

Research, Scientific Collecting, and Surveys Draft Compatibility Determination

Title

Draft Compatibility Determination for Research, Scientific Collecting, and Surveys on Tensas National Wildlife Refuge

Refuge Use Category

Research and Surveys

Refuge Use Types

Research: Planned, organized and systematic investigation of a scientific nature conducted by non-U.S. Fish and Wildlife Service (Service) personnel or authorized agent.

Scientific collecting: Gathering of refuge natural resources or cultural artifacts for scientific purposes conducted by non-Service personnel or authorized agent.

Surveys: Scientific inventory or monitoring conducted by non-Service personnel or authorized agent.

Refuge

Tensas River National Wildlife Refuge (NWR, refuge)

Refuge Purposes and Establishing and Acquisition Authority:

In an effort to conserve the largest privately owned tract of bottomland hardwoods remaining in the Mississippi Delta, Congress authorized the Secretary of the Interior to establish the Tensas River NWR by Public Law 96-285 on June 28, 1980. Tensas River NWR was established for various purposes:

“For the preservation and development of the environmental resources ... to conserve the diversity of fish and wildlife and their habitat ... for the conservation and development of wildlife and natural resources, the development of outdoor recreation opportunities, and interpretative education,” and “to give special consideration to management of the timber on the refuge to insure [ensure] continued commercial production and harvest compatible with the purposes for which the refuge is established and the needs of fish and wildlife which depend upon the dynamic and diversified hardwood forest” (94 Stat. 595, dated June 28, 1980);

“For the development, advancement, management, conservation, and protection of fish and wildlife resources” [16 U.S.C. 742f(a)(4)] “for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude” [16 U.S.C. 742f(b)(1); Fish and Wildlife Act of 1956];

“For conservation purposes” [7 U.S.C. 2002 (Consolidated Farm and Rural Development Act)]; and

“To conserve (A) fish or wildlife which are listed as endangered species or threatened species or (B) plants” [16 U.S.C. 1534 (Endangered Species Act of 1973)].

National Wildlife Refuge System Mission:

The mission of the National Wildlife Refuge System, otherwise known as Refuge System, is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans (Pub. L. 105-57; 111 Stat. 1252).

Description of Use:

Is this an existing use?

Yes. This Compatibility Determination (CD) reviews and replaces the 2009 CD for Research Studies (U.S. Fish and Wildlife Service [USFWS] 2009).

What is the use?

Research is planned, organized, and systematic investigation of a scientific nature conducted by non-Service personnel or authorized agents. Scientific collecting is the gathering of refuge natural resources or cultural artifacts for scientific purposes and is conducted by non-Service personnel or authorized agents. Surveys are scientific inventory or monitoring conducted by non-Service personnel or authorized agents.

Research, scientific collecting, and surveys (scientific inventory and monitoring) are not priority public uses of the Refuge System under the Refuge System Administration Act of 1966 (16 U.S.C. 668dd-668ee), as amended by the Refuge System Improvement Act of 1997; however, scientific investigatory studies support refuge objectives and were previously deemed compatible in the Tensas River NWR

Comprehensive Conservation Plan (CCP, USFWS 2009a) and associated Environmental Assessment (EA, USFWS 2009b).

This use will allow access to the refuge's natural environment for non-governmental researchers, such as university students and professors, and government scientists to conduct both short- and long-term research projects, including scientific collecting and sampling, and scientific inventory and monitoring. All research and monitoring activities will be conducted under a Research and Monitoring Special Use Permit (SUP). The refuge will support research by the Service, the U.S. Geological Survey, and other professional organizations. For the benefit of natural resources and the refuge, efforts will be made to expand partnerships with universities offering wildlife and forestry programs.

Is the use a priority public use?

No

Where would the use be conducted?

Sites for this use would depend on the particular study being conducted and could occur in a variety of habitat types (e.g., bottomland hardwoods, open-water wetlands, moist-soil areas) on the refuge, comprising 77,868 fee-title acres. Research studies and surveys could include a diversity of wildlife, from invertebrates to the Louisiana black bear, which inhabit the refuge. Access would be restricted by SUP to the minimum sample size and study sites needed to meet stated objectives of the research, scientific collection or survey project.

When would the use be conducted?

