

Conservation of At-Risk Species in Louisiana

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A Joint Effort of the

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INTRODUCTION

The Natural Resources Conservation Service (NRCS) in Louisiana uses standardized conservation practices and specifications to ensure proper establishment, management and maintenance of all structural and management components for improvement of soil, water, air, plant, and animal (including wildlife) resources. These practices are periodically updated in order to keep pace with technological advancements or to address management issues. Currently, there are 132 NRCS conservation practices utilized in Louisiana to promote conservation of natural resources. Over the last year (2009), NRCS, Louisiana Department of Wildlife and Fisheries (LDWF) biologists, and U. S. Fish and Wildlife Service (USFWS) biologists representing the Lafayette Ecological Services Field Office consulted informally on the effects of those practices, made determinations of the effects on federally listed species and developed a process to streamline the procedure for compliance with Section 7 of the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.). The product of that effort “Conservation of At-Risk Species in Louisiana” includes a determination matrix listing those conservation practices and when those practices are not likely to adversely affect federally listed species, or have the potential to have adverse impacts, but can utilize minimization measures to reduce impacts to the level of “not likely to adversely affect.” The matrix also identifies what practices would be beneficial to federally listed species and which practices may require further consultation on a case-by-case basis. The matrix is ordered alphabetically by conservation practice name and the effects of each practice are divided according to species.

THE ROLE OF NRCS IN ESA

Current guidance states that when NRCS provides technical assistance by developing, updating, or revising conservation plans for clients, NRCS staffs are to conduct an Environmental Evaluation (EE), paying particular attention to ESA compliance. If the proposed action may affect listed/proposed species, NRCS shall provide alternatives that avoid any adverse effect, based on an evaluation of the proposed action using the document “Conservation of At-Risk Species in Louisiana.” Adverse effects on State species of concern are to be avoided or reduced to the extent practicable and in compliance with State laws. If no alternatives that avoid the effect can be identified, or the client chooses to pursue an alternative that may adversely affect listed/proposed species, NRCS shall terminate technical assistance and inform the client of their potential liabilities for violation of Section 9 (take provision) of the ESA. NRCS will also direct the client to contact the appropriate Service (U.S. Fish and Wildlife Service or National Marine Fisheries Service) for resolution. Please note that any formal or informal consultation with the USFWS that may identify a client, a species presence or a species habitat location requires written permission from the client. The results of the EE are documented on form CPA-52 Environmental Evaluation Worksheet, and maintained in the NRCS case file. A copy of a CPA-52 including embedded guidesheets pertaining to at-risk species (federally listed, candidate, and State species of concern) can be found in the document “Conservation of At-Risk Species in Louisiana.”

When NRCS provides technical and financial assistance, NRCS is to conduct an EE when NRCS develops, reviews, updates, or revises plans and provides financial assistance for conservation practice implementation. If the proposed action “may affect” listed/proposed species, Section 7 consultation/conference is required. Adverse effects on State species of concern are to be avoided or reduced to the extent practicable and in compliance with State laws. The results of the EE are documented on Form CPA-52, Environmental Evaluation Worksheet, and maintained in the NRCS case file. NRCS will conduct the required formal or informal Section 7 consultation/conference prior to finalizing the plan, based on an evaluation of the proposed action using the document “Conservation of At-Risk Species in Louisiana.”

NRCS conservation programs and technical assistance efforts represent an outstanding opportunity to provide high quality habitat benefits for fish and wildlife and to contribute towards the recovery of many at-risk species. Implementation of the guidance document efficiently and effectively provides compliance with the ESA and ensures that considerations for threatened and endangered species and their habitats are incorporated into NRCS’s conservation planning, technical assistance, and program implementation efforts by utilizing the pre-screening efforts of the (aforementioned) agencies under programmatic ESA consultation. Not only does this effort efficiently assist in meeting consultation requirements for most technical assistance efforts in Louisiana, but information provided for candidate species and State species of concern (G1, G2, G3) will also enhance NRCS’s overall ability in conservation of at-risk species requirements. This effort also assists NRCS in meeting its responsibilities under Section 7(a)(1) of the ESA to further the purposes of the ESA by carrying out programs for the conservation of threatened and endangered species.

THE ROLE OF LDWF IN ESA

The mission of the LDWF is to manage, conserve, and promote wise utilization of Louisiana's renewable fish and wildlife resources and their supporting habitats through replenishment, protection, enhancement, research, development, and education for the social and economic benefit of current and future generations. To support this mission, the LDWF Louisiana Natural Heritage Program (LNHP) gathers, organizes, and disseminates information on unique, rare, threatened, and endangered species, and unique, rare, and critical habitats in Louisiana.

LNHP Database

LNHP was founded with the goal of developing and maintaining a database on rare, threatened, and endangered species and natural communities. Currently, the database contains over 7,700 occurrences of rare, threatened, and endangered species, unique natural communities and other distinctive elements of natural diversity. A detailed Element Occurrence Record (EOR), which includes precise locations, species population status, and habitat conditions and characteristics, is entered for each species occurrence in the LNHP database. Information for EORs is generally gathered from LNHP staff field surveys, but is also obtained from survey contracts, state and federal government agencies, university contacts, and herbaria. Records for new occurrences are

continuously being added to the database, and current records are updated as new information becomes available. LDWF staff, federal and state agencies, and private developers and consultants apply LNHP data to land use decisions, environmental impact assessments, resource management, conservation planning, endangered species reviews, research, and education.

Utilizing species occurrence data and staff expertise, LNHP has produced and provided to NRCS staff two tools that may be employed to further the conservation of rare species and natural communities in Louisiana. These tools include lists of rare species and natural community occurrences by parish and individual species and natural community fact sheets. Each of these tools is described in more detail below.

Rare Species and Natural Communities by Parish

Contained in this report are lists of rare, threatened, and endangered species and natural communities tracked by LNHP for each of the 64 parishes in Louisiana. The range for each species and natural community was determined using the LNHP database of occurrence records. These parish lists were originally prepared by LNHP staff in 2005 and are updated annually.

The 64 parish lists were arranged in alphabetical order beginning with Acadia Parish and ending with Winn Parish. The tracked elements in each parish list have been subdivided into the following taxa: plants, invertebrates, amphibians, fish, reptiles, birds, mammals, and natural communities. For each tracked element, the list includes common name, scientific name, state rank, global rank, state status, and federal status.

The 64 parish lists include a total of 146 rare, threatened, and endangered species and natural communities with a global element rank of G1, G2, or G3. **G1** species and natural communities are critically imperiled globally because of extreme rarity or because of some factor(s) making it especially vulnerable to extinction. **G2** species and natural communities are imperiled globally because of rarity or because of some factor(s) making it very vulnerable to extinction throughout its range. **G3** species and natural communities are either very rare throughout its range or found locally (even abundantly at some of its locations) in a restricted range or because of other factors making it vulnerable to extinction throughout its range.

LNHP cannot provide a definitive statement on the presence, or absence, or condition of biological elements in any part of Louisiana. These lists should not be considered final statements on the biological elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments

Fact Sheets of Rare Species and Natural Communities

LNHP staff has created fact sheets for most rare species and natural communities in Louisiana. Contained in this report are 131 fact sheets for almost all tracked species and natural community identified in the parish lists (only 15 animal species do not currently have completed fact sheets and can be distinguished in the parish lists by common name text color). The species fact sheets generally include information such as rarity rank,

identification characteristics, habitat, food habits, reproduction, U.S. and state ranges, threats, and beneficial management practices. The natural community fact sheets generally include rarity rank, synonyms, a general description, plant community associates, state range, and threats and management considerations.

The fact sheets were designed to provide basic information on each rare species or natural community and should serve as useful tools for educators, biologists, and other natural resources professionals. The fact sheets can aid in field identification of sensitive species and their habitats. The fact sheets can also be used to guide development of management plans and conservation strategies.

For this report, all 131 fact sheets have been arranged in alphabetical order by common name.

LDWF Recommendations

The parish lists and fact sheets of rare species and natural communities contained in this report represents a synthesis of approximately 2,600 records of occurrence collected over the past 34 years and the combined judgment and expertise of LDWF's professional biological staff. To be sure, a wealth of information has been provided and arranged in a manner that is accessible to all intended users. It is LDWF's hope that NRCS staff will refer to the parish lists and fact sheets regularly in order to insure that rare species and natural communities in Louisiana are benefited by the prescription of NRCS conservation practices.

THE ROLE OF USFWS IN ESA

The USFWS within the Department of Interior and the National Marine Fisheries Service within the Department of Commerce share program administration authority for the ESA. However, the USFWS is the agency that provides Section 7 consultation for the federally listed species within the area of impact of NRCS's conservation practices. Under the ESA, Section 7 directs Federal agencies to use their legal authorities to carry out conservation programs for listed species. It also requires these agencies to ensure that any actions they fund, authorize, or carry out are not likely to jeopardize the survival of any endangered or threatened species, or to adversely modify its designated critical habitat (if any).

When a Federal agency finds that one of its activities may directly or indirectly affect a listed species or critical habitat, it is required to consult (informally or formally) with the USFWS. Informal consultation is an optional process designed to assist that Federal action agency in determining whether formal consultation is required. If during informal consultation the Federal agency determines, and the USFWS concurs in writing, that the action is not likely to adversely affect listed species or their critical habitats, the consultation process is concluded. During the informal consultation process both agencies may suggest actions to avoid the likelihood of adverse affects to listed species or their critical habitats. The best scientific and commercial data available should be used during this process. If adverse affects cannot be avoided, then formal consultation is required. If the adverse effects do not rise to the level of jeopardy or adverse

modification (as is frequently the case) the USFWS will provide “reasonable and prudent measures” to minimize the incidental take. If however, the project impacts are such that they would jeopardize the continued existence of a listed species, then the USFWS provides “reasonable and prudent alternatives,” such as project modifications or rescheduling, to allow completion of the proposed activity. Where a Federal action may jeopardize the survival of a species or adversely modify critical habitat that is proposed for listing, the Federal agency is required to “confer” with the USFWS.

Federally Listed Species

Because NRCS provides technical and financial assistance for many projects each year in Louisiana, we will meet annually with the USFWS and LDWF to review and discuss any updated conservation practices, the types of conservation plan practices funded, the issues encountered while implementing the determination matrix and to verify that the intent of the matrix is being achieved and to identify needs for improvements. At the time of the annual meeting, funded projects for the year will be discussed (particularly water withdrawal projects located in listed aquatic species watersheds). The USFWS and LDWF will be asked to provide updates to the list of parish occurrences for federally listed species and their habitat descriptions and LDWF will be asked to provide updated information on State species of concern.

2009 LOUISIANA ESA PROGRAMMATIC CONSULTATION of NRCS CONSERVATION PRACTICES

Effects Determination

We have determined the conservation practices listed under the matrix will have no effect on 10 federally listed species or their critical habitats because those practices are not used in areas where the following species or critical habitat occur: pallid sturgeon (*Scaphirhynchus albus*), interior least tern (*Sterna antillarum*), fat pocketbook pearly mussel (*Potamilus capax*), piping plover (*Charadrius melodus*), brown pelican (*Pelecanus occidentalis*), green sea turtle (*Chelonia mydas*), hawksbill sea turtle (*Eretmochelys imbricata*), Kemp’s Ridley sea turtle (*Lepidochelys kempii*), leatherback sea turtle (*Dermochelys coriacea*) and loggerhead sea turtle (*Caretta caretta*). Therefore, those species are not included in the matrix.

As part of the determination process, NRCS staff will have a USFWS-provided list of threatened and endangered species by parish and habitat descriptions/locations for each species included in the matrix. A determination of “no effect” will be made of practices when it is installed in a parish lacking listed species or at a site that is not within or adjacent to listed species habitat. When a practice would be installed within or adjacent to listed species habitat, NRCS staff should use information in the following matrix to assist with their determination.

Matrix Description

This matrix presents all conservation practices considered during the programmatic consultation (ordered alphabetically by conservation practice name) and indicates the

potential effects and any minimization criteria for each practice for Federally listed species. The following describes the acronyms used in the matrix.

Column Headings

Species identified by columns in the matrix are as follows:

Species	Column Symbol	Criteria Symbol
American chaffseed (<i>Schwalbea americana</i>)	AC	P ^{1,2,3}
earthfruit (<i>Geocarpon minimum</i>)	EF	P ^{1,2,3}
gopher tortoise (<i>Gopherus polyphemus</i>)	GT	G ^{1,2,3}
Louisiana black bear (<i>Ursus americanus luteolus</i>)	LBB	B ^{1,2,3}
red-cockaded woodpecker (<i>Picoides borealis</i>)	RCW	R ^{1,2}
Louisiana pearlshell mussel (<i>Margaritifera hembeli</i>) and Louisiana quillwort (<i>Isoetes louisianensis</i>)	LPM & LQ	A ^{1,2}
Alabama heelsplitter mussel (<i>Potamilus inflatus</i>), gulf sturgeon (<i>Acipenser oxyrinchus desotoi</i>), pink mucket pearly mussel (<i>Lampsilis abrupta</i>), ringed map turtle (<i>Graptemys oculifera</i>) and West Indian manatee (<i>Trichechus manatus</i>)	5 Aq. Spp.	None required

Louisiana pearlshell mussel and Louisiana quillwort share the same effects determinations for all but one practice (identified in the matrix) and are combined into 1 column. The 5 remaining aquatic species identified by the matrix share the same effects determinations as well. They are also combined into 1 column.

Sub-Column NLAA

The sub-columns titled NLAA (not likely to adversely affect) contain criteria required for installing certain practices to ensure that the practice is not likely to adversely affect that species. The criteria for American chaffseed and earthfruit are the same and share the same criteria symbol “P” for plant. Louisiana pearlshell mussel and Louisiana quillwort also share the same criteria and share the same criteria symbol “A” for aquatic species. Each species or groups of species have more than 1 criterion, which is represented by a numbered superscript after each criteria symbol. For example, the symbol “B¹” represents criterion number 1 for the Louisiana black bear. It was determined that no criteria were needed for the 5 aquatic species group.

When criteria are lacking, the reason for a determination of NLAA is provided for that practice. Four possible reasons for a determination of NLAA for practices lacking species criteria are given and are represented in the matrix as X1, X2, X3 or X4. More than 1 reason for a determination of NLAA may be given a practice because that practice could have more than 1 effect on listed species. The letter “C” under the NLAA sub-column denotes practices that may adversely affect listed species; therefore, further coordination with the NRCS State Biologist or US Fish and Wildlife Service is needed to determine if formal consultation is required for that action. Further coordination will also be needed if species criteria are associated with a practice and those criteria cannot be met when implementing the practice.

