

# **Draft Compatibility Determination**

## **Title**

Draft Compatibility Determination for Concessions, Crab Orchard National Wildlife Refuge.

## **Refuge Use Category**

Other Uses

## **Refuge Use Type(s)**

Other Uses (Concessions).

## **Refuge**

Crab Orchard National Wildlife Refuge

## **Refuge Purpose(s) and Establishing and Acquisition Authorities**

Crab Orchard National Wildlife Refuge was established by Public Law 80-361 in 1947.

"... for the conservation of wildlife, and for the development of the agricultural, recreational, industrial, and related purposes..." (61 Stat. 770, dated Aug. 5, 1947)

"... suitable for - (1) incidental fish and wildlife oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species..." (16 U.S.C. § 460k-1)

"...the Secretary...may accept and use... real... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors..." (16 U.S.C. § 460k-2 (Refuge Recreation Act (16 U.S.C. § 460k-460k-4), as amended))

"...to conserve (A) fish or wildlife which are listed as endangered or threatened species...or (B) plants..." (16 U.S.C. § 1534 (Endangered Species Act of 1973))

"... to secure for the American people of present and future generations the benefits of an enduring resource of wilderness...wilderness areas... shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character, and for the gathering and dissemination of information regarding their use and enjoyment as wilderness..." 16 U.S.C. § 1131 (Wilderness 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 compatibility determination reviews, replaces and combines the concession-related activities found in the 2016 boating compatibility determination and the 2016 camping, swimming and picnicking compatibility determination (U.S. Fish and Wildlife Service, 2016a; 2016b).

This use is consistent with the 2007 Comprehensive Conservation Plan and associated Environmental Impact Statement (U.S. Fish and Wildlife Service, 2007a) and the Determination of National Environmental Policy Act Adequacy Memo for concessionaire project at Crab Orchard National Wildlife Refuge (U.S. Fish and Wildlife Service, 2023).

What is the use?

Concessions are defined as a business operated by a private enterprise that provides equipment, facilities or other goods or services for the recreational, educational and/or interpretive enjoyment of refuge lands and waters for the visiting public.

Is the use a priority public use?

No, this is not a legislated priority wildlife-dependent public use of the National Wildlife Refuge System (i.e., hunting, fishing, wildlife observation and photography or environmental education and interpretation).

Where would the use be conducted?

Concessions would be conducted at existing concession areas such as Playport Marina and Campground, Little Grassy Campground and Boat Docks, Crab Orchard Lake Campground, Blue Heron Marina and Campground and Devil's Kitchen Campground, with the potential for additional locations and uses to be evaluated and established in the future (Figure 1). Location descriptions are as follows:

**Playport Marina and Campground:** The concession operation area consists of approximately 200 acres and is located on Crab Orchard Lake near Carbondale, Illinois, on the west side of the refuge. Access to the marina is via Playport Road, just off of Spillway Road, near State Route 13.

**Little Grassy Campground and Boat Docks:** The concession operation consists of approximately 30 acres and is located on Little Grassy Lake near Makanda, Illinois on the south side of the refuge.

Access to the site by vehicle is via Hidden Bay Lane, just off of Grassy Road.

Crab Orchard Lake Campground: The Crab Orchard Lake Campground occupies approximately 90 acres on Crab Orchard Lake. Access is via Greenbriar Road to Campground Road near Carterville, Illinois.

Blue Heron Marina and Campground: The concession operation consists of approximately 20 acres and is located on Crab Orchard Lake near Carterville, Illinois. Access to the site by vehicle is via Old Route 13, just off of Division Street.

Devils Kitchen Campground: Devil's Kitchen Campground consists of approximately 26 acres and is located about ¼ mile northwest of Devil's Kitchen Dam in Makanda, Illinois.

Future concessions could be developed in recreation areas that include boat ramps and other already established areas (Figure 2). For example, canoe and/or kayak rental could occur on these locations.

When would the use be conducted?

