V. Plan Implementation

INTRODUCTION

Refuge lands are managed as defined under the National Wildlife Refuge System Improvement Act of 1997. Congress has distinguished a clear legislative mission of wildlife conservation for all National Wildlife Refuges. National wildlife refuges, unlike other public lands, are dedicated to the conservation of the Nation's fish and wildlife resources and not wholly dedicated to recreational uses. Priority projects emphasize the protection and enhancement of fish and wildlife species first and foremost, but considerable emphasis is placed on balancing the needs and demands for wildlife-dependent recreational uses.

To accomplish the purpose, vision, goals, and objectives contained in this plan for Lake Ophelia National Wildlife Refuge, this section identifies projects and a cost summary, staffing and funding needs, partnerships opportunities, step-down management plans, and a monitoring and evaluation plan necessary for successful implementation.

PROJECT SUMMARIES

Listed below are the project summaries and their associated costs for habitat restoration and management, land acquisition, facility development and maintenance, staffing, baseline data collection and interpretation, and exotic species control over the next 15 years. This project list reflects the priority needs identified by the public, planning team, and Refuge staff based upon available information. These projects were generated for the purpose of achieving the Refuge's objectives and strategies. The primary linkages of these projects to those planning elements are identified in each summary.

Reforestation of surplus Refuge cropland and other non-forested lands surrounding the Refuge will contribute to regional and national objectives for forest-dwelling birds and the Louisiana black bear. Refuge reforestation will follow a three-phased approach (Table 5-1), where existing reforestation will be evaluated and replanted as appropriate and approximately 1,178 acres surplus cropland will be reforested. No additional land will be reforested until an evaluation of all existing reforestation is completed, a plan is developed to meet minimum survival parameters on these plots, and additional plantings are completed, as necessary. Phase 2 will commence when Phase 1 is complete. Approximately 500 – 700 acres will be reforested in this phase. Reforestation will be completed on the remaining targeted cropland in the third phase. Projects that provide staffing, equipment, and Refuge infrastructure in one phase need to be completed before the projects in the next phase are initiated. Projects not associated with reforestation of cropland or Refuge staff and equipment required for habitat management were placed in the various phases based on the priority needs to meet overall Refuge goals and objectives over the 15-year life of this plan. A phased approach will allow the Refuge to have in place the necessary staff and equipment to achieve its habitat objectives before proceeding to the next phase. All projects are included in the Refuge Operation Needs (RONS) database for the Central Louisiana NWR Complex.

FISH AND WILDLIFE POPULATIONS

Project 1: Science-based Inventory and Monitoring of Plant and Animal Populations

Science-based inventories and monitoring of plant and animal populations are critical to ensuring the biological integrity of the Refuge. Information collected will serve as the basis for developing habitat management plans and will influence all Refuge management activities. A systematic inventory and monitor

Table 5-1. Summary of Lake Ophelia National Wildlife Refuge Comprehensive Conservation Plan projects divided into phases

	First Year Cost	Recurring Annual Cost	Staff FTE's
Existing Budget Base		$583,000	10.0 FTE
Phase 1 Projects			
8 Wetland Reforestation (phase 1 work only)	46,000	23,000	
19 Reconstruct Vehicle Access Roads	1,950,000	12,000	
1 Science-based Monitoring and Inventory	135,000	60,000	1.0 FTE**
15 Visitor Services Program	425,000	129,000	2.0 FTE**
18 Frazier/Whitehorse Lake Boat Ramp	98,000	6,000	
10 Lake Ophelia Restoration Project	150,000	15,000	
4 Water Management Sys. Operation*	250,000	20,000	
6 Forest Habitat Management	$145,000	$74,000	1.0 FTE**
Subtotal:	$3,199,000	$339,000	4.0 FTE
Phase 2 Projects			
5 Water Management System Maintenance*	$ 287,000	$66,000	1.0 FTE
8 Wetland Reforestation (phase 2 work only)	55,000	2,500	
16 Wildlife Observation/Interpretation	283,000	13,000	
20 Convert ATV Trails to Vehicle Access	1,400,000	9,000	
14 Archaeological Surveys	123,000	3,000	
2 Private Lands Conservation	139,000	74,000	1.0 FTE*
3 Control Invasive Feral Swine	41,000	17,000	
Subtotal:	$2,328,000	$184,500	2.0 FTE
Phase 3 Projects			
7 Forest Monitoring and Inventory*	135,000	60,000	1.0 FTE**
8 Wetland Reforestation (phase 3 work only)	74,580	3,390	
9 Heavy Equipment Package*	675,000	50,000	
11 Control Invasive Plants*	137,000	63,000	1.0 FTE
13 Boundary Line Surveys	200,000	3,000	
17 Lake Ophelia Fishing & Interpretive	211,000	8,000	
22 Refuge Law Enforcement	135,000	60,000	1.0 FTE
23 Position Upgrade	50,000	50,000	
24 Vehicle Replacement	100,000	100,000	
21 Upgrade Administrative Roads	1,800,000	6,000	
Subtotal:	$3,517,580	$403,390	3.0 FTE
Grand Total:	**$9,044,580**	**$926,890**	**19.0 FTE**
Potential Land Acquisition Cost:		**$25,000,000 to $50,000,000**	

* Projects to complete before initiating reforestation in same phase.
** FTEs with shared work responsibilities on Grand Cote and Cat Island NWRs.