Research may be conducted year-round as long as interference with refuge deer hunts and other management activities does not occur. Date ranges would be specified in the SUP for ingress and egress. Dates may range from a single day in a single year to many days over multiple years, depending on the scope of the project. Projects involving nighttime activities must be coordinated with the refuge law enforcement officer. The timing, duration, number of staff and visits by permittees may be restricted by the SUP, at the discretion of the refuge manager.

How would the use be conducted?

Research applicants must submit a study plan/project proposal to the refuge manager that includes a justification and objectives of the study; relevance to resource management; methods and techniques to be used, time schedule and personnel needs; potential impacts on refuge wildlife and habitat; provisions to

minimize wildlife disturbance, injury, and mortality; compliance with established standards for proper animal care and use; data standards and data management plan; costs and time expenditures by the refuge, if any; and anticipated end products (e.g., reports, publications, recommendations). Each request for use of the refuge for research will be examined on its individual merit and the refuge manager will determine if the requested research contributes to the refuge purpose without significantly and adversely affecting the resources. If appropriate, the researcher will be issued an SUP. The SUP may specify methods of access, including requiring the use of All-Terrain Vehicles (ATVs), and dates to access study sites. Date stipulations must frequently be incorporated into the SUP to prevent conflict during deer firearm and special use hunts in the Greenlea Bend Unit. Progress will be monitored, and the researcher will be required to submit annual progress reports and copies of all publications derived from the research to the refuge. Upon conclusion of each project, all materials and supplies must be removed from the refuge. Housing may be provided by the refuge on a case-by-case basis.

Researchers must possess all applicable state and federal permits for the capture and possession of protected species, for conducting regulated activities in wetlands, and for other regulated activities. Researchers must demonstrate they have approval from the Animal Care and Use Committee or An Assurance of Quality of Care or veterinarian-approved plan if such approval is required by their research institution. Any handling of live animals will be assessed to ensure that the possibility of disease transmission is kept to a minimum.

In accordance with 16 U.S.C. 668dd (d) and 50 C.F.R. Part 25, Subpart D, the refuge manager is responsible for reviewing applications for SUPs and determining whether to authorize a proposed use. Uses must be “appropriate” and found to be “compatible” with the refuge purposes and the mission of the Refuge System prior to being approved and undertaken. Projects will adhere to scientifically defensible protocols for data collection, where available and applicable. Detailed proposals are required one month prior to the proposed timeframe and will be reviewed by the refuge manager. If a proposal is approved, an SUP would be issued and administered by the wildlife biologist. Projects that contribute to refuge-specific needs for resource goals and objectives, where applicable, would be given a higher priority over other requests. Evaluation criteria for approving studies will include, but not be limited to, the following:

- Contribution to specific refuge management issues.
- The level and type of disturbance to wildlife and habitats.

- Impact or conflict with refuge-specific resources, priority wildlife-dependent public uses, other high-priority research, and refuge habitat and wildlife management programs.
- Length of project.

If unacceptable impacts to natural resources or conflicts arise or are documented by the refuge staff, the refuge manager can suspend, modify conditions of, or terminate an ongoing project already permitted by SUP(s). The Service is not responsible for any mishaps or injuries that may occur during the activities. The permittee acknowledges and agrees to provide appropriate safety equipment and caution all people participating in the activities about the hazards likely to be encountered on refuge-managed lands and waters.

Why is this use being proposed or reevaluated?

Research, scientific collecting, and surveys are being reevaluated as directed in the National Wildlife Refuge System Improvement Act of 1997 (603 FW 2.11 H, USFWS 2000). The Service's policies on research and management studies and appropriate refuge uses (603 FW1.10D(4), USFWS 2006) indicate priority for scientific investigatory studies that contribute to the enhancement, protection, use, preservation, and management of native wildlife populations and their habitat as well as their natural diversity (USFWS 2019). Additionally, this use would further the goals identified in the completed CCP (USFWS 2009) and Habitat Management Plan (USFWS 2014). Research projects that answer questions about refuge resources of concern and demonstrate management implications in their findings receive top priority. The outcome of this research will result in better knowledge of our natural resources and improved methods to manage, monitor and protect refuge resources.

Availability of Resources:

The analysis of cost for administering and managing each use will only include the incremental increase above general operational costs that we can show as being directly caused by the proposed use. Adequate resources (including financial, personnel, facilities, and other infrastructure) exist or can be provided by the Service or a partner to properly develop, operate, and maintain the use in a way that will not materially interfere with or detract from fulfillment of the refuge purposes and the System mission.

