

Compatibility Determination

Title

Compatibility Determination for Scientific Research, Deep Fork National Wildlife Refuge.

Refuge Use Category

Research and Surveys

Refuge Use Type(s)

Research, Surveys, and Scientific Collecting

Refuge

Deep Fork National Wildlife Refuge

Refuge Purpose(s) and Establishing and Acquisition Authority(ies)

Emergency Wetlands Resources Act of 1986. "... the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions." 16USC and 3901(b), 100 Stat.3583

Migratory Bird Treaty Act. "...to provide an inviolate sanctuary, or for any other management purpose, for migratory birds.

Deep Fork National Wildlife Refuge was established to:

Protect and enhance the high quality of wetlands found along the Deep Fork River and their associated fish and wildlife values, including economic; food supply; water supply and quality; flood control, fish, wildlife, and plant resources; and outdoor recreation.

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. Scientific research has been conducted on the refuge since 1999. The use was evaluated in conjunction with the Deep Fork National Wildlife Refuge Comprehensive Conservation Plan September 1999 and found to be compatible.

What is the use?

For the purposes of this compatibility determination, research is considered to be planned, organized, and systematic investigation of a scientific nature conducted by non-U.S. Fish and Wildlife Service (Service) personnel. Scientific collecting is the gathering of refuge natural resources or cultural artifacts for scientific purposes conducted by non-FWS personnel or authorized agent. Scientific surveys are scientific inventory or monitoring conducted by non-FWS personnel or authorized agent. Much can be learned from field research within the Refuge. Baseline information in the biological, geophysical, hydrological and other fields is still in need of being collected. There are many opportunities for consultants, colleges and universities, and other agencies to obtain permission to conduct critical and noteworthy research on the Refuge. Research is an ongoing use of the Refuge that was determined to be a compatible use in 1999 in the Final Comprehensive Conservation Plan and Environmental Impact Statement (USFWS 1999). In accordance with Service Policy 602 FW 2.11H, we are now re-evaluating this use.

Is the use a priority public use?

No

Where would the use be conducted?

The use would be conducted on Service-owned lands within the approved acquisition boundary for Deep Fork National Wildlife Refuge. The location of the research will vary depending on the research being conducted and will be identified in the permit issued for each project. The research locations will be limited to areas that are necessary for the research project. The refuge may prohibit research in certain areas to protect trust resources or reduce conflict with other compatible refuge uses. Access to study locations will be identified by refuge staff.

When would the use be conducted?

The timing of the research will depend on the approved design of the research project. Scientific research may occur throughout the year given there are no conflicts with protection of trust resources or primary public use activities. Special precautions will be required and enforced to ensure the researcher's health and safety and to minimize or eliminate potential conflicts with a priority public use. Research projects may be short-term or multi-year studies. The timing of each individual research project will be limited to the minimum time required to complete

the project.

How would the use be conducted?

Research would be conducted in accordance with the procedures, conditions, and case-specific stipulations included in an approved refuge Special Use Permit (SUP). The SUP process requires applicants to submit the details of the research proposal for review and approval, including:

- Objectives of the study;
- Justification for the study;
- Detailed study methodology and schedule;
- Research personnel required and their qualifications and experience;
- Status of necessary permits (i.e., scientific collecting permits, endangered species permit);
- Costs to refuge and refuge staff time requested, if any; and
- anticipated end products (i.e., reports, publications).

Once a proposal is submitted, Refuge staff would review the details of the proposal and if acceptable, would prepare an SUP that includes a complete project description, conditions, and project specific stipulations to be followed during implementation of the proposal. Stipulations would be developed after considering the following factors:

- will information gained from the research or survey provide insight into current or future refuge management;
- is there a potential for short- and/or long-term disturbance, injury, and/or mortality to any listed species and/or other refuge wildlife and/or habitats; and if so, are there measures that can be implemented to avoid or minimize such impacts;³
- could the proposal conflict with other ongoing research, monitoring, or management programs; if so, are there measures that can be implemented to avoid such conflicts;
- could the research or survey be implemented elsewhere, or does the refuge provide the only option for carrying out the specified research; and
- is the proposal designed to minimize disturbance by taking into consideration location, timing, and scope of the study, as well as the number of participants, study methods, and number of study sites.

Proposals for open-ended research projects would not be considered. All approved SUPs will have an initiation and termination date associated with the research to be implemented per the SUP.

If a proposal is approved, a SUP will be prepared that specifies rules of conduct, all

permitted procedures, case-specific stipulations, and data reporting requirements. Projects would be reviewed annually to assess whether they:

- continue to meet the specified criteria or require additional stipulations,
- continue to operate as originally proposed, and
- can provide data to confirm that the objectives of the study are being accomplished.

Why is this use being proposed or reevaluated?

