

Environmental Assessment

Swan Lake National Wildlife Refuge Administrative Headquarters and Visitor Facility Environmental Assessment

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Environmental Assessment for Administrative Headquarters and Visitor Facility at Swan Lake National Wildlife Refuge, MO

Date: February 21, 2022

This Environmental Assessment is being prepared to evaluate the effects associated with the proposed action and complies with the National Environmental Policy Act in accordance with Council on Environmental Quality regulations (40 CFR 1500-1509) and Department of the Interior (43 CFR 46; 516 DM 8) and U.S. Fish and Wildlife Service (550 FW 3) regulations and policies. The National Environmental Policy Act (NEPA) requires examination of the effects of proposed actions on the natural and human environment. Appendix A outlines all laws and executive orders evaluated through this Environmental Assessment.

Proposed Action

The U.S. Fish and Wildlife Service (Service) is proposing to construct, operate, and maintain an updated administrative headquarters and Visitor Contact Station building and outdoor classroom along with adequate parking. This project will be carried out in accordance with the Swan Lake National Wildlife Refuge Comprehensive Conservation Plan as defined in Goal 3 Objective 1: Welcome & Orienting Visitors.

The Swan Lake National Wildlife Refuge is in north-central Missouri, near the city of Sumner and approximately 30 miles southeast of Chillicothe, Missouri (Figure 1). The current Visitor Contact Station was constructed in 1981, and although it was originally located outside the FEMA 100-year floodplain, flood waters regularly overtopped access roads to the Visitor Contact Station and eventually infiltrated and subsequently condemned the building following an unusually high flooding event in May 2019. A revised floodplain boundary reveals a need to construct a new Visitor Contact Station elsewhere to prevent damage and access restrictions from future flooding.

A proposed action may evolve during the NEPA process as the agency refines its proposal and gathers feedback from the public, tribes, partners, and other agencies. Therefore, the final proposed action may be different from the original. The proposed action will be finalized at the conclusion of the public comment period for the Environmental Assessment.

Background

National Wildlife Refuges are guided by the mission and goals of the National Wildlife Refuge System, the purposes of an individual refuge, U.S. Fish & Wildlife Service policy, and laws and international treaties. Relevant guidance includes the National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997, Refuge Recreation Act of 1962, and selected portions of the Code of Federal Regulations and Fish and Wildlife Service Manual.

The Environmental Assessment was established pursuant to Executive Order 7563 on February 27, 1937 by Franklin D. Roosevelt. The primary purpose of the Environmental Assessment was originally to provide for the needs of migratory birds and other wildlife and has since evolved alongside the National Wildlife Refuge System to include ecosystem-wide needs, as well as providing opportunities for the public to enjoy wildlife-dependent recreation.

The refuge is responsible for managing over 12,000 acres of fee title (owned) property, the majority of which consists of 10,670 acres of contiguous land in Chariton County, near the city of Sumner in north-central Missouri (Figure 1). This parcel contains the site of the proposed action and consists of bottomland forest, grasslands, and wetlands within the Grand River (GR) floodplain, which are home to a diverse wildlife community that attracts thousands of hunters, anglers, and wildlife viewers.

Figure 1. Location of Swan Lake National Wildlife Refuge.



The mission of the NWRS, as outlined by the National Wildlife Refuge System Administration Act (NWRSA), as amended by the National Wildlife Refuge System Improvement Act (16 U.S.C. 668dd et seq.), 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”

Additionally, the NWRSA mandates the Secretary of the Interior in administering the NWRS (16 U.S.C. 668dd(a)(4)) to

- Provide for the conservation of fish, wildlife, and plants, and their habitats within the NWRS;
- Ensure that the biological integrity, diversity, and environmental health of the NWRS are maintained for the benefit of present and future generations of Americans;

- Ensure that the mission of the NWRS described at 16 U.S.C. 668dd(a)(2) and the purposes of each refuge are carried out;
- Ensure effective coordination, interaction, and cooperation with owners of land adjoining refuges and the fish and wildlife agency of the states in which the units of the NWRS are located;
- Assist in the maintenance of adequate water quantity and water quality to fulfill the mission of the NWRS and the purposes of each refuge;
- Recognize compatible wildlife-dependent recreational uses as the priority general public uses of the NWRS through which the American public can develop an appreciation for fish and wildlife;
- Ensure that opportunities are provided within the NWRS for compatible wildlife-dependent recreational uses; and Monitor the status and trends of fish, wildlife, and plants in each refuge.

With this amendment in mind, the Swan Lake National Wildlife Refuge vision statement and goals were revised in the most recent Comprehensive Conservation Plan, published in 2011.

The current Environmental Assessment vision statement describes what the refuge unit should be, or what is hoped to be done based upon the mission of the National Wildlife Refuge System and specific refuge purposes, as well as other mandates, and is as follows:

Diverse and abundant wildlife flourishes within a mosaic of grass, trees, and wetlands recalling an earlier era when the GR meandered across its broad, open floodplain. Visitors enjoy recreation dependent on wildlife and show their appreciation by supporting conservation and Swan Lake National Wildlife Refuge.

The Swan Lake National Wildlife Refuge goals include:

Habitat: Wetlands, grasslands, and bottomland forests providing habitat for migratory birds, threatened and endangered species, and other wildlife within the GR floodplain.

Wildlife: Diverse wildlife teeming within native habitats of the GR floodplain.

People: Visitors enjoy wildlife-dependent recreation and understand the natural and cultural resources of the Swan Lake National Wildlife Refuge and its role in their conservation.

While wildlife has priority in the management of Swan Lake National Wildlife Refuges, wildlife-dependent activities, including, but not limited to the “Big Six” of public uses: hunting, fishing, wildlife observation, wildlife photography, environmental education (EE) and interpretation are priority uses of the National Wildlife Refuge System. The refuge Comprehensive Conservation Plan states the facilitation of such activities shall be provided to the public so long as they do not interfere with the Refuge’s purposes or the mission of the National Wildlife Refuge System. The Swan Lake National Wildlife Refuge determined these activities to be compatible with the Swan Lake National Wildlife Refuge’s purposes and has incorporated them into management operations and planned to continue doing so in order to meet local demand for wildlife-

dependent recreation opportunities and facilities. This demand was explicitly expressed during the Comprehensive Conservation Plan process, at which time visitors asked for recreation opportunities beyond what was available then. These opportunities have since decreased due to the May 2019 flooding event, which damaged both the Swan Lake National Wildlife Refuge Visitor Contact Station and outdoor EE classroom.

Purpose and Need for the Action

The National Wildlife Refuge System Improvement Act mandates the Secretary of the Interior in administering the National Wildlife Refuge System to (16 U.S.C. 668dd(a)(4)):

- Ensure that the mission of the National Wildlife Refuge System described at 16 U.S.C. 668dd(a)(2) and the purposes of each refuge are carried out
- Recognize compatible wildlife-dependent recreational uses as the priority general public uses of the National Wildlife Refuge System through which the American public can develop an appreciation for fish and wildlife
- Ensure that opportunities are provided within the National Wildlife Refuge System for compatible wildlife-dependent recreational uses

More specifically the purpose of the action is to provide safe opportunities for the public to recreate year-round in accordance with goals, objectives, and strategies described in the Comprehensive Conservation Plan of Swan Lake National Wildlife Refuge, Goal 3 Objective 1: Welcoming and Orienting Visitors.