Facilities would typically be open April through October annually. However, the use could take place year-round, subject to refuge-specific regulations and laws governing the individual public use and as stated in the specific concession contracts.

How would the use be conducted?

Concessions would be conducted by a private entity according to the terms and conditions of each concession contract. Concessionaires would be selected using a competitive bid process (U.S. Fish and Wildlife Service, 2017; 620 FW 2).

Facilities would be managed by the concessionaires for public use and visitation. Concessions, upgrades and developments could include but would not be limited to full hook-up campsites (e.g., electric, water and sewer), primitive campsites, small, non-permanent cabins, beaches, marinas, boat docks, restrooms, shower facilities, general stores and associated infrastructure (e.g., roads, parking areas, trails). Any proposed new development and/or facility improvements would need prior approval by the refuge and require an amendment to the concession contract. Once the contract term ends, facilities would be disposed of, removed or managed per the refuge's direction at that time.

All construction, operation, maintenance and liabilities of current and new facilities would be the responsibility of the concessionaire, as stated in the concession contract. Concessionaires would serve as the caretaker on the premises year-round to assist with site protection and maintenance.

Concessions would be overseen by the refuge manager and/or their designee. Refuge staff would monitor concessions to ensure compliance with contracts, special use permits and other applicable policies and regulations. The refuge manager and/or their designee would regularly evaluate concession operations to ensure compatibility and compliance but would have the discretion to deny or reevaluate the appropriateness and compatibility of each concession

contract at any time (U.S. Fish and Wildlife Service, 2000; 603 FW 2.11 H(2)).

The specific details and restrictions governing concessions would be outlined in each contract to ensure the activity is consistent with the goals and objectives of the comprehensive conservation plan, is appropriate and compatible with refuge purposes and compliant with all applicable policies and regulations. All federal, state and refuge regulations and laws regarding modifications, upgrades, permitting, construction and use of public land would be upheld within the concession area and mitigation measures would be tailored to each concession contract. Approved services must enhance visitor knowledge and enjoyment of refuge resources and the mission of the refuge system and agency.

Why is this use being proposed or reevaluated?

This use is being reevaluated to review, replace and combine the concession-related activities found in the 2016 boating compatibility determination and the 2016 camping, swimming and picnicking compatibility determination (U.S. Fish and Wildlife Service, 2016a; 2016b). The use is being reevaluated based on the need to repurpose, update or develop new and existing facilities under current and new contracts.

Recreation is considered one of the four legislated purposes for Crab Orchard National Wildlife Refuge (see Refuge Purpose(s) and Establishing and Acquisition Authorities Section). Concessions would occur on the refuge to meet comprehensive conservation plan objectives under the “Other Land- and Water-based Recreation” goal. This goal allows visitors to enjoy high quality land- and water-based activities that fulfill the recreation purpose of the refuge. Objective 1 of this goal is to improve the quality of boat launches, marinas, beaches, picnic areas and campgrounds to industry standards over the life of the comprehensive conservation plan (U.S. Fish and Wildlife Service, 2007a).

Continuing and expanding concessions and associated activities are an important part of the local economy and cultural heritage of the area given the history, tradition and strong attachments local residents and the visiting public have for refuge concession sites. The refuge would continue to make these locations available for public use and make improvements to enhance visitor experience.

### **Availability of Resources**

Existing contracts rely on a combination of refuge staff time and resources and concessionaire resources. All new contracts and renewals would require that construction, operation and maintenance expenses for current and new facilities to be the responsibility of the concessionaire. Little to no maintenance responsibility would be completed by the refuge. The refuge Contract Compliance Specialist would ensure compliance of the contracts to include facilities, operations, paperwork and other administrative duties associated with contracts.

One-time and recurring annual expenses to the refuge as shown in the table below could include environmental compliance documents and contract bid documents; staff time for conducting

concessions such as contract administration; and law enforcement patrols, report writing and enforcement of the area. The percentage of gross receipts paid varies with each concession specific contract. However, an analysis from the comprehensive conservation plan has shown that revenues would be approximately \$535,000 (U.S. Fish and Wildlife Service, 2007a). Based on inflation rates, that figure today would be approximately \$800,000.