Notes:
Phases indicate the order of accomplishment necessary to achieve overall plan goals, objectives, and strategies.
Costs are shown in Fiscal Year 2004 dollars.

ing program will enable the Refuge to make informed management decisions and valuable long-term contributions to national and regional objectives for waterfowl, shorebirds, forest breeding birds, wintering forest and scrub/shrub birds and the threatened Louisiana black bear, among others. Standardized census and survey techniques will be employed and all data compiled into databases including GIS for spatial analysis. This information is critical to formulating management actions and evaluating wetland restoration and other Refuge programs. All data will be shared with appropriate State and Federal partners in an effort to further ecosystem management. This project will add a wildlife biologist position to support this annual inventory and monitoring effort. The estimated first year cost for this project is $135,000, with a recurring cost of $60,000 per year. *(Linkages: Goal 1, Objectives 1-9; Goal 4, Objectives 1, 2, and 5.)*

Project 2: Private Lands Conservation Initiative

Lake Ophelia NWR is strategically located in an important area of the lower Mississippi River ecosystem and must play a major role in the recovery and conservation of such species as the bald eagle, Louisiana black bear, and pallid sturgeon. The success of these conservation efforts will depend on the availability of suitable habitat, particularly on private land, and on providing technical assistance related to habitat and species management. This project will add a biologist position to assist in creating a 100,000-acre forested block for Neotropical migratory birds, as well as in reforesting black bear travel corridors that will link the Refuge and surrounding WMA's and coordinate threatened and endangered species recovery efforts on the Refuge and surrounding private land through private partners. This project will also identify an active role for the Refuge in black bear repatriation efforts in the Red River/Three Rivers Area, including monitoring bears both on and off Refuge and responding to any nuisance bear complaints. This position is extremely important to help guide partners in conserving lands of highest conservation priority. The estimated first-year cost of this project is $139,000, with a recurring cost of $74,000. *(Linkages: Goal 1, Objective 6; Goal 3, Objective 2.)*

Project 3: Control Invasive Feral Swine

Lake Ophelia NWR has an established population of invasive feral swine. The scientific literature has documented many adverse effects caused by feral swine on the habitat productivity and reproduction of most native wildlife. Being omnivores, feral swine utilize virtually every component of the habitat and directly compete with native wildlife, reducing their carrying capacity and adversely affecting their reproduction and recruitment. Feral swine are compromising the Refuge's efforts in wetland restoration, reforestation, and species recovery. Currently, the Refuge is using a multi-faceted control program including public hunting, staff control, trapping, and various other techniques described in the Reducing Wildlife-Caused Damage Plan. This project will provide professional animal damage control personnel to supplement the Refuge staff's feral swine control efforts. Control work will be contracted with U.S. Department of Agriculture (USDA) Animal Damage Control and/or other professional nuisance animal control personnel. The estimated first-year cost of this project is $41,000, with a recurring cost of $17,000. *(Linkages: Goal 1, Objectives 1-9; Goal 2, Objectives 1-5.)*

HABITATS

Project 4: Water Management System Operation

Man-made hydrological alterations have all but eliminated the natural flooding regimes that once supported historical numbers of waterfowl and shorebirds. In this altered floodplain, a system of levees, water control structures, and wells is necessary to provide dependable flooded habitats that correspond with the migration chronologies of migratory birds. The timing of water management is critical not only

to meet the needs of migratory birds, but also to stimulate the production of desirable moist-soil plants and to control undesirable plants. Water management includes monitoring water flow, water levels, and pumping with a GIS database to more efficiently manage resources. To efficiently manage and maintain the water management system, this project includes the installation of six additional water control structures ($50,000), two 10-inch irrigation wells and power units ($150,000), and an underground irrigation pipe system ($50,000). The estimated first-year total cost of this project is $250,000, with a recurring cost of $20,000. This project needs to be accomplished before the Refuge proceeds to Phase 3 reforestation. *(Linkages: Goal 1, Objectives 1 and 2; Goal 2, Objectives 4 and 5).*

