations. In addition, the Recovery Team came to Louisiana to further evaluate the interest in releasing whooping cranes in Louisiana. A preliminary assessment of the habitat for a resident nonmigratory flock and wintering habitat for a migratory flock included field trips to White Lake and Marsh Island. The Recovery Team endorsed a plan that could lead to a reintroduction of whooping cranes in Louisiana. The Recovery Team recommended the U.S. Geological Survey-Louisiana Cooperative Fish and Wildlife Research Unit conduct a habitat assessment and food availability study at White Lake as a potential release area for a nonmigratory population and Marsh Island as a potential wintering area for a migratory flock of whooping cranes. A recommendation for additional research on sandhill crane migration patterns for cranes that winter in Louisiana was also made. These results are presented in King et al. (in press). The Recovery Team also requested the Whooping Crane Health Advisory Team prepare a report on the potential health risks if whooping cranes reintroduced into Louisiana were to mix with cranes in the AWBP.

In August of 2009, the Service met with the LDWF to discuss establishing a nonessential experimental population of whooping cranes in Louisiana. LDWF then began an outreach effort that has involved a number of personal visits to area farmers as well as major land holding corporations surrounding White Lake. These outreach efforts have continued to present. Audiences have included large land stakeholders such as the Louisiana Oil and Gas Association to involved groups such as the Farm Bureau and Rice Growers Association. To date, approximately fourteen presentations have been given with an estimated total of 330 attendees (Appendix 1). The information presented has been well received with most landowners comfortable with the proposal, as long as the reintroduction does not impact their daily lives. Education and outreach by LDWF will continue throughout the duration of

the proposed reintroduction project. Outreach services will continue to include public presentations as well as integrating different forms of educational tools including website information, pamphlets and brochures.

In February and March 2010, LDWF and Service made presentations regarding the proposed reintroduction of a nonmigratory population of whooping cranes to White Lake to the Webless Committees of the Mississippi and Central Flyway Council Technical Sections. Comments from the Flyways are expected during the public comment period for the proposed rule to establish the nonessential experimental nonmigratory population of whooping cranes.

The Service is planning to publish a proposed rule in the Federal Register to establish a Nonessential Experimental Population of whooping cranes in southwestern Louisiana. This proposed rule will have a 60 day comment period seeking public comment and input on this proposed action. The Service is also planning to hold informational meetings and public hearings at the following locations within the proposed nonessential experimental population area two weeks after the proposed rule has been published in the Federal Register on the dates indicated: 1. Gueydan, Louisiana on DATE at the Gueydan Civic Center, 901 Wilkinson Street, Gueydan, LA 70542; and 2. Baton Rouge, Louisiana on DATE at the Louisiana Department of Wildlife and Fisheries, 2000 Quail Drive Baton Rouge, LA 70808. We will also hold public informational open houses at the same locations prior to each public hearing.

2.0 ALTERNATIVES, INCLUDING THE PROPOSED ACTION

2.1 Alternatives Considered

The alternatives include: (1) no action or delayed action ; (2) establish a second nonessential experimental Eastern Migratory Population of whooping cranes that winters at Marsh Island Wildlife Preserve in Iberia Parish, Louisiana and breeds at a location to be determined; (3) establish a nonessential experimental population of nonmigratory whooping cranes at White Lake, Vermilion Parish, Louisiana (Preferred Alternative).

2.1.1 *Alternative considered but not studied in detail*

One alternative action was considered before the selection process narrowed the choices to sites in Louisiana. This action was moving Florida nonmigratory whooping cranes to Louisiana. A second action considered was establishing an endangered nonmigratory population of whooping cranes at White Lake.

2.1.2 Alternative 1 - *No action or delayed action*

The Service would not reintroduce whooping cranes in Louisiana or the action would be delayed indefinitely.

2.1.3 Alternative 2 - *Establish a second nonessential experimental Eastern Migratory Population of whooping cranes that winters at Marsh Island Wildlife Preserve in Iberia Parish, Louisiana and breeds at a location to be determined*

Whooping cranes would be reintroduced into Louisiana as part of a second Eastern Migratory Population flock that would winter at Marsh Island Wildlife Preserve and breed at a location to be determined within the Eastern Migratory Population "nonessential experimental population" area.

2.1.4 Alternative 3 (Preferred Alternative) - *Establish a nonessential experimental population of nonmigratory whooping cranes at White Lake, Vermilion Parish, Louisiana*

The Service proposes to use the gentle release technique (Ellis et al. 1992a) to release 6 to 8 juvenile, captive-reared whooping cranes at White Lake in February, 2011. These birds will be captive-reared at Patuxent National Wildlife Research Center in Laurel, Maryland. They will be conditioned for wild release to increase post-release survival (Nesbitt et al. 2001, Ellis et al. 1992b, Zwank and Wilson 1987) and adaptability to wild foods. The birds will be radio tagged and/or satellite tagged at release and monitored to discern movements, habitat use, other behavior, and survival. If results of this initial release are favorable the releases will be continued with the goal of releasing 15 to 30 birds annually for about 10 years.

A suitable technique for release of captive-reared whooping cranes into a wild non-migratory site is the gentle release of birds conditioned for wild release. Captive-reared cranes are conditioned for wild release by being reared in isolation from humans, by use of conspecific role models, puppets, and exercised by animal care personnel in bird costumes to avoid imprinting on humans. This technique has been successful in supplementing the population of endangered nonmigratory Mississippi sandhill cranes *(G. c. pulla)* (Zwank and Wilson 1987, Ellis et al. 1992b). This technique has been used to establish a population of nonmigratory whooping cranes in Florida (Nesbitt et al. 2001). The term gentle release refers to retaining captive-reared birds in a top netted acclimation pen at the release site as to adjust to their new surroundings (LDWF 2010). The enclosures contain some natural foods and water. Commercial foods are also provided ad libitum. The cranes will be released into a larger open pen area once acclimation is completed. They will be able to fly in and out of a larger pen. The cranes will be supplementally fed within the large pen until they begin to forge on their own and discontinue eating the commercial food. Hopefully, the cranes will return to the pen at night to roost in a protected area. Data on survival of released birds, movements, behavior, and causes of losses, reproductive success, and other

information will be gathered throughout the project. Project progress will be evaluated periodically.