The need of the proposed action is to meet the Service's priorities and mandates as outlined by the National Wildlife Refuge System Administration Act (16 U.S.C. 668dd(a)(4)).

Additional needs for the Proposed Action include the need to address shortcomings of the previous Visitor Contact Station facilities and location. These include:

- Lack of adequate parking for visitors based on visitation rates prior to 2020 or specific objective number from Comprehensive Conservation Plan
- Insufficient meeting and storage space for partnership meetings and staff equipment and resources
- Zoning issues and concerns:
 - Location within a proximity to maintenance facilities and heavy equipment operations can pose safety issues with points of visitor gathering locations such as a visitors' center.
 - Unstable soils in this area resulting in foundation integrity issues that can reduce the life span of a structure.
 - A location within the revised floodplain boundary that is accessible by multiple modes of transportation and safe from frequent flooding.

- Due to lower elevations in the flood plain the current site has issues with overloading of the septic system shared by public restrooms, work camper pads, bunkhouse and the maintenance shop.

The Proposed Action includes construction aimed at fulfilling these needs while reducing long-term costs and safety concerns with minimal disturbance to the environment.

The old Hunting Headquarters will be demolished and not utilized anymore as a hunter check station as it will be consolidated with the new Headquarters. The buildings at the Hunters Headquarters site are old and dilapidated. One of them has been condemned by the Regional Safety Officer and not to be used. The other building is almost as bad.

Access to the previous Visitor Contact Station location is regularly restricted to boat-access only due to increased flood frequencies in the GR flood regime in recent years. In the past few decades Entrance Road, the main access point to the previous Visitor Contact Station, has been regularly overtopped (Figure 2). This occurs when the GR and nearby Locust Creek flood waters reach 37ft or higher—an occurrence that reoccurs approximately once every 1.5-2 years; when this occurs, Refuge Road and Highway 139 east of Sumner also flood and east/west access to the Swan Lake National Wildlife Refuge is restricted (Figure 3).

Figure 2. Elevations of the Former the Proposed Visitor Contact Station at Swan Lake National Wildlife Refuge.

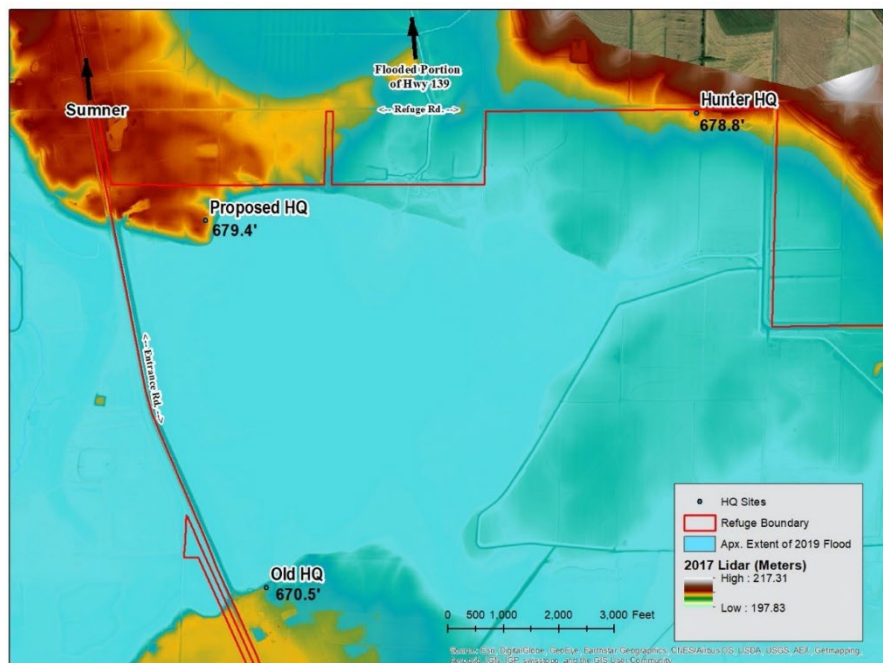
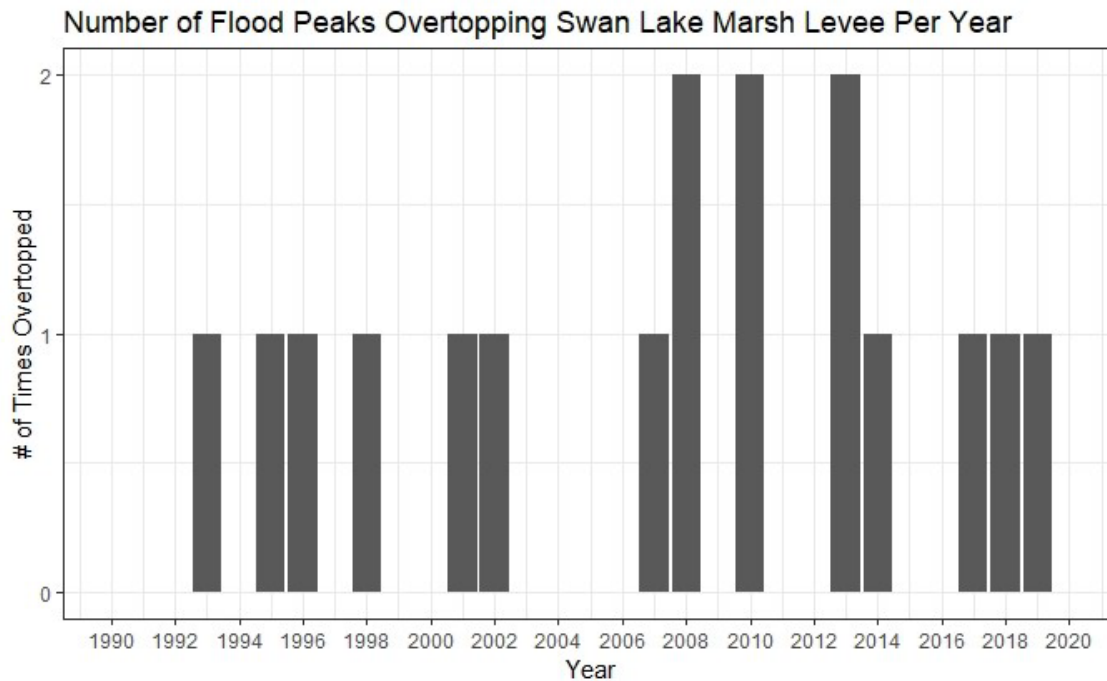


Figure 3. Number of Flood Peaks Overtopping Swan Lake Marsh Levee (Entrance Rd.) Per year at Swan Lake National Wildlife Refuge.



Although regular flooding of the GR creates access issues spanning several days at a time and occasionally multiple times per year the staff are still able to maintain general operations and some—but not all—outdoor recreation opportunities. However, during excessive flooding events above these levels, government facilities become compromised and both general operation and visitor services are greatly reduced. For example, the May 2019 flooding event resulted in an estimated maximum water height of 671ft; this was approximately 0.5ft above the 670.5ft elevation of the previous Visitor Contact Station and resulted in destruction of the facility and reduced operations of the Swan Lake National Wildlife Refuge.