Research projects conducted by non-FWS personnel or authorized agents allow for independent examination of natural processes occurring on the refuge, as well as for focused research on issues important to refuge management. Studies investigating the conditions of listed and sensitive species populations, invasive species detection and management, habitat structural and functional analyses, and biological community population management. Pertinent results from research investigations can inform management recommendations in step-down plans, management plan updates, and compatibility determinations and inform NEPA analyses relating to proposed habitat restoration work. They can also inform the development and updating of monitoring protocols in habitat and species management plans. Research has been deemed a compatible use on Deep Fork NWR since at least 1999 and is discussed in detail in the refuge's CCP (USFWS 1999).

Availability of Resources

Refuge support for research is entirely dependent on the scope of the project and may include funding and the use of refuge facilities and equipment. Refuge staff may also provide historical records and assist with data collection and management treatments. Generally, the cost for research is incurred in staff time. Staff time is required to review research proposals, consult and coordinate with the primary investigator and field technicians, review progress reports, and write SUPs. The frequency of requests for research varies over time. The refuge typically has the resources necessary to support research projects; however, individual research proposals may be modified, delayed, or denied if staff members have reached their capacity to facilitate or monitor research on the refuge.

Administration Costs: \$100

Maintenance Costs: none

Special Equipment or Improvements: none

Monitoring Costs: \$100

Off-setting Revenue: none

Anticipated Impacts of the Use

Potential impacts of a proposed use on the refuge's purpose(s) and the Refuge System mission

The effects and impacts of the proposed use to refuge resources, whether adverse or beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the proposed use. This CD includes the written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an “affected resource”.

Short-term impacts

Research activities may disturb fish, wildlife, and their habitats (Knight and Cole, 1991; Miller et al., 1998; Gill et al., 1996, 2001). For example, the presence of researchers can cause birds to flush from resting and feeding areas, cause disruption of birds on nests or breeding territories, or increase predation on nests and individual animals (because predators may follow human scent and trails). 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 habitat, and threat avoidance is detrimental to wildlife.

Some sampling methods may cause soil compaction and vegetation disturbance (Kuss, 1986; Hammitt and Cole, 1998; Roovers et al., 2004). Installation of posts, equipment platforms, collection devices, and other research equipment in open water may present a hazard if items are not adequately marked and/or removed at appropriate times or upon completion of the project.

Research projects may contribute to the development of new methods that reduce the impacts described above.

The potential for research conducted on the refuge to conflict with refuge management activities (e.g., pine thinning and prescribed burning) and visitor use is minimal. Research activities would be coordinated to minimize conflict with refuge management activities. Most research occurs in closed or difficult-to-reach areas and away from hiking trails and public facilities. During hunting seasons, hunters may encounter field technicians, monitoring plots, or other research infrastructure. These encounters are expected to be infrequent due to the interest in maintaining low-profile infrastructure to prevent disturbance or vandalism of study sites. In addition, technicians conducting research in hunting areas during a hunting season will be required to wear appropriate high-visibility attire. The refuge manager will consider ongoing and future projects to minimize the possibility of excessive disturbance from overlapping projects.

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 long-term adverse impacts are expected from the research activities described. The refuge manager will reduce the likelihood of long-term impacts by denying SUPs for research that is likely to cause long-term, adverse impacts, such as excessive disturbance to habitat and wildlife due to overlapping projects. In addition, permits for multi-year research projects will be reviewed on an annual basis, which will provide refuge staff with the opportunity to identify adverse impacts.

Cumulative impacts:

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 or management activity taking place. The refuge manager will minimize cumulative impacts due to competing interests by ensuring adequate time and distance between studies. Public use will be prioritized to ensure public access to national lands.

The refuge manager may revoke a SUP or deny renewal for any SUP if unanticipated short-term, long-term, or cumulative impacts are observed. Project-specific stipulations outlined in each SUP will minimize the anticipated impacts of the research project. Research that could adversely affect critical habitat or threatened and endangered wildlife will not be permitted.

Public Review and Comment

This compatibility determination was made available for public comment for 14 days from XX, XX, XXXX, which was announced on the refuge's website, social media accounts, and local newspapers.

Determination

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

1. Prior to initiation of any research and/or management studies on the refuge, the requesting agency or organization is required to submit a research proposal to the refuge manager. The refuge manager will

determine what information must be included in the research proposal, depending on the scope of the project, and will communicate his/her expectations with the prospective researcher.