<b>Category and Itemization</b>	<b>One-time Cost</b>	<b>Recurring Annual Expenses</b>
Develop Plan/National Environmental Policy Act document/opening package	\$4,000	--
Construct facilities	\$0	--
Develop signage and brochures	\$0	\$0
Survey and post use area boundary	\$0	--
Staff time (law enforcement, administration and management)	\$0	\$10,000 *
Maintenance	--	\$0
Monitoring	--	\$0
<b>Total one-time expenses</b>	<b>\$4000</b>	
<b>Total recurring annual expenses</b>	<b>\$4000</b>	<b>\$10,000</b>
<b>Offsetting revenues</b>		
<b>Total expenses</b>	<b>\$4000</b>	

\*Concession Operations Management and Compliance-Administrative Detailed Cost Analysis for \$10,000 by refuge staff based on salaries and benefits

<b>Refuge Staff</b>	<b>Hours/year</b>	<b>Cost/year</b>
Refuge Manager	42	\$2,700
Deputy Manager	42	\$2,300
Visitor Services Manager	12	\$550
Contract Compliance Specialist	100	\$3,800
Refuge Law Enforcement Officers	15	\$550
Miscellaneous costs (supplies, gasoline, etc.)	0	\$100

## **Anticipated Impacts of the Use**

The effects and impacts of the proposed use on refuge resources, whether adverse or beneficial, would be those that are reasonably foreseeable and have a close causal relationship to the proposed use. This compatibility determination includes 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.” Concessions would not occur within wilderness area boundaries and as a result impacts to wilderness areas have been dismissed from further analysis.

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

Concessions would fulfill the objectives of the comprehensive conservation plan and refuge purpose, and the impacts from concessionaire activities would be beneficial or mitigated through careful planning and implementation. This use would be conducted in a manner that avoids or mitigates potentially adverse short- and long-term impacts. Restrictions imposed by the refuge manager, contracts and special use permits would reduce any anticipated negative effects to refuge resources.

The potential impacts of concessions were evaluated in the 2007 comprehensive conservation plan and environmental impact statement and associated record of decision (U.S. Fish and Wildlife Service, 2007a). The Playport Marina concession was evaluated in the 2023 Determination of National Environmental Policy Act Adequacy Memo (U.S. Fish and Wildlife Service, 2023). The analyses below are supplemental to the resources and environmental effects described in those documents and where applicable, are incorporated by summary and reference. This compatibility determination was developed using the most recent information and data.

Refuge concessions would be managed, improved and developed to enhance visitor experiences. Concessionaires would improve visitor access to the refuge for recreational uses and would not negatively impact the refuge's recreational purpose. The comprehensive conservation plan objectives consolidate recreation and concessions so as not interfere with wildlife conservation, agriculture and industry refuge purposes. Concessions would not overlap with areas where agriculture or industry purposes occur. The refuge's wildlife purpose would be minimally affected as concessions would primarily occur within existing recreation areas. The refuge would still be able to meet the refuge system mission to administer refuge lands for conservation, management and restoration of habitat as this use would not require significant refuge resources (see Availability of Resources section).

### **Short-term impacts**

Detailed descriptions of the affected environment and refuge resources can be found in the comprehensive conservation plan and environmental impact statement (U.S. Fish and Wildlife Service, 2007a).

## *Wildlife Species*

### Terrestrial Species

The presence of humans and recreation activities would disturb some wildlife causing temporary displacement without long-term effects. The presence of people could result in some disturbance to wildlife located in habitats adjacent to occupied camps (Boyle and Samson, 1985). Some species may avoid areas with frequent people, while other species would be unaffected by human presence. However, the overall effect of the use on wildlife would not impact populations or have measurable negative effects. Any alteration of wildlife behavior would be temporary and localized with wildlife quickly resuming normal activities after the event (Tablado and Jenni, 2015). Further, recreation activities associated with this use are already occurring in the described locations. The cumulative disturbance caused by concessions and all other public uses occurring on the refuge is not expected to adversely affect wildlife populations or their habitats (U.S. Fish and Wildlife Service, 2007a).