As a result, Swan Lake National Wildlife Refuge staff temporarily occupied the Swan Lake National Wildlife Refuge bunkhouse. However, due to a lack of proper and accessible space to accept visitors or partners and hindrances to the Swan Lake National Wildlife Refuge’s housing opportunities for intern, term, and volunteer staff housing, an office trailer was leased for \$780/month, or \$9,360/year, and an accessibility ramp is currently being constructed for an additional one-time cost of \$750-\$1,000. The trailer was placed across from the bunkhouse to reduce impacts from extending existing phone, internet and sewer lines, however, and therefore remains subject to access restrictions associated with the regular GR flooding.

While we recognize the need for a new Visitor Contact Station, we also recognize the need to minimize long-term costs as well as habitat disturbances associated with the development of a new, permanent Visitor Contact Station.

A suitable site for the building was defined as one that, “has safe, accessible access for the public and staff; occurs in an already disturbed site; facilitates administrative and management activities, including offices and storage for all staff, the Friends Groups, and volunteers; provides access to a diversity of native habitats and supports opportunities to interpret those habitats and their management; facilitates EE activities, school and other outreach events and activities; and minimizes visual or physical intrusions to other parts of the Swan Lake National Wildlife Refuge.”

Alternatives

Alternative A – Administrative Headquarters and Visitor facility on the northwest corner of the Swan Lake National Wildlife Refuge - [proposed preferred action alternative]

Under the Preferred Action Alternative (PAA), the proposed project at the Swan Lake National Wildlife Refuge includes the construction of a multipurpose building and associated facilities. This will include the extension of nearby internet, water and electric utilities bored underground to minimize disturbance to existing forest, the construction of an on-site gravity septic system, widening (and possibly paving, depending on funding) of an existing single lane gravel road to accommodate two-way traffic, construction of a hard-surfaced parking area and grass or gravel overflow area, and the construction of an approximately 2,000 – 4,000 square-foot one-story multi-purpose facility and eventual demolition of the condemned Visitor Contact Station and hunter's headquarters site structures. This project would also include the identification of a future pond location for conservation education classes, as well as a future buried storm shelter location, and the construction of an outdoor amphitheater and trails to enhance recreational opportunities and the visitor experience at this Swan Lake National Wildlife Refuge. This facility will serve as a visitor area, staff office, and the new hunter headquarters; in addition, a multi-purpose room will be used for educational events, large meetings, training, and volunteer events. These facilities will help to achieve the Comprehensive Conservation Plan Goal 3 Objectives:

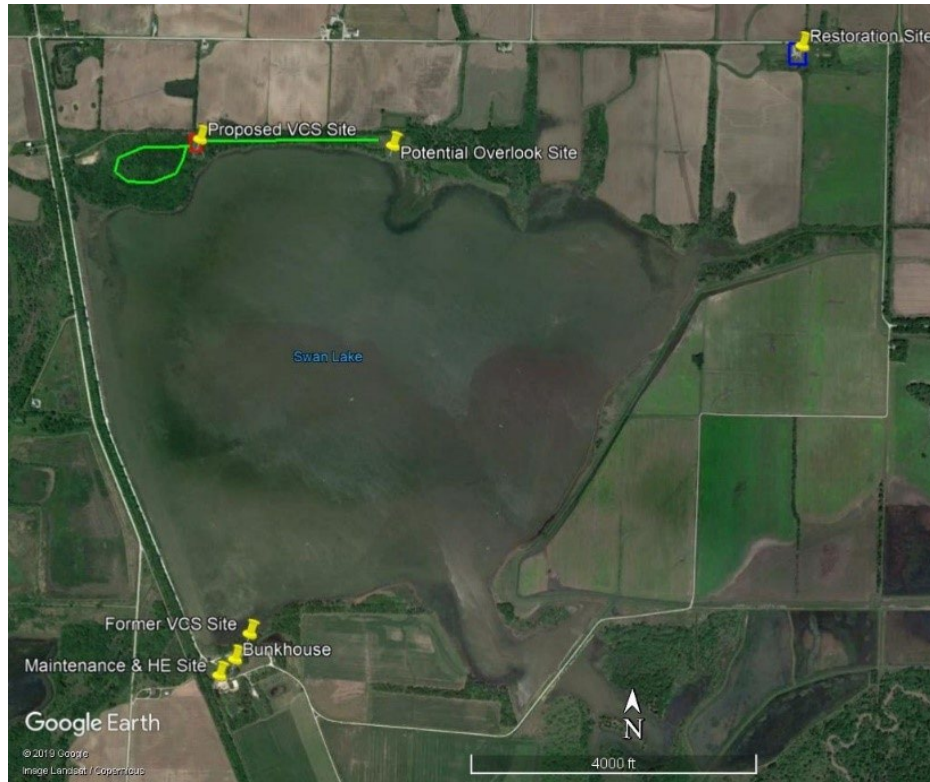
1. Welcome & Orient Visitors.
2. Hunting
3. Interpretation
4. Environmental/Conservation Education

In 2019, the U.S. Fish & Wildlife Service analyzed hydrology on the Swan Lake National Wildlife Refuge to identify potential sites for the Proposed Action outside of the revised floodplain boundary and selected the site of the Preferred Action based on these factors. This site would be used to construct the proposed Visitor Contact Station to fulfill the goals and objectives of the Comprehensive Conservation Plan. The Swan Lake National Wildlife Refuge would construct the Visitor Contact Station and associated outreach facilities such that they would provide on-site offices to support Swan Lake National Wildlife Refuge visitation, education and outreach, while serving Swan Lake National Wildlife Refuge goals and objectives, as well as the additional needs discussed above.

The proposed project area is located close to existing utility infrastructure, is far enough from the maintenance shop to ensure visitor safety (Figure 4), and meets the requirements for a suitable site detailed above: it is safe and accessible; is an already disturbed site with a historic trail present, creating an opportunity for its restoration; the site would enable the facilitation of administrative and management activities; it provides access to a diversity of native habitats, including bottomland forest and emergent wetland (Figure 5) and supports opportunities to interpret those habitats and their management; it facilitates EE activities; and minimizes visual or physical intrusions to other parts of the Swan Lake National Wildlife Refuge. In addition, the proposed development site is not proximal to critical wildlife habitat areas and will not have a negative visual effect on visitors that old fields and agricultural fields present at alternative sites.