3.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT

The information contained in Section 3.0 Draft Management Plan for White Lake's Wetlands (LDWF).

3.1 Location

White Lake is part of the area historically occupied by a nonmigratory, breeding population of whooping cranes (Allen 1952; Gomez 1992) and is proposed as the principal release area (Figure 1). This 70,965 acres tract, located along the western boundary of Vermilion Parish, is bounded on the South by White Lake and the central northern boundary is 12 kilometers (7.5 miles) south of the town of Gueydan. The property is 52 kilometers (32 miles) Southwest of Lafayette and 64 kilometers (40 miles) southeast of Lake Charles. The southern boundary of the property is 28 kilometers (17.5 miles) north of the Gulf of Mexico. The property averages 19 kilometers (12 miles) from east to west and 14.5 kilometers (9 miles) from north to south. The WHITE LAKE is located within the Mermentau Basin. Natural drainage within the basin has been interrupted by manmade features. The major source of hydrological change in this basin has been the conversion of two estuarine lakes (Grand and White Lakes) into freshwater reservoirs for agricultural (rice) irrigation in the surrounding areas. Land ownership adjacent and near White Lake includes seven large private tracts of land totaling 133,559 hectares (330,038 acres) and four large public land areas (including White Lake) totaling 80,313 hectares (198,459 acres) (Table 1).

White Lake is 28,718 hectares (70,965 acres) comprised of 21,078 hectares (52,085 acres) of fresh marsh and 7,640 hectares (18,880 acres) of agricultural land. These habitats include wetlands associated levees, shoreline and natural ridges, and agricultural lands managed for rice rangeland, and crawfish aquaculture. Hunting is permitted on the property and is managed indirectly through leases or directly through a company run hunting camp. WHITE LAKE (formerly known as the Standolind Tract) was owned and managed by BP America Production White Lake until 2002 when they donated the property to the state of Louisiana. At that time a cooperative Endeavor Agreement between the state of Louisiana and White Lake Preservation Inc., was executed for management of the property. In 2005, according to the terms of that agreement, the Louisiana DWF received total control for management this area.

There are several large areas of public ownership in the general vicinity of WHITE LAKE. Located approximately 12 km (19 miles) south, the state-owned Rockefeller Wildlife Refuge and Game Preserve has 30,773 hectares (76,042 acres); approximately 19 km (30 miles) west is Cameron Prairie NWR 10,027 hectares (24,777 acres); and approximately 13 km (20 miles) west is Lacassine NWR 10,795 hectares (26,675 acres). The area north of WHITE

LAKE is primarily agriculture although it was historically the panicum (paille fine) marsh that Allen (1952) reported as being used by whooping cranes. Non-agricultural areas surrounding WHITE LAKE consist of fresh to intermediate marshes, privately owned property and is primarily used for waterfowl hunting, alligator hunting, and alligator egg collection for farms. Oil and gas exploration and production is one of the major industries in the region.

Additional release sites may be considered later in the project life but they will likely be within the WLCWA boundaries or other nearby public lands. This will depend upon dispersal of the birds. Females tend to disperse from their natal site when searching for a mate and males, however, have a stronger homing tendency towards establishing their nesting territory near the natal area (Drewien et al. 1989). When young captive-reared birds are released at a wild location, the birds appear to view the release site as a natal area. If they do, females would disperse away from the release site in their search for a mate. In such a circumstance it may be advantageous to have an additional release site to provide a broader distribution of territorial males and increase the opportunity for successful pairing.

Table 1. Size in hectares and acres of large private and public land holdings at and near the White Lake Wetlands Conservation Area (LDWF 2010).

Landowner	Hectares	Acres	Land Classifications
Miami Corporation*	67,783	167,499	Wetland
Vermilion Corporation*	48,681	120,296	Wetland
Florence Club*	2,014	4,977	Wetland, Agriculture
Lacassine Land Company*	8,312	20,539	Wetland, Agriculture, Cattle
Coastal Club*	2,443	6,036	Wetland
Cherry Ridge Land Company*	1,215	3,003	Wetland
Lake Arthur Club*	3,111	7,688	Wetland
Private Lands Total	**133,559**	**330,038**	Wetland, Agriculture, Cattle
Lacassine NWR**	10,795	26,675	Wetland, Agriculture
Cameron Prairie NWR**	10,027	24,777	Wetland, Agriculture
Rockefeller State Wildlife Refuge**	30,773	76,042	Wetland
White Lake Wetlands Conservation Area**	28,718	70,965	Wetland, Agriculture, Cattle
Public Lands Total	**80,313**	**198,459**	Wetland, Agriculture, Cattle
Total	**213,872**	**528,497**	Wetland, Agriculture, Cattle

*Private
**Public

3.2. Biological Environment

This section presents a general description of the environment that would be affected by the proposal and alternative actions. Included are discussions of the biological, social, and economic components of the environment.

3.2.1. Vegetation

The White Lake property is composed of 6 management units (Figure 2). Two tracts, A and F are agricultural land, total 7,640 hectares (18,880 acres) and represent 26 percent of the property. The remaining 21,078 hectares (52,085 acres) are fresh marsh and contained in four tracts, B, C, D, and E. The management emphasis placed on this land is for the benefit of wildlife species. The diversity of habitats adds to the overall productivity of the tract. These habitats include wetlands, associated levees, shoreline and natural ridges, and agricultural lands managed for rice, rangeland, and aquaculture.

Species composition in Tract C, the refuge (impoundment- pump out) included the following: maiden cane (*Panicum hemitomon*), bull tongue (*Sagittaria sp.*), Walter's millet (*Echinochloa walteri*), sprangletop (*Leptochloa fascicularis*), slender fimbry (*Fimbristylis autumnalis*), bullwhip (*Scirpus californicus*), southern swamplily (*Crinum americanum*), sawgrass (*Cladium jamaicense*), and rattlebox (*Daubentonia texana*).

