DRAFT COMPATIBILITY DETERMINATION

USE: Research, Scientific Collecting and Surveys by Third Parties

REFUGE NAME: Patoka River National Wildlife Refuge and Management Area

ESTABLISHING AND ACQUISITION AUTHORITIES and REFUGE PURPOSE(S):

"…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…” 6 16 U. S. C. 3901(b) (Emergency Wetlands Resources Act of 1986)

"…particular value in carrying out the national migratory bird management program.” 16 U.S.C. 667b (An Act Authorizing the Transfer of Certain Real Property for Wildlife)

"…(1) to protect, enhance, restore and manage an appropriate distribution and diversity of wetland ecosystems and other habitats for migratory birds and other fish and wildlife in North America; (2) to maintain current or improved distributions of migratory bird populations; and (3) to sustain an abundance of waterfowl and other migratory birds consistent with the goals of the North American Waterfowl Management Plan and the international obligations contained in the migratory bird treaties and conventions and other agreements with Canada, Mexico and other countries.” 16 U. S. C. 4401-4413 (North American Wetlands Conservation Act)

NATIONAL WILDLIFE REFUGE SYSTEM MISSION: “…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.”

DESCRIPTION OF USE:

*What is the Use?*
Refuge staff receive periodic requests from non-Service entities (e.g. other Federal agencies, state and private entities, universities, nongovernmental universities) to conduct research, scientific collecting and surveys on Patoka River National Wildlife Refuge. These project requests can involve a wide range of natural and cultural resources as well as public use management issues including basic presence/absence surveys, collection of new species for identification, habitat use and life-history requirements for specific species/species groups, practical methods for habitat restoration, extent and severity of environmental contaminants,
techniques to control or eradicate pest species, effects of climate change on environmental conditions, identification and analyses of paleontological specimens, modeling of wildlife populations, bioprospecting and assessing response of habitat/wildlife to disturbance from public uses. Projects may be species-specific, refuge-specific, or evaluate the relative contribution of Refuge lands to larger landscape issues and trends.

The Service's Research and Management Studies (4 RM 6) and Appropriate Uses (603 FW 10D(4)) policies indicate priority for scientific investigatory studies that contribute to the enhancement, protection, use, preservation and management of native wildlife populations and their habitats in their natural diversity. Projects that contribute to refuge-specific needs for resource and/or management goals and objectives will be given a higher priority over other requests.

Where is the use conducted?
Sites for this use would depend on the particular study being conducted and could occur in a variety of habitat types. Access would be restricted by Special Use Permit (SUP) to only the study sites needed to meet the objectives of the research.

When is the use conducted?
The timing of research, collecting and survey activities would depend on the individual project, although currently most research occurs during daylight hours. The entire refuge is open for allowed research, collecting and survey activities throughout the year, day or night, as permitted via the issuance of a SUP. The timing, duration, number of staff and visits by permittees may be restricted by SUP at the discretion of the refuge manager or designee.

How is the use conducted?
Projects will adhere to scientifically defensible protocols for data collection, where available and applicable. Any research study site(s), collection and sampling location(s) and transect(s) can be temporarily marked by highly visible wooden or metal posts or other pre-approved method and must be removed when the project is complete. Access to study sites is by foot, truck, all-terrain vehicle, boat, canoe and other watercraft. Vehicle use is allowed on Refuge roads, trails and parking lots normally open to the public, or other locations as specified in the SUP.

Why is the use being proposed?
The Service recognizes the potential for research, scientific collection and surveys conducted by non-Service entities to contribute to the enhancement, protection, use, preservation and management of wildlife populations and their habitats. Studies are likely to expand the body of scientific knowledge of wildlife populations and their habitats or otherwise provide information beneficial to conservation and management. Most research, collection and surveys by third parties are done to address refuge management information needs or to contribute to a larger knowledge base about resources of concern to the refuge. Additionally, research activities are an integral part of the refuge’s goal of coordination and interaction with national and international partners.
AVAILABILITY OF RESOURCES:
Refuge staff responsibilities for projects by non-Service entities will be primarily limited to the following: review of proposals, preparation of SUP(s) and other compliance documents (e.g., Section 7 of the Endangered Species Act of 1973, Section 106 of the National Historic Preservation Act) and monitoring of project implementation to ensure impacts and conflicts remain within acceptable levels (compatible) over time. Additional administrative support, logistical and operational support may also be provided depending on each specific request. Facilities and staff are currently available to provide access, maintain roads, parking lots, secondary access roads, as well as to issue SUPs for research, collecting and survey projects. Staff resources are deemed adequate to manage this use at anticipated-levels.