### Threatened and Endangered Species

The Indiana bat (*Myotis sodalis*) is not known to occur on the refuge, but it has been observed in areas nearby. In winter, Indiana bats hibernate in caves and mines. There are no known caves or mines on the refuge, but Indiana bats are known to hibernate in caves in Jackson County adjacent to the refuge (U.S. Fish and Wildlife Service, 2007a). Refuge concessions occur in high use areas with frequent disturbance by the public along with other high use infrastructure, such as roadways in close proximity. Should the Indiana bat be found on the refuge it is unlikely to inhabit these highly disturbed areas (Bergeson *et al.*, 2020). Due to poor habitat quality in the concession areas and no known occurrence of this species on the refuge, concession activities would not have an impact on the Indiana bat.

There are no known tricolored bat (*Perimyotis subflavus*) or northern long-eared bat (*Myotis septentrionalis*) summer maternity roosts on the refuge. Tricolored and northern long-eared bats would not be expected to use potential suitable habitat in concession areas as a result of the high frequency and intensity of disturbance from public use (Lopez-Roig and Serra-Cobo, 2014). Due to poor habitat quality in the concession areas and absent or low densities of these species on the refuge, concessions would not impact tricolored and northern long-eared bats.

The monarch butterfly (*Danaus plexippus*) is dependent on milkweed as its only known larval food plant; adults feed on nectar plants. Monarchs can be found wherever there is milkweed, such as open fields, gardens and parks (Kaul and Wilsey, 2019). Milkweed does not exist within the concessions areas as they are either developed facilities or are lawn grass type areas. Due to the lack of habitat in concession areas, concession activities would not have an impact on the monarch butterfly.

### Other Special Status Species

Although no longer threatened or endangered, bald eagles are referenced here due to their protection under the Bald and Golden Eagle Protection Act. Currently, there are no bald or golden

eagle nests within or near the concession areas. If a nest were to be built within the vicinity and construction activity were needed to take place, management measures outlined in the National Bald Eagle Management Guidelines (U.S. Fish and Wildlife Service 2007b) would be followed to limit any impacts. Therefore, concession activities would not have an impact on bald and golden eagles.

### *Habitat and Vegetation*

The short-term impacts of concession activities on habitat and vegetation would continue at current levels or levels similar to what has occurred in the past. Wildlife habitat and vegetation, which occurred at some concessionaire locations prior to construction, has been absent for many decades. In other areas that have had minimal management for several years, the vegetation has changed from mature shade trees within a recreation area to scattered mature pines and hardwoods with an understory overrun with invasive autumn olive and bush honeysuckle (U.S. Fish and Wildlife Service, 2007a). Potential short-term impacts to habitat and vegetation in concession areas could include litter, unauthorized collecting of flora and fauna and trampling of wildlife habitats. Vegetation disturbance, compaction, and erosion could occur on trails that are frequently used by campers to access their camp (Kuss, 1986).

Refuge personnel, volunteers and concessionaires would provide enforcement and educational outreach to help minimize and mitigate these impacts where practicable. These potential minor impacts would be offset by the added benefits (e.g., increased understanding, appreciation and awareness of the refuge and the outdoor environment) that these associated outdoor activities would generate for the refuge through community engagement and support (Wetering *et al.*, 2022). Therefore, minor impacts to vegetation or habitat changes could occur. However, changes would be minor and within previously impacted areas where human disturbance has occurred for decades. Concession expansion was addressed in the comprehensive conservation plan (U.S. Fish and Wildlife Service 2007) and consolidated with recreation. Concession expansion and any expanded services would be in already developed or disturbed areas.