Species composition in Tract E, (gravity flow water control) included the following: maiden cane, bull tongue, southern swamplily, buttonbush (*Cephalanthus occidentalis*), spikerush (*Eleocharis equisitoides*), water-shield (*Brasenia schreberi*), white water lily (*Nymphaea ordorata*), and frog-bit (*Limnobium spongia*).

Species composition in Tract B, large passively managed marsh, on eastern half of property south of GIWW included the following: maiden cane, bull tongue, cattail (*Typha latifolia*), buttonbush, southern swamplily, sawgrass, spikerush, spiderlily (Hymenocallis caroliniana), and roseau cane (*Phragmites australis*). Additional species include: giant cutgrass (*Zizaniopsis miriaceae*), coontail (*Ceratophyllum demersum*), southern naiad (*Najas quadalupensis*), Eurasian milfoil (*Myriophyllum*), fanwart (*Cabomba caroliniana*), floating heart (*Nymphoides aquaticum*), dwarf spikerush (*Eleocharis parvula*) and bladderwort (Utricularia sp.).

Along the shoreline of White Lake only the northwestern portion supports woody vegetation. This woody vegetation occurs on the south side of the Florence canal. This vegetation includes: black willow (*Salix nigra*), waxmyrtle (*Nyrica cerifera*), Chinese tallow (*Sapium sebiferum*), live oak (*Quercus virginiana*), swamp red maple (*Acer rubrum*), and American elm (*Ulmus americana*). The remained of the White Lake shoreline is marsh vegetation.

Vegetation composition on levees depends on the age, elevation, and incidence of fire. Transitional vegetation, shrub, grasses, and marsh plants, occurs on the berms of levees and on reworked or burned levees in early succession. Species along interior levees included: swamp red maple, waxmyrtle, Chinese tallow, black willow, hackberry (*Celtis laevigata*), chinaberry (*Melia azedarach*), buttonbush, buckbrush (*Baccharis hamilifolia*), maiden cane, cutgrass, roseau cane, blackberry (*Rubus sp.*), pokeweed (*Phytolacca*

americana), yankee weed (*Eupatorium compositifloium*), rattlebox, giant ragweed (*Ambrosia tritida*), iris (*Iris giganticaerula*), *Senecio tampicana*, and bullwhip.

The spoil deposition along the GIWW creates another somewhat unique habitat. Twenty-seven kilometers (17 miles) of this habitat occur along both sides of this major waterway from the western to the eastern boundary of the property. The vegetative cover ranges from woody over story with dense undercover, woody over story with sparse undercover, shrub/brush/grass and a berm between spoil and marsh or spoil and agriculture. The common species they observed on these spoil banks included: sugar hackberry, blackberry, black willow, swamp dogwood (*Cornus foemina*), Crataegus sp., Chinese tallow, chinaberry, mulberry (*Morus sp*.), live oak, swamp privet (*Ligustrum sp*.), waxmyrtle, Japanese honeysuckle (*Lonicera japonica*), greenbriar (*Smilax sp*.), trumpet creeper (*Campsis radicans*), poison ivy (*Toxicodendron radicans*), grapes (Vitis sp.), pokeweed, lantana (*Lantana camara*), blackberry, elephantsear (*Colocasia antiquorum*), palmetto (*Sabal minor*), and giant ragweed.

A native prairie plant community is present on the 162 hectares (400 acres) Deer Island complex in Tract E. There is also a 364 hectares (900 acres) tract adjacent to this site that could be managed specifically for cranes with improvements including dike repair and pump to help manage water levels.

3.2.2 Wildlife

The long-term management of a large stable fresh marsh and adjacent agricultural land make White Lake one of the most important waterfowl wintering areas in coastal Louisiana. In October 1987, the USFWS published a refined North American Waterfowl Management Plan, Category 23B, Gulf Coast. This plan ranked Central Gulf Coast habitat preservation needs for waterfowl, including the States of Alabama, Mississippi, and Louisiana. From a list of 28 sites, Louisiana's Pan Am Unit ranked SECOND in order of importance. The White Lake property south of the GIWW comprised about 60% of the acreage in the Pan AM Unit. Property north of the GIWW also provides excellent waterfowl habitat. Blue-winged teal (*Anas discord*) use these marshes, especially the refuge, and agricultural land to stage prior to transgulf migration. The mottled duck (*Anas fulvigula*) resides on these wetlands and agricultural land year round with significant numbers staging here each September. The fulvous tree duck (*Dendrocygna bicolor*) nest and stage in these wetlands. Woodducks (*Aix sponsa*) and black-belly tree ducks (*Dendrocygna autumnalis*) also occur on White Lake.

The most impressive numbers of migratory waterfowl utilizing these marshes include: mallard (*Anas platyrhynchos*), northern pintail (*A. acuta*), gadwall (*A. strepera*), green-winged teal (*A. crecla*), and blue-winged teal. The numbers of mallards using the refuge (Tract C) and the gravity flow managed unit (Tract E) are what make the White Lake property stand out as a very special area for waterfowl. Over 200,000 mallards have been observed on the refuge, along with large numbers of pintail, green-winged teal, snow geese (*Chen*

caerulescens) and white-fronted geese (*Anser alibifrons*). The refuge (Tract C) is as important for mallard resting as any area in Southwest Louisiana. Tract E is likely the second most important area.

In addition to waterfowl, the White Lake provides abundant habitat for a variety of avian species. The Nature Resources Conservation Service (NRCS), in 1997, published an aquatic and terrestrial species listing for the Mermentau River Basin. According to this list, the White Lake will seasonally have migrant passerine birds, shorebirds, wading birds, rails, gallinules, and the common moorhen. Hawks and owls are also common. Coastal terns and gulls undoubtedly use habitat contained on the property at times. Several large breeding rookeries of waders occur on the property. In the center of Tract E, along Blackfish Bayou, buttonbush supports a large rookery with a large number of black-crowned night herons (*Nycticorax nycticorax*). Bald eagles (*Haliaeetus leucocephalus*) occur within the White Lake release area and will nest in large pine trees and forage in wetlands for fish and waterfowl.

