

# **Draft Environmental Assessment**

## **for Hunting and Fishing on Marais des Cygnes National Wildlife Refuge**

March 2020

Submitted by

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# **Draft Environmental Assessment for Hunting and Fishing on Marais des Cygnes National Wildlife Refuge**

**Date:** March 2020

This Environmental Assessment (EA) is being prepared to evaluate the effects associated with this proposed action and complies with the National Environmental Policy Act (NEPA) in accordance with Council on Environmental Quality regulations (40 Code of Federal Regulations [CFR] 1500–1509) and Department of the Interior (43 CFR 46; 516 DM 8) and United States (U.S.) Fish and Wildlife Service (Service) (550 FW 3) regulations and policies. NEPA requires examination of the effects of proposed actions on the natural and human environment.

## **1.0 Introduction**

### **1.1 Proposed Action**

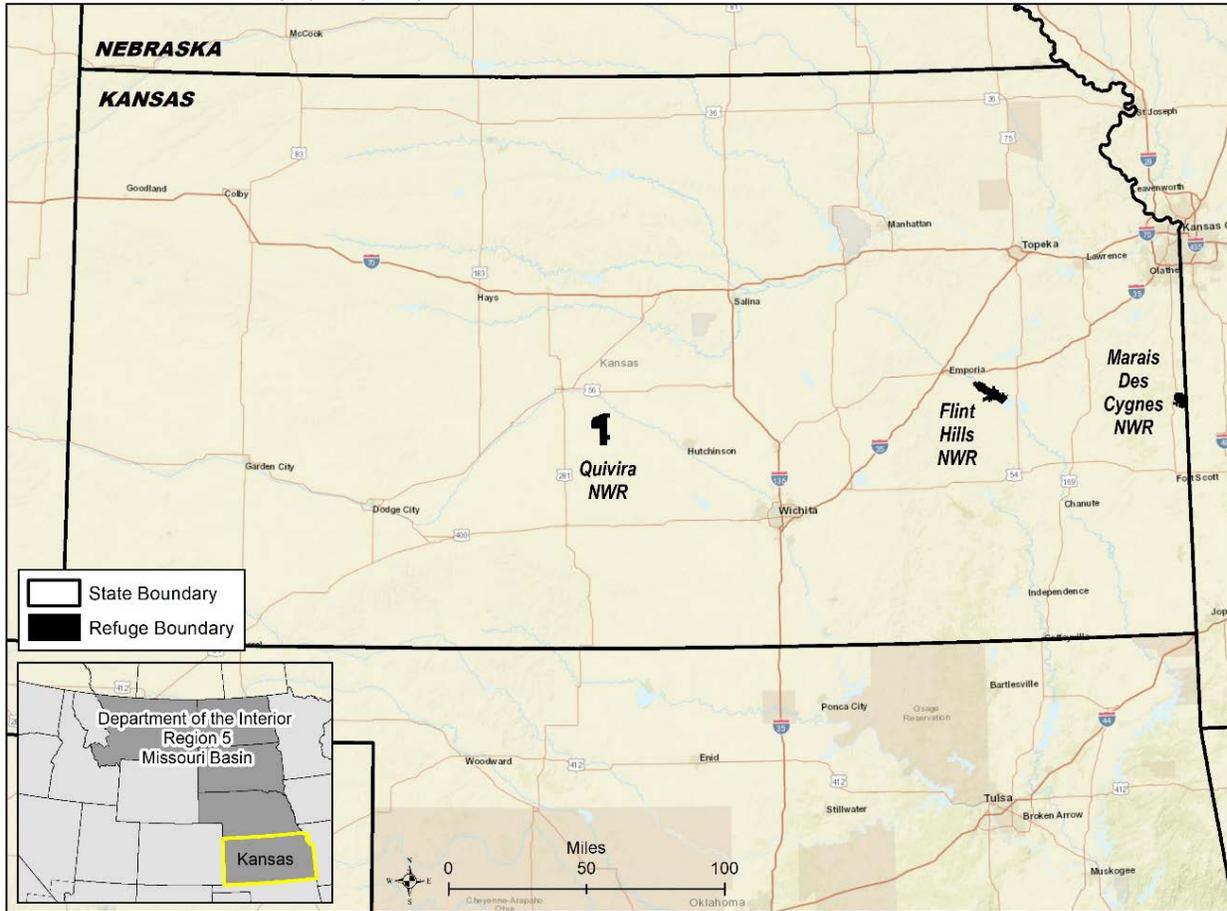
The Service is proposing to open hunting for badger, bobcat, mink, muskrat, fox, opossum, raccoon, striped skunk, weasel, and coyote on the 4,995-acre open unit on the Marais des Cygnes National Wildlife Refuge (NWR). The methods of take would be shotgun, muzzleloader, and archery. In addition, the Service proposes allowing crow, in compliance with state regulations and federal migratory bird regulations. Method of takes would be shotgun (nontoxic shot only) and archery. The refuge is located in Linn County, Kansas, along the Marais des Cygnes River (Figure 1).