The refuge would protect habitat health by preventing, where possible, the introduction of invasive species and disease. Equipment used for concession maintenance or development would be required to be cleaned and free of vegetation before entering the district.

### *Aquatic Species and Water Quality*

Recreational activities already occur throughout the aquatic portion of the refuge. Any impacts that could occur would be mitigated by stormwater management and erosion control measures to limit changes to water quality and runoff such as silt-fence installation, proper grading, clearing only areas essential for construction, and planting cover vegetation to hold soil in place (Environmental Protection Agency, 1999). The cumulative disturbance caused by concessions and all other public uses occurring on the refuge is not expected to adversely affect aquatic populations or their habitats. While increasing concessions in already developed areas and recreational opportunities could increase the use of these areas, the effects would be negligible or non-measurable.



### *Geology and Soils*

Most of the areas included in this compatibility determination have been disturbed over time whether from World War II operations that occurred on the refuge in the 1930s or through recreation development where the current facilities exist. Impacts to soils could include compaction, rutting, erosion and runoff from maintenance or construction equipment, however, most of the impacts would be short-term and limited to the time it takes to complete these activities. Concessionaires would be required to follow the National Management Measures to Control Nonpoint Source Pollution from Urban Areas guidelines to minimize impacts (Environmental Protection Agency, 2015), and equipment would be restricted to specific areas (i.e., established transportation routes) to minimize impacts. Any activity or potential future development in these locations would not have long-term or adverse impacts on the geology and soils in the concession areas.

### *Air Quality*

Exhaust emissions from recreation equipment could temporarily decrease air quality. Due to the limited duration and localized area of use, negative effects to air quality through slight increases in atmospheric pollution would be minimal and temporary. Air quality would improve once the emission-emitting vehicles stopped operating (Sannigrahi et al., 2021).

### *Visitor Use and Experience*

Overall, concessions would improve visitor use and experience through increased opportunities (e.g., campsites, boat docks and marina slips), accessibility and improved facilities (U.S. Fish and Wildlife Service, 2007a). Associated recreation activities and experiences are expected to increase throughout the refuge, adding to the knowledge and appreciation for refuge management.

Visitor numbers would likely increase by approximately 5%, but visitor experience would not diminish as the relative size and space of recreation areas and facilities available on the refuge would be large enough to support increased visitation. Most of these visitors are expected to be those that are already recreating on the refuge but would be looking for overnight camping/lodging while recreating. Most visitors using concessions would visit between April and October with lower visitation numbers likely during the off-season (November through March; U.S. Fish and Wildlife Service, 2023).

Due to the less densely populated areas of southern Illinois comparative to the majority of the continental United States, many visitors to the area would appreciate a lower visitor density than what is experienced elsewhere. Further, careful allocation of concessions using time and space considerations for this activity would avoid any major conflicts amongst visitors. A number of factors including suitable site conditions, presence of existing facilities, access limitations and seasonal restrictions or other regulations tend to concentrate uses to established areas. Overall, any potential impacts to visitor use and experience would be offset by the larger availability of recreation activities and higher quality experiences (Prideaux, 2002).

### *Refuge Management, Operations and Administration*

Existing contracts rely on a combination of refuge staff time and resources and concessionaire resources, however, all new contracts would require operations and maintenance to be the responsibility of the concessionaire. Placing the responsibility of maintenance and staffing on the concessionaires would decrease refuge time, budget and staff commitments. With more resources available, overall refuge management, operations and administration would improve.

### *Cultural Resources*

Both prehistoric and historical cultural resources are distributed throughout Crab Orchard National Wildlife Refuge. A cultural resources review was completed with the 2007 comprehensive conservation plan (U.S. Fish and Wildlife Service, 2007a). Protection of cultural resources is accomplished in conjunction with the agency's mandate to protect fish, wildlife and plant resources. Most concession construction and development would occur in areas currently operating as concessions or that have been previously disturbed. The potential to encounter cultural resources in these areas would be minimal. If unknown or unanticipated cultural resources are discovered at a concessions site, all actions would stop immediately, and the Regional Historic Preservation Officer would be contacted as soon as possible to ensure compliance with the National Historic Preservation Act and other applicable regulations. Locations of any new facilities would undergo cultural resources review.