Birds considered residents on the property include: boat-tailed grackle (*Quiscatus major*), barred owl (*Strix varia*), brown-headed cowbird (*Molothrus ater*), cattle egret (*Fubulcus ibis*), double-crested cormorant (*Phalacrocorax auritus*), great blue heron (*Ardea herodia*), great egret (*Casmerodius albus*), killdeer (*Charadrius vociferous*), little blue heron (*Egretrta caerulea*), mourning dove (*Zenaida macroura*), northern cardinal (*Cardinalis cardinalis*), pied-bill grebe (*Podilymbus podiceps*), red-winged blackbird (*Agelaius phoeniceus*), roseate spoonbill (*Ajaia ajaja*), snowy egret (*Egretta thuls*), tricolor heron (*Egretta tricolor*), anhinga (*Anhinga anhinga*), and white ibis (*Eudocimus albus*).

The fresh marshes, levees, and agricultural lands provide a diverse habitat for a great variety of fish, mammals, birds, and amphibians. Fish commonly found on the property include largemouth bass (*Micropterus salmoides*), bluegill (*Lepomis macrochirus*), crappie (*Poxomis nigromaculatus*), redear sunfish (*Lepomis punctuates*), alligator garfish (*Atractosteus spatula*), blue catfish (*Ictalurus furcatus*), channel catfish (*I. punctatus*), bullhead catfish (*I. sp.*), freshwater drum (*Aplodinotus grunniens*), warmouth (*Lepomis gulosus*), and yellowbass (*Morone mississippiensis*). Florida strain largemouth bass have been stocked into a 100-acre fish pond located in the northeast corner of Tract E. Red swamp crawfish (*Procambarus clarkii*) are abundant and marine organisms are seasonally abundant in the White Lake/Grand Lake system and under certain conditions move into the White Lake property.

Other resident wildlife include white-tailed deer (*Odocoileus verginianus*), coyote (*Canis latrans*), bobcat (*Lynx rufus*), swamp rabbit (*Sylvilagus aquaticus*), nine-banded armadillo (*Dasypus novemlinetus*), striped skunk (*Mephitis mephitis*), river otter (*Lontra canadensis*), mink (*Mustela vison*), raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), muskrat (*Ondatra zibethicus*), and nutria (*Myocastor coypus*). Various species of frogs, snakes, and turtles occur on the area. The American alligator (*Alligator mississippiensis*) is abundant and supports egg collection and a commercial harvest.

3.2.3 Disease

Progress has been made in showing the probable presence of Infectious Bursal Disease (IBD) in the Central Flyway. An IBD-like virus was isolated from an Aransas juvenile whooping crane that died at Aransas in February 2009. The U.S. Geological Survey's National Wildlife Health Center is studying this virus to classify it more exactly. Also, blood samples from sandhill cranes collected on the Platte River, Nebraska, in March 2009 found that 12 of 19 had antibodies to IBD. It appears that cranes have been exposed to IBD in the Central Flyway and that whooping cranes have presumably been dealing with the IBD virus for a long time. Thus, it is unlikely that the reintroduction of whooping cranes into Louisiana pose any significant risk to the Aransas whooping cranes in regard to transfer of IBD.

Both sandhill and whooping cranes are also known to be vulnerable, in part or all of their natural range, to avian herpes (inclusion body disease), avian cholera, acute and chronic mycotoxicosis, eastern equine encephalitis (EEE), and avian tuberculosis. Additionally, Eimeria spp., Haemoproteus spp., Leucocytozoon spp., avian pox, and Hexamita spp. have been identified as debilitating or lethal factors in wild or pre-release, captive populations.

A group of crane veterinarians and disease specialists have developed protocols for pre-release and pre-transfer health screening for birds selected for release to prevent introduction of diseases and parasites. Exposure to disease and parasites will be evaluated through blood, serum, and fecal analysis of any individual crane handled post-release or at the regular monitoring interval. Remedial action will be taken to return to good health any sick individuals taken into captivity. Sick birds will be held in special facilities and their health and treatment monitored by veterinarians. Special attention will be given to EEE because an outbreak at the Patuxent Wildlife Research Center in 1984 killed 7 of 39 whooping cranes present there. After the outbreak, the equine EEE vaccine has been used on captive cranes. In 1989, EEE was documented in sentinel bobwhite quail and sandhill cranes at the Patuxent Wildlife Research Center. No whooping cranes became ill, and it appears the vaccine may provide protection. EEE is present in Louisiana, so the released birds may be vaccinated. Other encephalitis diseases have not been documented as occurring or causing morbiditiy or mortality in cranes.

When appropriate, other avian species may be used to assess the prevalence of certain disease factors. This could mean using sentinel turkeys for ascertaining exposure probability to encephalitis or evaluating a species with similar food habits for susceptibility to chronic mycotoxicosis.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 *Alternative 1 - No action or delayed action*

When Alternative 1 is considered, that of no action or a delayed action, we note that the hazards and uncertainties of the reintroduction experiment are substantial. However, a decision not to attempt to establish a second, wild, self-sustaining population would potentially be equally hazardous to survival of the species in the wild. The option of No Action is unacceptable when the mandate of the Endangered Species Act, to protect and recover endangered species, is considered. The most compelling reason for not delaying the releases in Louisiana is the tenuous situation of the only wild, self-sustaining whooping crane population which could be eradicated by any one of several possible catastrophic events. In the 12 months following April, 2008, 21.4% of the wild flock died (57 birds), including 8.5 % of the wintering flock (23 birds) during the severe drought during the winter of 2008-09. It is essential to move ahead with the efforts to establish another wild population to ensure preservation of the species in the wild. Also, due to the survival and reproductive issues faced by the Florida nonmigratory flock, it is extremely unlikely that reproduction in wild-hatched Florida whooping cranes will ever achieve production rates adequate for success. Dependent upon overcoming the reproductive issues, the Eastern Migratory Population has the potential to become the second self-sustaining, wild population needed to move toward recovery. Establishing a Louisiana nonmigratory flock as the third recovery population has become a recovery priority.