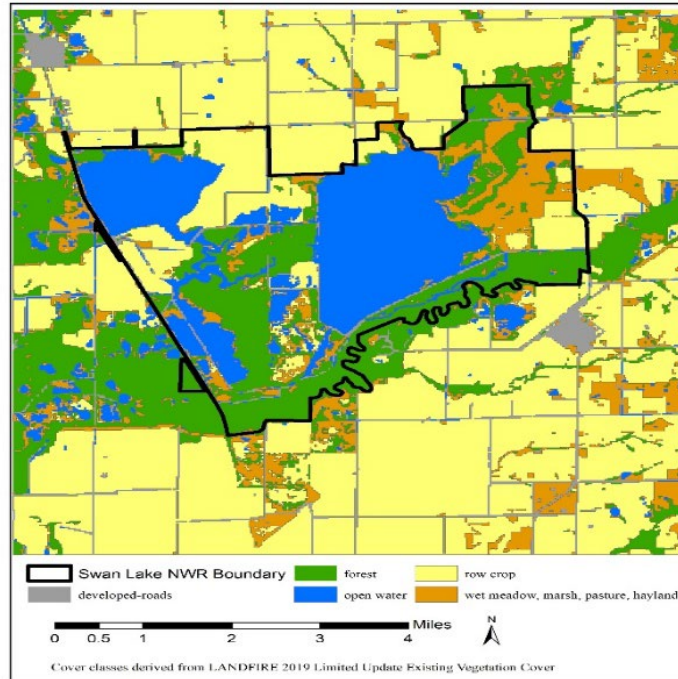
The proposed Visitor Contact Station construction would therefore include a one-story building design consisting of two main compartments: a visitor contact area and Swan Lake National Wildlife Refuge headquarters. The visitor contact area should be located above the elevation of the highest flood on record, which was estimated to be between 672 and 672.5ft and in a location that will not be subject to access issues from water overtopping the Entrance Road. It will include an ADA accessible public entrance, a reception desk, exhibit area, gift shop with storage, restrooms and a multipurpose area for meetings and education events. The Swan Lake National Wildlife Refuge headquarters area will include workspaces for employees, a copy/print room, an IT room, office storage, a conference room equipped with a kitchenette, and a mechanical room. In addition, hard surfaced parking would include a drop-off zone, 10-15 stalls for visitors, 5-10 stalls for employees, 5 stalls for government vehicles, and 1-2 stalls for buses and RVs. Overflow parking would include a grass or gravel parking area to accommodate approximately 100 vehicles and additional overflow would be provided along the shoulders of the section of the entrance road above the floodplain elevation. An amphitheater similar in design and size to the damaged existing one would also be built adjacent to the proposed building overlooking the Swan Lake Marsh, and a future pond location for kayak classes and wetland educational activities will be identified. A site will be constructed with two cement pads, camping hookups, and outbuilding for laundry and storage for Swan Lake National Wildlife Refuge work campers who staff the Swan Lake National Wildlife Refuge Visitor Contact Station during the spring, summer and fall months. The old trail system will also be restored along the north shores of the Swan Lake Marsh.

Figure 4. Site of Consideration for the Proposed Action at Swan Lake National Wildlife Refuge in relation to the old resources.



Green line denotes potential nature trail location.

Figure 5. Land Cover at Swan Lake National Wildlife Refuge as of 2019. Since this map's production, some areas designated as Agricultural Fields have been restored as wildlife habitat.



Alternative B – Continue Current management-[no action alternative]:

Under the no action alternative, a new multi-use facility would not be constructed, and staff would maintain operation from the leased office trailer or resume operations in the refuge bunkhouse. The site of the previous visitor contact station would likely remain undisturbed until its demolition; in the meantime, the continued deterioration of the visitor contact station building, and outdoor classroom could pose a safety risk to employees and visitors. Refuge staff and the public would continue to experience access restrictions during flooding events. The bunkhouse would not be able to be used for its intended purpose of housing interns, term or volunteer staff. Staff would continue to operate and maintain the refuge resources and provide limited wildlife-dependent recreational opportunities. The Swan Lake National Wildlife Refuge would not be able to hold public meetings with partners and visitors given spacing limitations.

This alternative fulfills the Service's mandate under the NWRSA. The Service has determined that the Herbicide Treatment (Alternative B) is compatible with the purposes of Swan Lake National Wildlife Refuge and the mission of the NWRS.

Alternative(s) Considered, But Dismissed From Further Consideration

Three locations were identified as possible sites with the location on the northwest corner of the Swan Lake National Wildlife Refuge identified as most suitable. This site is expected to provide increased visitor contacts above current levels of 25,000 people annually with minimal impacts, due to its proximity to the main entrance and elevation level of 679.4ft (Figure 2).

Two other alternatives were considered but dismissed from further consideration based on the inability of those alternatives to meet the purpose and need of this action to locate infrastructure outside the flood plain. Two alternatives were developed out of the hydrological review and the last alternative is repairing or building in the area of the existing Visitor Contact Station.

Executive Order 11988 - Floodplain Management directs all Federal agencies to avoid, if possible, development and other activities in the 100-year base floodplain. Where the base floodplain cannot be avoided, special considerations and studies for new facilities and structures are needed. Design and siting are to be based on scientific, engineering, and architectural studies; consideration of human life, natural processes, and cultural resources; and the planned lifespan of the project.

The first discarded alternative involved constructing a new Visitor Contact Station at one of two alternate sites to the preferred alternative. This alternative was dismissed since the alternate sites were heavily forested and would require extensive site clearance and construction of access roads that could adversely impact federally listed species, including but not limited to the Indiana bat (*Myotis sodalis*), northern long-eared bat (*Myotis septentrionalis*), and the recently delisted interior least tern (*Sterna antillarum athalassos*).

The second discarded alternative involved refurbishing the existing hunter headquarters building, which was constructed in the late 1930s to early 1940s by the Civilian Conservation Corps on the northeast side of the Swan Lake National Wildlife Refuge. This alternative was dismissed because it does not solve access issues associated with the GR flooding, during which time the site becomes isolated from the town of Sumner and areas west of the Swan Lake National Wildlife Refuge. In addition, the building is unfinished and would require significant construction costs in a location that is surrounded by agricultural management units, and is therefore not appropriate for EE and lacks opportunities to create trails and other facilities to support the Big Six. The location also overlaps with hunting areas that may create conflicts between user groups.

Affected Environment and Environmental Consequences

This section is organized by affected resource categories and for each affected resource discusses both (1) the existing environmental and socioeconomic baseline in the action area for each resource and (2) the effects and impacts of the proposed action and any alternatives on each resource. The effects and impacts of the proposed action considered here are changes to the human environment, whether adverse or beneficial, that are reasonably foreseeable and have a reasonably close causal relationship to the proposed action or alternatives. This EA 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.” Any resources that will not be more than negligibly impacted by the action have been dismissed from further analyses.

The Swan Lake National Wildlife Refuge consists of approximately 12,000 acres in Chariton County, Missouri. Swan Lake National Wildlife Refuge is primarily wetland and floodplain habitats. The proposed action is in the northwest corner of Swan Lake National Wildlife Refuge, which is primarily upland habitat with mature forest. For more information regarding the general characteristics of the Swan Lake National Wildlife Refuge’s environment, please see chapter 3 of the Swan Lake National Wildlife Refuge’s Comprehensive Conservation Plan.

The following resources either (1) do not exist within the project area or (2) would either not be affected or only negligibly affected by the proposed action:

- Wilderness Area
- Air Quality
- Water Quality

As such, these resources are not further analyzed in this Environmental Assessment.

Natural Resources

Terrestrial Wildlife and Aquatic Species

Affected Environment

Description of Affected Environment for the Affected Resource

The Swan Lake National Wildlife Refuge supports a wide variety of wildlife species, including game and nongame species, reptiles, amphibians, wetland plants, and freshwater mussel species which are important contributors to the overall biodiversity on the Swan Lake National Wildlife Refuge. Songbirds and raptors breed at the Swan Lake National Wildlife Refuge, whereas shorebirds, wading birds and waterfowl primarily utilize the Swan Lake National Wildlife Refuge as wintering and migratory habitat. Federally listed bat species are also known to utilize the Swan Lake National Wildlife Refuge as summer roosting habitat.