### *Socioeconomics*

Most of the refuge is in Williamson County (43,625 acres), with smaller portions extending into Jackson County (661 acres) and Union County (1,157 acres; Figure 2). Cities bordering the refuge include Carbondale (population 25,083), Carterville (population 5,847), Herrin (population 12,687) and Marion (population 17,520; U.S. Census Bureau, 2019). The refuge is unique in having an industrial program that generates \$40 million annually to the local economy. Additionally, the refuge is an attraction for anglers, hunters, campers, boaters, bird watchers and other outdoor enthusiasts. Refuge hunting opportunities provide benefits to the local economy through the sales of food, gas, supplies or lodging. According to research on economic effects, hunting on the refuge resulted in \$684,000 in hunting expenditures for both travel-related goods and services and activity related equipment purchases (U.S. Fish and Wildlife Service, 2019b).

Spending associated with recreation at refuges nationwide can generate a substantial amount of revenue in local and regional economies. Refuge visitors spend money on a wide variety of goods and services for daily activities as well as trip related expenses including food, lodging and recreational activities. Outdoor enthusiasts also buy and rent equipment and supplies for their respective activities. A recent study (U.S. Fish and Wildlife Service, 2019) at Crab Orchard quantified recreational spending in local communities was associated with about 315 jobs, \$8.37 million in employment income, \$2.3 million in tax revenue and \$29.2 million in economic output.

With improved or added facilities, spending on concession-related recreational activities is expected to increase. Therefore, refuge revenue deriving from concessions is expected to increase. More visitors would also mean an increase in refuge use-fees, which are required for

visitation to the refuge. Overall, increased visitation as a result of improved concessions and recreational opportunities would contribute additional funds to the refuge and ultimately grow the capacity for the refuge to better accomplish its authorized purposes and maintaining refuge facilities.

#### *Environmental Justice*

Concession operation and associated activities would not disproportionately place any adverse environmental, economic, social or health affects onto minority and low-income populations. Concessionaires would be selected using a competitive bid process (U.S. Fish and Wildlife Service, 620 FW 2), which would provide equal access to concession contracts across all demographics.

#### Long-term impacts

This compatibility determination includes written analyses of impacts on a resource only when long-term impacts on the resource could be more than negligible. Wildlife species (terrestrial species, threatened and endangered species, other special status species), habitat and vegetation, aquatic species and water quality, geology and soils, air quality, refuge management, operations and administration, cultural resources and environmental justice would not be more than negligibly impacted by the action as there are mitigation measures in place to reduce long-term impacts and have been dismissed from further analysis.

#### *Visitor Use and Experience*

A long-term benefit of concessions and associated recreational activities would be the increased enjoyment by the public and increasing knowledge of the importance of managing wildlife habitat and conservation. Although visitors are expected to increase long-term, it is not anticipated that their use and experience would be negatively impacted. The refuge's Visitor Services Program would be adjusted as needed to eliminate or minimize problems such as overcrowding and provide quality recreational opportunities that include promoting public safety. Many national wildlife refuges have proven that time and space zoning (e.g., establishment of separate use areas, use periods and restrictions on the number of users) is an effective tool in eliminating conflicts between user groups. However, because additional opportunities to recreate are anticipated, visitor's overall enjoyment is expected to improve.

#### *Socioeconomics*

Concessions and associated recreational activities would have positive long-term effects on the local and regional economies. Increased revenue directly and indirectly associated with the refuge would increase job opportunities as well as provide revenue to local governmental entities through sales tax associated with purchases on and off-refuge.