4.2 *Alternative 2 - Establish a second nonessential experimental Eastern Migratory Population of whooping cranes that winters at Marsh Island Wildlife Preserve in Iberia Parish, Louisiana and breeds at a location to be determined*

Alternative 2 proposed establishing a second Eastern Migratory Population flock that would winter in Louisiana and breed at a yet to be determined location. The Recovery Team continues to maintain the recommendation of separation of AWBP from any other population. Marsh Island is not being considered at this time for three reasons: proximity to the AWBP; ESA 10j rule guidelines which indicate no mixing between the existing and the experimental population; and no acceptable breeding/summering habitat has been identified. The concern for proximity is not due to the distance between Marsh Island and Aransas NWR, but is due to the potential for mixing in the Central Flyway during fall and spring migration depending upon where the breeding area is proposed. Migratory sandhill cranes that winter in Louisiana have been found to use both the Mississippi and Central Flyways (King et al., in press). Thus, if Eastern Migratory Population whooping cranes wintered in Louisiana, they could follow sandhill cranes into the Central Flyway which would lead to mixing with the AWBP. Also, the Eastern Migratory Population is experiencing reproductive issues, nest abandonment, which may be due in part to black flies. Research on black fly distribution and management options is underway and may assist in identifying another target breeding area for the Eastern Migratory Population, but until the blackfly issue can be resolved and a breeding area that will promote separation from the AWBP is identified, this option is not being considered..

4.3 *Alternative 3 - (Proposed Action) - Establish a nonessential experimental population of nonmigratory whooping cranes at White Lake, Vermilion Parish, Louisiana*

Alternative 3 is the proposed action to establish a nonessential experimental population of nonmigratory whooping cranes at White Lake Wetlands Conservation Area, Vermilion Parish, Louisiana. The proposed designation allows the relaxation of provisions of the ESA, which has already demonstrated and can be expected to result in increased public acceptance of the reintroduction.

This designation is made possible by provisions contained within section 10(j) of the ESA, as amended. The population is considered experimental because it is being (re)introduced into suitable habitat that is outside of the whooping crane's current range, but within its historic range. It is designated nonessential because the likelihood of survival of the whooping crane, as a species, would not be reduced if this entire population was not successful and was lost. To designate this nonessential experimental population, the Secretary of the Interior must determine that the action will not result in jeopardy to the continued existence of the whooping crane. Survival of the whooping crane as a species has been determined to be secure based upon the existence of the wild, migratory population and the captive breeding flocks in multiple locations. The nonessential experimental population status will protect this whooping crane population as appropriate to conserve the population, while still allowing the presence of the cranes to be compatible with routine human activities in the reintroduction area. We believe the nonessential experimental designation will allow us to retain the full support of the public which will be critical to the success of the project.

4.3.1 Physical Characteristics

No effects are expected upon the physical characteristics of the potential release sites, or future release sites, or proposed nonessential experimental population area as a result of implementation of the proposed action.

4.3.2 Biological Environment

4.3.2.1 Vegetation

With the exception of limited areas impacted by construction and use of gentle release pens and observation blinds, no detectable effects on vegetation within the release area is expected as a result of implementation of the proposed action. Neither are there expected to be any detectable changes to vegetation within the southwestern Louisiana landscapes.

At the release site there will likely be some long-term impacts to vegetation within the footprint of the release pen and from other project support structures. However, the vegetation in these areas probably would revert to their former state at some time after the end of reintroduction activities and consequent removal of the structures. There may be a

permanent change in vegetation at the site as a result of long term use of a release site, although any area affected would be limited in size. There could be short-term impacts to vegetation mowed within the small release pen.

4.3.2.2 Threatened, Endangered, and Candidate Species

No effects are expected to any of the threatened, endangered, or candidate species that occur in Louisiana as a result of implementation of the proposed action. No listed species occur within the proposed release area. Listed species that occur in adjacent southwest Louisiana habitats include: piping plovers, manatees, and sea turtles. Brown pelicans and bald eagles have recovered and have been delisted and the proposed reintroduction is not expected to have an adverse impact on either of these species.

4.3.2.3 Other Wildlife Species

Knowledge of foods and feeding behavior of the whooping crane in other parts of its range do not suggest any obvious sources of competition with any of the residents or migrant species found in the proposed release area, or any appreciable adverse effects to potential prey populations. In addition, there is potential risk of predation on adult cranes by alligators, coyotes and bobcats, and on chicks by great horned owls, raccoons and red fox. Natural mortality from predators would be reduced through pen design, the use electric fences around soft release pens and through pre-release conditioning. Conditioning would include teaching cranes the habit of roosting in standing water which should help to reduce losses to coyotes and bobcats.

4.3.2.4 Disease

Cranes are not known to be important vectors of any diseases likely to pose a high level of risk to other wildlife species. Based upon post-release monitoring of whooping cranes in the ongoing Florida and Eastern Migratory Population reintroductions, any cranes released could be expected to carry the same general types and levels of pathogens as do other local wildlife species. Captive whooping cranes have been known to carry certain pathogens which could have substantial adverse affects on wild crane populations. However, any birds released as part of a reintroduction effort would be screened for such diseases, and treated to ensure a low level of risk for disease transmission. Whooping cranes released in Florida underwent a 60-day quarantine period prior to release (Florida FWCC, 2001). The Eastern Migratory Population whooping cranes undergo a health screening prior to shipment from the rearing facility at Patuxent Wildlife Research Center, upon arrival in Wisconsin, and upon arrival in Florida. In this proposed project, the young cranes also will go through a similar series of health checks prior to release and at the time of any capture during the project. The young cranes will be reared in captivity within a top-netted enclosure, with little opportunity for contact with wild birds, greatly reducing the potential for disease transmission. Therefore, the reintroduction of whooping cranes in the southwestern

Louisiana is not likely to have any substantial disease ramifications to any wildlife or human populations.

4.3.3 Land Use

4.3.3.1 Agriculture, Aquaculture, Oil and Gas, Industrial Use, and Land Management

Special regulations pertaining to the nonessential experimental population designation would allow incidental take of an individual in situations where the take is accidental and occurs as a result of otherwise lawful activities, when such activities are in full compliance with all applicable laws and regulations. The exceptions regarding incidental take included in the special rule that would designate the nonessential experimental population would ensure that reintroduction would be compatible with current or planned human activities including agriculture or other business operations. However, operations in the area may voluntarily schedule management actions to avoid adverse impacts to cranes using their properties. Visual deterrent devices may be recommended for some transmission lines depending upon habitat use by the cranes. This measure could increase costs at an undetermined level.