Sub-column BE

Symbols under the sub-columns titled BE (beneficial effect) indicate when and why certain practices are beneficial to that listed species. Beneficial effects explanations are different for terrestrial species (Y1) and aquatic species (Y2). A form adapted for field use may be provided NRCS staff to assist them in making determinations in the field. This consultation and subsequent determination matrix is designed mainly to address potential indirect or habitat impacts to listed species. In the rare event that a federally listed species is identified within the area of impact, implementation of the conservation practice should cease or be modified to avoid the “take” of that species, as defined by Section 9 of the ESA.

Conservation Practices	LBB		GT		RCW		AC		EF		5 Aq. Spp.		LPM & LQ	
	NLAA	BE	NLAA	BE	NLAA	BE								
Access Control	---	Y1	---	Y2	---	Y2								
Access Road	B ^{1,3}	---	G ^{1,3}	---	R ^{1,2}	---	P ^{1,2}	---	P ^{1,2}	---	X1	---	A ^{1,2}	---
Alley Cropping	X1	Y1	G ^{1,2}	Y1	X1	---	X1	---	X1	---	X4	Y2	X4	Y2
Animal Mortality Facility	X1	---	G ^{1,2}	---	X1	---	X1	---	X1	---	X4	Y2	X4	Y2
Animal Trails and Walkways	B ³	---	G ^{1,3}	---	X1	---	X1	---	X1	---	X1	---	A ^{1,2}	Y2
Aquaculture Ponds	X1	---	X2	---	X1	---	X1	---	X1	---	X3, X4	---	X3, X4	---
Bedding	X1	---	X2	---	X1	---	X1	---	X1	---	X4	---	X4	---
Atmospheric Resource Quality Management	C	---	C	---	C	---								
Brush Management	B ^{1,3}	Y1	G ¹	Y1	X1	---	X1	---	X1	Y1	X4	---	X4	---
Channel Bank Vegetation	B ¹	Y1	X2	---	R ¹	---	X1	---	X1	---	---	Y2	---	Y2
Channel Stabilization	X1	---	G ¹	---	X1	---	X1	---	X1	---	X1	---	X1	---
Clearing and Snagging	X1	---	G ¹	---	X1	---	X1	---	X1	---	C	---	C	---
Closure of Waste Impoundment	X1	---	X2	---	X1	---	X1	---	X1	---	---	Y2	---	Y2
Composting Facility	X1	---	G ^{1,2}	---	X1	---	X1	---	X1	---	X4	Y2	X4	Y2
Conservation Cover	B ^{1,3}	Y1	G ¹	Y1	R ¹	Y1	X1	---	P ¹	---	X1	Y2	X1	Y2
Conservation Crop Rotation	X1	---	X2	---	X1	---	X1	---	X1	---	---	Y2	---	Y2
Constructed Wetland	X1	---	G ^{1,2}	---	X1	---	X1	---	X1	---	X4	Y2	X4	Y2
Contour Buffer Strips	X1	---	---	Y1	X1	---	X1	---	X1	---	---	Y2	---	Y2
Contour Farming	X1	---	X2	---	X1	---	X1	---	X1	---	---	Y2	---	Y2
Contour Orchard and Other Fruit Area	X1	---	X2	---	X1	---	X1	---	X1	---	---	Y2	---	Y2
Contour Stripcropping	X1	---	X2	---	X1	---	X1	---	X1	---	---	Y2	---	Y2
Cover Crop	X1	---	X2	---	X1	---	X1	---	X1	---	---	Y2	---	Y2
Critical Area Planting	B ^{1,3}	---	G ¹	Y1	R ¹	Y1	X1	---	P ¹	---	X1	Y2	X1	Y2
Dam, Floodwater Retarding	B ^{1,3}	---	G ^{1,3}	---	R ^{1,2}	---	P ^{1,2}	---	P ^{1,2}	---	C	---	C	---
Dam, Diversion	B ^{1,3}	---	G ^{1,3}	---	R ^{1,2}	---	P ^{1,2}	---	P ^{1,2}	---	C	---	C	---
Deep Tillage	B ³	---	G ^{1,2}	---	X1	---	X1	---	X1	---	X4	Y2	X4	Y2
Dike	B ³	---	G ^{1,2}	---	X1	---	X1	---	X1	---	X3, X4	Y2	X3, X4	Y2
Diversion	B ¹	---	G ^{1,3}	---	R ¹	---	X1	---	X1	---	X3, X4	Y2	X3, X4	Y2
Drainage Water Management	B ³	---	G ^{1,2}	---	X1	---	X1	---	X1	---	X4	Y2	X4	Y2

Conservation Practices	LBB		GT		RCW		AC		EF		5 Aq. Spp.		LPM & LQ	
	NLAA	BE	NLAA	BE	NLAA	BE								
Dry Hydrant	B ³	---	G ¹	---	R ¹	---	X1	---	X1	---	X3	---	X3	---
Early Successional Habitat Development/Management	X1	---	G ¹	Y1	X1	---	X1	---	P ¹	Y1	---	Y2	---	Y2
Fence	B ³	---	G ^{1,3}	Y1	X1	---	---	Y1	---	Y1	X1	Y2	A ²	Y2
Field Border	X1	---	G ¹	Y1	X1	---	X1	---	X1	---	---	Y2	---	Y2
Filter Strip	X1	---	G ¹	Y1	X1	---	X1	---	X1	---	---	Y2	---	Y2
Firebreak	B ¹⁻³	---	G ^{1,2}	Y1	R ¹	---	P ^{1,2}	---	P ^{1,2}	---	X1	---	X1	---
Fishpond Management	X1	---	X2	---	X1	---	X1	---	X1	---	X1	---	X1	---
Forage Harvest Management	X1	---	G ^{1,2}	Y1	X1	---	X1	---	X1	---	---	Y2	---	Y2
Forest Stand Improvement	B ^{1,3}	Y1	G ^{1,2}	Y1	R ^{1,2}	Y1	P ¹	Y1	X1	---	X4	---	X4	---
Forest Trails and Landings	B ¹⁻³	---	G ^{1,2}	---	R ^{1,2}	---	P ^{1,2}	---	X1	---	X1	---	A ^{1,2*}	---
Grade Stabilization Structure	B ³	---	G ¹	---	R ¹	---	X1	---	X1	---	X1	Y2	X1	Y2
Grassed Waterway	X1	---	---	Y1	X1	---	X1	---	X1	---	---	Y2	---	Y2
Grazing Land Mechanical Treatment	B ³	---	G ^{1,2}	Y1	X1	---	X1	---	X1	---	X4	Y2	X4	Y2
Heavy Use Area Protection	X1	---	G ^{1,2}	---	X1	---	X1	---	X1	---	X4	Y2	X4	Y2
Hedgerow Planting	---	Y1	G ¹	Y1	---	Y1	X1	---	P ¹	---	---	Y2	---	Y2
Hillside Ditch	B ¹⁻³	---	G ¹⁻³	---	R ^{1,2}	---	P ^{1,2}	---	P ^{1,2}	---	X4	---	X4	---
Irrigation Canal or Lateral	B ³	---	X2	---	X1	---	X1	---	X1	---	X3	Y2	X3	Y2
Irrigation Field Ditch	B ³	---	X2	---	X1	---	X1	---	X1	---	X3	Y2	X3	Y2
Irrigation Land Leveling	B ³	---	X2	---	X1	---	X1	---	X1	---	X3, X4	Y2	X3, X4	Y2
Irrigation Regulating Reservoir	B ³	---	X2	---	X1	---	X1	---	X1	---	X3	Y2	X3	Y2
Irrigation Storage Reservoir	B ³	---	X2	---	X1	---	X1	---	X1	---	X3	Y2	X3	Y2
Irrigation System, Microirrigation	B ³	---	X2	---	X1	---	X1	---	X1	---	X3	Y2	X3	Y2
Irrigation System, Sprinkler	B ³	---	X2	---	X1	---	X1	---	X1	---	X3	Y2	X3	Y2
Irrigation System, Surface and Subsurface	B ³	---	X2	---	X1	---	X1	---	X1	---	X3	Y2	X3	Y2
Irrigation System, Tailwater Recovery	B ³	---	X2	---	X1	---	X1	---	X1	---	X3	Y2	X3	Y2

Conservation Practices	LBB		GT		RCW		AC		EF		5 Aq. Spp.		LPM & LQ	
	NLAA	BE	NLAA	BE	NLAA	BE	NLAA	BE	NLAA	BE	NLAA	BE	NLAA	BE
Irrigation Water Conveyance, Ditch and Canal Lining, Flexible Membrane	B ³	---	X2	---	X1	---	X1	---	X1	---	X3	Y2	X3	Y2
Irrigation Water Conveyance, Ditch and Canal Lining, Plain Concrete	B ³	---	X2	---	X1	---	X1	---	X1	---	X3	Y2	X3	Y2
Irrigation Water Conveyance, Pipeline, Aluminum Tubing	B ³	---	X2	---	X1	---	X1	---	X1	---	X3	Y2	X3	Y2
Irrigation Water Conveyance, Pipeline, Asbestos-Cement	B ³	---	X2	---	X1	---	X1	---	X1	---	X3	Y2	X3	Y2
Irrigation Water Conveyance, Pipeline, High-Pressure, Underground, Plastic	B ³	---	X2	---	X1	---	X1	---	X1	---	X3	Y2	X3	Y2
Irrigation Water Conveyance, Pipeline, Low-Pressure, Underground, Plastic	B ³	---	X2	---	X1	---	X1	---	X1	---	X3	Y2	X3	Y2
Irrigation Water Conveyance, Pipeline, Nonreinforced Concrete	B ³	---	X2	---	X1	---	X1	---	X1	---	X3	Y2	X3	Y2
Irrigation Water Conveyance, Pipeline, Reinforced Plastic Mortar	B ³	---	X2	---	X1	---	X1	---	X1	---	X3	Y2	X3	Y2
Irrigation Water Conveyance, Pipeline, Rigid Gated Pipeline	B ³	---	X2	---	X1	---	X1	---	X1	---	X3	Y2	X3	Y2
Irrigation Water Conveyance, Pipeline, Steel	B ³	---	X2	---	X1	---	X1	---	X1	---	X3	Y2	X3	Y2
Irrigation Water Management	X1	---	X2	---	X1	---	X1	---	X1	---	X3	Y2	X3	Y2
Land Clearing	B ¹⁻³	---	G ^{1,2}	---	R ^{1,2}	---	P ^{1,2}	---	X1	---	X4	Y2	X4	Y2
Land Reclamation, Abandoned Mined Land	B ¹	Y1	---	Y1	R ¹	Y1	---	Y1	---	Y1	X4	Y2	X4	Y2
Land Reclamation, Currently Mined Land	---	Y1	---	Y1	X1	Y1	---	Y1	---	Y1	X4	Y2	X4	Y2

Conservation Practices	LBB		GT		RCW		AC		EF		5 Aq. Spp.		LPM & LQ	
	NLAA	BE	NLAA	BE	NLAA	BE								
Land Smoothing	X1	---	X2	---	X1	---	X1	---	X1	---	X3, X4	Y2	X3, X4	Y2
Lined Waterway or Outlet	X1	---	G ^{1,2}	---	X1	---	X1	---	X1	---	X4	Y2	X4	Y2
Livestock Shade Structure	X1	---	G ^{1,2}	---	X1	---	X1	---	X1	---	---	Y2	---	Y2
Mulching	X1	---	G ¹	---	X1	---	X1	---	P ¹	---	X4	Y2	X4	Y2
Manure Transfer	B ³	---	G ¹	---	X1	---	X1	---	X1	---	X4	Y2	X4	Y2
Nutrient Management	X1	---	X2	---	X1	---	X1	---	X1	---	---	Y2	---	Y2
Obstruction Removal	C	---	C	---	C	---								
Open Channel	B ¹⁻³	---	G ¹⁻³	---	R ^{1,2}	---	P ¹	---	P ¹	---	C	---	C	---
Pasture and Hay Planting	X1	---	G ¹	---	X1	---	X1	---	X1	---	---	Y2	---	Y2
Pest Management	X1	---	X2	---	X1	---	P ¹	Y1	P ¹	Y1	---	Y2	---	Y2
Pipeline	B ³	---	G ¹	---	X1	---	X1	---	X1	---	X3	Y2	X3	Y2
Pond	B ¹⁻³	---	G ^{1,2}	---	R ^{1,2}	---	P ¹	---	P ¹	---	X3, X4	Y2	X3, X4	Y2
Pond Sealing or Lining, Bentonite Sealant	X1	---	X2	---	X1	---	X1	---	X1	---	X1	---	X1	---
Pond Sealing or Lining, Compacted Clay Treatment	X1	---	X2	---	X1	---	X1	---	X1	---	X1	---	X1	---
Pond Sealing or Lining, Flexible Membrane	X1	---	X2	---	X1	---	X1	---	X1	---	X1	---	X1	---
Pond Sealing or Lining, Soil Dispersant	X1	---	X2	---	X1	---	X1	---	X1	---	X1	---	X1	---
Precision Land Forming	B ³	---	X2	---	X1	---	X1	---	X1	---	X4	Y2	X4	---
Prescribed Burning	X1	---	---	Y1	R ²	Y1	---	Y1	---	Y1	X1	---	X1	---
Prescribed Forestry	B ^{1,3}	Y1	G ^{1,2}	Y1	R ^{1,2}	Y1	P ¹	Y1	P ¹	---	X1, X4	---	X1, X4	Y2
Prescribed Grazing	X1	---	---	Y1	X1	---	X1	---	X1	---	---	Y2	---	Y2
Pumping Plant for Water Control	B ³	---	G ^{1,2}	---	X1	---	X1	---	X1	---	X3	Y2	X3	Y2
Range Planting	X1	---	G ^{1,2}	---	X1	---	X1	---	P ^{1,2}	Y1	---	Y2	---	Y2
Recreation Area Improvement	B ¹⁻³	---	G ^{1,2}	---	R ^{1,2}	---	P ^{1,2}	---	P ^{1,2}	---	X4	---	X4	---
Recreation Land Grading and Shaping	B ¹⁻³	---	G ^{1,2}	---	R ^{1,2}	---	P ¹	---	P ¹	---	X4	---	X4	---
Recreation Trail and Walkway	B ¹⁻³	---	G ^{1,2}	---	R ^{1,2}	---	P ^{1,2}	---	P ^{1,2}	---	X4	Y2	A ^{1,2}	Y2