### **Public Review and Comment**

The draft compatibility determination will be available for public review and comment for 15 days. The public will be informed of this comment opportunity through a press release sent to media (e.g., Newspapers, television and Facebook). An announcement of availability will also be posted

online on the refuge website (<https://www.fws.gov/refuge/craborchard/>) and the Crab Orchard Facebook page. A physical copy of the compatibility determination will be posted at the Crab Orchard National Wildlife Refuge Visitor Center 8588 Route 148, Marion, IL 62959 or can be requested via email ([Craborchard@fws.gov](mailto:Craborchard@fws.gov)). Comments can be submitted in writing to the refuge by email or by mail (same contact information as above). Concerns expressed during the public comment period will be addressed in the final draft.

## **Determination**

Is the use compatible?

Yes

### **Stipulations Necessary to Ensure Compatibility**

1. Concessions require compliance with contracts and special use permits, and concessionaires must follow each respective individual contractual agreement.
2. Contracts and special use permits will be issued by the refuge manager and list special conditions that must be met to avoid, mitigate or minimize adverse impacts to habitat, fish and wildlife resources, cultural resources and the visiting public. Other stipulations may include information regarding insurance coverage and performance bond requirements that place liability on the concessionaire.
3. Each contract and special use permit will be issued to meet and contribute to refuge purposes, enhance visitor experience, increase visitor understanding of the refuge and its resources and respond to maintenance and safety needs.
4. Concession users must follow all refuge regulations set forth for the general public.
5. Concessionaires must provide personal flotation devices (PFDs) for participants where applicable.
6. Any proposed changes to concession-related activities outside of what is already permitted in the contract and special use permit must receive prior written approval from the refuge manager.
7. Within the permitted concession area, the concessionaire is responsible for maintaining all buildings, roads, water, sewage and electrical facilities in a safe, working condition and in compliance with all applicable laws, codes and regulations.
8. Concessionaires will be responsible for all associated costs and liabilities of concessions and their associated uses.
9. Concessionaires will be required to educate outdoor gear renters and users about safe operations and the prohibition against disturbing wildlife, preventing the spread of invasive species.
10. Concessionaires will be required to distribute refuge visitor information services and

products to emphasize the importance of staying on trails, public access areas and keeping out of closed areas, along with providing “leave no trace” principles and practices.

11. All outdoor rental gear will be maintained in clean and safe operating order by the concessionaire per manufacturer’s specifications and/or applicable laws and regulations.
12. Facilities will be periodically attended, monitored or inspected by refuge personnel for compliance to refuge standards and the conditions of the contract and special use permit. The concessionaire will accommodate monitoring personnel at no cost to the refuge.
13. Camping, overnight use and fires will be permitted only in the designated campground areas, subject to conditions.

### **Justification**

Based on the most up to date available science and best professional judgement, the agency has determined that concessions at Crab Orchard National Wildlife Refuge, in accordance with the stipulations provided here, are compatible and will not materially interfere with or detract from the fulfillment of the National Wildlife Refuge System mission or the purposes of the refuge. Concessions will not conflict with the national policy to maintain the biological diversity, integrity and environmental health of the refuge. The use will not pose significant adverse effects on refuge resources, interfere with public use of the refuge or cause an undue administrative burden. This use will contribute to achieving refuge purposes and the refuge system mission because it will provide compatible recreational opportunities for visitors to observe and learn about wildlife and habitats firsthand. The stipulations outlined above would help ensure that concessions remain compatible and in compliance with all applicable laws, regulations and policies (e.g., 603 FW 2).

**Signature of Determination**

Refuge Manager Signature and Date

**Signature of Concurrence**

Assistant Regional Director Signature and Date

**Mandatory Reevaluation Date**

2034

## Literature Cited/References

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Wetering J., Leijten, P., Spitzer, J., and Thomaes, S. 2022 Does environmental education benefit environmental outcomes in children and adolescents? A meta-analysis, *Journal of Environmental Psychology*, Volume 81, 2022.