There are no threatened or endangered species that utilize the area where the new headquarters will be located. This area is primarily used by a wide variety of neo-tropical songbirds as well as resident wildlife. The adjacent Swan Lake Marsh does attract a wide variety of waterfowl, shorebirds, water birds and raptors.

Description of Environmental Trends and Planned Actions

Flood frequencies and elevations have been increasing on the Grand River. This trend is impacting refuge resources and infrastructure necessary to manage refuge habitats and orient and welcome visitors. Due to these flood trends the refuge must adapt infrastructure to carry out the mission of the Refuge.

The refuge is also working on adapting habitat management infrastructure as a response to these trends as well.

Impacts on Affected Resource

Alternative A

Impacts are expected to be minimal under this alternative as the footprint of the building will be in a formerly disturbed area with a vegetative buffer between it and the nearby lake. Noise and air pollution, as well as habitat disturbance from construction activities are anticipated to cause temporary displacement of migratory birds and/or bat species (Notice Nature 2016, Schaffer et al. 2019). These effects are expected to be small in scope and magnitude and are thus not believed to adversely affect impacted species. In addition, timing restrictions for tree felling and construction activities will be utilized to reduce potential negative impacts to federally listed bats and breeding migratory water birds. Since similar habitat is abundant on Swan Lake NWR more generally, impact to wildlife is expected to be minimal and short lived, as wildlife are expected to return over much of project area upon completion of construction activities.

Alternative B

Minor impacts are expected under this alternative. No additional construction is required, so no noise or air pollution would occur, nor would habitat disturbance from construction activities. However, the continued deterioration of the condemned Visitor Contact Station will likely pose a safety risk to visitors and wildlife and some noise pollution, as well as habitat disturbance is expected for maintenance of temporary facilities.

Threatened and Endangered Species and Other Special Status Species

Affected Environment

Description of Affected Environment for the Affected Resource

Records indicate three federally listed or other special status species occurring on the Swan Lake National Wildlife Refuge: the recently delisted Interior Least Tern (*Sterna antillarum athalassos*), and the endangered Indiana (*Myotis sodalis*) and northern long-eared (*Myotis septentrionalis*) bats. These records indicate presence on areas of the Swan Lake National Wildlife Refuge near sites of other alternatives that were considered, but dismissed, due to such presence. Interior Least Terns - Colonies utilize un-vegetated sandbars for nesting, which do not occur on the Swan Lake National Wildlife Refuge. Terns have only occasionally been observed foraging within large, shallow lakes in summer months. Indiana and Northern long-eared bats - These species hibernate in caves or mines between November 1 to March 31, and roost in trees that have exfoliating bark, cracks, crevices, and/or hollows with 3–5-inch diameter at breast height from April 1 to

October 31. In addition to woodland habitats, potential active season habitats may also include adjacent emergent wetlands and edges of agricultural fields.

The site identified in the preferred alternative will have no impact on any endangered or threatened species.

Description of Environmental Trends and Planned Actions

Indiana Bats have been found on the refuge over on the east side in the more mature forested areas of the refuge. We have very little data on the trends of these populations, but the last time any surveying was done there was a healthy population found on the east side of Swan Lake NWR. These actions will have no effect on habitat necessary for any of the threatened and endangered species found on Swan Lake NWR.

Impacts on Affected Resource

Alternative A

Under Alternative A, there will be minimal expected impacts to threatened and endangered, or other species status species. Records indicate only three federally listed or other special status species occurring on the Swan Lake National Wildlife Refuge: the recently delisted Interior Least Tern (*Sterna antillarum athalassos*) and the endangered Indiana bat (*Myotis sodalis*) and northern long-eared bat (*Myotis septentrionalis*). However, Interior Least Terns have not been observed on the Swan Lake National Wildlife Refuge since the summer of 1997 at a location over a mile from the proposed construction site. In addition, Indiana and northern long-eared bat records occur during the active season several miles from the proposed site. Therefore, with seasonally restrictive best management practices in place, the disturbance from construction should be minor and are not likely to adversely affect federally listed species, proposed species, candidate species, or designated or proposed critical habitat.

Alternative B

Under Alternative B, there will be no construction and no restoration; therefore, there would be no effect to federally listed species, proposed species, candidate species, or designated or proposed critical habitat.

Habitat and Vegetation (including vegetation of special management concern)

Affected Environment

Description of Affected Environment for the Affected Resource

Swan Lake NWR consist of various habitats including:

- Moist Soil - these are shallow wetlands in which water levels are managed for migratory bird habitat. These units consist of primarily annual vegetation and receive mechanical soil disturbances to ensure early successional stage vegetation (smartweed, millet, etc).
- Open Water- Open water habitats are primarily on Silver Lake, but some does exist on the Swan Lake Marsh and scattered among moist soil units.
- Perennial Emergent Marsh- These units are similarly managed as is moist soil but with less frequent soil disturbances with annual vegetation and perennial vegetation present (smartweeds, sedges, river bullrush, etc).
- Shrub Swamp- These habitats are located on the lower portions of the refuge at the south and west portions of the refuge. These habitats include bullrush, button bush, etc)
- Wet Prairie- These areas are in semi wet areas of the refuge and consists of dominant stands of Prairie Cord Grass.
- Bottomland Hardwood Forest-These habitats are limited to the riparian zones of the Yellow Creek and old Elk Creek and Turkey Creek channels.

Description of Environmental Trends and Planned Actions

For the past few decades flood frequencies and levels on the Grand River have continued to increase. As more sediments fills the Grand River floodplain and more levees being constructed in the flood plain, we anticipate more frequent and higher flood levels in the future. As these flood frequencies increase other entities in the area are taking various approaches to protect infrastructure. The historical response has been to construct or raise the heights of flood protection levees. There are more and more of these entities taking other approaches such as setting levees back, moving infrastructure out of the flood plain when possible, raising roads, etc.

Impacts on Affected Resource

Alternative A

The new office site in this alternative is in an already disturbed area. The primarily vegetation in this area is a variety of tree species including oaks, hickory, sycamore, ash, persimmon, and others. There is also a large infestation of bush honeysuckle and Sericea lespedeza in the site as well. The new office site will be developed in a way to leave as much of the native vegetation as possible.

Alternative B

Under this alternative there would be no additional construction or development so there would be no impacts on resources. There could be future impacts if flood protection or access improvements were to become necessary in the future to maintain the current office situation.

Affected Environment

Description of Affected Environment for the Affected Resource

The primarily vegetation in the proposed area is a variety of tree species including oaks, hickory, sycamore, ash, persimmon, and others. There is also a large infestation of bush honeysuckle and *Sericia lespedeza* in the site as well.

Description of Environmental Trends and Planned Actions

Vegetation in this site has been stable and we anticipate that to continue as the proposed site is not impacted by floods and there for not degrading like other habitats on the refuge more susceptible to flooding.