The final decision on the proposed action will be made at the conclusion of the public comment period for the EA and the refuge hunting and fishing plan.

This proposed action is often iterative and evolves over time during the process as the agency refines its proposal and learns more from the public, tribes, and other agencies. Therefore, the final proposed action may be different from the original. The Service cannot open a refuge to hunting or fishing until a final rule has been published in the Federal Register formally opening the refuge to hunting or fishing.

The hunting and fishing plan proposes to support existing hunting opportunities and provide new hunting opportunities on the 7,565-acre Marais des Cygnes NWR. The hunting program generally will follow State of Kansas regulations with respect to the target species, seasons, bag limits, and method of take. In certain instances, we may deviate from those regulations to meet refuge wildlife population, public use, and public safety goals. This plan may use members of the general public to participate in hunts at specific times and locations that are designed to provide unique hunter opportunities. These hunts will be conducted in cooperation with the Kansas Department of Wildlife, Parks, and Tourism (KDWPT).

Kansas National Wildlife Refuge (NWR) Complex



**Figure 1. Area Map of Kansas National Wildlife Refuge Complex. (USFWS 2019)**

## 1.2 Background

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

### *Establishing Legislation*

Emergency Wetland Resources Act (1986): “The purpose of this Act is: “To promote the conservation of migratory waterfowl and to offset or prevent the serious loss of wetlands by the acquisition of wetlands and other essential habitat. And for other purposes, “. . . the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions . . . .”

Fish and Wildlife Act (1956): “. . . for the development and advancement, management, conservation and protection of fish and wildlife resources . . . .”

### ***Refuge Purpose***

“The Refuge was established in 1992 to protect bottomland hardwood habitats along the Marais des Cygnes River in Linn County (Marais des Cygnes National Wildlife Refuge decision document). Marais des Cygnes Basin, including threatened and endangered (T&E) species, will be preserved in coordination with partners. In addition, the refuge will serve as an area for wildlife-dependent environmental education, interpretation, and compatible recreational day use” (USFWS 1998, page 6).

### ***Landscape Goal***

Restore and maintain an area of Oak-Hickory Deciduous Forest Tallgrass Prairie Ecotone in as natural a condition as possible, to provide quality habitat for federally and state-listed species and support a diverse community of native plants and animals (USFWS 1998, p. 30).

The mission of the Refuge System, as outlined by the NWRSA, as amended by the Improvement Act (16 U.S. Code 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.”*

The NWRSA mandates the Secretary of the Interior in administering the System to (16 U.S. Code 668dd[a][4]):

- provide for the conservation of fish, wildlife, and plants, and their habitats within the Refuge System;
- ensure that the biological integrity, diversity, and environmental health of the Refuge System are maintained for the benefit of present and future generations of Americans;
- ensure that the mission of the Refuge System described at 16 U.S. Code 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 Refuge System are located;
- assist in the maintenance of adequate water quantity and water quality to fulfill the mission of the Refuge System and the purposes of each refuge;
- recognize compatible wildlife-dependent recreational uses as the priority general public uses of the Refuge System through which the American public can develop an appreciation for fish and wildlife;
- ensure that opportunities are provided within the Refuge System for compatible wildlife-dependent recreational uses;
- monitor the status and trends of fish, wildlife, and plants in each refuge.

Therefore, it is a priority of the Service to provide for wildlife-dependent recreation opportunities, including hunting and fishing, when those opportunities are compatible with the purposes for which the refuge was established and the mission of the Refuge System.

Two thirds of the refuge (4,995 acres, or 66 percent) is open for hunting and other wildlife-dependent recreational uses. The refuge supports a 34 percent closure to hunting and public use (Figure 2).

### **1.3 Purpose and Need for the Proposed Action**

The purpose of this proposed action is to provide compatible wildlife-dependent recreational opportunities on refuge. The need of the proposed action is to meet the Service’s priorities and mandates as outlined by the NWRSA to “recognize compatible wildlife-dependent recreational uses as the priority general uses of the NWR” and “ensure that opportunities are provided within the NWR for compatible wildlife-dependent recreational uses.” (16 U.S. Code 668dd[a][4]). The need of the proposed action also meets the Service’s implementation of Secretarial Order 3347, “Conservation Stewardship and Outdoor Recreation,” and Secretarial Order 3356, “Hunting, Fishing, Recreational Shooting, and Wildlife Conservation Opportunities and Coordination with States, Tribes, and Territories,” by expanding hunting opportunities and aligning Service regulations with state regulations.

A purpose of this hunting and fishing plan is to bring the refuge into alignment with KDWPT regulations, as well as other national wildlife refuges in the Kansas. Furthermore, the coyote hunting proposal would provide consistency of regulations with the adjacent Marais des Cygnes State Wildlife Area, which shares a common border with the refuge. Simplifying regulations could assist with reducing the downward trend in hunters and anglers by providing for the recruitment, retention, and reactivation of sportsmen and women.