Conservation Practices	LBB		GT		RCW		AC		EF		5 Aq. Spp.		LPM & LQ	
	NLAA	BE	NLAA	BE	NLAA	BE	NLAA	BE	NLAA	BE	NLAA	BE	NLAA	BE
Residue and Tillage Management, Mulch Till	X1	---	X2	---	X1	---	X1	---	X1	---	---	Y2	---	Y2
Residue and Tillage Management, No-Till/Strip Till/Direct Seed	X1	---	X2	---	X1	---	X1	---	X1	---	---	Y2	---	Y2
Residue and Tillage Management, Ridge Till	X1	---	X2	---	X1	---	X1	---	X1	---	---	Y2	---	Y2
Residue Management, Seasonal	X1	---	X2	---	X1	---	X1	---	X1	---	---	Y2	---	Y2
Restoration and Management of Rare and Declining Habitats	---	Y1	G ¹	Y1	---	Y1	---	Y1	---	Y1	---	Y2	---	Y2
Riparian Forest Buffer	---	Y1	G ¹	Y1	---	Y1	X1	---	X1	---	---	Y2	---	Y2
Riparian Herbaceous Cover	X1	---	G ¹	Y1	X1	---	X1	---	X1	---	---	Y2	---	Y2
Roof Runoff Structure	X1	---	X2	---	X1	---	X1	---	X1	---	X4	Y2	X4	Y2
Row Arrangement	X1	---	X2	---	X1	---	X1	---	X1	---	---	Y2	---	Y2
Runoff Management System	X1	---	X2	---	X1	---	X1	---	X1	---	X4	Y2	X4	Y2
Sediment Basin	B ³	---	G ¹	---	R ¹	---	X1	---	X1	---	X4	Y2	X4	Y2
Shallow Water Development and Management	X1	---	X2	---	X1	---	X1	---	X1	---	X3, X4		X3, X4	
Silvopasture Establishment	X1	---	G ^{1,2}	Y1	R ^{1,2}	Y1	P ^{1,2}	---	X1	---	---	Y2	---	Y2
Spoil Spreading	X1	---	G ^{1,2}	---	X1	---	X1	---	X1	---	X4	---	X4	---
Spring Development	C	---	C	---	C	---	C	---	C	---	C	---	C	---
Stream Crossing	B ³	---	X2	---	R ^{1,2}	---	P ²	---	P ²	---	X1	---	A ^{1,2}	Y2
Stream Habitat Improvement and Management	B ¹	---	G ¹	---	R ¹	---	X1	---	X1	---	X4	Y2	X4	Y2
Streambank and Shoreline Protection	B ¹	---	G ¹	---	R ¹	---	X1	---	X1	---	X4	Y2	X4	Y2
Stripcropping	X1	---	X2	---	X1	---	X1	---	X1	---	---	Y2	---	Y2
Structure for Water Control	X1	---	X2	---	X1	---	X1	---	X1	---	X3	---	X3	
Surface Drainage, Field Ditch	B ³	---	G ¹	---	X1	---	X1	---	X1	---	X4	---	X4	---
Surface Drainage, Main or Lateral	B ³	---	G ¹	---	X1	---	X1	---	X1	---	X4	---	X4	---

Conservation Practices	LBB		GT		RCW		AC		EF		5 Aq. Spp.		LPM & LQ	
	NLAA	BE	NLAA	BE	NLAA	BE	NLAA	BE	NLAA	BE	NLAA	BE	NLAA	BE
Terrace	X1	---	X2	---	X1	---	X1	---	X1	---	X4	Y2	X4	Y2
Tree/Shrub Establishment	B ¹	Y1	G ^{1,2}	Y1	R ¹	Y1	---	Y1	P ¹	---	---	Y2	---	Y2
Tree/Shrub Pruning	B ¹	Y1	G ¹	Y1	R ¹	---	---	Y1	X1	---	X1	---	X1	---
Tree/Shrub Site Preparation	B ¹	---	G ^{1,2}	---	R ¹	---	X1	---	P ¹	---	X4	---	X4	---
Upland Wildlife Habitat Management	---	Y1	G ¹	Y1	---	Y1	---	Y1	---	Y1	---	Y2	---	Y2
Vegetative Barrier	B ^{1,3}	---	G ¹	Y1	R ^{1,2}	---	X1	---	X1	---	---	Y2	---	Y2
Waste Storage Facility	B ³	---	G ^{1,2}	---	X1	---	X1	---	X1	---	X4	Y2	X4	Y2
Waste Treatment Lagoon	B ³	---	G ^{1,2}	---	X1	---	X1	---	X1	---	X4	Y2	X4	Y2
Waste Utilization	B ¹	---	G ¹	---	R ¹	---	P ¹	---	X1	---	X4	Y2	X4	Y2
Water and Sediment Control Basin	B ³	---	G ¹	---	R ¹	---	X1	---	X1	---	X4	Y2	X4	Y2
Water Well	B ³	---	G ¹	---	X1	---	X1	---	X1	---	X3	Y2	X3	Y2
Watering Facility	X1	---	G ¹	---	X1	---	X1	---	X1	---	X3	Y2	X3	Y2
Well Decommissioning	X1	---	G ¹	---	X1	---	X1	---	X1	---	---	Y2	---	Y2
Wetland Creation	X1	---	G ^{1,2}	---	X1	---	X1	---	P ¹	---	X4	Y2	X4	Y2
Wetland Enhancement	X1	---	X2	---	X1	---	X1	---	X1	---	---	Y2	---	Y2
Wetland Restoration	---	Y1	X2	---	X1	---	X1	---	X1	---	X4	Y2	X4	Y2
Wetland Wildlife Habitat Management	---	Y1	X2	---	X1	---	X1	---	X1	---	---	Y2	---	Y2

* The aquatic species criteria assigned to Forest Trails and Landings apply only to Louisiana quillwort

Matrix Determination and Criteria Definitions

X1 = These practices may affect, but are not likely to adversely affect, listed species or their critical habitats (excluding gopher tortoise) because the practices will always be implemented on active cropland, pastureland, orchards, other developed or disturbed areas and/or other areas lacking listed species habitat. Listed species, excluding gopher tortoise, typically do not occur on the following areas: active cropland, active pastureland, active orchards, other developed or disturbed areas and/or other areas lacking listed species habitat. However, listed species may occur adjacent to such lands.

X2 = These practices may affect, but are not likely to adversely affect, gopher tortoises because the practices will always be implemented on active cropland, active orchards, other developed or disturbed areas and/or other areas lacking gopher tortoise habitat. Gopher tortoises typically do not occur on the following areas: active cropland, active orchards, other developed or disturbed areas and/or other areas lacking gopher tortoise habitat. However, gopher tortoises may occur adjacent to such lands.

X3 = Practices associated with water withdrawals (e.g., irrigation and watering systems) may affect, but are not likely to adversely affect, aquatic listed species because the probability of such a practice being installed in the area of potential effect to an aquatic species is so rare that the potential impacts are discountable and insignificant. However, if NRCS does so, the purpose usually is to replace an existing, less efficient water withdrawal system; consequently, the amount of water withdrawn from an aquatic listed species watershed is reduced, which is beneficial to that species. These practices are also beneficial when the water source for these practices are switched from the water body (surface water) to a well (groundwater) or public utilities because it reduces riparian, erosion and/or in-stream impacts to the stream caused by surface-drawing pumps (irrigation) or livestock (watering). For the rare instances when the amount of water drawn from an aquatic species' watershed increases due to installation of these practices, that increase is just enough to accomplish the purpose of the practice, would withdraw a small fraction of total water available for the species' use and would not likely rise to the level of adversely effecting the species. In addition, such practices require their impact on water quality and water quantity to the water body be considered prior to installation. Finally, NRCS will coordinate annually with the Service on the number of water withdrawal practices installed in watersheds occupied by listed aquatic species. Those practices may then be re-evaluated for their potential impacts to aquatic species at that time.

X4 = Listed aquatic species may occur in rivers and streams adjacent to or downstream of areas where these practices may be implemented. Listed aquatic species will not occur within the footprint of these practices. As part of the standard for these practices, NRCS implements or requires basic erosion-control best management practices (BMPs) during installation, operation and maintenance of these practices to minimize, as much as feasible, the amount of contaminants, nutrients, sediments and velocity of water released into streams and rivers. If needed, NRCS will require additional erosion-control BMPs when these practices are installed adjacent or upstream of listed aquatic species habitat to

further minimize contaminants, nutrients, sediments and velocity of water. Most of these practices will not occur within the riparian zone. Those practices that may be implemented within riparian buffers or stream (*e.g.*, Forest Stand Improvement, Heavy Use Protection Area, Streambank and Shoreline Protection, Stream Habitat Improvement and Management, Tree/Shrub Site Preparation, Wetland Enhancement, Wetland Restoration, *etc.*) have the ultimate effect of improving water quality and/or riparian and in-stream habitat. Therefore, these practices may affect, but are not likely to adversely affect, listed aquatic species.

B¹ = Practice installation should occur outside the denning season (December - April) only when the practice is implemented in bear habitat (*e.g.*, not pastureland or cropland).

B² = Critical and Breeding Habitat should not be permanently converted, removed or degraded by any means (*e.g.*, clearing, trampling, herbiciding, flooding). Clearing of bear habitat should be minimized and restored as soon as feasible when such clearing is temporary.

B³ = A minimum 50 ft. buffer from the trunk or a 10 ft buffer around the tree starting from the farthest extent of its canopy, whichever is greater, should be maintained around potential den trees and candidate den trees (dbh \geq 36 inches). Potential den trees and candidate den trees should not be removed or damaged during practice installation or maintenance.

R¹ = Practice installation and maintenance should not occur within 200 ft of an active cluster, only when the practice is implemented in nesting (pines 60 years or older) or foraging habitat (pines or pine-hardwoods 30 years or older). A survey for cavity trees and an assessment of woodpecker activity would be needed when working in red-cockaded woodpecker habitat. Surveys should be conducted as outlined in Appendix 4 (pp. 288-290) of the Red-cockaded woodpecker Recovery Plan, Second Revision. Contact the USFWS and/or the LDWF red-cockaded woodpecker Safe Harbor Coordinator if assistance is needed to conduct surveys.

R² = Nesting and foraging habitat should not be converted, removed, damaged or degraded by any means (*e.g.* clearing, trampling, herbiciding, siltation, flooding) within 0.5 mile of an active cluster. Locate known clusters and cavity trees. If assistance is needed regarding the location of known cluster sites, contact the USFWS and/or the LDWF red-cockaded woodpecker Safe Harbor Coordinator. Scrub-shrub habitat may be permanently or temporarily removed without adversely affecting the Red-cockaded woodpecker. If removal of foraging and nesting habitat can not be avoided, then follow the guidelines for managed stability, Appendix 5 (pp. 291-294) of the Red-cockaded Woodpecker Recovery Plan, Second Revision. Note that active cavity trees should not be removed or damaged regardless and inactive cavity trees can only be removed with concurrence from the USFWS and LDWF.

G¹ = Heavy equipment (including mowers) and livestock (e.g., shade structure practice) should stay at least 25 ft. from GT burrow aprons. Contact the USFWS or Louisiana Natural Heritage Program if assistance is needed to conduct surveys.

G² = A minimum of 2.5 acres of GT foraging habitat should be maintained around a burrow at all times and not be permanently converted, removed or degraded by any means (e.g., clearing, trampling, herbiciding, flooding). Clearing of GT habitat should be minimized and restored as soon as feasible when such clearing is temporary. Scrub-shrub habitat may be permanently or temporarily removed without adversely affecting GT. Contact the USFWS or Louisiana Natural Heritage Program if assistance is needed to conduct surveys.

G³ = The practice should allow dispersal and movement (e.g., road w/ little traffic and no barriers/side ditches) to at least 2.5 acres of GT foraging habitat per burrow. Requirements for fencing are: typical fencing = minimum 30 cm ground clearance, electric fencing = 40 cm ground clearance, woven fencing = 30 cm x 30 cm hole every 100 linear ft. of fence.

P¹ = American chaffseed or Earthfruit habitat should not be converted, removed or degraded by any means (e.g., clearing, trampling, herbiciding, flooding).

P² = Installing these practices should not allow access off-road vehicles or livestock to American chaffseed or Earthfruit habitat/areas.

A¹ = Only fords or bridges should be used when crossing a stream. The crossing should be designed to ensure that the natural flow and hydrology of the stream is maintained year-round.

A² = First, in-stream habitat should be avoided and not disturbed. If the stream cannot be avoided, a qualified surveyor of Louisiana pearlshell mussel or Louisiana quillwort (depending on the species in question) should survey just prior to stream work. A survey proposal and results should be submitted to the USFWS for review prior to conducting the survey and in-stream work. Contact the USFWS or Louisiana Natural Heritage Program if assistance is needed to conduct surveys. Based on the USFWS review, in-stream work may proceed if the stream work (e.g., crossing) does not degrade stream hydrology or long-term water quality.

C = These practices may adversely affect listed aquatic species. Contact the State Wildlife Biologist for NRCS to determine if coordination/consultation with USFWS is required whenever these practices will be implemented within or near rivers and streams that may contain listed aquatic species.

Y1 = These practices are beneficial to listed terrestrial species when all of the following apply: (1) all NLAA criteria applicable to the specific practice for the identified species are followed; (2) the identified species habitat is enhanced, created, restored or protected

by plantings or other modifications of the site; and (3) the listed terrestrial species may occur near or at the installation site.

Y2 = These practices enhance, create, restore or protect listed aquatic species habitat by doing 1 or more of the following: (1) they ultimately reduce contaminants, nutrients, sediments and water velocity released into a river or stream; (2) they reduce water temperature of a river or stream by restoring or improving the riparian buffer; (3) they reduce the amount of water withdrawn from a river or stream; and/or (4) they restore natural in-stream habitat or hydrology to a river or stream. Therefore, these practices are beneficial to aquatic listed species when all NLAA criteria applicable to the specific practice are followed and the listed aquatic species may occur adjacent to or downstream of the installation site.

Candidate Species

Candidate species are plant and animal taxa that have been considered for possible addition to the List of Endangered and Threatened Species. These are taxa for which the U.S. Fish and Wildlife Service has on file sufficient information on biological vulnerability and threat(s) to support issuance of a proposal to list, but issuance of a proposed rule is currently precluded by higher priority listing actions (61 FR 7596-7613). Consequently, Section 7 of the ESA does not apply.

NRCS has evaluated potential impacts to the only candidate species, Louisiana pine snake (*Pituophis ruthveni*), in Louisiana. Practices that are beneficial (B) and that are not likely to negatively impact (NLNI) Louisiana pine snake have been identified. The symbol “Y” under the beneficial sub-column indicates when and why certain practices are beneficial to pine snake. Criteria that NRCS may voluntarily use to reduce negative impacts to the pine snake have also been identified for each practice, if needed. As with the matrix for federally listed species, the criteria for pine snake are represented by a numbered superscript after the pine snake’s criteria symbol “L”. A practice may negatively impact Louisiana pine snake when pine snake criteria are associated with a practice and those criteria cannot be met when implementing the practice.

Many practices listed will be implemented only on active cropland, active pastureland or other areas lacking pine snake habitat. Therefore, they would have no impact on that species. NRCS has committed to use its programs to conserve, restore and minimize negative impacts to Louisiana pine snake where feasible to help preclude the need to list this species.