Impacts on Affected Resource

Alternative A

The proposed site is in an already disturbed area. There are natural or existing openings in the forested area that will be utilized for the new office. This will reduce the number of trees that need to be removed in the project.

Alternative B

The no action alternative will have no impact on the affected resources.

Floodplains

Executive Order 11988 - Floodplain Management directs all Federal agencies to avoid, if possible, development and other activities in the 100-year base floodplain. Where the base floodplain cannot be avoided, special considerations and studies for new facilities and structures are needed. Design and siting are to be based on scientific, engineering, and architectural studies; consideration of human life, natural processes, and cultural resources; and the planned lifespan of the project.

To comply with this EO federal agencies are required to:

- Reduce the risk of flood loss
- Minimize the impact of floods on human safety, health, and welfare
- Restore and preserve the natural and beneficial values served by floodplains in carrying out agency responsibility

Affected Environment

Description of Affected Environment for the Affected Resource

The Swan Lake National Wildlife Refuge lies in the floodplain of the Grand River near its confluence with the Missouri River and is bordered on the south by Yellow Creek. Flooding is common, especially during spring and summer periods. The Swan Lake National Wildlife Refuge acreage is divided into five major habitat types: 3,100 acres of bottomland hardwoods; 3,050 acres of wetlands and moist soil units; 1,365 acres of croplands; 2,100 acres of open water; and 1,250 acres of grasslands. Silver Lake serves as the Swan Lake National Wildlife Refuge's reservoir pool. Flowage ditches and water control structures can easily transfer the water from the lake to smaller but more manageable wetland units.

Description of Environmental Trends and Planned Actions

Flood frequencies and levels have been trending more frequent and at higher levels. This will create challenges to maintain access and infrastructure on the refuge.

Impacts on Affected Resource

Alternative A

Under Alternative A, there will be minimal expected impacts to floodplain habitats. All construction activities will take place in previously disturbed habitat consisting of Gifford silty clay loam that is rarely flooded, has an unlikely risk of erosion under ordinary climatic conditions (NRCS) and is at an elevation of low flooding risk according to 100-year flood regimes. Some short-term impacts to soil are expected, including compaction, and vegetation disturbance is likely to be low. No disturbance of the vegetative buffer between the construction site and Swan Lake, however, will occur. Given this, in conjunction with the implementation of the Missouri Department of Conservation's best management practices for construction near streams and rivers, no changes to fluvial parameters are expected; thus, overall impacts are likely minor and short-lived (Darnell 1976, Hupp et al. 2009). Some positive impacts are expected to grassland habitats as a result of restoration of previously utilized areas that are found within the 100-year floodplain.

Alternative B

Under Alternative B, there will be minimal expected impacts to floodplain habitats. No construction or restoration will occur; however, maintenance of the current leased office and associated vehicle traffic along Entrance Road may compound erosion susceptibility of the area, which consists of Triplett silt loam and Carlow silty clay with a relatively high K factor and occasional flooding, respectively (NRCS).

Visitor Use and Experience

Affected Environment

Description of Affected Environment for the Affected Resource

The Swan Lake National Wildlife Refuge provides a wide variety of wild-life dependent recreation opportunities, including hunting, fishing, wildlife observation, wildlife photography, and environmental education. The Swan Lake National Wildlife Refuge has traditionally offered hunter education courses, disabled hunter deer hunts, and various school programs, among other activities. Averaging over 25,000 visitors annually, the Swan Lake National Wildlife Refuge serves as a vital resource for the rural communities nearby.

Description of Environmental Trends and Planned Actions

Visitor use on the refuge has been relatively stable the past several years with a small decline during Covid lockdowns. With a growing population and more interest in outdoors we expect visitation to have a slow steady increase over the next several years.

Impacts on Affected Resource

Alternative A

Under Alternative A, there are expected to be no negative impacts on wildlife-dependent recreation. Given timing restrictions for construction outside of peak visitor timeframes, such as popular hunting seasons, construction is not expected to cause any disturbance to visitor use. As far as routine visitor use of the refuge this site is not utilized by visitors very much at all. It gets the most use during mushroom season and there will be no impacts to visitors hunting mushrooms in the area. Rather, positive long-term impacts on wildlife-dependent recreation are anticipated under this alternative, as there are currently no exhibits, displays, or outdoor classroom spaces available to expose the public to the Swan Lake National Wildlife Refuge in an educational way. With this alternative, resources for the facilitation of environmental education will be made available and public use is expected to increase substantially over the current level of visitors (around 25,000 annually). In addition, this alternative minimizes access issues from regular flooding events as well as visual or physical intrusions to other parts of the Swan Lake National Wildlife Refuge reserved for hunting, wildlife habitat and staff maintenance operations that could otherwise reduce overall use and experience.

Alternative B

Under Alternative B, there are expected to be minor negative impacts on wildlife-dependent recreation. The current economic role that the Swan Lake National Wildlife Refuge plays in the local economy would continue, and there would be no immediate changes expected regarding current fishing and wildlife viewing opportunities. However, there will be no construction and therefore no exhibits, displays, or outdoor classroom spaces will be available to expose the public to the Swan Lake National Wildlife Refuge in an educational way as previously offered. In addition, visitors wishing to speak with Swan Lake National Wildlife

Refuge staff will be required to access the leased office trailer, located in an area vulnerable to access issues from regular flooding events.

Cultural Resources and Subsistence

Affected Environment

Description of Affected Environment for the Affected Resource

North-central Missouri contains archeological evidence for the earliest suspected human presence in the Americas, the Early Man cultural period prior to 12,000 B.C.; and extending through the Paleo-Indian, Archaic, Woodland, Mississippian, and historic Western cultures. Although a complete cultural survey of the Swan Lake National Wildlife Refuge has not been performed, earlier partial surveys have located 30 historical and archeological sites.

An archeological survey is being done at the proposed office site in the Winter/Spring of 2022.

Description of Environmental Trends and Planned Actions

Impacts on Affected Resource

Once the details of the archeological survey are completed, we will incorporate those findings into the site plan. We do not anticipate there to be any negative impacts to cultural resources considering the site has previously been disturbed by infrastructure in the past.

Alternative A

Under Alternative A, there would likely be No Adverse Effects to cultural resources, as the construction area is along existing roadways and within a previously disturbed area. The U.S. Fish & Wildlife Service will conduct a cultural and archeological resources survey at the proposed site of the new office and document what is there and make any adjustments necessary. An historic trail with no known archaeological significance, however, will be restored under this alternative.

Alternative B

Under Alternative B, there would likely be no impacts to cultural resources, as no construction will occur.

Refuge Management and Operations

Land Use on the Refuge

Affected Environment

Description of Affected Environment for the Affected Resource

The Swan Lake National Wildlife Refuge acreage is divided into five major habitat types: 3,100 acres of bottomland hardwoods; 3,050 acres of wetlands and moist soil units; 1,365 acres of croplands; 2,100 acres of open water; and 1,250 acres of grasslands. Land use around the Swan Lake National Wildlife Refuge is

predominantly agriculture with soybeans, corn, and wheat as the major crops. Beef cattle and hogs are the principal livestock. Within the Swan Lake National Wildlife Refuge, facilities are concentrated in two separate locations. A hunter headquarters building is located on the northeast side of the Swan Lake National Wildlife Refuge and accessed via Swan Lake National Wildlife Refuge Road. The condemned Visitor Contact Station, refuge bunkhouse, heavy equipment storage facilities and leased office building are located on the southwest side of the Swan Lake National Wildlife Refuge and accessed via Entrance Road, adjacent to County Road 103. Both access roads experience flooding events, and regularly result in access issues for staff and visitors.