**Figure 1. Map of current concession locations and current campgrounds.**

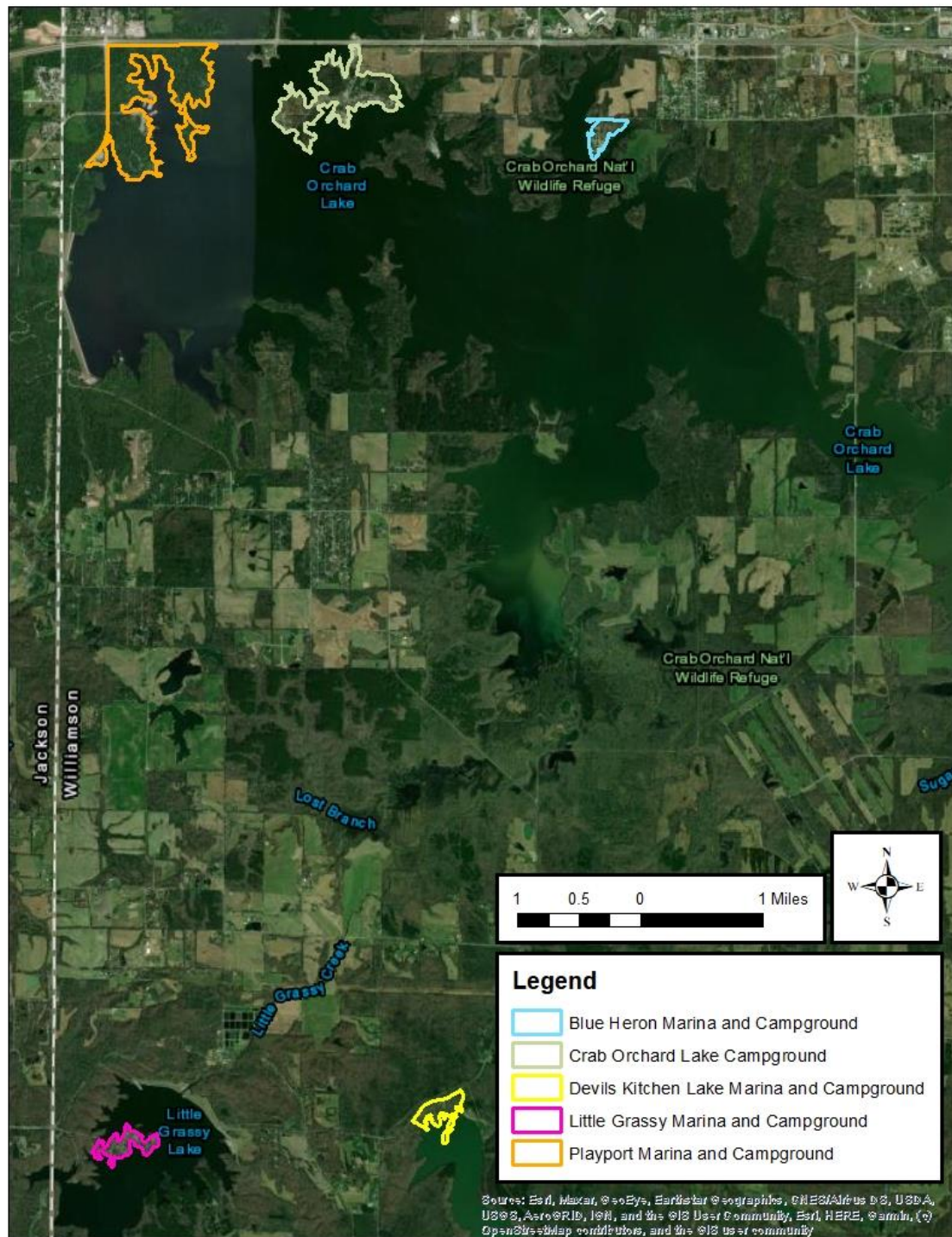


Figure 2. Map of current recreation areas.

U.S. Fish and Wildlife Service

## Crab Orchard NWR Recreation Areas