Project 5: Water Management System Maintenance

The Refuge uses a system of levees, water control structures, and wells in an effort to mimic historic flooding regimes and provide dependable flooded habitat for migratory birds. This system consists of approximately 10 miles of levees, 36 water control structures, one well, and a 16-inch portable relift pump. The Refuge can provide over 1,500 acres of managed seasonal flooding with this water management system. Floodable acreage includes 1,155 acres of moist-soil and cropland habitat and 345 acres of forested habitat. The moist-soil habitat requires discing every two to three years to maintain desirable plant composition. For the functional operations of the entire water management system to work reliably, annual maintenance must be performed on the levees, water control structures, wells, and power units. This project includes monitoring equipment maintenance, water flow, water levels, pumping, etc., with a GIS database and other databases to more efficiently manage resources. This project will provide a maintenance worker to perform annual maintenance and the necessary equipment (180-hp tractor and disc, $100,000; and six-row planter, cultivator, 16-yard dirt pan, spray boom, and 15-foot flex-wing bush hog, $45,000). The total estimated first-year cost of this project is $287,000, with a recurring cost of $66,000. This project needs to be accomplished before the Refuge proceeds to Phase 2 reforestation. *(Linkages: Goal 1, Objectives 1 and 2; Goal 2, Objectives 4 and 5.)*

Project 6: Forest Habitat Management

An active forest management program will become increasingly important if the Refuge is to contribute to regional and national goals for migratory birds and the Louisiana black bear. A forest inventory has been conducted by contract foresters and Refuge staff via continuous forest inventory (CFI) plots. The development and implementation of a forest management plan is on hold until a forester can be hired or one can be detailed to Lake Ophelia NWR from another Refuge. CFI plots will be resampled in the future to track the forest composition and species diversity changes in response to time and management practices. Included in this project is a forester position to plan and implement forest management and inventory. This project needs to be implemented and a habitat management plan completed before the Refuge proceeds to Phase 2 reforestation. The estimated first-year cost of this project is $145,000, with a recurring cost of $74,000 per year. (*Linkages: Goal 2, Objectives 1 and 2; Goal 1, Objectives 1, 2, 4, and 6.)*

Project 7: Forest Monitoring and Inventory

This project complements Project 6 and will allow the completion, continuation, and monitoring of tasks identified by Project 6. Included in this project is a forestry technician position to implement forest management and assist with inventory and monitoring. The estimated first-year cost of this project is $135,000, with a recurring cost of $60,000 per year. *(Linkages: Goal 2, Objectives 1 and 2; Goal 1, Objectives 1, 2, 4, and 6.)*

Project 8: Wetland Reforestation

Prior to European settlement, the LMRAP contained over 24 million acres of bottomland hardwood forest that supported a wide variety of wildlife species. Today over 75 percent of the original forest has been lost to land clearing for agriculture, transportation, industrialization, and urbanization. The remaining 5.8 million acres of bottomland hardwoods lie in numerous isolated islands that are often surrounded by a sea of agriculture.

Reforestation of Refuge cropland and other non-forested lands surrounding the Refuge will contribute to regional and national objectives for waterfowl, forest-dwelling birds, and the Louisiana black bear. Refuge reforestation will follow a three-phased approach, where existing reforestation will be evaluated and replanted as appropriate and approximately 1,178 acres surplus cropland will be reforested. Phase 1 will be accomplished by implementing projects six and eight. No additional land will be reforested until an evaluation of all existing reforestation is completed, a plan is developed to meet minimum survival parameters of these plots, and additional plantings are completed, as necessary.

Phase 2 will commence when Phase 1 is complete. Projects four, five, and eight (in progress) must be implemented to complete this phase. Approximately 500 – 700 acres will be reforested in this phase. Phase 3 will begin when projects seven, eight (in progress), nine, and eleven are complete. The remaining cropland targeted for reforestation will be completed in this phase.

Project estimates include funding for evaluation, monitoring, equipment, planting materials, and contracted tree planting. The estimated cost of evaluation and reforestation is for a total cost of $176,000 over the next 15 years (4,588 acres of current reforestation evaluation and replanting and 1,178 acres of new reforestation). Much of the existing reforestation has been completed with carbon sequestration funds with little or no cost to the Service. Recurring costs associated with fire suppression, monitoring, and management will average $5 per acre per year. Ultimately, there is potential to reforest additional Refuge cropland if additional staffing and equipment resources are acquired, thus reducing the dependence on cooperative farming, and 13,000 acres of non-forested land in the surrounding Three Rivers SPOA could be reforested in future years (Figure 4-1). *(Linkages: Goal 2, Objectives 1-3; Goal 3, Objective 1 and 2.)*