The introduction of a population of whooping cranes will not negatively impact the current socioeconomic situation. Releasing whooping cranes into southwestern Louisiana will be implemented in a manner that allows continuing multiple-use management on public land and should not negatively affect private landowners' lifestyles or income potential, for the following reasons:

(A). The "nonessential experimental population" designation allows the Service to devise the most flexible management program possible under ESA for the reintroduced population of whooping cranes in order to accommodate landowners' and land managers' concerns.

(B) The whooping crane management program is designed to be compatible with existing ranch, livestock, agricultural operations, and oil and gas exploration and extraction so that neither lifestyles nor income potential are negatively affected.

4.3.3.2 Residential Use

No detectable effects to residential use in southwestern Louisiana are expected as a result of whooping crane reintroduction. No additional restrictions on construction or establishment of residences would be associated with reintroduction efforts. No additional restrictions on construction or establishment of residences would be associated with reintroduction efforts.

4.3.3.3 Recreational use

Existing recreational values within the project area would remain, and may be enhanced after the reintroduction of whooping cranes. Management plans for the White Lake and other public land may be modified to benefit whooping cranes and allow reasonable public access to the cranes in non-sensitive locations and time intervals. Currently, in Louisiana, snow geese are the only target species which appear similar to whooping cranes. In the event the sandhill crane becomes a game species, it is not likely there would be any additional restrictions imposed as a result of the presence of whooping cranes. Per provisions of the special rule to establish the nonessential experimental nonmigratory whooping crane population, the Service would not mandate any closure of areas, including National Wildlife Refuges, during hunting or conservation order seasons or closure or modification of hunting or conservation order seasons for the purpose of avoiding take of the proposed nonessential experimental population.

Access to some limited areas associated with release sites could be temporarily restricted at times when whooping cranes might be particularly vulnerable to human disturbance (i.e., around the gentle release/conditioning pens in the fall/winter). Any temporary restricted access to areas for these purposes would be of the minimum size and duration necessary for protection of the nonessential experimental population of cranes. Any such access restrictions would not require federal closure of hunting areas or seasons, although hunting might be restricted by limiting access in the immediate vicinity of the release site.

Louisiana and LDWF will maintain management prerogatives regarding the whooping crane. They are not directed by the proposed rule to take any specific actions to provide special protective measures, nor are they prevented from imposing restrictions under state law, such as protective designations, area closures, etc. LDWF has indicated that they would not propose hunting restrictions or closures related to game species because of the proposed whooping crane reintroduction. Overall, the presence of whooping cranes is not expected to place constraints on hunting of wildlife nor on economic gain landowners might receive from hunting leases.

The presence of whooping cranes in some wetland areas is not likely to place constraints on fishing activity. Most whooping crane nesting is expected to occur in emergent marshes. Therefore, no appreciable limitation on fishing activity and no reduction in economic activity associated with sport fishing is expected,

The number of people visiting the release area for birding and wildlife viewing is expected to change after whooping cranes are introduced and increase in numbers. Birders would be attracted to these areas to view the whooping cranes and other unique local bird life. These visitations may eventually provide an increase in recreation income to local service industries. Such changes would benefit the local economy. Controlled opportunities for the public to view whooping cranes from a distance may be developed. Tour routes and accessible viewing blinds/towers are options the LDWF or the Service may consider for providing controlled viewing opportunities.

4.3.3.4 Water Usage

No major effects on water usage by either private or government entities are expected as a result of this action. White Lake and other nearby public lands may consider minor modifications to water level management regimes to improve crane habitat as a result of this action, but the actual amounts of water used are not expected to change, and no adverse effects on water availability to private entities is anticipated. As a result of provisions of the rule to designate the Louisiana nonmigratory nonessential experimental population of whooping cranes, no non-federal entities would be obligated to manage for the species, so there would be no mandated changes to water management on other properties.

4.3.3.5 Cultural/Paleontological Resources

No adverse effects on existing archaeological resources are expected to result from the reintroduction project.

4.3.3.6 Local Socio-economic Conditions

The region would receive greater, but undetermined, revenues from the influx of State personnel and periodically Federal personnel involved in the reintroduction program and from contracts with individuals involved in the whooping crane recovery effort. The region also would receive greater, but undetermined, revenues from additional tourism activities associated with whooping cranes. Birders throughout the U.S. would have a great desire to view the species, and would likely contribute to the local service economy, spending money in motels, restaurants and stores. Substantial income is generated from the influx of visitors who go to see whooping cranes near Rockport, Texas, where the self-sustaining wild population winters. The visitation at Necedah National Wildlife Refuge in Wisconsin and at St. Marks National Wildlife Refuge in Florida has significantly increased since the establishment of the Eastern Migratory Population of whooping cranes. The annual spring viewing of cranes along the Platte River in Nebraska also generates economic benefits from enthusiastic birders (Lingle 1992). A similar, localized economic benefit would, no doubt, develop around the Louisiana population. The public could possibly be provided the opportunity to view the whooping cranes from a distance (from accessible blinds, towers, or tour routes) without jeopardizing the birds' normal activities.

Reintroduction of whooping cranes into Louisiana would be implemented in a manner that allows continuing multiple-use management on public land and should not negatively affect private landowners' lifestyles or income potential. The nonessential experimental population designation for the proposed Louisiana nonmigratory population would accommodate the concerns of landowners and land managers. Only the Service, on refuge lands, and the National Park Service, on lands it manages, would be required to undergo section 7

consultations if their actions might affect whooping cranes. Other Federal agencies would not be required to conduct formal consultation on proposed actions that might adversely affect whooping cranes.

No significant or adverse effects are expected on small private entities. Privately-owned tracts surrounding the potential release area are in a rural setting. Agriculture, aquaculture, livestock, oil and gas exploration/extraction and recreational hunting are the main land uses. The proposed releases would not interfere with land management options of private landowners nor with their ability to realize economic gain from their properties, including development for residential use. The nonessential experimental population designation for the Louisiana whooping crane population would permit greater management flexibility.