Access points, boats, vehicles, miscellaneous equipment and limited logistical support are available on the refuge. There is no temporary housing available for researchers to use while studying refuge resources.
- Special equipment, facilities, or improvements necessary to support the use: None
- Maintenance costs: Funded through regular management activities. No additional funding needed.
- Monitoring costs: None
- Offsetting revenues: None

ANTICIPATED IMPACTS OF THE USE:
Short and Long-term Impacts:
Impacts would be project- and site-specific and will vary depending upon the nature and scope of the field work. Data collection techniques will generally have minimal animal mortality or disturbance, habitat destruction, no introduction of contaminants and no introduction of nonindigenous species. In contrast, projects involving the collection of biotic samples (plants or animals) or requiring intensive ground-based data or sample collection will have short-term impacts. To reduce impacts, the minimum number of samples (e.g., water, soils, vegetative litter, plants, macroinvertebrates and vertebrates) will be collected for identification and/or experimentation and statistical analysis.

There also could be localized and temporary effects from vegetation trampling, collecting of soil and plant samples, or trapping and handling of wildlife. Impacts may also occur from infrastructure necessary to support a projects (e.g., permanent transects or plot markers, exclosure devices, monitoring equipment, solar panels to power unattended monitoring equipment). Some level of disturbance is expected with these projects, especially if investigator(s) enter areas closed to the public and collect samples or handle wildlife. However, wildlife disturbance (including altered behavior) will usually be localized and temporary in nature. Unacceptable long-term or cumulative effects may be grounds for denial. Project proposals will be reviewed by Refuge staff and others, as needed, to assess the potential impacts (short, long-term and cumulative) relative to benefits of the investigation to refuge management issues and understanding of natural systems.
If project methods impact or conflict with refuge purposes, refuge-specific resources, priority wildlife-dependent public uses, other high-priority research and refuge habitat and wildlife management programs, then it must be 1) clearly demonstrated that its scientific findings will contribute to resource management and 2) that the project cannot be conducted off Refuge lands, in order for the project to be compatible. The investigator(s) must identify methods/strategies in advance required to minimize or eliminate potential impact(s) and conflict(s). If unacceptable impacts cannot be avoided, then the project will not be compatible. Projects that represent public or private economic use of the natural resources of any national wildlife refuge (e.g., bioprospecting), in accordance with 16 U.S.C. 715s, must contribute to the achievement of the national wildlife refuge purposes or the National Wildlife Refuge System mission to be compatible (50 C.F.R.29.1). All permitted projects found compatible will be assessed by Service staff during implementation to ensure impacts and conflicts remain within acceptable levels per documented stipulations.

Indirect and Cumulative Impacts:
Cumulative impacts would occur if multiple research projects were occurring on the same resources at the same time or the duration of the research is excessive. No cumulative impacts are expected and the Refuge Manager can control the potential for cumulative impacts through SUPs. Managers retain the option to prohibit research, collecting and projects on the Refuge which do not contribute to the purposes of the Refuge or the mission of the Refuge System, or causes undo resource disturbance or harm.

PUBLIC REVIEW AND COMMENT:
The draft Compatibility Determination will be available for public review and comment for 15 days from November 4 through November 18. A press release will be sent to local media outlets in Pike and Gibson counties notifying the public of the comment period. The CD will be posted and made available online at https://www.fws.gov/refuge/patoka_river/. Please let us know if you need the documents in an alternative format. Comments received will be consolidated and agency responses will be included in the final version of this Compatibility Determination. Comments should be sent to heath_hamilton@fws.gov.

DETERMINATION:

☐ Use is not compatible  
☒ Use is compatible with the following stipulations

STIPULATIONS NECESSARY TO ENSURE COMPATIBILITY:

1. Prior to conducting investigations, researchers will obtain a SUP from the refuge manager or their designee that makes specific stipulations related to when, where and how the research will be conducted. The refuge manager retains the option to prohibit research, which does not contribute to the purposes or the mission of the refuge system, or causes undo resource disturbance or harm.
2. Research applicants must submit a study plan to the refuge manager that includes:
   a. justification and objectives of the study
b. relevance to resource management
c. methods, schedule, sample size needed to accomplish the work, statistical analyses planned and personnel
d. potential impacts on refuge wildlife and/or habitat
e. provisions to minimize disturbance, injury, or mortality and prevent the introduction of invasive or pest species
f. compliance with established standards for proper animal care and use
g. data standards and data management plan
h. costs to refuge, if any anticipated end products and timeline for reporting (i.e. reports, publications, recommendations) disposition of data, maps, etc.

3. Research plans will be reviewed by refuge staff. The refuge manager may also require internal and/or external scientific review, depending on the complexity and sensitivity of the work being proposed and other factors. Reviews can be expedited by providing photocopies of existing peer reviews, or by providing names, mailing addresses and email addresses of persons that the researcher wishes to recommend to review their proposal. Refuge staff will strive to limit the burden on applicants during the SUP process in an effort to facilitate interagency cooperation between local partners and federal agencies.