One-time costs:

- Facilities – Initial purchase of Conex trailers for research housing cost \$11,000 each for two Conex trailers (\$22,000).

Annual/recurring expenses:

- Administration and Management - Resources involved in the administration and management of the use includes personnel time associated with SUP administration and housing assistance. Existing staffing and funding are adequate to support these activities. A full-time equivalent Employee (FTE) refuge manager spends approximately 40 hours annually (\$2,500) coordinating facility, equipment and housing use with researchers. An FTE wildlife biologist spends approximately 80 hours annually (\$5,000) issuing SUP's and coordinating research activities including housing, logistics, access issues, facility access and inholder coordination.
- Monitoring - Refuge staff will coordinate with researchers to ensure all special conditions are followed within the SUP. Two law enforcement officers cumulatively spend approximately 40 hours annually (\$2,000) monitoring research activities.
- Maintenance – Costs to maintain Conex trailers and associated utilities after initial purchase are approximately \$2,500 per year.

Offsetting Revenue:

- Bunkhouse tenant funds paid by researchers generate approximately \$100 per year and are used to offset facility maintenance costs.

Anticipated Impacts of the Use:

A primary concern for allowing research activities to occur on the refuge is to ensure that impacts to wildlife and habitats are maintained within acceptable limits and potential conflicts with other user groups are minimized. The Service's policies on research and management studies and appropriate refuge uses (603 FW1.10D(4), USFWS 2006) indicate priority for scientific investigatory studies that contribute to the enhancement, protection, use, preservation, and management of native wildlife populations and their habitat as well as their natural diversity. Impacts associated with research include wildlife disturbance and mortality, and habitat destruction or alteration. Potential impacts are described in more detail below.

Short-term impacts

Disturbance to wildlife, vegetation, water, soils, and cultural resources could occur while researchers are accessing study sites by vehicles or by foot and while they are engaged in their projects. Direct disturbance to wildlife from the presence of researchers could include shifts in habitat use, abandonment of habitat, increased energy demands on affected wildlife, and changes in nesting and reproductive success and singing behavior of birds (Knight and Cole 1991, Miller et al. 1998, Shulz and Stock 1993, Gill et al. 1996, Gill et al. 2001). Human activities such as research can flush adult birds from the nest, thus leaving eggs and nestlings unattended and vulnerable to predation (Steven et al. 2011, Stien and Ims 2016). Techniques used to capture and band migratory birds can cause disturbance, injury, or death to individuals. In addition, increased energy expenditure caused by the disruption of feeding, displacement from preferred habitat, and threat avoidance is detrimental to wildlife individuals and their reproductive success.

Some level of disturbance is expected with research projects, especially if investigator(s) must enter areas closed to the public, collect samples or handle wildlife. Researchers will be required to minimize disturbance and capture and handling methods must be reviewed and approved by the researcher's university Institutional Animal Care and Use Committee. Sampling locations and methods will be selected to minimize disturbance and avoid sensitive and critical habitats. Beneficially, research projects may contribute to the development of new methods that reduce the impacts described above. Collection of specimens (plants and animals) will be allowed only if necessary to address specific research questions. Researchers will be encouraged to collect only biological samples such as hair or blood from animals instead of the entire animal. No plant or animal species that are listed as a state species of concern, federally protected by the Endangered Species Act or are rare on the refuge will be collected unless specifically needed to address research questions associated with these species and reviewed through a Section 7 Intra-Service Threatened and Endangered Species consultation. Wildlife disturbance, including altered behavior, will usually be localized, temporary in nature and habituation to disturbance may occur. In one study measuring wildlife habituation, annual fecundity was substantially higher for white-fronted plovers at the more disturbed site, showing that the overall reproductive fitness of wild birds is not always compromised by human disturbance and urbanization. (Baudains, et al 2007). Disturbance of species will be weighed against the benefit of the information in forming future wildlife management decisions.

The presence of researchers could also indirectly disturb wildlife. Potential impacts include trampling, damage, and killing of vegetation from walking off trail (Kuss 1986, Roovers et al. 2004, Hammitt and Cole 1998) and soil compaction, soil erosion, and changes in hydrology from hiking on and off trail (Kuss 1986, Roovers et al. 2004). Researchers are frequently only on the refuge for several days at a time

during a given year and there are usually only one to four individuals conducting these activities; therefore, negative impacts to vegetation and soil will be negligible.