Project 9: Heavy Equipment Package

This project will complete essential rehabilitation work on over 28 miles of roads and trails and 12 miles of levees. It will include the replacement of numerous collapsed culverts; graveling of damaged sections; installation or replacement of water control structures; building or repairing levees; purchases of essential heavy equipment to complete rehabilitation and development projects; and the removal of woody vegetation from road and levee shoulders. This work, along with the needed heavy equipment, is critical for restoring the Refuge's hydrology and enhancing its accessibility to the public. Necessary equipment includes an excavator with tree cutter attachment ($230,000); a gravel trailer ($35,000); 16-yard pull behind dirt scraper ($25,000); a road grader ($160,000); backhoe ($75,000); and a bulldozer ($150,000). This project needs to be accomplished before the Refuge proceeds with Phase 3, reforestation. The estimated first-year cost of this project is $675,000, with an annual recurring cost of $50,000. (*Linkage: Goals 1-4.*)

Project 10: Lake Ophelia Restoration

Lake Ophelia, a 350-acre, cypress-lined lake, is the namesake of the Refuge and at one time was a popular recreational fishing destination for people in Central Louisiana. However, during the drought in the

late 1990's Lake Ophelia went dry, thereby wiping out the native fishery and allowing a variety of invasive and exotic vegetation — including water hyacinth, hydrilla, and black willow trees—to infiltrate the lake. The excessive vegetation has caused very low dissolved oxygen levels during the summer, which has wiped out all re-stocking efforts. This project will restore the sport fish population in Lake Ophelia to a level that will sustain a recreational fishing program. Strategies will include control of all invasive and exotic plant species through chemical, biological, or mechanical techniques, enhanced water management capabilities, and re-stocking of sport fish as per guidelines set by Baton Rouge Fisheries Resource Office. The estimated cost is $150,000, with a recurring cost of $15,000 per year. (*Linkages: Goal 1, Objective 10; Goal 4, Objective 2.*)

Project 11: Control Invasive Plants

The Refuge's biological integrity is threatened by a variety of invasive plant species. This project will develop and implement an integrated pest management program (IPM) to control invasive plants. Invasive plant occurrence will be mapped and quantified. Appropriate IPM strategies will be used to control water hyacinth, hydrilla, and Eurasian water milfoil in all water bodies; alligator weed, *sesbania*, cocklebur, and Johnsongrass in moist soil and cropland fields; and Chinese tallow trees in reforestation areas. Strategies will include chemical, mechanical, and biological control techniques. This project will add a resource specialist position ($53,000). It needs to be fully operational before the Refuge proceeds to Phase 3 reforestation. The estimated cost is $137,000, with a recurring cost of $63,000 per year. *(Linkages: Goal 1, Objective 1; Goal 2, Objectives 3-5; Goal 4, Objectives 1 and 2.)*

LAND PROTECTION AND CONSERVATION

Project 12: Land Acquisition and Priority Areas of Conservation Interest

Through a combination of fee title purchases from willing sellers and leases, cooperative agreements and conservation easements with willing landowners, the Service will continue to purchase sufficient interest in the remaining 20,500 acres within the existing Refuge acquisition boundary. The Service will acquire sufficient interest in the identified lands to prevent conflicting land uses and to provide the management flexibility required to protect and manage the habitat as a national wildlife Refuge. Technical assistance will be provided to private landowners in the area interested in forest management, habitat management, and wildlife conservation. Completing this project will significantly reduce forest fragmentation and contribute to the biological integrity and environmental health of the entire Red River/Three Rivers Area. Additionally, this project will eliminate numerous small inholdings and consolidate Refuge boundaries, eliminating many administrative and public access issues. The acquired lands will be made available to the public for additional wildlife-dependent recreation. All acquisitions will be made from willing sellers. Potential funding sources for this project include the Migratory Bird Conservation Fund, Land and Water Conservation Fund, carbon sequestration and cooperative efforts with various Service partners. The estimated cost of this project is $25-50 million. *(Linkage: Goal 3, Objective 1.)*

Project 13: Boundary Line Surveys

Several portions of the current Refuge boundary have never been surveyed, and other portions have inadequate field points that preclude accurate boundary delineation. Registered surveys provide a legally defensible boundary line that is critical to resource protection and public relations, especially with regard to adjacent landowners. This project will fund surveys for approximately 40 miles of boundary line at an estimated cost of $5,000 per mile. The total cost of this project is $200,000, with a recurring cost of $3,000. *(Linkages: Goal 3, Objectives 1 and 3; Goal 4, Objective 1.)*

Project 14: Archaeological Survey

A comprehensive archaeological survey of Lake Ophelia NWR will be conducted. This project is essential to meet Federal cultural resource mandates and will provide the baseline information needed for protection of existing resources and resource/public use development activities. The estimated first-year cost of this project is $123,000, with a recurring cost of $3,000. *(Linkage: Goal 3, Objective 3.)*