Description of Environmental Trends and Planned Actions

We do not anticipate any major land use changes on the refuge or surrounding areas. Agriculture is the predominate land use in the area and that does not seem to be changing.

Impacts on Affected Resource

Alternative A

Overall positive impacts to land use are anticipated under this alternative. A new multipurpose facility that will serve as a Visitor Contact Station, Hunter Check Station and Administrative Office will be constructed at a higher elevation with reduced access issues. Reduced traffic is expected on Refuge Road, as well as on portions of Entrance Road adjacent to Swan Lake. This will not only reduce maintenance needs to Entrance Road and associated affects to Swan Lake but will also minimize conflicts between user groups.

Overall, we do not anticipate increased visitor use over or above what is expected because of the new office. We anticipate the use to be what it was with the old office with slight increases due to increase interest in visiting National Wildlife Refuges.

Alternative B

Under Alternative B, there would likely be no impacts to land use, as no construction or restoration will occur.

Administration

Affected Environment

Description of Affected Environment for the Affected Resource

Swan Lake National Wildlife Refuge staff consist of two permanent employees, including the refuge manager, refuge operations specialist and a maintenance worker. In addition, a biological technician on a two-year term is on staff.

Description of Environmental Trends and Planned Actions

Refuge staffing does not look to increase in the near future. Seasonal staff varies from year to year with the use of volunteer, bio technicians, and the Youth Conservation Crew.

Impacts on Affected Resource

Alternative A

Estimated costs to implement this alternative are estimated around \$775,000.00. In addition, this will require an approximate 10% of the Swan Lake National Wildlife Refuge staff's time for monitoring of the impacts and overseeing and implementing the proposed action on the Swan Lake National Wildlife Refuge. While this would impact the administration of the Swan Lake National Wildlife Refuge, it would not be significant because the Swan Lake National Wildlife Refuge would still be able to carry out its other priority actions and obligations in meeting the purpose of the Swan Lake National Wildlife Refuge and the mission of the National Wildlife Refuge System, such as habitat restoration and management, environmental education programs, etc.

Alternative B

Estimated costs to implement this alternative include between \$700-1000 for the installation of an ADA compliant ramp for visitor access, and \$708 per month for the continued rental of the leased office. This cost does not include the \$31,773 paid up front for the office and its installation, including electrical and sewer hookups and phone lines. In addition, this will require an approximate 20% of the Swan Lake National Wildlife Refuge's staff time for monitoring the impacts to and/or creating alternative options for comparable visitor services and environmental education opportunities due to the impacts of the alternative, or for overseeing and implementing the alternative. This alternative will not only subject refuge staff and the public to continued access restrictions during flooding events and result in increased cost over time, but will result in a reduced capacity for visitor services due to inadequate space wherein to accept and/or educate visitors or partners.

Socioeconomics

Local and regional economies

Affected Environment

Description of Affected Environment for the Affected Resource

The Swan Lake National Wildlife Refuge is located in Chariton County, a county with a population of 7,426 and about 12.5% poverty level (USCB, 2019). The Swan Lake National Wildlife Refuge is also approximately 6 miles from the city of Mendon, Missouri to the southeast and equidistance from Sumner, Missouri to the northwest with populations of 323 and 131 respectively (USCB, 2019). The predominant land uses in the vicinity of the Swan Lake National Wildlife Refuge are grazing and irrigated farming. The Swan Lake National Wildlife Refuge is tied to the local economy largely through the public's use of the Swan Lake National Wildlife Refuge for recreational opportunities. These opportunities typically come in the form of consumptive activities such as fishing and hunting, as well as recreational activities like wildlife viewing and sightseeing, the combined use of which averages about 25,000 visitors per year.

Description of Environmental Trends and Planned Actions

Economics of the area is driven by agriculture and hunting as the area has numerous hunting clubs and is utilized heavily by hunters during the fall months. This is anticipated to remain steady in the future. Farming continues to be the main economic driver in the area, and we do not see that changing anytime soon.

Impacts on Affected Resource

Alternative A

Under this Alternative wildlife-dependent recreation and environmental education opportunities, including hunter education courses, will improve as a result of sufficient space to accept a greater number of visitors. This will have long-term positive impacts to visitors as visitor services offered could expand due to proper facilities and reduced access issues during flooding events, as well as the potential to encourage more volunteer participation. Such expansion would likely result in positive impacts to the local economy due to greater use of Swan Lake National Wildlife Refuge services by both local communities for non-consumptive and consumptive recreation, as well as income brought in from outside visitors. More detailed information can be found at the Banking on Nature report found here:

<https://www.fws.gov/economics/divisionpublications/bankingonnatureimpacts.asp>

Alternative B

Under this Alternative the current economic role the Swan Lake National Wildlife Refuge plays in the local economy would continue. There will be no immediate changes expected regarding fishing and wildlife viewing opportunities; however, environmental education opportunities would continue to be limited resulting in minor inconveniences to local schools and visitors who formerly participated in regular events in the outdoor classroom and indoor exhibits and displays that were destroyed during the 2019 flooding events.

Environmental Justice

Affected Environment

Description of Affected Environment for the Affected Resource

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires all Federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high or adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities.

Swan Lake NWR is in Chariton County. Chariton County has the following demographics according to the Headwaters Economic Report:

Median Household Income: \$54,453

Percentage of Population that are considered minorities: 1.72%

Median Age: 45.4 years old

Description of Environmental Trends and Planned Actions

Demographics of Chariton County tend to be stable, and we do not foresee that changing in the future.

Impacts on Affected Resource

Alternative A

The U.S. Fish & Wildlife Service has not identified any potential high or adverse environmental or human health impacts from this proposed action. The U.S. Fish & Wildlife Service has identified no minority or low-income communities within the impact area. Minority or low-income communities will not be disproportionately affected by any impacts from this proposed action. Under this alternative, there could be positive impacts from reduced vehicle traffic and thus road maintenance and dust abatement application on the Entrance Road along Swan Lake. In addition, more accessible facilities could increase the benefits regarding environmental justice by facilitating potentially increased EE activities and more interaction with the visiting public by staff.

Alternative B

The U.S. Fish & Wildlife Service has not identified any potential high or adverse environmental or human health impacts from this proposed action. The U.S. Fish & Wildlife Service has identified no minority or low-income communities within the impact area. Minority or low-income communities will not be disproportionately affected by any impacts from this proposed action. Under this alternative, vehicle traffic would remain the same, and thus road maintenance and dust abatement application on the Entrance Road along Swan Lake would not change. Visiting public would not have consistently accessible facilities and would have limited interaction with the staff if we maintain the leased office space and do not construct improved facilities.

Mitigation Measures and Conditions

Mitigation measures include:

1. The implementation of the Missouri Department of Conservation's best management practices for construction near streams and rivers.
2. The minimizing of impacts through seasonal restrictions for tree felling and general construction.
3. Rectifying impacts by repairing, rehabilitating, or restoring the affected environment, and off-setting impacts through the restoration of habitat surrounding the previous Visitor Contact Station and hunter headquarters buildings.

Monitoring

The Swan Lake National Wildlife Refuge currently conducts multiple monitoring efforts to evaluate environmental changes and impacts associated with a variety of disturbances (e.g. human interactions, predation, and storm events). These surveys include hydrologic surveys, year-round surveys for water bird species, winter waterfowl ground surveys, and ad-hoc presence/absence surveys for migratory bird and bat species. The Swan Lake National Wildlife Refuge also avoids conflicts related to biological resources by

adopting the “wildlife first” principle explicitly stated in the Improvement Act through the monitoring of species population trends via direct observation of populations, consultation with State and U.S. Fish & Wildlife Service species specialists, and review of current species survey information and research. These ongoing monitoring efforts can be used to identify any impacts arising from the Proposed Action.

Summary of Analysis

The purpose of this EA is to briefly provide sufficient evidence and analysis for determining whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).

Alternative A – Proposed Action Alternative

As described above, the Proposed Action Alternative would have minor potential impacts to wildlife and aquatic species, threatened and endangered species or other special status species and floodplains due to associated construction activities. These impacts are expected to be minimal and short-lived, and restoration will result in a net increase in habitat on the Swan Lake National Wildlife Refuge. No impacts are expected for cultural resources or in terms of environmental justice, and positive impacts to land use, visitor use, administration and local and regional economies are anticipated. The Swan Lake National Wildlife Refuge’s carbon footprint is also expected to decrease, resulting in minor positive impacts.

This alternative helps meet the purpose and needs of the U.S. Fish & Wildlife Service as described above, because it would provide additional wildlife-dependent recreation opportunities, increase safety of refuge staff and visitors, and reduce access issues associated with frequent flooding events. The U.S. Fish & Wildlife Service has determined that the proposed action is compatible with the purposes of the Swan Lake National Wildlife Refuge and the mission of the NATIONAL WILDLIFE REFUGE SYSTEM.

Alternative B – No Action Alternative

As described above, the No Action Alternative would have minor potential impacts to wildlife and aquatic species, threatened and endangered species or other special status species, floodplains, visitor use and administration, due to maintenance and associated costs of current facilities, vehicle traffic along Entrance Road and recurrent access issues as a result of frequent flooding. No impacts are expected for cultural resources, land use, local and regional economies, or in terms of environmental justice. The Swan Lake National Wildlife Refuge’s carbon footprint is also expected to remain the same, resulting in no impacts in terms of climate change. This alternative does not fully meet the purposes and needs of the U.S. Fish & Wildlife Service as described above, because it would leave staff and visitors vulnerable to access issues from frequent flooding events and reduced outreach and education opportunities.

List of Sources, Agencies and Persons Consulted

James Stack, Hydrologist, Big Muddy National Fish and Wildlife Refuge

Jason Wilson, Refuge Manager, Big Muddy National Fish and Wildlife Refuge

Iwona Kuczynska, Fish and Wildlife Biologist, Missouri Ecological Services Field Office

Sabrina Chandler, Refuge Supervisor, Great Lakes Region, USFWS

Kristin Rasmussen, Conservation Planner, Division of Planning for Great Lakes Region

List of Preparers

Ashley Riedel, Previous Biological Science Technician, Big Muddy National Fish and Wildlife Refuge

Cole Hoover, Biological Science Technician, Swan Lake NWR

Steve Whitson, Refuge Manager, Swan Lake National Wildlife Refuge

Jason Wilson, Project Leader, Big Muddy NFWR

Public Outreach

The U.S. Fish & Wildlife Service will make the draft EA available for public review and comment for 30 days. An information release will be posted on the Swan Lake National Wildlife Refuge website, circulated through an email distribution list of stakeholders, posted at area libraries, press releases, and shared with local civic institutions. The information will also be posted at the Mendon and Sumner post offices and convenience stores. They will also be posted in the Public Libraries of Chillicothe, Brookfield and Carrollton. The distribution list includes local and regional media contacts, congressional staff, local and state government partners, federal and state agencies, non-profit organizations, and other partners and stakeholders.

Tribal outreach will be done with the SAC & Fox Nation of Missouri in Kansas & Nebraska. The contact is the following:

Sac & Fox Nation of Missouri in Kansas & Nebraska

Attn: Lisa Montgomery, Director of Environmental Protection Agency

305 N Main

Reserve, Kansas 66434

Phone: (785) 742-4705 Email: lisa.montgomery@sacfoxenviro.org

Determination

This section will be filled out upon completion of the public comment period and at the time of finalization of the Environmental Assessment.

- ☐ The U.S. Fish & Wildlife Service's action will not result in a significant impact on the quality of the human environment. See the attached "**Finding of No Significant Impact**".
- ☐ The U.S. Fish & Wildlife Service's action **may significantly affect** the quality of the human environment and the U.S. Fish & Wildlife Service will prepare an Environmental Impact Statement.

Signatures

Submitted By:

Project Leader Signature:

Date:

Concurrence:

Refuge Supervisor Signature:

Date:

Approved:

Regional Chief, National Wildlife Refuge System Signature:

Date:

References

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- Environmental Protection Agency (EPA). 2016. Climate Change Indicators 2016. Environmental Protection Agency, Washington, D.C. Available online at https://www.epa.gov/sites/production/files/2016-08/documents/climate_indicators_2016.pdf
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- Natural Resources Conservation Service (NRCS) Web Soil Survey website (<http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>), accessed October 2020.
- Notice Nature. 2016. Wildlife, Habitats, & Development: Guidelines for the Protection of Biodiversity in Construction Projects. Available online at https://www.noticenature.ie/wpcontent/uploads/2016/05/Construction_v12.pdf
- Schaffer, J.A., C. R. Loesch, and D. A. Buhl. 2019. Estimating offsets for avian displacement effects of anthropogenic impacts. *Ecological Applications*, 29(8): e01983
- United States Census Bureau (USCB). 2019. ACS 5-Year Estimates Detailed Tables. Web. 15 March 2021 <<https://data.census.gov/>>
- U.S. Fish & Wildlife Service, Swan Lake National Wildlife Refuge, 2011 Comprehensive Conservation Plan, February 2011

Appendix A

Applicable laws are being addressed that were not directly addressed in the text of this Environmental Assessment.

Cultural Resources

Archaeological Resources Protection Act of 1979, 16 U.S.C. 470aa-470mm; 18 CFR Part 1312; 32 CFR Part 229; 36 CFR Part 296; 43 CFR Part 7

National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470-470x-6; 36 CFR Parts 60, 63, 78, 79, 800, 801, and 810

An archaeological survey is being conducted on the site of the proposed construction. Once that is completed, we will determine what mitigation is necessary for the project from a cultural resource's standpoint.

Fish and Wildlife

Endangered Species Act of 1973, as amended, 16 U.S.C. 1531-1544; 36 CFR Part 13; 50 CFR Parts 10, 17, 23, 81, 217, 222, 225, 402, 450

Once the proposed project is finalized a Section 7 consultation will be conducted with USFWS Ecological Services.

Appendix B

Project site map.