Conservation Practices	Louisiana Pine Snake	
	NLNI	B
Access Control	---	Y
Access Road	L ^{1,2}	---
Alley Cropping	---	---
Animal Mortality Facility	---	---
Animal Trails and Walkways	---	---
Aquaculture Ponds	---	---

Conservation Practices	Louisiana Pine Snake	
	NLNI	B
Atmospheric Resource Quality Management	L ^{1,2}	---
Bedding	---	---
Brush Management	L ^{1,2}	Y
Channel Bank Vegetation	---	---
Channel Stabilization	L ¹	---
Clearing and Snagging	L ¹	---
Closure of Waste Impoundment	---	---
Composting Facility	---	---
Conservation Cover	L ¹	Y
Conservation Crop Rotation	---	---
Constructed Wetland	---	---
Contour Buffer Strips	---	---
Contour Farming	---	---
Contour Orchard and Other Fruit Area	---	---
Contour Stripcropping	---	---
Cover Crop	---	---
Critical Area Planting	L ¹	Y
Dam, Floodwater Retarding	L ^{1,2}	---
Dam, Diversion	L ^{1,2}	---
Deep Tillage	L ¹	---
Dike	L ¹	---
Diversion	L ¹	---
Drainage Water Management	---	---
Dry Hydrant	L ¹	---
Early Successional Habitat Development/Management	L ¹	---
Fence	L ¹	Y
Field Border	L ¹	---
Filter Strip	L ¹	---
Firebreak	L ^{1,2}	Y
Fishpond Management	---	---
Forage Harvest Management	---	---
Forest Stand Improvement	L ^{1,2}	Y
Forest Trails and Landings	L ^{1,2}	---
Grade Stabilization Structure	L ¹	---
Grassed Waterway	---	---
Grazing Land Mechanical Treatment	---	---
Heavy Use Area Protection	---	---
Hedgerow Planting	L ¹	Y
Hillside Ditch	L ^{1,2}	---
Irrigation Canal or Lateral	---	---
Irrigation Field Ditch	---	---
Irrigation Land Leveling	---	---
Irrigation Regulating Reservoir	---	---
Irrigation Storage Reservoir	---	---
Irrigation System, Microirrigation	---	---
Irrigation System, Sprinkler	---	---
Irrigation System, Surface and Subsurface	---	---
Irrigation System, Tailwater Recovery	---	---
Irrigation Water Conveyance, Ditch and Canal Lining, Flexible Membrane	---	---

Conservation Practices	Louisiana Pine Snake	
	NLNI	B
Irrigation Water Conveyance, Ditch and Canal Lining, Plain Concrete	---	---
Irrigation Water Conveyance, Pipeline, Aluminum Tubing	---	---
Irrigation Water Conveyance, Pipeline, Asbestos-Cement	---	---
Irrigation Water Conveyance, Pipeline, High-Pressure, Underground, Plastic	---	---
Irrigation Water Conveyance, Pipeline, Low-Pressure, Underground, Plastic	---	---
Irrigation Water Conveyance, Pipeline, Nonreinforced Concrete	---	---
Irrigation Water Conveyance, Pipeline, Reinforced Plastic Mortar	---	---
Irrigation Water Conveyance, Pipeline, Rigid Gated Pipeline	---	---
Irrigation Water Conveyance, Pipeline, Steel	---	---
Irrigation Water Management	---	---
Land Clearing	L ^{1,2}	---
Land Reclamation, Abandoned Mined Land	---	Y
Land Reclamation, Currently Mined Land	---	Y
Land Smoothing	---	---
Lined Waterway or Outlet	---	---
Livestock Shade Structure	---	---
Manure Transfer	---	---
Mulching	L ¹	---
Nutrient Management	---	---
Obstruction Removal	L ^{1,2}	---
Open Channel	L ^{1,2}	---
Pasture and Hay Planting	---	---
Pest Management	---	---
Pipeline	---	---
Pond	L ^{1,2}	---
Pond Sealing or Lining, Bentonite Sealant	---	---
Pond Sealing or Lining, Compacted Clay Treatment	---	---
Pond Sealing or Lining, Flexible Membrane	---	---
Pond Sealing or Lining, Soil Dispersant	---	---
Precision Land Forming	---	---
Prescribed Burning	---	Y
Prescribed Forestry	L ^{1,2}	Y
Prescribed Grazing	---	---
Pumping Plant for Water Control	---	---
Range Planting	---	---
Recreation Area Improvement	L ^{1,2}	---
Recreation Land Grading and Shaping	L ^{1,2}	---
Recreation Trail and Walkway	L ^{1,2}	---
Residue and Tillage Management, Mulch Till	---	---
Residue and Tillage Management, No-Till/Strip Till/Direct Seed	---	---
Residue and Tillage Management, Ridge Till	---	---
Residue Management, Seasonal	---	---
Restoration and Management of Rare and Declining Habitats	L ¹	Y
Riparian Forest Buffer	L ¹	Y

Conservation Practices	Louisiana Pine Snake	
	NLNI	B
Riparian Herbaceous Cover	---	---
Roof Runoff Structure	---	---
Row Arrangement	---	---
Runoff Management System	---	---
Sediment Basin	L ¹	---
Shallow Water Development and Management	---	---
Silvopasture Establishment	L ^{1,2}	Y
Spoil Spreading	L ^{1,2}	---
Spring Development	L ^{1,2}	---
Stream Crossing	---	---
Stream Habitat Improvement and Management	L ¹	---
Streambank and Shoreline Protection	L ¹	---
Stripcropping	---	---
Structure for Water Control	---	---
Surface Drainage, Field Ditch	---	---
Surface Drainage, Main or Lateral	---	---
Terrace	---	---
Tree/Shrub Establishment	L ^{1,2}	Y
Tree/Shrub Pruning	L ¹	Y
Tree/Shrub Site Preparation	L ^{1,2}	---
Upland Wildlife Habitat Management	L ¹	Y
Vegetative Barrier	L ¹	---
Waste Storage Facility	---	---
Waste Treatment Lagoon	---	---
Waste Utilization	L ¹	---
Water and Sediment Control Basin	L ¹	---
Water Well	L ¹	---
Watering Facility	---	---
Well Decommissioning	L ¹	---
Wetland Creation	---	---
Wetland Enhancement	---	---
Wetland Restoration	---	---
Wetland Wildlife Habitat Management	---	---

Louisiana Pine Snake Determination and Criteria Definitions

L¹ = Heavy equipment (including mowers) should stay at least 25 ft. from gopher burrow systems. A survey for gopher burrow systems may be needed.

L² = Pine snake habitat should not be permanently converted, removed or degraded by any means (e.g., clearing, trampling, herbiciding, siltation, flooding) within 1200 ft. of areas known to be occupied by pine snakes. Clearing of occupied pine snake habitat should be minimized and restored as soon as feasible when such clearing is temporary. Locate known pine snake areas. If assistance is needed, contact the USFWS or Louisiana Natural Heritage Program. Avoid converting, removing or degrading potential pine snake habitat (e.g., suitable habitat containing gopher burrows but the occurrence of pine snakes is unknown) as much as possible. Scrub-shrub habitat may be permanently or

temporarily removed without adversely impacting pine snakes. A survey for gopher burrow systems may be needed.

Y = These practices are beneficial to the pine snake when all of the following apply: (1) all NLNI criteria applicable to the specific practice for the pine snake are followed; (2) pine snake habitat is enhanced, created, restored or protected by plantings or other modifications of the site; and (3) pine snake may occur near or at the installation site.

DETAILED EXPLANATION OF THE RANKING AND STATUS CATEGORIES EMPLOYED BY LNHP

Last updated on September 15, 2009

HABITAT DESCRIPTIONS OF THREATENED AND ENDANGERED SPECIES OF LOUISIANA

SPECIES INFORMATION:

Louisiana Black Bear

The threatened Louisiana black bear (*Ursus americanus luteolus*) is primarily associated with forested wetlands; however, it utilizes a variety of habitat types, including marsh, spoil banks, and upland forests. Within forested wetlands, black bear habitat requirements include soft and hard mast for food, thick vegetation for denning and/or escape cover, vegetated corridors for dispersal, and isolated areas for refuge from human disturbance. While not a requirement, large trees for den sites can be an important component of black bear habitat, and in breeding habitat, den trees and candidate den trees are protected. The primary threats to the species are loss of bottomland hardwoods and fragmentation of remaining forested tracts. In addition to habitat loss, human-related mortality, including accidents (e.g., vehicular collisions), poaching and nuisance abatement activities (e.g., removal from the wild of bears posing a threat to human safety), also represent a major threat to the conservation and protection of the Louisiana black bear.

Den and candidate den trees can include any species with visible cavities that have a diameter at breast height of 36 inches or greater. In the final listing rule, the Service extended legal protection to actual or candidate den trees in Louisiana black bear breeding habitat. As the terms imply, “actual den tree” refers to any tree used by a denning bear during the winter and early spring seasons. Candidate den trees are defined in the final rule as bald cypress (*Taxodium distichum*) and tupelo gum (*Nyssa* sp.) with visible cavities, having a diameter at breast height of 36 inches or greater, and occurring in or along rivers, lakes, streams, bayous, sloughs, or other water bodies. Results of recent research involving Louisiana black bears indicate that they will use virtually any species of tree for a den site if it is large enough and has a cavity, as described above. In areas where suitable den trees are uncommon, Louisiana black bears often den on the ground in hollow logs, slash piles, and shallow burrows or depressions within areas of dense cover.

The Service has defined elements of Louisiana black bear critical habitat as breeding habitat and corridors within bottomland and upland hardwood forests and adjacent vegetated areas. The habitat these bears need to survive and thrive consists of hardwood forest areas having a diversity of age class and species and containing sources of hard mast (acorns and nuts) produced by such species as mature oaks, hickories, and pecan trees, and may include one or more of the following: (a) areas containing soft mast provided by a diversity of plant species, including blackberries, grapes, mulberry, sassafras, paw paw, occurring primarily in forest openings, on spoil banks, and in areas

adjacent to forested habitat; (b) areas within forested habitat providing protein sources consisting of beetles, and other colonial insects found in rotting and decaying wood found on the forest floor; (c) grasses and sedges found in forest openings, on spoil banks with open canopies, and in vegetated areas adjacent to forested habitats; (d) secure areas for reproduction, winter dormancy, day bedding, and escape provided by den trees (bald cypress, overcup oak, American sycamore, *etc.*) ; a thick understory found in some forested areas, shrub/scrub habitat, openings along spoil banks, vegetated areas adjacent to forests, or any vegetation that provides cover, limits visibility, slows foot travel, or creates noise when traversed; or, in early successional forests (0 to 12 years) with an open canopy and dense understory of shrubs, vines, and/or saplings. Vegetation such as palmetto, greenbriars, blackberry, dewberry, and downed trees also can provide cover for black bears. Corridors have been defined as consisting of: (a) Habitat patches 12 acres (5 hectares) or greater in size; or (b) Forested areas greater than 150 feet (46 meters) wide along waterways and sloughs and having a diversity of plant species and age-classes of sufficient area, quality, and configuration, as described above, to provide dispersal habitat between breeding populations to maintain genetic variability and promote stable or increasing populations, and to provide habitat supporting safe movement, foraging, and denning.

The Service determined that Louisiana black bear habitat needs were compatible with normal forest management activities and those activities were exempted from the “take” provisions under the Endangered Species Act when this species was listed in 1992.

Critical habitat is designated in portions of Avoyelles, East Carroll, Catahoula, Concordia, Franklin, Iberia, Iberville, Madison, Pointe Coupee, Richland, St. Martin, St. Mary, Tensas and West Carroll Parishes, Louisiana.

Manatee

The endangered West Indian manatee (*Trichechus manatus*) frequently enters Lakes Pontchartrain and Maurepas, and associated coastal waters and streams during the summer months (i.e., June through September). Manatee occurrences in Louisiana are increasing, and they have been regularly reported in the Amite, Blind, Tchefuncte, and Tickfaw Rivers, and in canals within the adjacent coastal marshes of southeastern Louisiana. They have also been infrequently observed in the coastal areas of southwestern Louisiana and rarely in the Mississippi River. Threats to this species include collisions with boats and barges, entrapment in flood control structures, poaching, habitat loss, and pollution. Cold weather and outbreaks of red tide may also adversely affect these animals.

Red-cockaded Woodpeckers

The endangered red-cockaded woodpecker (RCW, *Picoides borealis*) nests in open, park-like stands of mature (i.e., greater than 60 years of age) pine trees containing little hardwood understory or midstory. RCWs can tolerate small numbers of overstory hardwoods or large midstory hardwoods at low densities found naturally in many southern pine forests, but they are not tolerant of dense hardwood midstories resulting from fire suppression. RCWs excavate roost and nest cavities in large living pines (i.e.,

10 inches or greater in diameter at breast height). The cavity trees and the foraging area within 200 feet of those trees are known as a cluster. RCWs may be affected by human activities within the cluster boundary during the nesting season (mid-March through July). Foraging habitat is defined as pine and pine-hardwood (i.e., 50 percent or more of the dominant trees are pines) stands over 30 years of age that are located contiguous to and within one-half mile of the cluster. Reductions in foraging habitat below minimum requirements may also affect this species.

Gopher Tortoise

The gopher tortoise (*Gopherus polyphemus*), federally listed as a threatened species, is the only native tortoise found in the southeastern United States. Habitat degradation (lack of thinning or burning on pine plantations) and conversion to agriculture or urbanization have contributed to the decline of that species. That habitat decline has concentrated many remaining gopher tortoise populations along pipeline and powerline rights-of-way within their range. This species is associated with areas that have well-drained, sand or gravel soils appropriate for burrow establishment, ample sunlight for nesting, and understory vegetation suitable for foraging (i.e., grasses and forbs). Gopher tortoises prefer “open” longleaf pine-scrub oak communities that are thinned and burned every few years. They also inhabit existing maintained transmission rights-of-way (ROW) within Washington, Tangipahoa, and St. Tammany Parishes. **Those ROWs or similar habitat conditions may be found on farmland.** .

In Louisiana, gopher tortoises tend to use sandy and/or gravel soils that do not have a fragipan. Such soils are generally found on ridges or side slopes, and are usually intermingled with various unsuitable soil types. The U.S. Fish and Wildlife Service’s Lafayette, Louisiana, Field Office has gathered this information using ArcGIS desktop analysis, USDA – Natural Resources Conservation Service (NRCS) soil surveys, and known gopher tortoise locations provided by the Louisiana Natural Heritage Program. All soil descriptions are excerpts from the NRCS parish soil surveys.