EDUCATION AND VISITOR SERVICES

Project 15: Visitor Services Program

Currently, Lake Ophelia NWR offers limited opportunities for wildlife-dependent recreation due, primarily, to a lack of facilities and availability of staff to plan and implement a visitor services program. This project will add an outdoor recreation planner to organize and implement an overall visitor services program that will include hunting, fishing, wildlife observation and photography, and environmental education and interpretation. An office clerk position will be added to handle public use-related phone calls, process hunt applications, sell permits and distribute brochures. Directional and interpretive signs will be developed and placed throughout the Refuge to accommodate all types of wildlife-dependent visitation. Programs and tours will be developed and provided to schools and other interested groups. The estimated first-year cost of this project is $425,000, with a recurring cost of $129,000. *(Linkage: Goal 4, Objectives 1-6.)*

Project 16: Wildlife Observation and Interpretive Sites

Wildlife observation and interpretation sites will be developed for Duck Lake, Possum Bayou, and Point Basse. Each site will include parking, maintained trails with boardwalks, foot bridges (when necessary), interpretive panels, and observation blinds or platforms. Informational brochures and interpretive panels will describe the area's natural and cultural resources, Refuge management programs, and the NWR System. The estimated cost of this project is $283,000, with a recurring cost of $13,000. *(Linkage: Goal 4, Objectives 3-6.)*

Project 17: Lake Ophelia Fishing and Interpretation Site

Lake Ophelia is a popular recreational fishing destination on the Refuge. However, inadequate public use facilities limit the public's opportunity to enjoy this 350-acre natural oxbow lake. This project will provide directional signs, an interpretive kiosk, an accessible trail and fishing pier, a parking area, and restrooms at the existing boat ramp site. Minimum public use standards will be met at this site. The estimated total cost for this project is $211,000, with a recurring cost of $8,000. *(Linkage: Goal 4, Objectives 2-6.)*

Project 18: Frazier/Whitehorse Oxbow Lake Access

Boat access facilities will be built on Lake Ophelia NWR to provide public boat access to Frazier/Whitehorse Oxbow Lake. The Refuge adjoins this eight-mile-long lake for over three miles, but presently there are no public boat access facilities. This project will provide directional signs, an interpretive kiosk, a parking area, restrooms, and a concrete boat ramp. Completion of this project will provide Refuge visitors year-round access to over 300 acres of quality hunting, fishing, and wildlife observation opportunities. The cost of this project is estimated at $98,000, with a recurring cost of $6,000. *(Linkage: Goal 4, Objectives 1-6.)*

Project 19: Reconstruct Vehicle Access Roads

Poor access roads severely hamper public opportunities to visit and enjoy Lake Ophelia NWR. Currently, Lake Long, Bucks, and Boones Roads are open to vehicular traffic and are the primary means of access to all wildlife-dependent recreational uses on the Refuge. Lake Long Road is being reconstructed using Federal Highways funds in fiscal year 2005, but must be maintained to ensure the $3.5 million investment is maintained. Bucks and Boones Roads have very little gravel, and poor drainage makes them impassable to all but four-wheel-drive vehicles during wet weather. This project will reconstruct Bucks and Boones Roads to minimum public use standards by raising the road beds, adding drainage culverts, and resurfacing with gravel. Bucks Road is 2.6 miles long and provides access to the southeast corner of the Refuge. The estimated cost to reconstruct Bucks Road is $1,272,000. Boones Road is 1.2 miles long with an estimated reconstruction cost of $682,000. Funding for road construction will be requested from the TEA-21 Refuge Roads fund. The total estimated cost of this project is $1.95 million, with an annual recurring cost of $12,000. *(Linkage: Goal 4, Objectives 1-6.)*

Project 20: Convert ATV Trails to Vehicle Access Roads

Currently, the only public access to several areas of the Refuge is by all-terrain vehicle (ATV) trail. Although this form of access is appropriate in some situations, access is limited to only those individuals who have an ATV. Several of the ATV trails lead to lakes or bayous where the Refuge has plans to develop environmental education and interpretation facilities. These trails were initially open to vehicular traffic when the Refuge was established, but were later restricted to ATVs in an effort to minimize road damage. This project will upgrade the following ATV trails to allow vehicular access: Duck Lake (4 miles), Westcut Lake (2.8 miles), and Dooms Lake (2 miles). Upgrading will consist of shaping the road beds, adding drainage culverts, and applying 6 inches of gravel. This project will allow all-weather vehicle access by the general public for hunting, fishing, wildlife observation and photography, and environmental education and interpretation. Funding for upgrading trails to vehicular standards will be requested from the TEA-21 Refuge Roads fund. The estimated cost of this project is $1.4 million, with a recurring cost of $9,000. *(Linkage: Goal 4, Objectives 1-6.)*