2. Researchers must give the refuge at least 45 days to review the proposal before research begins. If the research involves the collection of wildlife, the refuge must be given 60 days to review the proposal. Researchers must obtain all necessary scientific collecting, banding, or other permits required by state and federal entities before starting the research. Priority of approval will be based on studies that contribute to the enhancement, protection, use, preservation, and management of native wildlife populations and their habitat.
3. The criteria for evaluating a research proposal, outlined in the "Description of Use" section above, will be used to determine whether a proposed study will be approved or denied. If potential adverse impacts exist, the refuge will determine the usefulness and need of the proposed research. If a need is demonstrated by the research permittee and accepted by the refuge, then the refuge will develop guidelines to reduce potential impacts. These guidelines will be included in the SUP. Refuge rules and regulations must be followed unless alternatives are otherwise accepted in writing by refuge management.
4. Approved research proposals will be issued a SUP with appropriate restrictions to minimize disturbance to wildlife, identify restricted areas, and outline other stipulations as needed. The SUP will also identify a schedule for annual progress reports and the submission of a final report or scientific paper.
5. Any research involving ground disturbance may require historic preservation consultation with the Regional Historic Preservation Officer and/or State Historic Preservation Officer.
6. Projects that occur within the habitat of threatened or endangered species, or include the monitoring of threatened or endangered species, will be subject to a Section 7 informal consultation by the Service under the Endangered Species Act (87 Stat. 854, as amended; 16 U.S.C. 1531 et seq.). The approval of the Section 7 consultation is required before any research can be conducted on threatened or endangered species. Refuge staff may ask regional refuge biologists, other Service divisions, state agencies, or academic experts to review and comment on proposals. Extremely sensitive wildlife habitat areas will be avoided unless sufficient protections are implemented to limit the area and/or wildlife impacted by the proposed research. If unanticipated impacts are observed, research activities will be modified to minimize disturbance.
7. All research-related SUPs will contain a statement regarding the Service's

policy regarding disposition of biotic specimens. Current Service policy language states, "You may use specimens collected under this permit, any components of any specimens (including natural organisms, enzymes, genetic materials or seeds), and research results derived from collected specimens for scientific or educational purposes only, and not for commercial purposes unless you have entered into a Cooperative Research and Development Agreement (CRADA) with us. We prohibit the sale of collected research specimens or transfers to third parties for commercial purposes. Breach of any of the terms of this permit will be grounds for revocation of this permit and denial of future permits. Furthermore, if you sell or otherwise transfer for commercial purposes collected specimens, any components thereof, or any products or research results developed from such specimens or their components without a CRADA, you will pay us a royalty rate of 20 percent of gross revenue from such sales. In addition to such royalty, we may seek other damages and injunctive relief against you." (U.S. Fish and Wildlife Service.2016. Director's Order No. 109, Amendment 11: Use of Specimens Collected on Fish and Wildlife Lands. March 31, 2016.)

8. Upon completion of a project, researchers are required to remove all research infrastructure from the field.
9. Any research project may be terminated at any time for non-compliance with the SUP conditions. Research projects may also be modified, relocated, or terminated if the project is causing unanticipated adverse impacts to wildlife, wildlife habitat, approved priority public uses, or other refuge management activities. The refuge manager may terminate previously approved research and SUPs if adverse impacts are observed or if the researcher is not in compliance with the stated conditions.
10. The Service expects researchers to submit a final report to the refuge upon completing their work. For long-term studies, interim progress reports may be required. The refuge expects to receive copies of all raw data and publications that resulted from research on the refuge. All reports, presentations, posters, articles, or other publications will acknowledge the Refuge System and the refuge as partners in the research.

Justification

The Service encourages research on national wildlife refuges to collect new information that will improve the quality of refuge and other Service management decisions, to expand the body of scientific knowledge about fish and wildlife, their habitats, the use of these resources, appropriate resource management, and the environment in general, and to provide the opportunity for students and others to learn the principles of field research. In accordance with 50 CFR 26.41, research conducted by non-Service personnel, as

described in this compatibility determination, will not materially interfere with, or detract from, the fulfillment of the refuge System mission or the purposes for which the refuge was established.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2032

Literature Cited/References

- Gill JA, Sutherland WJ, Watkinson AR. 1996. A method to quantify the effects of human disturbance on animal populations. *Journal of Applied Ecology* 33:786-792.
- Gill JA, Norris K, Sutherland WJ. 2001. Why behavioral responses may not reflect the population consequences of human disturbance. *Biological Conservation* 97:265-268.
- Hammit WE, Cole DN. 1998. *Wildlife Recreation: Ecology and Management* (2nd edition). New York: John Wiley & Sons.
- Knight RL, Cole DN. 1991. Effects of recreational activity on wildlife in wild lands. *Transactions of the 56th North American Wildlife and Natural Resources Conference*. pp.238-247.
- Kuss FR. 1986. A review of major factors influencing plant responses to recreation impacts. *Environmental Management* 10:638-650.
- Roovers P, Verheyen K, Hermy M, Gulinck H. 2004. Experimental trampling and vegetation recovery in some forest and heathland communities. *Applied Vegetation Science* 7:111- 118.
- U.S. Fish and Wildlife Service. 1999. Deep Fork National Wildlife Refuge Comprehensive Conservation Plan. 1999. U.S. Fish and Wildlife Service, Southwest Region. Albuquerque, NM.

Figure(s)