St. Tammany Parish	Tangipahoa Parish	Washington Parish
Cahaba (Ca)	Cahaba (Ca)	Bassfield (Ba)
Latonia (Lt)	Cahaba (Ch)	Cahaba (Ca)
Ruston (Rs)	Malbis (Ma)	Latonia (Lt)
Ruston (Rt)	Ruston (Rn)	Ruston (Rs)
Smithdale (Sm)	Ruston-Smithdale assoc. (RS)	Ruston (Rt)
	Smithdale (Sm)	Smithdale (Sm)
		Smithdale (Sn)

If suitable habitat does exist, the project area should be surveyed by a qualified biologist for the presence of gopher tortoises and/or their burrows. We recommend that you document the survey effort with the following information and protocols:

1. survey methodology including dates, qualifications of survey personnel, size of survey area, and transect density (preferably every 10 meters);
2. general soil type, understory conditions, percent canopy cover, and species composition (several representative photographs should be included);
3. number of gopher tortoise burrows observed and signs of activity (i.e., fresh dirt around the burrow entrance, trails leading to and from the burrow, etc);
4. presence or absence of gopher tortoises outside the burrow; and
5. topographic quadrangle maps which illustrate areas of adequate gopher tortoise habitat, burrow sites, and individual and colony locations relative to proposed construction activities.

The burrow opening is semicircular or “half-moon” in shape and will have a low mound of bare soil immediately in front of the mouth of an active burrow. The burrow’s angle of descent is typically around 30 degrees. Burrows can be up to 30 feet in length and 12 feet in depth. The burrows of young tortoise are often difficult to locate, as they tend to be under brush, against logs, or in some other secluded place.

All tortoise burrows encountered will be categorized according to the following scheme:

1. Active – most likely occupied by a tortoise; as evidenced by presence of tortoise, freshly dug sand, tortoise tracks, or tortoise scat.
2. Inactive – used by a tortoise as part of a home range with other burrows, but is not currently occupied. Evidence includes absence of active burrow signs listed above and/or debris in burrow entrance.
3. Abandoned – most likely not occupied by a tortoise for many years; as evidenced by deteriorated nature of burrow entrance, (i.e. burrow collapsed, lack of maintained apron, sand washed in, etc.) Old burrows are in such a condition that they are not considered to be good candidates for future use by tortoises.

Ringed Map Turtle

The threatened ringed map (=sawback) turtle (*Gratemys oculifera*) is endemic to the Pearl River system. In Louisiana, it occurs along the entire length of the Bogue Chitto River and in the Pearl River north of Louisiana Highway 190 in St. Tammany and Washington Parishes. It is found in riverine habitats with moderate currents, channels wide enough to permit sunlight penetration for several hours each day, numerous logs for basking, and large, sandy banks that are used for nesting. Impoundments, channelization and other causes of habitat loss (i.e., loss of exposed sandbars, basking areas) and water quality degradation (which decreases food supply) have contributed to the decline of this species.

Gulf Sturgeon

The Gulf sturgeon (*Acipenser oxyrinchus desotoi*), federally listed as a threatened species, is an anadromous fish that occurs in many rivers, streams, and estuarine waters along the northern Gulf coast between the Mississippi River and the Suwannee River, Florida. In Louisiana, Gulf sturgeon have been reported at Rigolets Pass, rivers and lakes of the Lake Pontchartrain basin, and adjacent estuarine areas. Spawning occurs in coastal rivers between late winter and early spring (i.e., March to May). Adults and sub-adults may be found in those rivers and streams until November, and in estuarine or marine waters during the remainder of the year. Sturgeon less than two years old appear to remain in riverine habitats and estuarine areas throughout the year, rather than migrate to marine waters. Habitat alterations such as those caused by water control structures that limit and prevent spawning, poor water quality, and over-fishing have negatively affected this species.

On March 19, 2003, the Service and the National Marine Fisheries Service (NMFS) published a final rule in the Federal Register (Volume 68, No. 53) designating critical habitat for the Gulf sturgeon in Louisiana, Mississippi, Alabama, and Florida. Portions of the Pearl and Bogue Chitto Rivers, Lake Pontchartrain east of the Lake Pontchartrain Causeway, all of Little Lake, The Rigolets, Lake St. Catherine, and Lake Borgne within Louisiana were included in that designation. The primary constituent elements essential for the conservation of Gulf sturgeon are those habitat components that support feeding, resting, sheltering, reproduction, migration, and physical features necessary for maintaining the natural processes that support those habitat components; those elements should be considered when determining potential project impacts. The primary constituent elements for Gulf sturgeon critical habitat include:

- abundant prey items within riverine habitats for larval and juvenile life stages, and within estuarine and marine habitats for juvenile, sub-adult, and adult life stages;
- riverine spawning sites with substrates suitable for egg deposition and development, such as limestone outcrops and cut limestone banks, bedrock, large gravel or cobble beds, marl, soapstone, or hard clay;

- riverine aggregation areas, also referred to as resting, holding and staging areas, used by adult, sub-adult, and/or juveniles, generally, but not always, located in holes below normal river bend depths, believed necessary for minimizing energy expenditures during freshwater residency and possibly for osmoregulatory functions;
- a flow regime (i.e., the magnitude, frequency, duration, seasonality, and rate-of-change of freshwater discharge over time) necessary for normal behavior, growth, and survival of all life stages in the riverine environment, including migration, breeding site selection, courtship, egg fertilization, resting, and staging; and necessary for maintaining spawning sites in suitable condition for egg attachment, egg sheltering, resting, and larvae staging;
- water quality, including temperature, salinity, pH, hardness, turbidity, oxygen content, and other chemical characteristics, necessary for normal behavior, growth, and viability of all life stages;
- sediment quality, including texture and other chemical characteristics, necessary for normal behavior, growth, and viability of all life stages; and
- safe and unobstructed migratory pathways necessary for passage within and between riverine, estuarine, and marine habitats (e.g., a river unobstructed by a permanent structure, or a dammed river that still allows for passage).

Alabama Heelsplitter

Federally listed as a threatened species, the Alabama (=inflated) heelsplitter mussel (*Potamilus inflatus*) occurs in the Amite and Pearl Rivers in Louisiana. In the Amite River, the mussel occurs between Louisiana Highway 37 and Louisiana Highway 42 (with the highest concentrations between Grangeville and Port Vincent). This freshwater mussel is typically found in soft, stable substrates such as sand, mud, silt, and sandy gravel, in slow to moderate currents. Heelsplitter mussels are usually found in depositional pools below sand point bars, and in shallow pools between sandbars and river banks. As with all freshwater mussels, this species depends upon an intermediate fish host to support its glochidia life stage for successful reproduction. Major threats to this species are the loss of habitat resulting from sand and gravel dredging, channel modifications for flood control, and degradation of water quality.

Louisiana Pearlshell Mussel

The Louisiana pearlshell mussel (*Margaritifera hembeli*), federally listed as a threatened species, is only found in Louisiana. It is known to occur in Brown Creek (including Patterson Branch), Valentine Creek, Mack Branch, Castor Creek, Long Branch, Little Brushy Creek, Loving Creek, Little Loving Creek, “Haikey’s” Creek, Little Bayou Clear, and Bayou Clear in Rapides Parish. It is also known to occur in Black Creek, Swafford Creek, Beaver Creek, Cypress Creek, Clear Branch, Cress Creek, Chandler Creek, Jordan

Creek, Gray Creek, James Branch, Hudson Creek, Coleman Branch, and Moccasin Branch in Grant Parish. Please note that local names may exist for these streams so location information should be verified from the species maps.

That species requires clear, moderately swift-flowing, perennial streams having stable mineral substrate, such as sandy bottom with rocky outcroppings. As with all freshwater mussels, this species depends upon an intermediate fish host to support its glochidia life stage for successful reproduction. Construction activities in or upstream from Louisiana pearlshell mussels may directly or indirectly impact that species via destruction of mussel beds. Indirect effects from such activities include reduction of habitat through project-related water quality degradation or changes in stream geomorphology (e.g., headcutting) and barriers to fish passage.

Pink Mucket Pearly Mussel

The endangered pink mucket pearly mussel (*Lampsilis abrupta*) has been found in Morehouse Parish, Louisiana, in Bayou Bartholomew. The pink mucket is characterized by an elliptical shell approximately 4 inches long, 3 inches high, and 2 inches wide. The surface of the shell is smooth, except for wide, relatively dark, concentric growth rests, and shell color is yellow to yellowish or greenish brown, with wide, greenish rays present in younger individuals. This species historically occurred in the Ohio River Basin, and is found mostly in the Tennessee, Cumberland, and Ohio River drainages, with occasional records from Mississippi River drainages. The pink mucket pearly mussel is usually found in a variety of habitats ranging from silt to boulders, rubble, gravel, and sand substrates, and standing to fast-flowing water at depths ranging from 1.5 to 26 feet. The host fish essential to development of the glochidia of that species is believed to be a species of bass in the genus *Micropterus*. As with all freshwater mussels, this species depends upon an intermediate fish host to support its glochidia life stage for successful reproduction. The pink mucket pearly mussel is endangered because of habitat alterations caused by impoundments, and reduction in water quality due to siltation.

American Chaffseed

Federally listed as an endangered plant species, the American chaffseed (*Schwalbea americana*) grows on “pimple mounds” in the longleaf pine flatwoods of Allen Parish in southwestern Louisiana. The American chaffseed is a tall perennial herb in the snapdragon family, and can be identified by its two-inch-long, purplish-yellow, tubular flowers. The plant, a partial parasite on the roots of other plants, grows to a height of 12 to 24 inches at the time of flowering in the spring. Its leaves are alternate, lance-shaped to elliptic, and its flowers are borne singularly on short stalks. In the continental U.S., flowering occurs from April to June in the south and from June to mid-July in the north. The fruit is a long, narrow capsule enclosed in a sac-like structure. Fruits mature from early summer in the south to October in the north. A major threat to this species is the decline in prescribed burning throughout the Atlantic and Gulf coasts.

Earth Fruit

Federally listed as a threatened species, the earth fruit (*Geocarpon minimum*) is a tiny annual plant with branches from 0.39 to 1.59 inches long, and is typically found in Louisiana in saline alkali soils on rocky outcrops or saline soil prairies in Caddo, DeSoto, and Winn Parishes. The flowers, which are inconspicuous in the leaf axils, have no petals and have a greenish-red calyx. The fruit (a capsule) splits open into three parts at maturity, releasing numerous 0.02-inch-long seeds. Young plants are dull gray and turn reddish-purple at maturity. The species is short-lived, usually completing its life cycle within 4 to 6 weeks, and therefore, is rarely visible except when flowering which generally occurs in March or April. Earth fruit sites are characterized by a low, extensive coverage of sedges (*Scirpus koilolepsis*), grasses (*Aristida longespica*, *A. oligantha*), and forbs (*Dioda teres*, *Anemone caroliniana*), with a general absence or low density of trees and shrubs. Major threats to this species include conversion of prairies to pastureland, and destruction of habitat by off-road vehicular traffic and cattle. Saline soil prairies and sandstone outcroppings within the proposed project area should be surveyed for vegetative characteristics associated with the presence of earth fruit as described in the recovery plan (a copy of that plan can be found at http://ecos.fws.gov/docs/recovery_plans/1993/930726.pdf).

Louisiana Quillwort

Federally listed as an endangered plant species, the Louisiana quillwort (*Isoetes louisianensis*) grows on sand and gravel bars on the accreting sides of streams and moist overflow channels within riparian forest communities in Washington and St. Tammany Parishes, Louisiana, as well as 10 counties in Mississippi and 2 counties in Alabama. It is known to occur in Miller Creek and Thigpen Creek in Washington Parish; Abita River drainage, Little Bogue Falaya drainage and Bayou Chinchuba in St. Tammany Parish; and the Bogue Falaya River drainage. The Louisiana quillwort is a small, semi-aquatic, facultative evergreen plant with spirally arranged leaves (sporophylls) arising from a globose, two-lobed corm. The hollow leaves are transversely septate, and measure approximately 0.12 inches wide and up to 16 inches long. Major threats to this species are habitat loss through hydrologic modifications of stream habitat, and land use practices that significantly alter stream water quality and hydrology. Apparently, it is dependent on a special hydrologic regime resulting from the presence of small springs scattered at the base of banks or bluffs. The Louisiana quillwort may be directly or indirectly impacted by construction activities that destroy their colonies, or that reduce their habitat via water quality degradation or changes in stream morphology.

Louisiana Pine Snake

The Louisiana pine snake (*Pituophis ruthveni*) is a candidate species for Federal listing as a threatened or endangered species, and historically occurred in portions of west-central Louisiana and extreme east-central Texas. According to our records, the pine snake is known to occur in Bienville, Sabine, Natchitoches, and Vernon Parishes, Louisiana, and in Angelina, Jasper, Newton, Sabine, and Tyler Counties, Texas. Pine snakes inhabit areas of longleaf pine with sandy, well-drained soils, substantial herbaceous ground

cover, and little midstory (e.g., longleaf pine savannah). The pine snake is highly associated with the pocket gopher (*Geomys breviceps*), a major food source, which is dependent on the same habitat type. Pine snakes are most frequently found near pocket gopher burrow systems and move from one burrow system to another. Threats to this species include the sharp decline in quality and quantity of longleaf pine habitat due to logging, suppression of fire, and short-rotation silviculture, as well as vehicle-related mortality on roads and off-road trails.

PARISH OCCURRENCE OF THREATENED AND ENDANGERED SPECIES OF LOUISIANA

2009 NRCS PROGRAMMATIC CONSULTATION¹

E=Endangered T=Threatened C=Candidate CH=Critical Habitat *

¹ This represents a subset of the 2009 Threatened and Endangered Species list for Louisiana. Parishes or species not included in this subset were omitted due to their extreme rarity and/or the fact that the covered NRCS practices would not occur in those areas or areas containing those species.