Installation of posts, equipment platforms, collection devices, and other research equipment in open water may present a hazard if items are not adequately marked or not removed at appropriate times and upon completion of the project. Impacts may also occur from infrastructure necessary to support a project (e.g., permanent transects or plot markers, enclosure devices, monitoring equipment, solar panels to power unattended monitoring equipment). Researchers are required in the stipulations of the SUP to mark and remove all equipment from the refuge upon completion of the project.

Adverse impacts to threatened and endangered species are not expected. Although the refuge contains suitable habitat and is within the southern portion of the range of the federally threatened northern long-eared bat (*Myotis septentrionalis*), the species has not been recorded on the refuge during acoustic inventory surveys. Acoustic surveys are conducted during each summer as part of the Inventory and Monitoring Acoustic Bat Survey Protocol, and no northern long-eared bats have been detected on the refuge during the 8 years of monitoring. No maternity colonies have been found on the refuge either. Researchers are frequently only on the refuge for several days at a time and there are usually only one to four individuals conducting these activities; therefore, this use should not disturb bats even if they were to be found on the refuge.

Impacts from the proposed use will be project- and site-specific and will vary depending upon the nature and scope of the fieldwork. Data collection techniques will generally have minimal animal mortality or disturbance, habitat destruction, no introduction of contaminants, and no introduction of non-indigenous species. Projects involving the collection of biotic samples (plants or animals) or requiring intensive ground-based data or sample collection will have short-term impacts, such as trampling of plants and disturbance to wildlife.

Investigator(s) obtaining required state and federal collecting permits will also ensure minimal impacts to fish, wildlife, plants, and their habitats. An Intra-Service Section 7 consultation under the Endangered Species Act (16 U.S.C. 1531-1544, 87 Stat. 884, as amended Public Law 93-205) will be required for activities that may affect a federally listed species or critical habitat.

Long-term impacts

Long-term impacts are expected to be positive, as research results will likely provide information that will contribute to the understanding and conservation of

the refuge's diverse natural resources. No adverse, long-term impacts are expected from the research activities described. The refuge manager will reduce the likelihood of negative impacts by modifying or denying SUPs for research likely to cause long-term, adverse impacts, such as excessive wildlife disturbance or harm, damage to the habitat or other refuge resources, or negative impacts to other refuge management programs. In addition, permits for multi-year research projects will be reviewed on an annual basis, which will provide refuge staff the opportunity to identify adverse impacts and make modifications to the study design to minimize those impacts.

Studies and surveys will be conducted by university, government, or other authorized researchers and will often involve limited time frames (i.e., field seasons) and be of short duration (less than three years). We do not anticipate an increase in the number of scientific studies or research conducted on the refuge in the near future; however, our professional opinion is there would be no direct or indirect negative long-term impacts if the number of studies and research projects were to increase on the refuge.

Long-term research projects will be monitored for cumulative impacts to wildlife and their habitats. It is rare for on-going, long-term research to occur on the refuge, as the average research project is two years; but, if significant, adverse, cumulative impacts were detected, the research would be discontinued. Cumulative impacts could occur if the refuge approved multiple projects focused on the same resource at the same time or if projects were excessive in duration. Cumulative impacts are not expected because the refuge manager will consider the potential impacts of non-Service research in conjunction with any Service-sponsored research and management activities taking place. Other impacts might include conflicts with user groups engaged in hunting, fishing, wildlife observation, etc. These conflicts would be minimized by shifting research times to avoid hunting weekends and seasons or by closing specific research areas to the public so that public uses would not influence research results.

Disturbance to wildlife is an unavoidable consequence of any public use program regardless of the activity involved. Due to the remote nature of the refuge and the relatively low number of research activities conducted on the refuge, disturbance from these activities is expected to be negligible. Project-specific stipulations outlined in each SUP would minimize the anticipated impacts of each research project. The refuge manager may revoke an SUP or deny renewal for any SUP if negative, unanticipated short-term, long-term, or cumulative impacts were observed and could not be corrected. This CD is based on the anticipated impacts, findings and recommendations included in Tensas River NWR's CCP and associated EA (USFWS 2009).

Public Review and Comment:

The draft CD will be available for public review and comment for 14 calendar days from May 3, 2022 to May 17, 2022. The public will be made aware of this comment opportunity through the Tensas River NWR website (https://www.fws.gov/refuge/tensas_river/) and Tensas River Refuge Association Facebook page (<https://www.facebook.com/trrapage/>). A hard copy of this document will be posted at the Refuge Headquarters and Visitor Center (2312 Quebec Rd. Tallulah, LA 71282). It will be made available electronically on the refuge website. Please let us know if you need the documents in an alternative format. Concerns expressed during the public comment period will be addressed in the final CD.