Project 21: Upgrade Administrative Roads

The primary access roads to the Refuge's maintenance headquarters and major water control structures in the waterfowl management area are constructed of dirt. These dirt roads are used on a daily basis to transport equipment, monitor the water management system, and perform associated maintenance activities. The roads become impassable during wet weather and hinder Refuge management. Upgrading them will consist of shaping the road beds, adding culverts, and applying 6 inches of gravel. This project will ensure dependable all-weather access to perform critical Refuge operations and allow the development of compatible wildlife-dependent recreation in an area of the Refuge that is presently closed to the public. This project will include work on Bayou Jeansonne, First Cross Levee, and Shop Roads. The estimated first-year cost of this project is $1.8 million, with a recurring cost of $6,000. *(Linkages: Goal 4, Objectives 3-6; Goal 5, Objective 1.)*

REFUGE ADMINISTRATION

Project 22: Law Enforcement Package

The Refuge currently receives over 7,500 hunter visits annually and increased visitation is expected as the CCP is implemented. In addition, a major access road for through traffic dissects the Refuge and has consistently been a trouble spot for illegal hunting activities. The Central Louisiana NWR Complex

currently only has 1 full-time law enforcement officer, covering 3 Refuges which is insufficient to meet the demands of resource protection and visitor safety. This project will add 1 full-time office to the complex with shared responsibilities among all three refuges. First year cost of this project is $135,000, with a recurring cost of $60,000. (Linkages: *Linkage: Goal 5, Objectives 1-2*)

Project 23: Position Upgrades

The Central Louisiana NWR Complex currently has a GS-0485-12/13 project leader, a GS-0485-11/12 deputy project leader, and a GS-0486-09/11 supervisory wildlife biologist positions covering 3 Refuges which is insufficient to meet the demands of increased staff and management complexity associated with implementation of phase 3 of this CCP. This project will upgrade these current positions to a level commensurate with accreditation of duties. The estimated cost of this project is $50,000, with a recurring cost of $50,000. *(Linkage: Goal 5, Objectives 1-2.)*

Project 24: Vehicle Replacement

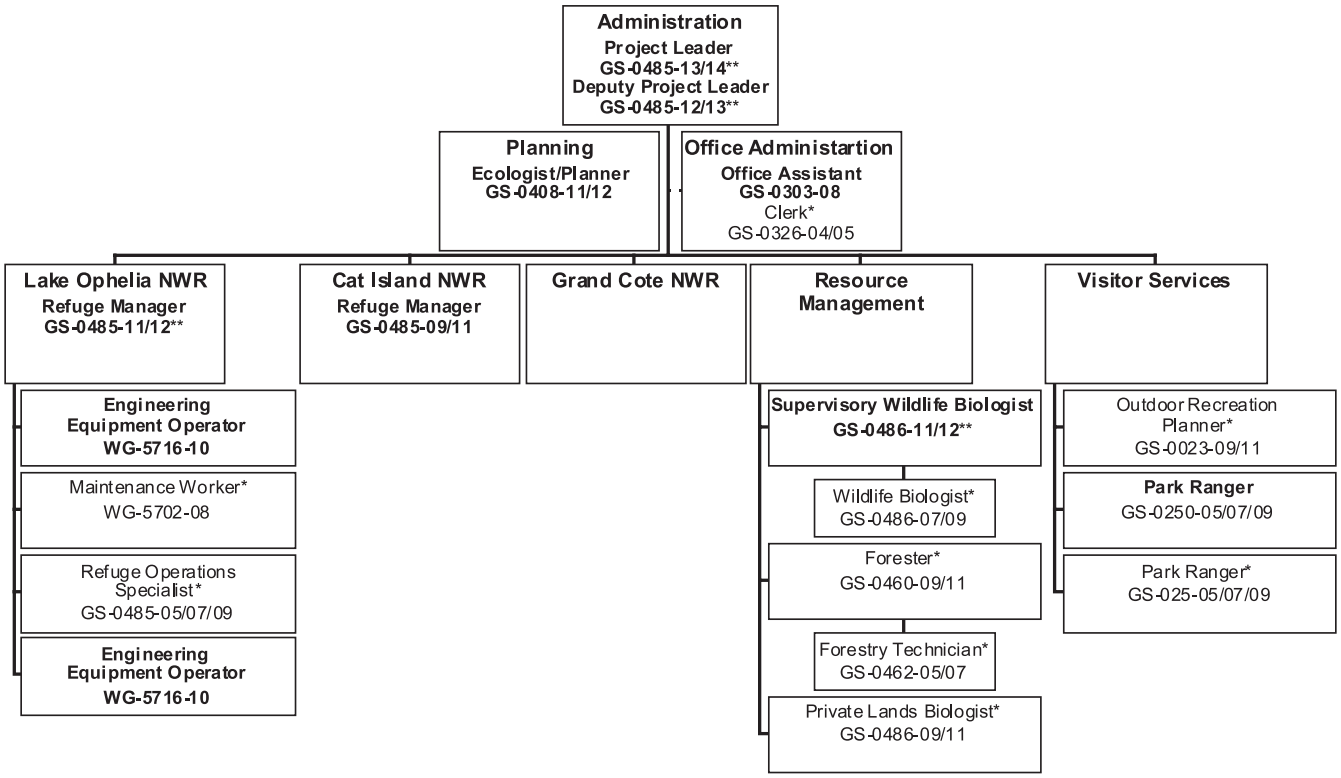
Refuge operations, maintenance, and law enforcement depend on reliable vehicles capable of travel both on- and off-road. The Refuge uses a combination of trucks, vans, ATVs, and boats for access. These vehicles are subjected to rough terrain and severe duty that effectively shorten their serviceable condition to less than five years. The Refuge needs to replace, on average, at least three vehicles and one ATV per year to maintain a safe and dependable vehicle fleet. The estimated cost of this project is $100,000, with a recurring cost of $100,000. *(Linkage: Goal 5, Objectives 1-2.)*