<u>PARISH</u> <u>STATUS</u>	<u>OCCURRENCE</u>	<u>GROUP</u>
<u>ALLEN</u>		
CHAFF-SEED, AMERICAN E	KNOWN	PLANT
WOODPECKER, RED-COCKADED E	KNOWN	BIRD
<u>ASCENSION</u>		
MANATEE, WEST INDIAN E	POSSIBLE	MAMMAL
MUSSEL, ALABAMA HEELSPLITTER T	KNOWN	MOLLUSK
STURGEON, GULF T	KNOWN	FISH
<u>AVOUELLES</u>		
BEAR, LOUISIANA BLACK T, CH	KNOWN	MAMMAL
<u>BEAUREGARD</u>		
WOODPECKER, RED-COCKADED E	KNOWN	BIRD
<u>BIENVILLE</u>		
SNAKE, LOUISIANA PINE C	KNOWN	REPTILE
WOODPECKER, RED-COCKADED E	KNOWN	BIRD
<u>BOSSIER</u>		
WOODPECKER, RED-COCKADED E	KNOWN	BIRD

<u>PARISH</u> <u>STATUS</u>	<u>OCCURRENCE</u>	<u>GROUP</u>
<u>CADDO</u> EARTH FRUIT T	KNOWN	PLANT
WOODPECKER, RED-COCKADED E	KNOWN	BIRD
<u>CALCASIEU</u> WOODPECKER, RED-COCKADED E	KNOWN	BIRD
<u>CALDWELL</u> WOODPECKER, RED-COCKADED E	KNOWN	BIRD
<u>CATAHOULA</u> BEAR, LOUISIANA BLACK T, CH	KNOWN	MAMMAL
<u>CONCORDIA</u> BEAR, LOUISIANA BLACK T, CH	KNOWN	MAMMAL
<u>DESOTO</u> EARTH FRUIT T	POSSIBLE	PLANT
WOODPECKER, RED-COCKADED E	KNOWN	BIRD
<u>EAST BATON ROUGE</u> MANATEE, WEST INDIAN E	POSSIBLE	MAMMAL
MUSSEL, ALABAMA HEELSPLITTER T	KNOWN	MOLLUSK
STURGEON, GULF T	KNOWN	FISH
<u>EAST CARROLL</u> BEAR, LOUISIANA BLACK T, CH	KNOWN	MAMMAL
<u>EAST FELICIANA</u> MUSSEL, ALABAMA HEELSPLITTER T	KNOWN	MOLLUSK
STURGEON, GULF T	KNOWN	FISH
<u>EVANGELINE</u> WOODPECKER, RED-COCKADED E	KNOWN	BIRD
<u>FRANKLIN</u> BEAR, LOUISIANA BLACK T, CH	POSSIBLE	MAMMAL

<u>PARISH</u> <u>STATUS</u>	<u>OCCURRENCE</u>	<u>GROUP</u>
<u>GRANT</u>		
MUSSEL, LOUISIANA PEARLSHELL T	KNOWN	MOLLUSK
WOODPECKER, RED-COCKADED E	KNOWN	BIRD
<u>IBERIA</u>		
BEAR, LOUISIANA BLACK T, CH	KNOWN	MAMMAL
<u>IBERVILLE</u>		
BEAR, LOUISIANA BLACK T, CH	POSSIBLE	MAMMAL
<u>JACKSON</u>		
WOODPECKER, RED-COCKADED E	KNOWN	BIRD
<u>JEFFERSON</u>		
MANATEE, WEST INDIAN E	POSSIBLE	MAMMAL
STURGEON, GULF T, CH	KNOWN	FISH
<u>LA SALLE</u>		
WOODPECKER, RED-COCKADED E	KNOWN	BIRD
<u>LIVINGSTON</u>		
MANATEE, WEST INDIAN E	POSSIBLE	MAMMAL
MUSSEL, ALABAMA HEELSPLITTER T	KNOWN	MOLLUSK
STURGEON, GULF T	KNOWN	FISH
WOODPECKER, RED-COCKADED E	KNOWN	BIRD
<u>MADISON</u>		
BEAR, LOUISIANA BLACK T, CH	KNOWN	MAMMAL
<u>MOREHOUSE</u>		
MUSSEL, PINK MUCKET PEARLY E	KNOWN	MOLLUSK
WOODPECKER, RED-COCKADED E	KNOWN	BIRD
<u>NATCHITOCHES</u>		
SNAKE, LOUISIANA PINE C	KNOWN	REPTILE
WOODPECKER, RED-COCKADED E	KNOWN	BIRD

<u>PARISH</u> <u>STATUS</u>	<u>OCCURRENCE</u>	<u>GROUP</u>
<u>ORLEANS</u> MANATEE, WEST INDIAN E	POSSIBLE	MAMMAL
STURGEON, GULF T, CH	KNOWN	FISH
<u>OUACHITA</u> WOODPECKER, RED-COCKADED E	KNOWN	BIRD
<u>PLAQUEMINES</u> STURGEON, GULF T	KNOWN	FISH
<u>POINTE COUPEE</u> BEAR, LOUISIANA BLACK T, CH	KNOWN	MAMMAL
<u>RAPIDES</u> MUSSEL, LOUISIANA PEARLSHELL T	KNOWN	MOLLUSK
WOODPECKER, RED-COCKADED E	KNOWN	BIRD
<u>RICHLAND</u> BEAR, LOUISIANA BLACK T, CH	KNOWN	MAMMAL
<u>SABINE</u> SNAKE, LOUISIANA PINE C	KNOWN	REPTILE
WOODPECKER, RED-COCKADED E	KNOWN	BIRD
<u>ST. BERNARD</u> MANATEE, WEST INDIAN E	POSSIBLE	MAMMAL
STURGEON, GULF T, CH	KNOWN	FISH
<u>ST. CHARLES</u> MANATEE, WEST INDIAN E	POSSIBLE	MAMMAL
STURGEON, GULF T	KNOWN	FISH
<u>ST. HELENA</u> STURGEON, GULF T	KNOWN	FISH
MUSSEL, ALABAMA HEELSPLITTER T	KNOWN	MOLLUSK

<u>PARISH</u> <u>STATUS</u>	<u>OCCURRENCE</u>	<u>GROUP</u>
<u>ST. JOHN THE BAPTIST</u> MANATEE, WEST INDIAN E	POSSIBLE	MAMMAL
STURGEON, GULF T	KNOWN	FISH
<u>ST. LANDRY</u> BEAR, LOUISIANA BLACK T	KNOWN	MAMMAL
<u>ST. MARTIN</u> BEAR, LOUISIANA BLACK T, CH	KNOWN	MAMMAL
<u>ST. MARY</u> BEAR, LOUISIANA BLACK T, CH	KNOWN	MAMMAL
<u>ST. TAMMANY</u> MANATEE, WEST INDIAN E	POSSIBLE	MAMMAL
QUILLWORT, LOUISIANA E	KNOWN	PLANT
STURGEON, GULF T, CH	KNOWN	FISH
TORTOISE, GOPHER T	KNOWN	REPTILE
TURTLE, RINGED MAP T	KNOWN	REPTILE
WOODPECKER, RED-COCKADED E	KNOWN	BIRD
<u>TANGIPAHOA</u> MANATEE, WEST INDIAN E	POSSIBLE	MAMMAL
STURGEON, GULF T	KNOWN	FISH
TORTOISE, GOPHER T	KNOWN	REPTILE
WOODPECKER, RED-COCKADED E	KNOWN	BIRD
<u>TENSAS</u> BEAR, LOUISIANA BLACK T, CH	KNOWN	MAMMAL
<u>UNION</u> WOODPECKER, RED-COCKADED E	KNOWN	BIRD

<u>PARISH</u> <u>STATUS</u>	<u>OCCURRENCE</u>	<u>GROUP</u>
<u>VERNON</u>		
SNAKE, LOUISIANA PINE C	KNOWN	REPTILE
WOODPECKER, RED-COCKADED E	KNOWN	BIRD
<u>WASHINGTON</u>		
QUILLWORT, LOUISIANA E	KNOWN	PLANT
STURGEON, GULF T, CH	KNOWN	FISH
TORTOISE, GOPHER T	KNOWN	REPTILE
TURTLE, RINGED MAP T	KNOWN	REPTILE
<u>WEBSTER</u>		
WOODPECKER, RED-COCKADED E	KNOWN	BIRD
<u>WEST CARROLL</u>		
BEAR, LOUISIANA BLACK T, CH	KNOWN	MAMMAL
<u>WINN</u>		
EARTH FRUIT T	KNOWN	PLANT
WOODPECKER, RED-COCKADED E	KNOWN	BIRD

* Endangered – any species which is in danger of extinction throughout all or a significant portion of its range.

Threatened – any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Candidate – plant and animal taxa considered for possible addition to the List of Endangered and Threatened Species. These are taxa for which the Service has on file sufficient information on biological vulnerability and threat(s) to support issuance of a proposal to list, but issuance of a proposed rule is currently precluded by higher priority listing actions.

Critical Habitat – for listed species consists of: (1) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of the Act, on which are found those physical or biological features (constituent elements) (a) essential to the conservation of the species and (b) which may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of the Act, upon a determination by the Secretary that such areas are essential for the conservation of the species.

**GENERAL DISTRIBUTION OF THREATENED, ENDANGERED AND
CANDIDATE SPECIES IN LOUISIANA**

<u>MAMMALS</u>	<u>STATUS</u>	<u>GENERAL DISTRIBUTION IN</u>
<u>LOUISIANA</u>		
Bear, Louisiana (<i>Ursus americanus luteolus</i>)	Threatened	Entire state
Manatee, West Indian on North shore; (<i>Trichechus manatus</i>)	Endangered	Lake Pontchartrain & tributaries rare along Gulf coast
<u>BIRDS</u>		
Woodpecker, red-cockaded (<i>Picoides borealis</i>)	Endangered	Entire state except Delta
<u>REPTILES</u>		
Snake, Louisiana pine and Vernon (<i>Pituophis ruthveni</i>)	Candidate	Bienville, Natchitoches, Sabine, Parishes
Tortoise, gopher Tangipahoa (<i>Gopherus polyphemus</i>)	Threatened	Washington, St. Tammany, and Parishes
Turtle, ringed map (=sawback) (<i>Graptemys oculifera</i>)	Threatened	Pearl and Bogue Chitto Rivers
<u>FISH</u>		
Sturgeon, Gulf Pontchartrain tributaries (<i>Acipenser oxyrhynchus desotoi</i>)	Threatened	Pearl River & Lake
<u>INVERTEBRATES</u>		
Mussel, Alabama heelsplitter (=inflated) (<i>Potamilus inflatus</i>)	Threatened	Amite River
Mussel, Louisiana pearlshell Rigolette drainages (<i>Margaritifera hembeli</i>)	Threatened	Bayou Boeuf and Bayou Rapides and Grant Parishes
Mussel, pink mucket pearly (<i>Lampsilis abrupta</i>)	Endangered	Bayou Bartholomew
<u>PLANTS</u>		
American chaff-seed (<i>Schwalbea americana</i>)	Endangered	Allen Parish
Earth fruit (<i>Geocarpon minimum</i>)	Threatened	Winn and Caddo Parishes
Louisiana quillwort Parishes (<i>Isoetes louisianensis</i>)	Endangered	Washington and St. Tammany

FACT SHEETS OF RARE SPECIES AND NATURAL COMMUNITIES

(containing rarity rank, synonyms, general descriptions, plant community associates, State range, threats, and management considerations)

[*LDWF G1, G2, G3 Fact Sheets*](#)

FACT SHEETS OF RARE SPECIES AND NATURAL COMMUNITIES BY PARISH (containing rarity rank, synonyms, general descriptions, plant community associates, State range, threats, and management considerations)

[*LDWF G1, G2, G3 Parish Fact Sheets*](#)

APPENDIX A

Letter requesting concurrence and support by NRCS

September 3, 2009

Mr. James F. Boggs
Supervisor, Louisiana Field Office
U.S. Fish and Wildlife Service
646 Cajundome Blvd, Suite 400
Lafayette, LA 70506

Mr. Robert Barham
Secretary
Louisiana Department of Wildlife and Fisheries
2000 Quail Drive
Baton Rouge, LA 70808

Dear Mr. Boggs and Mr. Barham,

The Natural Resources Conservation Service (NRCS) in Louisiana uses standardized conservation practices and specifications to ensure proper establishment, management and maintenance of all structural and management components for improvement of soil, water, air, plant, and animal (including wildlife) resources. These practices are periodically updated in order to keep pace with technological advancements or to address management issues. Currently, there are 145 NRCS conservation practices utilized in Louisiana to promote conservation of natural resources. Over the last year (2009), NRCS, Louisiana Department of Wildlife and Fisheries (LDWF) biologists, and U. S. Fish and Wildlife Service (USFWS) biologists representing the Lafayette Ecological Services Field Office consulted informally on the effects of 124 of those practices, made determinations of the effects on federally listed species and developed a process to streamline the procedure for compliance with Section 7 of the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.). The product of this programmatic ESA consultation effort will be a document called, “**Conservation of At-Risk Species in Louisiana**”. This document includes a decision matrix listing those conservation practices and when those practices are not likely to adversely affect federally listed species, or have the potential to have adverse impacts, but can utilize minimization measures to reduce impacts to the level of “not likely to adversely affect.” The matrix also identifies what practices would be beneficial to federally listed species and which practices may require further consultation on a case-by-case basis. The matrix is ordered alphabetically by conservation practice name and the effects of each practice are divided according to whether the federally listed species is aquatic or terrestrial.

Current guidance states that when NRCS provides technical assistance by developing, updating, or revising conservation plans for clients, NRCS staffs are to conduct an Environmental Evaluation (EE), paying particular attention to ESA compliance. If the proposed action may affect listed/proposed species, NRCS shall provide alternatives that avoid any adverse effects, based on an evaluation of the proposed action using current information such as that found in the document “**Conservation of At-Risk Species in Louisiana**.” Adverse effects on State species of concern are to be avoided or reduced to the extent practicable and in compliance with State laws. If no alternatives that avoid the effect can be identified, or the client chooses to pursue an alternative that may adversely

affect listed/proposed species, NRCS shall terminate technical assistance and inform the client of their potential liabilities for violation of Section 9 (take provision) of the ESA. NRCS will also direct the client to contact the appropriate Service (USFWS or National Marine Fisheries Service) for resolution. Please note that any formal or informal consultation with the USFWS that may identify a client, a species presence or a species habitat location requires written permission from the client. The results of the EE are documented on form CPA-52 Environmental Evaluation Worksheet, and maintained in the NRCS case file. A copy of a CPA-52 including links to guidance documents pertaining to at-risk species (federally listed, candidate, and State species of concern) will be found in the document “**Conservation of At-Risk Species in Louisiana**”.

NRCS is to conduct an EE when NRCS develops, updates, or revises plans and provides financial assistance for conservation practice implementation. If the proposed action “may affect” listed/proposed species, Section 7 consultation/conference is required. Adverse effects on State species of concern are to be avoided or reduced to the extent practicable and in compliance with State laws. The results of the EE are documented on Form CPA-52, Environmental Evaluation Worksheet, and maintained in the NRCS case file. NRCS will conduct the required formal or informal Section 7 consultation/conference prior to finalizing the plan, based on an evaluation of the proposed action using information in the document “**Conservation of At-Risk Species in Louisiana.**”

NRCS conservation programs and technical assistance efforts represent an outstanding opportunity to provide high quality habitat benefits for fish and wildlife and to contribute towards the recovery of many at-risk species. Implementation of conservation measures utilizing the contents of the document “**Conservation of At-Risk Species in Louisiana**”, as described above, efficiently and effectively provides compliance with the ESA and ensures that considerations for threatened, endangered, and candidate species and their habitats are incorporated into NRCS’s conservation planning, technical assistance, and program implementation efforts by utilizing the pre-screening efforts of the (aforementioned) agencies under programmatic ESA consultation. Not only does this effort efficiently assist in meeting consultation requirements for most technical assistance efforts in Louisiana, but information provided for candidate species and State species of concern (ranked G1,G2, G3) will also enhance NRCS’s overall ability in conservation of at-risk species requirements. This effort also assists NRCS in meeting its responsibilities under Section 7(a)(1) of the ESA to further the purposes of the ESA by carrying out programs for the conservation of threatened and endangered species.