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility:

1. Scientific studies or research projects should support the mission of the Refuge System and/or the purpose of the refuge and must be reviewed and approved by refuge staff.
2. The SUP may specify methods of access (including requiring the use of ATVs) and dates to access study sites. Date stipulations must frequently be incorporated into the SUP to prevent conflict during deer quota modern firearm and special use hunts in the Greenlea Bend Unit.
3. Once the SUP is issued, the investigator must be in possession of the SUP while working on the refuge.
4. Upon conclusion of each project, all materials and supplies must be removed from the refuge.
5. Housing may be provided by the refuge on a case-by-case basis; researchers may be allowed to use the Conex trailers close to the maintenance shop and occasionally the refuge bunkhouse. Additional stipulations regarding cleaning the facilities prior to departure and key return apply when refuge housing is provided.
6. All nighttime activities must be coordinated with the refuge law enforcement officers.
7. Investigators must possess all applicable state and federal permits for the capture and possession of protected species, for conducting regulated activities in wetlands, and for other regulated activities (e.g., banding). The

researchers shall take adequate precautions to protect wildlife and their habitat from injury and must follow approved animal handling protocols.

8. If unacceptable impacts to natural resources or conflicts arise or are documented by the refuge staff, the refuge manager can suspend, modify conditions to, or terminate an on-going project already permitted by an SUP.
9. Progress will be monitored and the researcher will be required to submit annual progress reports and copies of all publications derived from the research to the refuge.

Justification:

The benefits derived from sound research, scientific collecting, and surveys provide a better understanding of species and the environmental communities present on the refuge. Management of fish, wildlife, plants and their habitats should improve through the application of knowledge gained from this use. Research can directly contribute to recovery of endangered and threatened species. The combination of stipulations identified above and conditions included in the SUP will ensure that proposed projects contribute to the enhancement, protection, conservation and management of native wildlife populations and their habitats on the refuge. As a result, these projects will help fulfill refuge purposes; contribute to the mission of the NWRS; and maintain biological integrity, diversity, and environmental health of the refuge. The benefits of acquiring knowledge through research far outweigh any short-term disturbance or loss of individual plants and animals that might occur. Impacts, such as trampling vegetation and temporary disturbance to wildlife, will occur but should not be significant. A small number of individual plants or animals may be collected for further study, but this will not significantly impact population levels. Usually only one to three research projects are on-going in a given year on the refuge, and projects typically don't last longer than two years. Each research project usually has one to four individuals authorized to collect data. This infrequent, low volume use should not impact refuge resources of concern. Longer term research projects will be evaluated and discontinued if long-term impacts are observed. Where long-term, unacceptable effects cannot be avoided, the project will not be found compatible and no permit will be issued.

At the current and proposed levels, providing opportunities for research activities should not conflict with the national policy to maintain the biological diversity, integrity, and environmental health of the refuge. Based on available science and best professional judgement, the Service has determined that providing opportunities for research and surveys at Tensas River NWR, as outlined in the refuge CCP, Habitat Management Plan (USFWS 2014) and this CD, and in

accordance with the stipulations provided here, will not materially interfere with or detract from the fulfillment of the Refuge System mission or the purposes of the refuge.

This CD can be categorically excluded from further NEPA analysis under 40 CFR 1508.4 (definition of categorical exclusion) and 516 DM 8.5 B (1):

Research, inventory, and information collection activities directly related to the conservation of fish and wildlife resources which involve negligible animal mortality and habitat destruction, no introduction of contaminants, and no introduction of organisms not indigenous to the affected ecosystem.

Further, this action does not trigger an extraordinary circumstance as outlined under 43CFR§46.215 as this use is consistent with the 2009 CCP and associated EA for Tensas River NWR. The environmental conditions and use have not changed substantially since the previous NEPA analysis and decision in 2009 (USFWS 2009). This CD updates and replaces the previous 2009 CD.