STAFFING AND FUNDING

Currently, a staff of ten permanent positions has been approved for the Refuge complex and must share duties and responsibilities between the Lake Ophelia, Grand Cote, and Cat Island National Wildlife Refuges.

To complete the extensive wildlife habitat management and restoration projects and conduct the necessary inventorying, monitoring, and mapping activities, more staff are required. The proposed staffing plan (Figure 5-1) will enable the Refuge to achieve its plan objectives and strategies within a reasonable time. The annual cost (including salaries and benefits) will be $1.05 million. The rate at which this Refuge realizes its full potential to contribute locally, regionally, and nationally to wildlife conservation and appropriate wildlife-dependent recreation and environmental education is totally dependent upon receiving adequate staffing and funding.

Figure 5-1. Proposed Central Louisiana National Wildlife Refuge Complex (Complex) staffing plan (Lake Ophelia National Wildlife Refuge and Complex-shared positions only).



* Indicates new position proposed in CCP.
** Indicates upgraded position from currently approved position.

STEP-DOWN MANAGEMENT PLANS

A Comprehensive Conservation Plan is a strategic plan that guides the future direction of the Refuge. Before some of the strategies and projects can be implemented, detailed step-down management plans will need to be prepared or updated. To assist in preparing and implementing the step-down plans, the Refuge staff will develop partnerships with local agencies and organizations. These plans (Table 5-2) will be developed in accordance with the National Environmental Policy Act, which requires the identification and evaluation of alternatives and public review and involvement prior to their implementation.

Habitat Management Plan (Develop), Draft Completion 2005: This plan will describe the overall desired future habitat conditions needed to fulfill Refuge purpose and objectives. The plan will include three sections dealing with moist soil/water management units, forest, and croplands. Procedures, techniques and time tables for achieving desired future conditions will be developed into a overall plan.

Moist Soil/Water Management Plan (Update), Draft Completion 2005: This plan will describe the strategies and procedures (timing and duration of flooding and disturbance) for manipulating the Refuge's water management units to meet habitat management objectives.

Forest Management Plan (Develop), Draft Completion 2007: This plan will describe strategies for meeting Refuge forest management objectives. It will include direction on

reforestation, stand improvement, and harvest. Also, scrub/shrub habitat management will be addressed.

Cropland Management Plan (Update), Draft Completion 2005: This plan will describe management of Refuge agricultural lands. It will identify what crops will be grown, rotations, mechanical methods, chemical use, rent agreements, and how the program will meet wildlife management objectives. Also, it will detail how the three-phased progression away from cooperative farming will occur.

Integrated Pest Management Plan (Develop and Update), Draft Completion 2007: This plan will address the complex issue of bringing exotic and nuisance plants and animals to a maintenance control level on the Refuge. It will cover chemical pesticide use (aerial and ground application), mechanical eradication, and biological controls. The Nuisance/Exotic Animal and Plant control plans will be sections of this plan.

Table 5-2. Lake Ophelia National Wildlife Refuge step-down management plans arranged by issue sequence in the goals and objectives portion of the Comprehensive Conservation Plan.

Plan	Completion Date
Habitat Management	2005
Moist Soil/Water Management	2005
Forest Management	2007
Cropland Management	2005
Integrated Pest Management	2007
Nuisance Animal Control	2007
Exotic Plant Control	2007
Fire Management	2005
Visitor Services	2007
Environmental Education	2007
Fishing	2007
Hunting and Trapping	2007
Wildlife Observation and Photography	2007
Biological Inventory/Monitoring Plan	2005
Law Enforcement	2005

Note: Plans are shown in sequence according to goals and objectives listed in Chapter 4 of the Comprehensive Conservation Plan

Nuisance Animal Control Plan (Update), Draft Completion 2007: This plan (as part of the Integrated Pest Management Plan) will describe survey, removal or control, and monitoring techniques for both terrestrial and aquatic nuisance and exotic animals (vertebrate and invertebrate). Feral swine and beaver control will be included in this plan.