We have determined that all 124 of the conservation practices listed in the document “**Conservation of At-Risk Species in Louisiana**” will have no effect on 10 federally listed species or their critical habitats. All but 4 of the practices (120) may affect, but are not likely to adversely affect, listed aquatic species (6 require species-specific criteria). That includes 94 practices which are beneficial to listed aquatic species. Four practices may adversely affect listed aquatic species and will require further coordination with the USFWS on a case-by-case basis. All 124 of the conservation practices may affect, but

are not likely to adversely affect, listed terrestrial species (66 require species-specific criteria). That includes 27 practices which are beneficial to listed terrestrial species.

Eventually we believe that minimization measures can be developed for the 4 practices that may adversely affect listed aquatic species or that authorized incidental take may be requested under certain conditions. Because NRCS provides technical and financial assistance for many conservation measures each year in Louisiana, we plan to meet annually with the USFWS and LDWF to review and discuss the types of practices funded, any conservation practice updates, the issues encountered while implementing the decision matrix and to verify that the intent of the matrix is being achieved and to identify needs for improvements. At the time of the annual meeting, funded projects for the year will be discussed (particularly water withdrawal projects located in listed aquatic species watersheds) and USFWS and LDWF will be asked provide updates to the list of parish occurrences for federally listed species and their habitat descriptions, and LDWF will be asked to provide updated information on State species of concern. Therefore, I request USFWS concur with our determination that the conservation practices listed in the document “**Conservation of At-Risk Species in Louisiana**” will not affect 10 federally listed species (as described in that document) and may affect, but are not likely to adversely affect, the remaining federally listed species in Louisiana (as described in the decision matrix), and LDWF support this determination. I also request that LDWF provide guidance documents regarding State species of concern (G1, G2, G3) to be included in this document for the purpose of furthering NRCS Field Office personnel’s knowledge in life cycle needs of these species. Thank you for your cooperation and partnership with this priority resource endeavor.

Sincerely,

Kevin Norton
State Conservationist

Letter acknowledging concurrence and support from USFWS



United States Department of the Interior

FISH AND WILDLIFE SERVICE
646 Cajundome Blvd.
Suite 400
Lafayette, Louisiana 70506



September 30, 2009

Mr. Kevin Norton
State Conservationist
USDA Natural Resources Conservation Service
3737 Government Street
Alexandria, LA 71302

Dear Mr. Norton,

Thank you for your letter of September 17, 2009, received by this office on September 23, 2009. You requested that the U.S. Fish and Wildlife Service (Service) review the attached enclosure entitled "2009 Louisiana ESA Programmatic Consultation of NRCS Conservation Practices" (Programmatic) which documents the results of a programmatic consultation between our offices on all 132 conservation practice standards (CPS) listed in the Natural Resources Conservation Service's (NRCS) Louisiana Field Office Technical Guide (FOTG). That Programmatic also outlines a proposed Endangered Species Act (ESA) compliance process that the NRCS would utilize to determine if effects to federally listed species (including one candidate species) would occur as a result of implementation of the practice standards in NRCS's Louisiana FOTG. The Programmatic contains a decision matrix ordered alphabetically by conservation practice name with the effects of each practice standard separated according to species. The following Service comments are provided in accordance with provisions of the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

Consultation Results

The information we were provided identifies 132 NRCS CPS that were evaluated by the NRCS and the Service for their potential effects on federally listed species. You have determined that all 132 of the standards will have no effect on 10 federally listed species or their critical habitats. For those remaining federally listed species that may be affected by the CPS, the proposed process includes species-specific criteria that would be implemented to avoid or minimize adverse effects to the point where a determination of "not likely to adversely affect" would be appropriate. The process also identifies instances when further Service consultation would be required prior to implementing certain CPS. For listed aquatic species, 125 CPS may affect, but are not likely to adversely affect, those species (6 of those CPS would require species-specific criteria be implemented to reach that determination). It also includes 100 practices which are beneficial to listed aquatic species. It was determined that 7 CPS may adversely affect listed aquatic species and would require further coordination with the Service prior to implementation on a case-by-case basis. For listed terrestrial species, 129 CPS may

affect, but are not likely to adversely affect, those species (93 of those CPS would require species-specific criteria be implemented to reach that determination). It also includes 34 practices which are beneficial to listed terrestrial species. It was determined that 3 CPS may adversely affect listed terrestrial species and would require further coordination with the Service prior to implementation on a case-by-case basis.

At your agency's request in the interest of conservation, CPS have also been evaluated for their potential impacts to the only candidate species in Louisiana, the Louisiana pine snake (*Pituophis ruthveni*), during this consultation. Criteria to avoid or minimize impacts to pine snake have also been identified. It was determined that 79 CPS are not likely to affect the Louisiana pine snake and that 35 CPS may require specific criteria be implemented to minimize impacts to this species. You also identified 18 CPS that may benefit the Louisiana pine snake. The Service appreciates NRCS's commitment to use its programs to conserve, restore and minimize negative impacts to the Louisiana pine snake and to further the conservation of this species.

Concurrence

Based on the information provided during the consultation and contained in your letter, we support your determination that the covered CPS will not affect the following species or their critical habitats:

Common Name	Scientific Name	Status
brown pelican	<i>Pelecanus occidentalis</i>	endangered
interior least tern	<i>Sterna antillarum</i>	endangered
piping plover	<i>Charadrius melodius</i>	threatened, critical habitat
green sea turtle	<i>Chelonia mydas</i>	threatened
hawksbill sea turtle	<i>Eretmochelys imbricata</i>	endangered
Kemp's Ridley sea turtle	<i>Lepidochelys kempii</i>	endangered
leatherback sea turtle	<i>Dermochelys coriacea</i>	endangered
loggerhead sea turtle	<i>Caretta caretta</i>	threatened
pallid sturgeon	<i>Scaphirhynchus albus</i>	endangered
fat pocketbook pearly mussel	<i>Potamilus capax</i>	endangered

Based on the information provided in your letter and the Programmatic, including your commitment to implement the species-specific minimization criteria, we concur that the covered CPS will have no effect or are not likely to adversely affect the following species or their critical habitats:

Common Name	Scientific Name	Status
Louisiana black bear	<i>Ursus americanus luteolus</i>	threatened, critical habitat
West Indian manatee	<i>Trichechus manatus</i>	endangered
red-cockaded woodpecker	<i>Picoides borealis</i>	endangered
gopher tortoise	<i>Gopherus polyphemus</i>	threatened
ringed map turtle	<i>Graptemys oculifera</i>	threatened
gulf sturgeon	<i>Acipenser oxyrhynchus desotoi</i>	threatened
Alabama heelsplitter mussel	<i>Potamilus inflatus</i>	threatened
Louisiana pearlshell mussel	<i>Margaritifera hembeli</i>	threatened
pink mucket pearly mussel	<i>Lampsilis abrupta</i>	endangered

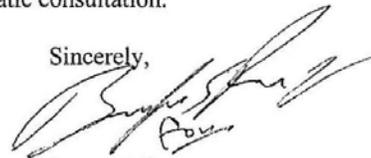
Common Name	Scientific Name	Status
American chaffseed	<i>Schwalbea americana</i>	endangered
earth fruit	<i>Geocarpon minimum</i>	threatened
Louisiana quillwort	<i>Isoetes louisianensis</i>	endangered

In view of this, we believe that the consultation requirements of section 7 of the ESA have been fulfilled. However, if: (1) new information reveals that the CPS may affect listed species in a manner or to an extent not previously considered; (2) the CPS are subsequently modified to include activities which were not considered during this consultation; or (3) new species are listed or there is a critical habitat designated that might be affected by implementing the CPS, NRCS should reinstate consultation. We anticipate such issues will be addressed at our annual coordination meeting regarding this programmatic consultation.

Finally, the NRCS has a unique opportunity to assist in the conservation and recovery of listed and candidate species in Louisiana through direct contact with private landowners. Many of the CPS that are covered in the Programmatic could benefit listed and candidate species by controlling erosion and sedimentation, creating new habitats or buffering, improving, or protecting existing habitats. We would be happy to assist you in conducting training sessions (in collaboration with the Louisiana Department of Wildlife and Fisheries) for field personnel and District Conservationists to help them recognize potential endangered species habitats and opportunities for conservation and/or recovery and to assist them in implementing the programmatic.

Thank you for the opportunity to work with you on this project. We appreciate your proactive actions to further the conservation of federally listed species and look forward to working with you in the future. Please contact Rob Smith (337/291-3134) of this office regarding future coordination for this programmatic consultation.

Sincerely,



James F. Boggs
Supervisor
Louisiana Field Office

Attachment (matrix)

cc: LDWF, Baton Rouge, LA (Attn: Kyle Balkum)
LDWF, NHP, Baton Rouge, LA

Letter acknowledging support from LDWF

Mr. Kevin Norton
State Conservationist
USDA Natural Resources Conservation Service
3737 Government Street
Alexandria, LA 71302

RE: “**Conservation of At-Risk Species in Louisiana**”

Dear Mr. Norton,

The mission of the Louisiana Department of Wildlife and Fisheries (LDWF) is to manage, conserve, and promote wise utilization of Louisiana's renewable fish and wildlife resources and their supporting habitats through replenishment, protection, enhancement, research, development, and education for the social and economic benefit of current and future generations; to provide opportunities for knowledge of and use and enjoyment of these resources; and to promote a safe and healthy environment for the users of the resources. In our efforts to fulfill this mission, LDWF staff joined with the Natural Resources Conservation Service (NRCS) and U. S. Fish and Wildlife Service (USFWS) to review 132 NRCS conservation practices utilized in Louisiana for promotion of natural resources conservation. Our purposes for joining the multi-agency review were to increase Endangered Species Act (ESA) Section 7 consultation efficiency, to further the conservation of ESA-listed species and other rare species and natural communities in Louisiana, and to increase coordination between LDWF, NRCS, and USFWS.

The result of this multi-agency consultation is a document titled, “**Conservation of At-Risk Species in Louisiana**”. By using the decision matrix and species-specific minimization measures included in this document, we believe that potential adverse impacts to ESA-listed species resulting from implementation of NRCS conservation practices are either avoided completely or minimized so as not likely to adversely affect. We believe this document rightfully identifies that approximately 76% of the 132 conservation practices benefit ESA-listed aquatic species and approximately 22% of the practices benefit ESA-listed terrestrial species. For those few practices that may affect, but are not likely to adversely affect, listed species, the document correctly requires further agency consultation.

“**Conservation of At-Risk Species in Louisiana**” not only addresses conservation of ESA-listed species, but also those state rare species not protected under the ESA. As you know LDWF staff tracks hundreds of such rare species and natural communities and we hope information provided in “**Conservation of At-Risk Species in Louisiana**” contributes to their long-term conservation. Information contained in this document includes 64 parish lists of rare species and natural community occurrence, as well as specific information about each species and community, such as identification characteristics, threats, statewide distributions, and beneficial management practices.

This document will serve to further educate NRCS Field Office personnel and, if used regularly, will insure that rare species and natural communities in Louisiana are benefited by the prescription of NRCS conservation practices.

LDWF staff expects to join with NRCS and USFWS on an annual basis to evaluate whether, or not, the decision matrix and species-specific minimization measures contained in “**Conservation of At-Risk Species in Louisiana**” have been implemented effectively and efficiently. The annual evaluation should also review those NRCS conservation practices utilized during the previous year, identify any necessary improvements to the decision matrix and minimization measures, and discuss potential changes in status to ESA-listed species. During the annual review, LDWF will also provide updated information concerning state rare species and natural communities.

The Louisiana Department of Wildlife and Fisheries appreciates the opportunity to partner with NRCS and USFWS in order to increase ESA Section 7 consultation efficiency, to further the conservation of all rare species and natural communities in Louisiana, and to increase coordination between our agencies. We will remain committed to our mission and the mission this multi-agency consultation.

Sincerely,

Robert J. Barham
Secretary

APPENDIX B

MEMORANDUM OF UNDERSTANDING

BETWEEN THE

**UNITED STATES DEPARTMENT OF AGRICULTURE,
NATURAL RESOURCES CONSERVATION SERVICE**

AND THE

**UNITED STATES DEPARTMENT OF THE INTERIOR,
UNITED STATES FISH AND WILDLIFE SERVICE**

AND THE

ASSOCIATION OF FISH AND WILDLIFE AGENCIES

This Memorandum of Understanding (MOU) is entered into by the United States Department of Agriculture, Natural Resources Conservation Service (NRCS), the United States Department of Interior, Fish and Wildlife Service (FWS), and the Association of Fish and Wildlife Agencies (AFWA), hereinafter referred to as “the Parties.”

I. PURPOSE

The purpose of this MOU is to strengthen cooperation among the Parties to proactively conserve plant and animal species at-risk and their habitats. It is the intent of the Parties to identify and create more opportunities to work together to help preempt the need to list additional species under the Federal Endangered Species Act (ESA), foster the recovery of species already listed, and address similar needs for State species of conservation concern.

II. INTRODUCTION

Conserving species at-risk is a high priority for the Parties. A key purpose of ESA is to provide a program for conserving federally listed plant and animal species and the ecosystems upon which they depend. Similarly, many States maintain lists of species identified as endangered or threatened or placed in similar categories under State law, and all States have identified wildlife species of conservation concern in their State Wildlife Action Plans. The Parties believe that these plant and animal species are critical components of biodiversity and often are indicators of healthy, functioning ecosystems that provide critical ecological, social, and economic functions and services upon which humans depend. Furthermore, the Parties believe that a strong partnership among them to encourage conservation efforts will contribute to the recovery and delisting of endangered or threatened species, and preempt the need to list more species under the ESA, as well as achieve the purposes of State-level species conservation laws and policies. The Parties also recognize that strong citizen participation, as well as

stakeholder-based partnerships operating at the local level and at other geographic scales, are fundamental to successful species conservation.

Each Party has roles and processes for conserving species at-risk. Coordination can result in synergistic effects that enable broader success in achieving conservation goals. The roles and processes of each Party are summarized as follows:

A. NRCS

NRCS, under the direction of the Secretary of Agriculture, provides technical and financial assistance to private landowners and land managers who voluntarily agree to apply conservation practices on their land for the conservation and improvement of natural resources. This includes habitat conservation for Federal listed, proposed, and candidate species, as well as State species of conservation concern (General Manual 190 Part 410.22(b)).

As a Federal Agency, NRCS has responsibilities related to implementing the ESA. Under section 7(a)(1) of the ESA, NRCS is required, in consultation with and with the assistance of FWS, to utilize its authorities in furtherance of ESA purposes by carrying out programs for the conservation of federally listed endangered and threatened species. NRCS can meet its section 7(a)(1) responsibilities by making sure that, where appropriate, the Agency's programs are carried out with participation from FWS, appropriate State fish and wildlife agencies, and other conservation entities. This participation is particularly appropriate through the NRCS State Technical Committee (STC). The STC plays an important role in developing and providing recommendations to the NRCS State Conservationist regarding the implementation of NRCS conservation programs.