References:

- Baudains, T. & Lloyd, Penn. (2007). Habituation and habitat changes can moderate the impacts of human disturbance on shorebird breeding performance. *Animal Conservation*. 10. 400 - 407. [10.1111/j.1469-1795.2007.00126.x](https://doi.org/10.1111/j.1469-1795.2007.00126.x).
- Burger, J., and M. Gochfeld. 1998. Effects of ecotourists on bird behaviour at Loxahatchee National Wildlife Refuge, Florida. *Environmental Conservation* 25:13-21.
- Gill, J. A., W. J. Sutherland, and A. R. Watkinson. 1996. A method to quantify the effects of human disturbance on animal populations. *Journal of Applied Ecology* 33(4):786-792. <https://doi.org/10.2307/2404948>
- Gill, J. A., K. Norris, and W. J. Sutherland. 2001. Why behavioural responses may not reflect the population consequences of human disturbance. *Biological Conservation* 97(2):265-268. [https://doi.org/10.1016/S0006-3207\(00\)00002-1](https://doi.org/10.1016/S0006-3207(00)00002-1)
- Hammitt, W. E., and D. N. Cole. 1998. *Wildlife Recreation: Ecology and Management* (2nd edition). New York: John Wiley & Sons.
- Knight R. L, and D. N. Cole. 1991. Effects of recreational activity on wildlife in wildlands. *Transactions of the 56th North American Wildlife and Natural Resources Conference*. pp. 238-247.

- Kuss, F. R. 1986. A review of major factors influencing plant responses to recreation impacts. *Environmental Management* 10(5):637-650.
<http://dx.doi.org/10.1007/BF01866768>
- Miller, S. G., R. L. Knight, and C. K. Miller. 1998. Influence of recreational trails on breeding bird communities. *Ecological Applications* 8(1):162-169.
[https://doi.org/10.1890/1051-0761\(1998\)008\[0162:IORTOB\]2.0.CO;2](https://doi.org/10.1890/1051-0761(1998)008[0162:IORTOB]2.0.CO;2)
- Roovers, P., K. Verheyen, M. Hermy, and H. Gulinck. 2004. Experimental trampling and vegetation recovery in some forest and heathland communities. *Applied Vegetation Science* 7(1):111-118. <https://doi.org/10.1111/j.1654-109X.2004.tb00601.x>
- Shulz, R., and M. Stock. 1993. Kentish plovers and tourists: competitors on sandy coasts? *Wader Study Group Bulletin* 68:83-91.
- Steven, R, C. Pickering, and C. J. Guy. 2011. A review of the impacts of nature based recreation on birds. *Journal of Environmental Management* 92(10):2287-94
- Stien, J., and R. A. Ims. 2016. Absence from the nest due to human disturbance induces higher nest predation risk than natural recesses in Common Eiders *Somateria mollissima*. *Ibis* 158(2):249-260.
- U.S. Fish and Wildlife Service. 2000. Part 603 FW 2: National Wildlife Refuge System Uses--Compatibility. Fish and Wildlife Service Manual. Division of Conservation Planning and Policy.
<https://www.fws.gov/policy/603fw2.html>
- U.S. Fish and Wildlife Service. 2006. Part 603 FW 1: National Wildlife Refuge System Uses—Appropriate Refuge Uses. Fish and Wildlife Service Manual. Division of Conservation, Planning and Policy.
<https://www.fws.gov/policy/603fw1.html>
- U.S. Fish and Wildlife Service. 2009a. Tensas River National Wildlife Refuge Comprehensive Conservation Plan. U.S. Fish and Wildlife Service, Southeast Region. Atlanta, GA.
<https://www.fws.gov/uploadedFiles/Tensas%20River%20NWR%20Final%20CCCP.pdf>

U.S. Fish and Wildlife Service. 2009b. Tensas River National Wildlife Refuge Draft Comprehensive Conservation Plan and Environmental Assessment. U.S. Fish and Wildlife Service, Southeast Region. Atlanta, GA.

U.S. Fish and Wildlife Service. 2014. Tensas River National Wildlife Refuge Habitat Management Plan. U.S. Fish and Wildlife Service, Southeast Region. Atlanta, GA. <https://ecos.fws.gov/ServCat/DownloadFile/48977?Reference=48751>

U.S. Fish and Wildlife Service. 2019. Central Louisiana Refuges National Wildlife Refuge Complex Compatibility Determination. U.S. Fish and Wildlife Service, Southeast Region. Atlanta, GA.

U.S. Fish and Wildlife Service. 2021. Tensas River NWR Annual Public Use Permit 2021/2022. U.S. Fish and Wildlife Service, Southeast Region. Atlanta, GA. https://tensas.isportsman.net/annual_permit.aspx

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date