Greater sandhill cranes have been a part of the natural scene in Louisiana in recent years, utilizing wetlands and upland pastures. Their feeding, roosting, and general behavior patterns are similar to the activities likely to be observed in whooping cranes, although the whooping cranes are likely to utilize slightly deeper wetland areas. Whooping cranes may utilize improved pastures to probe for invertebrates. This action aerates the soil and removes insects potentially damaging to plant root health. There is evidence that sandhill cranes sometimes cause damage to emerging corn; whooping cranes may engage in similar activities. If such depredations occur they can be reduced through use of bird scaring devices and other techniques. Ongoing research on seed treatments as a deterrent to corn depredation is promising (Blackwell et al., 2001). Whooping cranes will not enter standing grain fields because of their vulnerability to predators and difficulty gaining flight. Whooping cranes will feed along the borders of such fields and, if large flocks occurred they could cause some crop damage. However, whooping cranes are socially less gregarious than sandhill cranes and, therefore, are less likely to cause any appreciable crop depredation. The establishment of a population of whooping cranes is not expected to negatively impact the current socioeconomic situation at the proposed release area in Louisiana.

5.0 CONSULTATION AND COORDINATION WITH OTHERS

The scoping for this assessment included several coordination meetings with various cooperators and stakeholders (Appendix 1). Private and public land managers/owners were initially contacted, and contacts have continued in conjunction with the pre-release studies. Constituents and stakeholders do not oppose the proposed action provided it does not interfere with existing lifestyles and current and potential income.

The Service is further soliciting public comment on its proposal to designate the reintroduced population of whooping cranes in Southwestern Louisiana as nonessential, experimental. Public comment from this proposal will be incorporated into the final Assessment.

6.0 COMPLIANCE WITH LAWS, REGULATIONS AND POLICIES

This Environmental Assessment was prepared in accordance with the National Environmental Policy Act of 1969. It is consistent with the policy contained in the Service's manual (550 FW 3), and employs a systematic, interdisciplinary approach. The proposed action involves reintroduction of whooping cranes into Southwestern Louisiana as a nonmigratory nonessential experimental population. The proposed project has been reviewed for compliance with other Federal and state requirements including but not limited to, the Endangered Species Act of 1973, as amended; Archeological and Historic Preservation Act of 1974; National Historic Preservation Act of 1966, as amended; Executive Order 11988 (Floodplain Management); and Executive Order 11990 (Protection of Wetlands). Full compliance with relevant laws and regulations will be achieved upon review of this Environmental Assessment by appropriate agencies and interested parties, and the signing of a Finding of No Significant Impact and Environmental Action Statement.

7.0 PREPARERS

This Environmental Assessment was prepared by Bill Brooks, Wildlife Biologist of the Service's Jacksonville (FL) Field Office and Deborah Fuller, Fish and Wildlife Biologist, of the Service's Louisiana Field Office.

8.0 LITERATURE CITED

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Appendix 1.

Date	Presenter	Group/Location	# of attendees
8/19/2009	Bob Love/ Tom Hess	Miami Corporation, Sweet Lake Land and Oil and the Gray Estate which lie west of White Lake-Lake Charles, LA	12
8/19/2009	Bob Love/Tom Hess	Vermilion Corporation which lies to the East of White Lake-Abbeville, LA	1
10/1/2009	Buddy Baker	Louisiana Department of Wildlife and Fisheries Region 5 Enforcement staff meeting-Lake Charles, LA	40
10/8/2009	Buddy Baker	Louisiana Department of Wildlife and Fisheries Coastal and Nongame Resources staff meeting-White Lake Wetlands Conservation Area	40
1/8/2010	Tom Hess	Louisiana Landowners Association-Baton Rouge, LA	35
1/14/2010	Tom Hess/Carrie Salyers	Local Gueydan landowners-Gueydan, LA	20
2/1/2010	Bob Love	Sammy Noel-local rice farmer and former White Lake Advisory board member Wayne Sagrera-local alligator famer and former Louisiana Wildlife and Fisheries commission chairman	2
2/4/2010	Tom Hess	Farm Bureau Association-Abbeville, LA	30
2/9/2010	Buddy Baker/Tom Hess	Mid-Continent Oil and Gas Association and Louisiana Oil and Gas Association representatives-Baton Rouge, LA	2
2/10/2010	Carrie Salyers	Vermilion Rice Growers Association-Abbeville, LA	45
2/24/2010	Jeb Linscombe	Webless Committee -Mississippi Flyway Council Technical Section-Little Rock, AR	30
3/4/2010	Bob Love	Louisiana Wildlife and Fisheries Foundation-Baton Rouge, LA	16
3/25/2010	Carrie Salyers	Southwest Louisiana National Wildlife Refuge Complex staff meeting-Bell City, LA (Cameron Prairie, Sabine, Lacassine, and Shell Keys NWR)	25
4/1/2010	Tom Hess	Friends of the Red River NWR-Shreveport, LA	35

Appendix 2. PROPOSED LOUISIANA WHOOPING CRANE REINTRODUCTION: FLYWAY BRIEFING PAPER. Tom Stehn 1-30-09

WHAT IS BEING PROPOSED: A reintroduction to establish a nonmigratory flock of whooping cranes within their historic breeding area of southwestern Louisiana.

WHO IS INVOLVED: The Canada/United States Whooping Crane Recovery Team has recommended moving forward with the reintroduction. The Regional Directors of USFWS Regions 2 and 4 have been briefed on this recommendation and are supportive. The Louisiana Department of Wildlife and Fisheries is the lead on releasing and monitoring reintroduced whooping cranes and is very enthusiastic and supportive of the project.

WHAT IS THE GOAL OF THE PROJECT: The goal of the reintroduction is to establish a self-sustaining flock of 25-30 breeding pairs of whooping cranes (approximately 100 to 120 birds).