Under 7(a)(2) of the ESA, NRCS is required to ensure, in consultation with FWS, that any action NRCS authorizes, funds, or carries out is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat. Under NRCS policy, State Conservationists are encouraged to "identify opportunities and procedures, such as programmatic consultations, to implement conservation measures and practices on a more efficient and timely basis."

B. FWS

FWS, under the direction of the Secretary of Interior, has regulatory and statutory responsibility for administering ESA.¹ FWS engages in a variety of activities to carry out its ESA responsibilities. These include: evaluating the status of species and, when

¹ The National Marine Fisheries Service (NMFS) of the National Oceanic and Atmospheric Administration, under the direction of the Secretary of Commerce, shares this responsibility. Generally, NMFS manages listed species that spend at least part of their life in marine waters, whereas FWS manages terrestrial and freshwater species. As used in the MOU, the term "listed species" refers to those under FWS responsibility.

appropriate, listing species as threatened or endangered, and designating critical habitat; delisting or changing the status of listed species and modifying critical habitat designations; conducting species and habitat conservation activities on FWS-managed lands, guiding the development of recovery plans for Federally-listed species, and working in partnership with other Federal agencies, State and local governments, Tribes, private landowners and land managers to support species and habitat conservation. A key purpose of these efforts is to reduce or remove threats so that Federally-listed species no longer need protection under ESA and thus can be delisted, and so that species which are proposed or candidates for listing, and species that appear likely to become candidates in the near future, will not need to be listed under ESA. FWS offers non-Federal landowners technical and financial assistance, as well as regulatory assurances pursuant to section 10 of ESA, to encourage and facilitate voluntary and proactive conservation efforts that contribute to the conservation of such species and the ecosystems upon which they depend.

Consistent with section 6 of ESA, FWS cooperates with States in carrying out programs authorized by the Act. FWS also works with other Federal agencies, including, but not limited to, cooperation under the consultation provisions of section 7 of ESA.

C. AFWA

AFWA, formerly known as the International Association of Fish and Wildlife Agencies, is an organization that represents the State fish and wildlife agencies' interests in fish and wildlife management. The Association's mission is to protect State authority and support provincial and territorial authority for fish and wildlife conservation; promote sound resource management; and strengthen Federal, State, territorial, and private cooperation in conserving fish, wildlife, and their habitats in the public interest. AFWA is committed to conserving the Nation's fish, wildlife, and natural resources based on scientific principles. AFWA represents and assists all 50 States and territories in working toward the accomplishment of their individual fish and wildlife goals and objectives. The States in general possess broad trustee and police powers over fish and wildlife within their borders, including — absent a clear expression of Congress' intent to the contrary — fish and wildlife on Federal lands within their borders. Where Congress has given Federal agencies certain conservation responsibilities, such as for migratory birds or species listed as threatened or endangered under ESA, the States, in most cases, have cooperative management authority.

State fish and wildlife agencies' objectives are: (1) to successfully carry out their public trust responsibilities to ensure the vitality of fish and wildlife resources for present and future generations; (2) to encourage, facilitate, and enhance the opportunities, means, and methods available to all citizens, especially landowners, to contribute to meeting this conservation objective in cooperation with State agencies and their Federal counterparts; and (3) to provide for the sustainable multipurpose use of resources, which includes hunting, fishing, trapping, and nonconsumptive uses.

In 2001, Congress developed two new programs to provide wildlife conservation funding to States: the Wildlife Conservation and Restoration Program and the State Wildlife Grants Program. These programs assist each State fish and wildlife agency by providing annual allocations to the States and territories for programs to prevent fish and wildlife from becoming listed. The funding is intended to supplement existing State fish and wildlife programs and to target species in greatest need of conservation, species indicative of the diversity and health of the State's fish and wildlife, and species with low and declining populations, as deemed appropriate by each State. In order to receive funding under these new measures, every State developed a Comprehensive State Wildlife Conservation Strategy (referred to as a State Wildlife Action Plan).

The State Wildlife Action Plans assess the status of each State's wildlife populations, and outline the action steps that are needed to conserve them over the long term. These plans address the needs of a broad array of wildlife, including fish and other aquatic species. In some States, the State Wildlife Action Plan also includes specific plans. The State Wildlife Action Plans were written broadly with the involvement of many stakeholders, including landowners; Federal, State, and local agencies; sportsmen and sportswomen; and conservation groups. The State Wildlife Action Plans, in combination with other conservation strategies and plans for State species of conservation concern, are powerful resources to guide the conservation of species at-risk and their habitats.

III ROLES AND RESPONSIBILITIES

This MOU commits the Parties to expand coordination and cooperation to ensure successful efforts in each State and territory in the Nation for the conservation of species at-risk. The actions taken under this MOU are expected to enable the Parties to more effectively meet their individual and collective obligations and priorities for conserving these species and their habitats.

A. NRCS will:

1. Invite and encourage FWS and State fish and wildlife agencies to be involved on State Technical Committees (STCs) and associated subcommittees, as well as local working groups, as appropriate, to provide expertise regarding the needs of local fish and wildlife, life histories, population dynamics, management, ESA criteria and processes for listing and delisting species, species conservation planning, regulatory assurance programs, and other conservation tools.
2. Through STC meetings and other venues, provide information about NRCS-administered programs that can assist in implementing FWS recovery plans, candidate conservation agreements, State Wildlife Action Plans, and other opportunities for considering species at-risk when evaluating and selecting potential NRCS-supported projects.

3. Explore opportunities with FWS to increase the efficiency of the section 7 consultation process for NRCS activities.
4. As resources permit, participate in the development, revision, and implementation of State Wildlife Action Plans for species of conservation concern, FWS recovery plans for listed species, candidate conservation agreements, and other conservation strategies, plans, and agreements for species at-risk.
5. Obtain appropriate permission from NRCS clients prior to on-site implementation of NRCS or NRCS-based partner activities.

B. FWS will:

1. Invite NRCS and State fish and wildlife agencies to participate in the development, revision, and implementation of FWS recovery plans for listed species, when appropriate.
2. Participate on NRCS STCs and subcommittees as appropriate.
3. Provide information and updates to NRCS and State fish and wildlife agencies about FWS procedures and programs, such as: processes and criteria used by the Service to identify species as candidates for listing, and for listing and delisting actions and related activities under section 4 of the ESA; consultation procedures under section 7 of the ESA; species conservation planning and permitting under section 10 of the ESA; and other FWS cooperative conservation programs (including grants) that support ESA implementation.
4. Explore opportunities with NRCS to increase the efficiency of the section 7 consultation process for NRCS actions.
5. Assist with preparation, and provide timely review and processing, of voluntary conservation agreements under section 10 of the ESA that are developed by State fish and wildlife agencies and by non-Federal landowners and other non-Federal organizations working with State agencies and/or NRCS. Such agreements are for federally listed, proposed, or candidate species, or those likely to become candidates for listing under the ESA in the future.
6. Share information with NRCS and State fish and wildlife agencies regarding changes that pertain to regulations, policies, or practices regarding voluntary conservation activities, such as agreements under section 10 of the ESA and other fish and wildlife cooperative conservation programs. FWS also will share information regarding voluntary conservation agreements under section 10 of the ESA that are under development, and will coordinate with these

agencies to promote their involvement, as appropriate, and to ensure that proposed conservation measures are not detrimental to other fish and wildlife species and conservation efforts for which the States have jurisdictional authority.

C. AFWA will encourage State fish and wildlife agencies to:

1. Participate on the NRCS STCs and subcommittees as appropriate.
2. Participate in the development and implementation of FWS Recovery Plans for listed species and conservation agreements or strategies for other species at-risk.
3. Provide NRCS and FWS with information regarding State Wildlife Action Plans, State species of conservation concern, and State laws and/or policies pertaining to those species.
4. Promote coordination with NRCS and FWS to implement State Wildlife Action Plans and other conservation agreements or strategies that address State species of conservation concern.
5. Collaborate with FWS, appropriate Conservation Districts, Resource Conservation and Development Councils, and any other appropriate entity to develop and implement various types of Federal or State voluntary conservation agreements or similar documents for species at-risk. (The type of agreement and the method for landowner or manager participation will be determined on a case-by-case basis.)

D. NRCS, FWS, and AFWA will, as appropriate:

1. Coordinate procedures and provide joint training to improve the efficiency and effectiveness of various conservation programs to benefit species at-risk. This includes, but is not limited to, promoting the use of programmatic conservation agreements as an efficient and effective means of providing ESA assurances to non-Federal landowners and land managers.
2. Share information regarding priorities for conservation of species at-risk and their habitats, and identify opportunities to implement actions to achieve shared priorities. Coordinate to ensure each Party's conservation programs are complementary and are not inadvertently in conflict.
3. Share updated information regarding conservation policies, programs, voluntary conservation agreements, and procedures related to species at-risk and their habitats. This can be done through communication at STC meetings, joint training programs, or other means.

4. Coordinate species and habitat information and data, as appropriate, to assist in focusing resources for developing and implementing conservation agreements or strategies, recovery plans, or other programs and projects for species at-risk.
5. Collaborate with other appropriate entities to facilitate development and implementation of voluntary conservation agreements and assurances under the ESA.
6. Promote information sharing with non-Federal landowners regarding opportunities to: participate in voluntary conservation agreements; receive technical and financial assistance to support conservation efforts; and receive regulatory assurances for activities developed pursuant to section 10 of the ESA.
7. Promote coordinated technical assistance, as appropriate, to private landowners and land managers in the implementation of conservation practices that benefit species at-risk and their habitats.
8. Encourage the development of MOUs or other types of partnerships (e.g., at regional, State, and local levels) to facilitate implementation of this MOU.
9. Monitor and report on implementation of this MOU. Initially, this will include convening a Monitoring and Reporting Workgroup to develop a national monitoring and reporting system for tracking progress in achieving the coordination that is the key purpose of this MOU. The monitoring and reporting process will be in place within 9 months after the MOU becomes effective. Monitoring mechanisms will include provisions for identifying cooperation existing at the inception of this MOU and changes that result from its implementation. The Agency Contacts (as identified in VI, below), or their designees, will meet at least annually to review performance under this MOU, and provide recommendations as appropriate. The signatories to the MOU will be provided with a mid-term progress report, and a final report at the expiration of the MOU.

IV. GENERAL PROVISIONS

- A. This MOU takes effect upon the signatures of the Parties and remains in effect for 5 years from the date of execution. In the event of termination by one of the parties, the other parties may initiate a new MOU between them.
- B. This MOU is not intended to, and does not create any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity, by any party against the United States, its agencies, its officers, or any person.

- C. This MOU does not affect or modify existing regulations or agency responsibilities and authorities. It specifically does not commit any agency to activities beyond the scope of its mission and authorities under its organic statutes and its trust responsibilities to ESA.
- D. NRCS, FWS, AFWA, and their respective officers will handle their own activities and utilize their own resources, including expenditures of their own funds, in pursuing the purposes of this MOU. Each party will carry out its separate activities in a coordinated and mutually beneficial manner.
- E. Nothing in this MOU shall obligate the Department of Agriculture, the Department of Interior, or the Association of Fish and Wildlife Agencies to obligate or transfer any funds. Specific work projects or activities that involve the transfer of funds, services, or property among the various agencies and offices of the Parties will require execution of separate agreements, and be contingent upon the availability of appropriated funds. Such activities must be independently authorized by appropriate statutory authority. This MOU does not provide such authority. Negotiation, execution, and administration of each such agreement must comply with all applicable statutes and regulations.

V. DEFINITIONS

Candidate species — Species for which FWS has on file sufficient information on vulnerability and threats to support a proposal to list it as endangered or threatened under ESA, but for which preparation and publication of a proposal is precluded by higher-priority listing actions.

Conservation agreements — Formal agreements between two or more entities for the conservation of species and/or habitat, that are entered into on a voluntary basis.

Programmatic conservation agreements — Voluntary conservation agreements that are developed at a scale above that of an individual landowner, and which allow multiple individual landowners to participate. Generally, these are agreements developed under section 10 of ESA and involve permits and/or regulatory assurances.

Regulatory assurances — Generally, this term refers to assurances provided by FWS to a State or other non-Federal property owner in association with a permit for a conservation agreement pursuant to section 10 of ESA. Regulatory assurances generally include a commitment by FWS that if changed circumstances occur that are not provided for in the Agreement, the Service will not require any conservation measures or restrictions on the use of land or other resources in addition to those provided for in the Agreement without the consent of the permittee.

Species — As defined in ESA, the term “species” includes any species, subspecies of fish, or wildlife, or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.

Species at-risk — For purposes of this MOU, species at-risk refers to plant and animal species that are: listed as endangered or threatened under ESA; proposed or candidates for listing under ESA; likely to become candidates for listing in the near future; species listed as endangered or threatened (or similar classification) under State law; and State species of conservation concern.

State species of conservation concern — Species identified by State fish and wildlife agencies in State Wildlife Action Plans or other State agency conservation strategies and plans that include species identified as being in greatest need of conservation. (The criteria for identifying such species vary across States; consult the individual State Wildlife Action Plan for specifics.)

VI. AGENCY CONTACTS

NRCS: Director, Ecological Sciences Division

FWS: Assistant Director, Endangered Species

AFWA: Legislative Director

VII. AUTHORITIES

This MOU is entered into in accordance with the following laws:

1. Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1544)
2. Soil Conservation and Domestic Allotment Act, as amended (Public Law 74-46, 16 U.S.C. 590 (a-f))
3. Commodity Credit Corporation Charter Act, as amended (15 U.S.C. 714c)
4. Food Security Act of 1985, as amended (16 U.S.C. 3841 et. seq.)
5. Food, Agriculture, Conservation and Trade Act of 1990 (Public Law 101-624)
6. Federal Agriculture Improvement and Reform Act of 1996 (Public Law 104-127)
7. Farm Security and Rural Investment Act of 2002 (Public Law 107-171)
8. Fish and Wildlife Conservation Act, as amended (16 U.S.C. 2901-2911)
9. Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661-666(e))

VIII. APPROVAL

The undersigned parties hereby agree to the terms and conditions specified above.



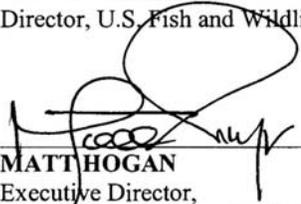
ARLEN L. LANCASTER
Chief, Natural Resources Conservation Service

2/14/2007
DATE



H. DALE HALL
Director, U.S. Fish and Wildlife Service

2/14/07
DATE



MATT HOGAN
Executive Director,
Association of Fish and Wildlife Agencies

2.15.07
DATE

**NRCS Environmental Evaluation Worksheet (CPA-52) and Endangered and
Threatened Species Evaluation Procedure Guide Sheet**

[NRCS-CPA-52 Prog Consultation Sept09.xls](#)