Exotic Plant Control Plan (Develop), Draft Completion 2007: This plan (as part of the Integrated Pest Management Plan) will describe survey, removal or control, and monitoring techniques for both terrestrial and aquatic nuisance and exotic plants.

Fire Management Plan (Update), Draft Completion 2005: This plan will describe wild and prescribed fire management techniques that will be employed on the Refuge. Wildfire control descriptions will include initial attack strategies and cooperative agreements with other agencies. Little reliance on prescribed fire is expected and its use will consist of burning brush piles, irrigation ditches, agricultural stubble, etc.

Visitor Services Plan (Develop), Draft Completion 2007: This plan will describe the Refuge's wildlife-dependent recreation, environmental education, and interpretation. Specific issues or items that will be addressed include facility requirements, site plans, and handicapped accessibility. The environmental education, fishing, hunting, and sign plans will be sections of this plan.

*Environmental Education Plan (*Develop), Draft Completion 2007: This plan will reflect the objectives and strategies of the Comprehensive Conservation Plan and address environmental education guidelines following Service standards.

Fishing Plan (Update), Draft Completion 2007: This plan (as part of the Visitor Services Plan) will address specific aspects of the Refuge's fishing program. It will define season structures, fish areas, methods, handicapped accessibility, facilities needed, and Refuge specific regulations.

Hunting and Trapping Plan (Update), Draft Completion 2007: This plan (as part of the Visitor Services Plan) will address specific aspects of the Refuge's hunting program. It will define species to be hunted/trapped, season structures, hunt areas, methods, all-terrain vehicle use, handicapped accessibility, facilities needed, and Refuge-specific hunting regulations.

Wildlife Observation and Photography Plan (Update), Draft Completion 2007: This plan (as part of the Visitor Services Plan) will describe the Refuge's strategy for informing visitors via signage. It will incorporate Service guidelines.

Biological Inventory/Monitoring Plan (Develop), Draft Completion 2005: This plan will describe inventory and monitoring techniques and time frames. All plant communities and associations in the Refuge as well as all trust species (migratory birds including songbirds, Neotropical migratory birds, and waterfowl), listed species (Federal and State threatened, endangered and species of concern), and key resident species shall be inventoried, and population trends will be monitored. These data are essential to guide the management of wildlife populations, habitat, and wildlife-dependent public use on the Refuge.

Law Enforcement Plan (Update), Draft Completion 2005: This plan will provide a reference to station policies, procedures, priorities, and programs concerning law enforcement.

PARTNERSHIP OPPORTUNITIES

A major objective of this Comprehensive Conservation Plan is to establish partnerships with local volunteers, landowners, private organizations, and State and Federal natural resource agencies. In the immediate vicinity of the Refuge, opportunities exist to establish partnerships with sporting clubs, elementary and secondary schools, and community organizations. At regional and State levels, partnerships might be established with organizations such as the Louisiana Department of Wildlife and Fisheries, Roy Martin Lumber Company, Bayou State Bowhunters, The Nature Conservancy, Ducks Unlimited, National Audubon Society, Ruffed Grouse Society, and National Wild Turkey Federation.

The Refuge volunteer program and other partnerships generated will depend upon the number of staff positions the Service provides the Refuge. As staff and resources are committed to the Refuge, opportunities to expand the volunteer program and develop partnerships will be enhanced.

MONITORING AND EVALUATION

Adaptive management is a flexible approach to long-term management of biotic resources that is directed over time by the results of ongoing monitoring activities and other information. More specifically, adaptive management is a process by which projects are implemented within a framework of scientifically driven experiments to test the predictions and assumptions outlined within a plan.

To apply adaptive management, specific survey, inventory, and monitoring protocols will be adopted for the Refuge. The habitat management strategies will be systematically evaluated to determine management effects on wildlife populations. This information will be used to refine approaches and determine how effectively the objectives are being accomplished. Evaluations will include ecosystem team and other appropriate partner participation. If monitoring and evaluation indicate undesirable effects for target and non-target species and/or communities, then alterations to the management projects will be made. Subsequently, the Refuge's Comprehensive Conservation Plan will be revised.

Specific monitoring and evaluation activities will be described in the step-down management plans.

PLAN REVIEW AND REVISION

This Comprehensive Conservation Plan will be reviewed annually to determine the need for revision. A revision will occur if and when conditions change or significant information becomes available, such as a change in ecological conditions or a major Refuge expansion. The final plan will be augmented by detailed step-down management plans to address the completion of specific strategies in support of the Refuge's goals and objectives. Revisions to the Comprehensive Conservation Plan and the step-down management plans will be subject to public review and NEPA compliance.