WHAT IS THE PURPOSE OF THE REINTRODUCTION: The whooping crane recovery plan identifies the need for three self-sustaining wild populations—consisting of 40 nesting pairs in the Aransas-Wood Buffalo Population (AWBP) and two additional, separate and self-sustaining, populations consisting of 25 nesting pairs each—to be in existence before the whooping crane can be reclassified as "threatened". The two additional populations may be migratory or non-migratory. Population targets are 160 in the AWBP, and 100 each in other populations. All three populations must be self-sustaining for a decade at the designated levels before downlisting could occur. If only one additional wild self-sustaining population is re-established, then the AWBP must reach 400 individuals (i.e. 100 productive pairs), and the new population must remain above 120 individuals (i.e. 30 productive pairs).

WHEN COULD THIS TAKE PLACE: The initial release of 4-8 birds could take place in the 2010-2011 winter. If results of this initial proposed release are favorable, releases will be continued with the goal of releasing up to 30 whooping cranes annually for about 10 years.

WHERE THE RELEASE WOULD TAKE PLACE: The initial release would be done at the 70,970-acre White Lake Wetlands Conservation Area (WLCA) south of Gueydan, Vermillion Parish in southwestern Louisiana. WLCA encompasses part of the area historically occupied by a nonmigratory, breeding population of whooping cranes that was extirpated by 1950.

WHAT METHODS WOULD BE USED: Whooping crane juveniles would be isolation-reared at captive breeding centers and then soft-released to hold and acclimate birds at White Lake during their first winter. Techniques used would be similar to the nonmigratory whooping cranes released in central Florida. Intensive monitoring would be done by project personal, including tagging with radio and GPS solar-powered satellite transmitters, to discern movements, habitat use, other behavior, and survival.

LEGAL ISSUES: A 10(j) rule is being drafted to designate all nonmigratory whooping cranes in

Louisiana as nonessential experimental and should be available for public comment sometime after mid-February. The proposed rule will be coordinated with potentially affected State and Federal agencies, private landowners, and the general public.

GEOGRAPHIC AREA OF THE 10(j) RULE: On private lands, both migratory and nonmigratory whooping cranes in Louisiana would be considered as nonessential experimental. The existing 10(j) rule for the eastern migratory population makes any whooping crane in the eastern states of AL, AR, FL, GA, IA, IL, IN, KY, LA, OH, MI, MN, MO, MS, NC, SC, TN, VA, WV, WI, treated as nonessential experimental (NEP). If any of these whooping cranes cross into the Central Flyway or into the New England States, they are treated as "endangered" regardless of their captive origin.

IMPACT OF THE NEP RULE: On private lands, the whooping cranes in Louisiana would not be considered as "endangered". Current human activities would not be disrupted by the reintroduction. These are the same conditions afforded the eastern migratory whooping cranes

designed to not affect the daily activities or monetary income of people. The principal activities on private property adjacent to the release area are agriculture, aquaculture, oil and gas exploration and extraction, and recreation. Use of these private properties by whooping cranes will not preclude such uses. The proposed special regulation accompanying this proposed rule authorizes incidental take of the whooping crane in the proposed NEP area when the take is accidental and incidental to an otherwise lawful activity.
There will be no federally mandated hunting area or season closures or season modifications put in place in the NEP area to protect whooping cranes. Accidental shooting of a whooping crane in this experimental population during the course of otherwise lawful hunting activity is exempt from take restrictions under the Act in this proposed special regulation. Applicable Federal penalties under the Migratory Bird Treaty Act and/or State penalties, however, may still apply. The LDWF will minimize mortality due to accidental shootings by providing educational opportunities and information to hunters to assist them in distinguishing whooping cranes from other legal game species.

EXPECTED RESTRICTIONS: Human access may be temporarily restricted in limited areas including release pen facilities and at nests to minimize disturbance at times of greatest vulnerability. Any temporarily restricted access to these areas will be of the minimum size and duration necessary for protection of the proposed NEP cranes, and will be at the discretion of the Louisiana Department of Wildlife and Fisheries. It will not require Federal closure of hunting areas or seasons.

EXPECTED CRANE MOVEMENTS: Since migration in cranes is a learned rather than an innate behavior, captive-reared whooping cranes released in Louisiana will likely adhere to their release area and be concentrated at WLCA in Vermilion Parish. Expected dispersal within the NEP area may include areas in Calcasieu, Jefferson Davis, and Cameron Parishes. In Florida, nonmigratory whooping cranes commonly moved 50 to 75 miles from a release site. Almost all reintroduced whooping cranes are expected to remain in Louisiana. However, one pair of whooping cranes from the Florida flock traveled to Illinois and Michigan during the severe drought of 2000 and a second pair dispersed to Virginia, but surviving members of the pairs all returned to the core reintroduction area in Florida. An article that details movements of Florida nonmigratory whooping cranes can be provided in a separate document. Given the abundance of marsh habitat available to the cranes compared to limited wetland habitats in Florida, whooping cranes released in Louisiana are expected to show less dispersal than the cranes in Florida. Section 10(j) of the Act requires that an experimental population be geographically separate from other populations of the same species. Whooping cranes released in southwest Louisiana are not expected interact with the AWBP flock along the Texas coast as Aransas NWR is approximately 285 miles southwest of the proposed release area.

PROPOSED MANAGEMENT ACTIONS IF LOUISIANA WHOOPING CRANES WANDERS OUT OF THE NEP AREA: We anticipate only the rare instance when a Louisiana whooping crane would stray outside of the 20 NEP states. If a nonmigratory Louisiana whooping crane strays, the same protocol used for the eastern migratory whooping cranes will be implemented,

namely

a) immediately consult with the state where the whooping cranes are located,
b) if requested by the state, try to capture and remove the whooping cranes.
c) if there is a significant chance of mixing of the stray whooping cranes with those of the Aransas-Wood Buffalo flock, then try to capture and remove the cranes.
d) if there is no significant chance of mixing and the cranes are not hindering human activities, then allow the whooping cranes to remain and let them go back to Louisiana on their own which has always happened in the case of the Florida nonmigratory whooping cranes.

Birds from the AWBP flock have never been observed in Louisiana. It is not acceptable to the Recovery Team for captive-bred whooping cranes to mix with those of the Aransas-Wood Buffalo flock. If the movement of a few Louisiana cranes occurs more than occasionally into the Central Flyway, then the reintroduction will be re