4. Evaluation criteria will include, but not be limited to, the following:
   a. research that has direct relevance to refuge management will have higher priority than other requests
   b. research requests that conflict with higher priority research, monitoring, public use, or management programs may not be granted
   c. research that causes undue disturbance or is intrusive, will likely not be granted
   d. staffing or logistics make it difficult for refuge staff to monitor researcher activity in a sensitive area, this may be a reason to deny the request
   e. the length of the project will be considered and agreed upon before approval - projects will not be open-ended and at a minimum, will be reviewed annually
   f. evidence of Institutional Animal Care and Use review and approval if appropriate.

5. 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 (e.g., banding). The SUP guidelines may require the submission of an approval from an Institutional Animal Care and Use Committee (IACUC).

6. Archeological researchers must obtain an Archeological Resource Protection Act permit from the regional director prior to obtaining a SUP from the refuge manager.

7. Vehicular access is allowed only on public roads unless otherwise indicated on the SUP. Sampling equipment, investigator(s) clothing and vehicles (e.g., ATV, boats) will be thoroughly cleaned (free of dirt and plant material) before being allowed on refuge lands, to prevent the introduction and/or spread of pests and invasive species.

8. Researchers, scientific collectors and surveyors will submit annual progress reports, a final report and copies of publications resulting from the work to the refuge manager.
Researchers will provide permission to use summaries, including tables and/or figures, to share with the public. Instructions for how and when to submit an annual report will be provided by refuge staff. U. S. Fish and Wildlife Service Division of Natural Resources and Conservation Planning will analyze study proposals to determine whether copies of field notes, databases, maps, photos and/or other materials may also be requested and notify the permittee in writing during the SUP review process. The permittee is responsible for the content of reports and data provided to the Service. Failure to produce an annual report may result in denial of future SUPs.

9. Research projects are valued on our refuges as they provide important national legacy information that helps inform management today and into the future. We recommend researchers, scientific collectors and surveys submit an electronic copy of all raw data and their supporting metadata (including maps and photographs) collected on refuge lands to the refuge manager. The Service will store project data and metadata and may make it publicly available after a mutually agreed upon period of time.

10. If unacceptable impacts to natural resources or conflicts arise or are documented by the refuge staff, the refuge manager can suspend, modify the conditions of, or terminate an on-going project already permitted by a Special Use Permit.

11. Collection guidelines will be followed as outlined: https://www.nps.gov/bela/getinvolved/conditions-for-scientific-research.htm

12. Each proposal will be reviewed for compliance with the National Environmental Policy Act (NEPA) requirements and other laws (National Historic Preservation Act or Endangered Species Act), regulations and policies.

13. Use of Unmanned Aircraft Systems (UAS) may be approved by the refuge manager in certain circumstances. Any use of UAS must follow applicable Service regulations and policy.

**JUSTIFICATION:**

In accordance with the missions of the National Wildlife Refuge System, Patoka River National Wildlife Refuge and Management Area and the 1997 Refuge Improvement Act, this use has been determined compatible provided the above stipulations are implemented. Use of refuge lands to conduct research, scientific collecting and surveys will generally provide information that benefits fish, wildlife, plants and their habitats by expanding the scientific information available for resource management decisions. Scientific findings gained through these projects provide important information regarding life-history needs of species and species groups as well as identify or refine management actions to achieve resource management objectives in refuge management plans (especially Comprehensive Conservations Plans). Additionally, the Service has a Federal responsibility to protect archaeological resources. This activity assists us in meeting those requirements as well as contributing to the knowledge of the land’s cultural and historical past.

Reducing uncertainty regarding wildlife and habitat responses to refuge management actions to achieve desired outcomes reflected in resource management objectives is essential for adaptive management in accordance with 522 DM 1.
Adverse impacts of research that cause localized vegetation trampling or disruption of wetland soils and bottom sediments are often short-term and will be minimized through the stipulations above. Vehicular access is allowed only on roads normally open to the public unless specifically allowed by the refuge manager, thus resulting in no to limited increases in vehicular impacts. Researchers are allowed to conduct research only in areas indicated on the special use permit. Any research equipment that remains in the field for the duration of the project will be clearly marked to avoid potential hazards presented to refuge staff and other refuge users unless otherwise outlined in the special use permit to protect sensitive species.

It is anticipated that wildlife species that may be disturbed during research activities will find sufficient food resources and resting places so their abundance and habitat use is not measurably lessened on refuge lands when permitted under the stipulations described above. Additionally, it is anticipated that project oversight, as needed, will prevent unacceptable or irreversible impacts to fish, wildlife, plants and their habitats. As a result, these projects may not materially interfere with or detract from fulfilling refuge purposes, contributing to the mission of the National Wildlife Refuge System and maintaining the biological integrity, diversity and environmental health of refuge lands.

SIGNATURE:

Refuge Manager Signature and Date

CONCURRENCE:

Regional Refuge Chief Signature and Date

Mandatory 10 or 15-year Re-evaluation Date: 2030