## **2.0 Alternatives**

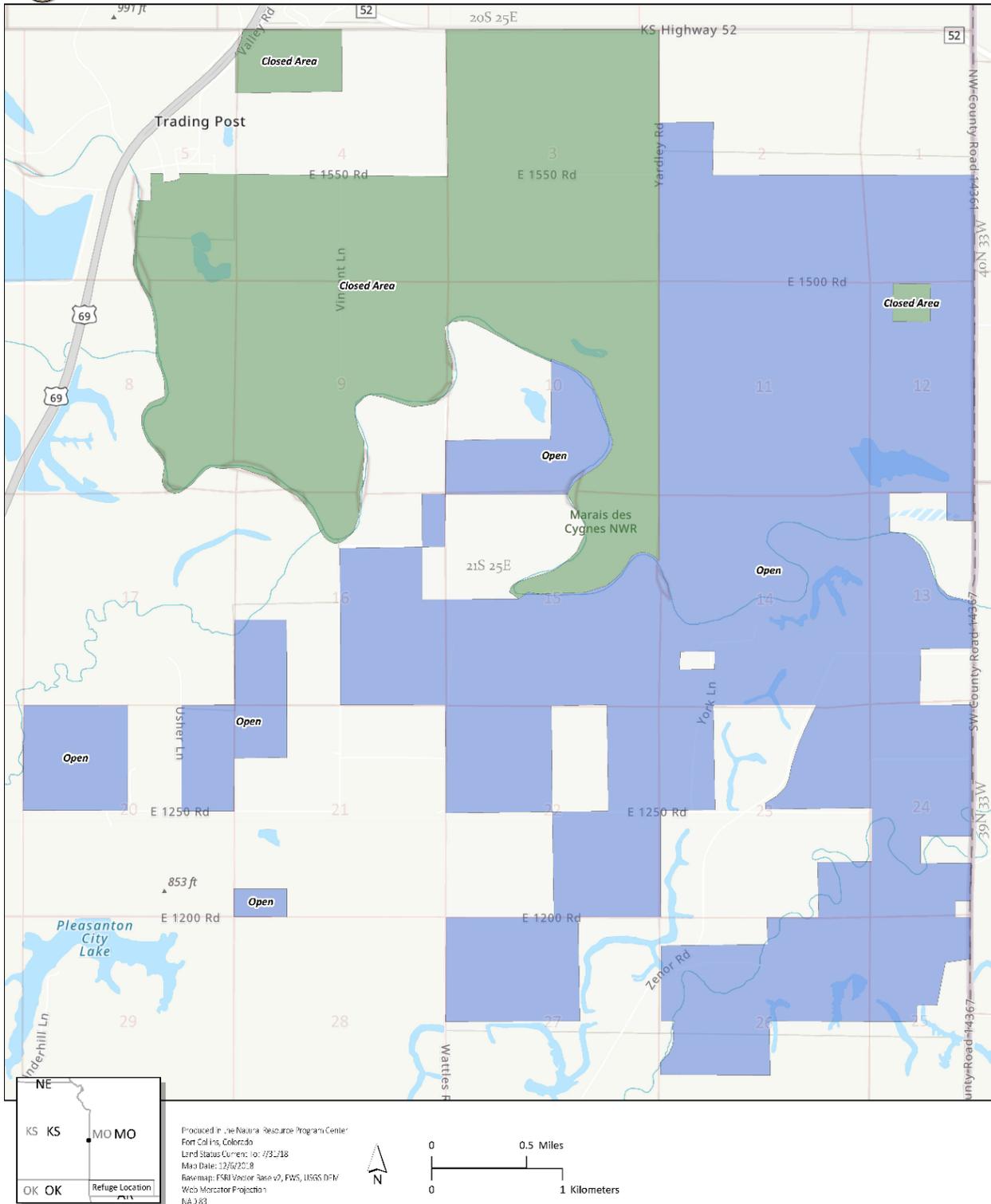
### **2.1 Alternatives Considered**

#### **Alternative A – Expand Hunting to Include Furbearer, Coyote and Crow – Proposed Action Alternative**

The refuge has prepared a hunting and fishing plan, which is presented in this document as the Proposed Action Alternative. The proposed alternative would not open additional acres for hunting, but rather new species (crow, furbearers, and coyote). The closed unit (2,750 acres), historically closed to hunting, would remain so.

#### ***Furbearer and Coyote***

Under the Proposed Action Alternative, the Service would open hunting for badger, bobcat, fox, mink, muskrat, opossum, raccoon, striped skunk, weasel, and coyote on the 4,995-acre open unit on the refuge in accordance with the refuge’s hunting and fishing plan. No trapping or running is being proposed. