

Draft Compatibility Determination

Title

Draft Compatibility Determination for Environmental Education and Interpretation, Upper Mississippi River National Wildlife and Fish Refuge

Refuge Use Category

Environmental Education and Interpretation

Refuge Use Type(s)

Environmental education (conducted by National Wildlife Refuge System (NRWS) staff and authorized agents and not conducted by NWRS staff or authorized agents)

Interpretation (conducted by NWRS staff and authorized agents and not conducted by NWRS staff or authorized agents)

Refuge

Upper Mississippi River National Wildlife and Fish Refuge

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

The Upper Mississippi River National Wildlife and Fish Refuge (refuge) was established by Public Law No. 268, 68th Congress on June 7, 1924. This Act authorized acquisition of lands for various refuge purposes, including: “(a) as a refuge and breeding place for migratory birds... (b) ... as a refuge and breeding place for other wild birds, game animals, fur-bearing animals, and for the conservation of wild flowers and aquatic plants, and (c) ...as a refuge and breeding place for fish and other aquatic animal life” (43 Stat 650, dated June 7, 1924). Moreover, the refuge “...shall be administered by [the Secretary of the Interior] directly or in accordance with cooperative agreements... and in accordance with such rules and regulations for the conservation, maintenance and management of wildlife, resources thereof, and its habitat thereon...” (16 U.S.C § 664, Fish and Wildlife Coordination Act).

Additional lands acquired in fee title by the U.S. Army Corps of Engineers are managed as part of the refuge under a 1963 Cooperative Agreement between the Department of the Army and the Department of the Interior. The fundamental purposes for which land is acquired and managed at the refuge include:

To be “...suitable for – (1) incidental fish and wildlife-oriented recreation development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species...” “...the Secretary...may accept and use...real...property. Such acceptance may be accomplished under the terms and condition of restrictive covenants imposed by donors (16 U.S. C. § 460k 1-4, Refuge

Recreation Act, as amended);

the “...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, or other purposes);

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

“...the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligation contained in various migratory bird treaties and conventions...” (16 U.S.C. § 3901(b) 11 Stat. 3583, Emergency Wetlands Resources Act of 1986); and

“...conservation, management, and...restoration of the fish, wildlife, and plant resources and their habitats...for the benefit of present and future generations of Americans...” (16 U.S.C. § 668dd(a)(2), NWRS Administration Act).

National Wildlife Refuge System Mission

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

Description of Use

Is this an existing use?

Yes, this use is being reevaluated at least every 15 years per policy. This compatibility determination reviews and replaces the 2006 compatibility determination for environmental education and interpretation uses on the refuge. Environmental education and interpretation have been conducted on the refuge since it was established in the 1920s and were evaluated in conjunction with the 2006 Comprehensive Conservation Plan and were found to be compatible, along with supporting infrastructure and facilities such as but not limited to visitor contact stations, wildlife observation drives, trails, roads, overlooks and observation decks/platforms, picnic areas, kiosks, permanent blinds (U.S. Fish and Wildlife Service (USFWS or Service) 2006). There are no use changes to the existing environmental education and interpretation program occurring under this re-evaluation. The use is consistent with the 2006 Comprehensive Conservation Plan and associated Environmental Assessment and Finding of No Significant Impact (USFWS 2006).

What is the use?

Environmental education uses a planned process to foster awareness, knowledge, understanding, and appreciation in students about fish, wildlife, plants, ecology, natural sciences (such as astronomy) and refuge management. Environmental education can occur as on-refuge activities conducted by NWRS staff or authorized agents and others that may not be conducted by NWRS staff or authorized agents. Lastly, environmental education (general) includes environmental education activities not specifically defined elsewhere in this category. Environmental education is designed to develop a citizenry that has the awareness, concern, knowledge, attitudes, skills, motivations and commitment to work toward solutions of current environmental problems and the prevention of new ones.

Interpretation is defined as on-refuge activities for refuge visitors that are designed to foster an understanding and appreciation for natural and cultural resources, and associated management. Interpretation can occur as on-refuge activities for refuge visitors conducted by NWRS staff or authorized agents and others that may not be conducted by NWRS staff or authorized agents. This use does not include the evaluation of commercially guided interpretive tours (including bus or bicycle tours) of the refuge where fees can be collected. Interpretation is a communication process that forges emotional and intellectual connections between the interests of the audience and the inherent meanings in the resource (i.e., more than information). Both are necessary to form relationships between the Service and the public and improve a joint stewardship of our natural resources.

Supporting uses that facilitate these activities on the refuge include canoeing, hiking, bicycling, all-terrain and utility-task vehicles, snowmobiles, snowshoeing, ice skating, cross country and back country skiing, snorkeling, scuba diving, and swimming are also considered as part of this determination when evaluating impacts to resources. These activities mostly will be conducted as self-led interpretation and not Service led programming, however with adequate staff and opportunity some activities may be conducted through both approaches. These uses have also been evaluated separately and all have been found compatible:

- Canoeing, kayaking, stand up paddling, and sailing (2017)
- Vehicular Recreational Transport (all-terrain and utility-task vehicles, bicycles, and snowmobiles) (2017)
- Winter Silent Sports (ice skating, snowshoeing, cross country and back country skiing) (2017)
- Beach-related Day Uses (swimming, sunbathing, picnicking, snorkeling, scuba diving, and other) (2017)

Is the use a priority public use?

Yes, these are two of the six priority public uses of the National Wildlife Refuge

System. If found compatible, priority uses are to receive enhanced consideration over other general public uses (16 U.S.C. 668dd-668ee. As amended by Pub.L. 105-57; 111 Stat 1252).

Where would the use be conducted?

Environmental education and interpretation activities may occur off-site or on-site throughout the refuge, but most are likely to occur in the vicinity of four visitor centers/contact stations, facilities at the Lost Mound unit, picnic pavilion at Savanna District, observation decks, fishing platforms, overlooks, national scenic byways and other roadways, auto tour route, hiking, bike, and canoe trails, and in general within the refuge on the Mississippi River. Additional infrastructure, facilities, and resources may be added as the refuge has funding to support this use over the lifetime of this compatibility determination. Any new infrastructure, facilities and resources would be subject to project specific environmental law and policy compliance, including reinitiating Consultation with Federal Indian Tribes under Section 106 of the National Historic Preservation Act of 1966 (54 U.S.C. §§ 300101 *et seq.*). Projects would be considered compatible as long as the purpose of the project supports the scope as described in this determination and conditions under which the use is permitted would not change significantly.

Staff- and partner-led environmental education and interpretive programs may take place throughout the refuge, off-site, and through digital platforms. Locations on refuge include the following:

Trails

- Canoe Trails and Areas: There are 16 signed canoe trails offering 107 miles of paddling within mapped trails.
- Hiking, Biking, and Snowshoe Trails: There are approximately 2,100 miles of trails in the refuge.

Roads

Refuge roads (includes national scenic byways along the river, auto tour route, and other refuge roads, dikes, and levees).

Visitor Center and Other Infrastructure

- Winona District visitor contact station (interpretive materials available).
- La Crosse District visitor center (exhibit area and multipurpose room) and grounds.
- McGregor District visitor contact station (exhibit area and multipurpose room) and grounds.
- Savanna District Ingersoll Wetlands Learning Center (exhibit area and

multipurpose room), Lost Mound Office, and grounds.

- 35 hunting sites in Savanna District.
- 11 overlooks or observation platforms mainly along the Mississippi River.

Waterways and Wetlands

- Around 240,000 acres of land and water along 261 river miles on the Mississippi River.
- 26 Boat landings maintained by the refuge and more boat landings managed by partners and commercial entities along the river.
- Around 15 Fishing Piers or Platforms.

Other Resources

Select additional locations are utilized across the refuge dependent on program subject matter and education objectives.

Staff-and partner-led large education-based refuge events mostly occur on developed areas and durable surfaces including the visitor center/contact stations and grounds, hiking and canoe/kayak trails, select areas on the Mississippi River, associated parking lots and boat landings, and select waysides on roads that can accommodate heavy foot and vehicle traffic.

Self-led environmental education and interpretive activities may take place at locations across the refuge that are open to public use or allowed by issuance of a Special Use Permit specifically for activities not conducted by refuge staff or authorized agents, including and in addition to locations listed above. Interpretive signage is available in the visitor center/visitor contact stations, at overlooks, and on kiosks at trailheads and boat landings. Brochures may be available at kiosks, the visitor center/contact stations, and the information is digitally on the refuge website. Materials and equipment to enhance learning may be available to check out from the visitor center/contact stations for use on-refuge. Visitors may participate in supporting uses to access self-guided static interpretive content including bicycles and motorized and non-motorized boats, as well as by foot or vehicle. Non-authorized agents that are leading self-led field trips may request special use permits for additional access.

The areas used for environmental education and interpretive activities may occur in any habitat and area of the refuge to explore the full range of wildlife and plants present on the refuge. Most equipment and supplies used for staff-and partner-led environmental education and interpretive programs is stored in the visitor center/contact stations and maintenance shop buildings.

Staff- and partner-led environmental education and interpretive programs are conducted off-refuge in communities and may include schools, libraries, parks,

education or nature centers, or other sites conducive to experiential learning.

Pre-recorded digital programming may be shared through the refuge website, social media, host sites, and other platforms that provide the ability to share accessible content. Live programming hosted by the refuge may be conducted in formats that meet department terms of service and accessibility requirements.

When would the use be conducted?

Interpretation and environmental education would occur anytime year-round, with the majority of environmental education taking place between September and June during daylight hours. Some staff-and partner-led programs with topics including astronomy, nocturnal wildlife, night hikes, and photography, may be hosted outside of these hours and take place at select locations on the refuge.

A significant portion of the refuge remains open to the public year-round, but portions are reserved for other uses primarily during fall and winter months. From October to the end of the respective state's duck hunting season and in some cases year-round, the refuge has designated approximately 52,000 acres of waterfowl closed areas are either closed to public entry or areas we ask the public to voluntarily avoid. Self-directed or independent environmental education and interpretive activities are allowed any open times throughout the year, except when necessary to restrict access because of management activities, weather related closures, or specially scheduled activities that require closures. Most staff-and partner-led environmental education and interpretive programs range from 1-4 hours in duration but vary according to the needs of the audience. Most often, guided environmental education field trips are scheduled morning to early afternoon to accommodate school day schedules. These activities may be scheduled throughout the year to address different seasonally dependent topics. Historically, field trip visits are heaviest in spring between mid-March and mid-May and during the fall between mid-September and mid-November. Large events may be scheduled for several full days.

Off-site environmental education and interpretive activities and events may be conducted throughout the year and throughout the week in coordination with the host site.

Digital programming may be developed and delivered throughout the year through resources like the refuge website or other digital platforms and may be time-bound or available at the user's convenience.

How would the use be conducted?

Most environmental education and interpretation are conducted through scheduled group visits, programs, or events on-refuge and off-site. Thoughtful planning controls the volume of visits and improves the experience for the participants. Environmental education can take a variety of forms including teacher workshops and orientations,

development of site-specific curricula, materials, and activities, on-site or off-site classroom activities and/or field trips. These programs not only address refuge management goals but integrate audience needs such as school curriculum requirements. Visitor service professionals work with local school leaders to develop programming consistent with state education standards and/or overall school district or education leader goals. Students and teachers may also participate in coordinated restoration, and monitoring programs through long-term monitoring studies. The Refuge has become increasingly popular as an outdoor classroom for several universities. These non-staffed activities include seining fish, bird-watching, and collecting plants and animals for research purposes.

Interpretation occurs throughout the year at the kiosks, trails, visitor center/contact stations, observation decks, boat landings, and on motorized and non-motorized boats on the Mississippi River. The refuge provides public facilities, including four visitor center/contact stations with interpretive exhibits. Interpretive signs are the single most popular method of interpretation used on the refuge. These signs convey site-specific messages at visitors' convenience since they are available any season or time of day. Interpretive signs are used along the National Scenic Byways, bike trails, hiking trails, overlook areas and at off-refuge sites overlooking the refuge. In addition, kiosks, entrance signs and official notice boards provide information about the refuge. Interpretive programs range from guided hikes, canoeing, tours, and guest speakers. These programs are often coordinated or guided by staff and/or volunteers.

Commercially guided interpretive programs are discussed in a separate compatibility determination for this economic use. However, various no-fee or not-for-profit tours are conducted by non-profit groups, schools and colleges, or other agencies. Unlike general public interpretation, this use requires a Special Use Permit issued by the respective District Manager due to the impacts that concentrated groups of people may have. Impacts can also be greater since these tours target backwater areas of the refuge which often contain sensitive wildlife populations such as nesting colonies of herons and egrets. At present, many of these tours are likely occurring without refuge knowledge.

Many visitors can be accommodated over the course of a day on a rolling basis for occasional large educational events that are dispersed across areas of the refuge. Off-site program audiences vary depending on the size and capacity of the host site. Digital audience size varies based on the topic presented and the level of interaction necessary.

Budget constraints and staffing levels are a limiting factor to the number of programs that are offered at the refuge, and staff and volunteer capacity will determine how many guided programs are scheduled.

An estimated 135,000 interpretive visits occur each year on the refuge. Over the past 10 years, the refuge has hosted numerous environmental education participants in

groups ranging in size from small homeschool groups to multiple classes at once. The refuge has also hosted interpretive visits on a wide variety of topics. It is extremely difficult to determine the number of visitors that also participate annually in self-led interpretive activities. In the past, large events, such as Creepy Critters, average hundreds of visitors to stations at the refuge staffed by refuge employees, partners and/or other agencies. Off-site programs vary from small groups to 500 or more participants at field days and events. The number of environmental education and interpretation programs supported by refuge staff varies on an annual basis. The refuge established in its Visitor Services Plan that staff would annually evaluate and adapt environmental education and interpretation programs as needed in an informal review with essential staff and partners to ensure the program is meeting safety, management, biological, and visitor services objectives based on staff and partner capacity.

Special use permits are required if self-led environmental education or interpretive programs involve handling or collecting wildlife or plants beyond what is allowed currently under wild edible collection regulations. Special use permits may also be required for large self-led environmental education or interpretive program groups if the size and activity of the group could negatively impact the resource. All special use permits will be issued at the discretion of the respective district manager where the program is proposed to occur.

Why is this use being proposed or reevaluated?

Environmental education and interpretation are two of the six priority wildlife-dependent recreational uses of the National Wildlife Refuge System identified by the National Wildlife Refuge Improvement Act of 1997: hunting, fishing, wildlife observation, photography, interpretation, and environmental education. These uses help promote the understanding, appreciation and support for the refuge system mission. Environmental education and interpretation were determined to be compatible uses in 2006 as part of completion and approval of the refuge's Comprehensive Conservation Plan. The compatibility determination completed in 2006 requires re-evaluation and renewal in 2021 based on 15-year renewal period requirements as described in policy (603 FW2.11 H). There are no administrative changes to the way this use has previously been conducted on the refuge.

Availability of Resources

Currently, there are three full-time visitor services staff members for the entire refuge. The staff for coordinating the current level of environmental education and interpretation is available but limits the number and depth of programs and amount of assistance to educators. Guided environmental education and interpretive programs require dedicated staff time, equipment and supplies, but these resources are considered part of the overall visitor services operations. Volunteers are also used to orient and welcome visitors; however, staff time is needed to coordinate and train

volunteers. Additionally, all staff on the refuge orient and welcome visitors as a portion of their duties and assist in some of the larger programs. This time is not considered above general operation costs.

Much of the infrastructure used for environmental education and interpretation programming also supports other priority public and management uses, but some of the priority resources that support this use are the visitor center/contact stations and grounds, the hiking, biking, and canoe/kayak trails, boat landings, refuge observation decks, and public overlooks. Maintaining the public use facilities and infrastructure is part of routine management duties and staff and funding is available through the general operational budget.

Additional facilities and visitor services specialists were outlined in the refuge's Comprehensive Conservation Plan to enhance opportunities for environmental education and improve the quality and quantity of programs, however, those additional positions have not been filled due to budget constraints. Since the original compatibility determination in 2006, the refuge has lost three additional full-time visitor services staff through attrition due to budget limitations. If the additional capacity outlined in the 2006 Comprehensive Conservation Plan were met, the environmental education and interpretation programming led by refuge staff and authorized agents could expand.

Administering Special Use Permits for non-profit guided interpretation increases overall costs of Refuge operations, including but not limited to, development and review of policy and procedure, yearly administration of permits (inquiries, screening applicants, issuing permits), and enforcement of permit conditions. In the short-term, existing staff is adequate. However, the number of permits issued will have to be limited in balance with staff resources. In the long-term, additional administrative and/or other personnel as identified in the Comprehensive Conservation Plan will be needed. The analysis of cost for administering and managing each use will only include the incremental increase above general operational costs that we can show as being directly caused by the proposed use.

Special equipment, facilities, or improvements necessary to support the use: existing infrastructure such as the visitor center/contact stations and overlooks/observation decks will support the use. Existing refuge resources are adequate to properly and safely administer the use with existing infrastructure and facilities. If infrastructure and facilities improvements are needed, this would likely be a one-time cost that varies depending on the cost of materials and size of the project. For some infrastructure projects that support this use and other priority-wildlife dependent recreational opportunities external funding will be sought to improve trails or observation decks if they cannot be covered by refuge budget or through offsetting revenues. Recurring annual expenses to maintain infrastructure and facilities are covered within existing refuge budget. Equipment and supplies that support environmental education and interpretive programming is available for both staff/partner/volunteer-led programs and for check-out by teachers, librarians, and

home-school organizations for self-led programs. Education support, as part of normal duties, is provided for self-led programs as requested. Staff time will be needed to maintain these supplies and knowledge on how to use the equipment. In addition, staff and volunteers spend time annually checking and maintaining kiosks and interpretive signage as part of normal job duties.

Maintenance costs: The refuge will maintain current trails, roads, and access points as necessary and will improve access as funding allows. Staff time can vary annually based on improvements needed. Roads, parking lots, trail maintenance, mowing, vehicle maintenance, cleaning, repair and digital equipment maintenance are part of the managing station's funding. These costs are part of routine maintenance of the visitor services program.

Monitoring costs: Time is allocated to design and monitor event and program participation and collect and report participation data as part of normal staff duties.

Offsetting revenues: Funding from daily and annual passes purchased by visitors as part of the Federal Lands Recreation Enhancement Act and donations by Friends groups aid in maintenance, staffing, and improvement needs related to this use. Fee receipts and proceeds fund a variety of recreation infrastructure and services including environmental education and interpretation. Funds are dedicated, annually, according to priority.

Anticipated Impacts of the Use

Environmental education and interpretation were evaluated in the environmental assessment associated with the comprehensive conversation plan (USFWS 2006) and the Visitor Services Plan (USFWS 2019). Environmental education and interpretation have been found to not significantly impact the human environment through an Environmental Impact Statement and resulting Record of Decision. The analysis below is supplemental to the previous environmental effects described in those documents. 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.

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

Environmental education and interpretation are two of the National Wildlife Refuge System's priority wildlife-dependent recreation uses that are important tools to further the mission of the USFWS. Historical and potential levels of use are not anticipated to adversely affect the resource. Between 2016 and 2019, the refuge averaged 4,500 on-site and off-site environmental education participants per year

and approximately 4,600 on- and off-refuge interpretive participants per year. This trend is expected to continue over the lifetime of this compatibility determination.

Service guided programs cover a broad range of experiential learning and can take groups into undeveloped areas of the refuge, but heavier use is planned on durable surfaces and developed locations. Self-led groups tend to be smaller and less frequent but can benefit from the multitude of opportunities for learning. Accommodating this wildlife-dependent use has and is expected to result in minimal impacts.

Short-term impacts

This compatibility determination includes the written analyses of the environmental consequences on a resource only when the short-term impacts on that resource could be more than negligible and therefore considered an “affected resource.” Air quality, water quality, floodplains, refuge management and operations, wilderness and socioeconomics will not be more than negligibly impacted by the action and have been dismissed from further analyses.

Wildlife and aquatic species

Temporary disturbance to wildlife may result from guided and self-led interpretive and environmental education activities taking place at all locations on the refuge. The activity is not expected to cause greater than negligible impacts because, at current and anticipated use levels, there is sufficient refugia for wildlife adjacent to activity areas and a limited number of individuals participating in activities at any one time. This use occurs in a dispersed manner across the 240,000 acres to lessen impacts, and activities that cause more disturbance are limited to areas that were created for this purpose. Sampling of aquatic wildlife for environmental education is limited in scope and monitored by staff, partners and/or volunteers. Negligible impact to small quantities of aquatic insects and small fish may occur, but the population is sufficient to support individuals being removed. All motor vehicle use associated with environmental education and interpretation is restricted to designated roads and parking areas which reduces disturbance to wildlife. Though wildlife roadkill can be an unintended impact of vehicle traffic for this use, it is not an impact specific to this use. Littering can potentially impact wildlife, but existing staff resources and maintenance are used to mitigate this impact. Handling and temporary collection of wildlife for education purposes is expected to be minimal and cause only temporary disturbance. Activities are planned and conducted in several areas for larger groups so as not to overstress or overuse any one resource.

Pedestrian travel has the potential of causing a short-term disturbance for shorebird, waterfowl, and other migratory birds feeding and resting near aquatic and upland trails, along wildlife drive, and within adjacent wetlands. Human disturbance to migratory birds and other wildlife has been documented in many studies. The presence of humans will disturb some wildlife causing temporary displacement

without long-term effects. Some species may avoid areas with frequent activity by people, while other species will be unaffected by human presence. However, the overall effect of these uses on wildlife will not lead to a population level impact, because most of the refuge is remote and will experience minimal to no public use on a daily basis given the size of the refuge and number of average daily visitors.

Guided group size at a given location ranges from a few individuals to 150 in a day with an average size of 40, and frequency is no more than an average of one day per week. Guided interpretive tours generally have impacts similar to the above but have the potential for significant impacts to nesting colonies of herons and egrets, nesting bald eagles, or other species or sensitive habitats without proper restrictions and oversight. These impacts can include nest abandonment and/or separation of young from parents. Larger boats used in guided tours can also uproot plants and increase turbidity in shallow backwater areas, negatively affecting habitat quality or displacing fish and other aquatic species. Guided tours also introduce more people into backwater areas than would generally occur, with an overall increase in noise and visual disturbance to wildlife. Specific stipulations have been developed to mitigate impacts to wildlife for refuge led interpretation and environmental education group programs.

Impacts may be considered not significant when analyzed alone but may be considered important when they are evaluated cumulatively. The refuge's primary concern is repeated disturbance of resting, foraging, or nesting birds by visitors. The refuge is open to other uses at the same time, however, uses are separate and impacts are not anticipated to have a cumulative impact. From October to the end of the respective state's duck hunting season and in some cases year-round, the refuge has designated approximately 52,000 acres of waterfowl closed areas are either closed to public entry or areas we ask the public to voluntarily avoid. It will be important for refuge staff to monitor refuge uses and if necessary, respond with management actions to conserve wildlife resources being adversely impacted. Refuge staff, volunteers and researchers will monitor (both observationally and empirically, as deemed necessary) and evaluate the effects of these priority uses to discern and respond to any adverse effects. Based on the best knowledge of managers and with the added use restrictions, these uses are not expected to have any adverse effects. Monitoring will not be modified unless refuge staff, volunteers, or researchers, believe there is a necessity for increased monitoring or more structured monitoring process to quantitatively assess observed impacts.

Threatened and endangered species

Federally threatened, endangered, special status species do occur on the refuge, but it is expected that this use will not conflict with recovery or protection of these species. Known threatened and endangered areas will be avoided during periods of occupation. Studies and anecdotal information suggest that roosting bats are tolerant to transient, low intensity disturbances (e.g., humans walking near roost trees, nearby

machinery) and ongoing disturbances (USFWS 2008). The refuge hosts Indiana bats, tri-colored bats, and northern long-eared bats. The Eastern massasauga rattlesnake population is unknown and likely very sparse due to changes in hydrologic conditions in their historic habitats, making impacts by this use highly unlikely. Whooping cranes that are part of the Nonessential Experimental Population in the Eastern United States have occasionally occurred on the refuge. Some cranes have periodically used habitats along the Mississippi River primarily during migration, but due to their low numbers and limited use of the refuge they are not expected to be impacted by this use. Monarch butterflies are widespread on the refuge. The primary drivers affecting the health of the two North American migratory populations are changes in breeding, migratory, and overwintering habitats. This use would not affect those and may even promote native plantings. Loss or alteration of vegetation or leaf litter and soil disturbance or compaction are risk factors for rusty patched bumble bees (USFWS 2019). Soil disturbance to rusty patched bumble bee nest habitat would not be sufficient in intensity to kill or harm rusty patched bumble bees that are overwintering or in nests in the affected areas. Large, guided groups mainly stay on trails and developed areas. This use should not contribute to these risk factors on a scale that would impact rusty patched bumble bees. Eastern prairie fringed orchid and Prairie bush-clover are unlikely to be impacted due to the use of trails. Northern wild monkshood and Iowa Pleistocene snails are found on algific talus slopes which are known sensitive areas that we do not allow visitors access. Higgins Eye mussels are primarily found in deep water with moderate currents and are unlikely to be disturbed by this use. Sheepnose and Spectaclecase mussels are found in shallower areas with moderate current. They are unlikely to be in the developed areas (boat landings, canoe/kayak launches) where boats would scrape the substrate. Stream and pond use would be in shallow areas with low flow and would mainly have foot traffic. If an endangered mussel was found during a program it would be returned to the water in a safe location and staff would minimize disturbance to the area which may include leaving to another location. Educating students and the public about improving water quality and the effects of habitat loss will benefit the future of these species. If endangered species were identified during a program, staff would minimize disturbance to the species by observing from a distance and removing the group from the area. Staff would then report the sighting to Ecological Services, the program within USFWS that monitors endangered species. There have been no issues to date with this use in relation to threatened, endangered, or special status species.

Habitat and vegetation

Disturbance to terrestrial vegetation and wildlife may result from trampling during this use as individuals or groups walk off-trail or in unimproved areas; however, most individuals primarily remain on the trail systems, making this impact very limited in scope. Some disturbance to aquatic vegetation may occur in shallow areas during sampling activities or from canoeing that supports these uses. This disturbance is expected to be limited in scope and duration, and the vegetation will recover annually

from use. Activities are conducted in several different areas so as not to overstress or overuse any one resource.

There are potential short-term impacts with public access such as litter, unauthorized collecting of flora and fauna and tramping of wildlife habitats. Refuge law enforcement, education outreach and guided or facilitated programs will help to minimize these impacts. Regular law enforcement patrols and enforcement of litter and collecting regulations will help to deter the negative behaviors associated with these impacts. These potential minor impacts will be offset by the added benefits (e.g., increased understanding, appreciation, and awareness) that education and interpretation program participants will gain from the refuge experience.

Geology and soils

Disturbance to habitat is minimal although some soil compaction and erosion can occur along unimproved trails and bank and waterway access areas. These impacts are generally localized and have little overall negative impact. This activity can be accessed by electric-motor and non-motorized boat. Access points are subject to erosion from boat launching and parking, but cumulative impacts are minimal and managed with regular maintenance and is not limited to this type of use.

Visitor Use and Experience

Activities on the refuge may indirectly impact other recreational users as the use occurs concurrently in places of other recreation (e.g., fishing, boating, wildlife observation, photography). These indirect impacts are expected to be infrequent and negligible. This use takes place in a controlled amount of the refuge at any one time, and there are sufficient additional locations for other users.

Cultural Resources

The refuge contains numerous cultural sites along the Mississippi River. Guided educational and interpretive programs are planned to not impact or disturb known cultural resources. Refuge law enforcement, education outreach and guided or facilitated programs will help to minimize impacts to cultural resources. Programs increase appreciation, respect, and knowledge of cultural resources on the refuge.

Long-term impacts

This compatibility determination includes the written analyses of the environmental consequences on a resource only when long-term impacts on that resource could be more than negligible and therefore considered an “affected resource.” Although some resources were evaluated under short-term impacts there are no long-term impacts expected. Wildlife and aquatic species, threatened and endangered species, habitat and vegetation, geology and soils, air quality, water quality, floodplains, wilderness, visitor use and experience, cultural resources, refuge management and operations,

and socioeconomics will not be more than negligibly impacted by the action and have been dismissed from further analyses.

Environmental education and interpretation can have both positive and negative implications on refuge resources. A positive effect of the use could be a better appreciation and understanding of the refuge's wildlife and habitats. Educating students and the public about the resources and challenges of the refuge is an important way to influence the future well-being of the refuge and the river. Only through understanding and appreciation will people be moved to personal and collective action to ensure a healthy refuge for the future. The long-term impacts of educating the public about conservation issues could be beneficial to the refuge purposes as more and more public gain a conservation ethic.

Public Review and Comment

The draft compatibility determination will be available for public review and comment for 30 days from Tuesday, July 18, 2023 to Thursday, August 17, 2023. The public will be made aware of this comment opportunity through the refuge website, newspapers, and other media outlets. A hard copy of this document will be posted at the Refuge Headquarters at 102 Walnut Street, Suite 204, Winona, MN 55987. It will also be posted at the La Crosse District Office, McGregor District Office, and Savanna District Office. It will be made available electronically on the refuge website https://www.fws.gov/refuge/upper_mississippi_river/. Please let us know if you need the documents in an alternative format. Concerns expressed during the public comment period will be addressed in the final document.

Determination

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

1. Self-led Environmental education and interpretation activities will require, at a minimum, verbal approval by the respective District Manager or visitor services specialist to minimize conflicts with other groups, safeguard students and resources, and to allow tracking of use levels. District Managers may require Special Use Permits at their discretion. Special use permits may be issued to self-led groups if group size could negatively impact the resource. Permittees may not charge a fee to participants.
2. Environmental education (including refuge-conducted) and interpretation will not be allowed in Administrative Closed Areas or Waterfowl Hunting Closed Areas when closed to hunting.

3. Students, teachers, and volunteers will continue to be instructed on the best ways to view wildlife with minimal disturbance. Harassment of wildlife or excessive damage to vegetation is prohibited.
4. Educational groups of any type containing minors under 18 are required to have a sufficient number of adults to supervise their groups, based on ages as required by refuge staff or state guidelines.
5. Managers will monitor use patterns and densities and make adjustments in timing, location, and duration as needed to limit disturbance.
6. Use will be directed to public use facilities (both existing and in the future), which are not in or near sensitive areas.
7. Commercial and not-for-profit guiding operations will be regulated by special use permit with timing and spacing constraints to protect sensitive wildlife or habitat per stipulations and guidance as described in the Commercially Guided Wildlife and Wildlands Observation determination.
8. Trail layout and design will continue to ensure adequate adjacent cover for wildlife and avoid sensitive wildlife areas or habitat.
9. Interpretive and environmental education programming will focus on unique attributes of the refuge to foster a respect and appreciation of the National Wildlife Refuge System and the refuge specifically.
10. When collection or handling of species is part of the trip, a special use permit is required, and a species encountered list is required to be submitted to the refuge.
11. Staff- and partner-led environmental education and interpretation programs will only be conducted at a level that does not impact other management objectives and is within staff capacity.

Justification

Based on available science and best professional judgement, the U.S. Fish and Wildlife Service has determined that environmental education and interpretation at Upper Mississippi River National Wildlife and Fish Refuge, in accordance with the stipulations provided here, would not materially interfere with or detract from the fulfillment of the National Wildlife Refuge System mission or the purpose of the refuge. Rather, appropriate and compatible environmental education and interpretation would be the use of Upper Mississippi River National Wildlife and Fish Refuge through which the public can develop an appreciation for wildlife and wild lands. Allowing these uses will only further meet the mission of the refuge system and refuge purposes. The refuge habitats, wildlife, and public use facilities provide unique environmental education and interpretation experiences to visitors helping them to connect with nature and the natural ecosystem. Most environmental education and interpretation will occur at, or be directed to, existing and future facilities in strategic

locations providing quality opportunities while limiting wildlife and habitat disturbance. Disturbance to wildlife is also limited by the size and remote nature of large parts of the refuge. Many species have also grown more tolerant of human presence due to railroads, highways, and river traffic adjacent to or through the refuge. Disturbance is also generally short-term and only temporarily displaces wildlife, and adequate adjacent habitat is usually available for wildlife. The approval process for self-led groups will limit disturbance to wildlife and ensure avoidance of sensitive areas. Other stipulations are in place to facilitate these uses while reducing direct and indirect impacts.

As two of the six priority public uses of the refuge system, these uses are to be encouraged when compatible with the purposes of the refuge. The refuge provides outstanding environmental education and interpretation opportunities due to the diversity of wildlife and habitat on the refuge, and the range of environmental issues faced. For example, increasing concerns with invasive species provides a subject for environmental education exploration. The extensive education community bordering the refuge desires more opportunities for hands-on experiential learning. Educating students of all ages about the resources and challenges of the refuge is an important way to influence the future well-being of the refuge and the river. Only through understanding and appreciation will people be moved to personal and collective action to ensure a healthy refuge for the future.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2038

Literature Cited/References

U.S. Fish and Wildlife Service. 2006. *Upper Mississippi River National Wildlife and Fish Refuge: Comprehensive Conservation Plan and Environmental Assessment*. USFWS Region 3. Bloomington MN.

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U.S. Fish and Wildlife Service. 2008. *Summary of Indiana Bat Ecology*.

U.S. Fish and Wildlife Service. 2019. *Rusty Patched Bumble Bee (*Bombus affinis*) Endangered Species Act Section 7(a)(2) Voluntary Implementation Guidance*. USFWS Regions 3,4,5, and 6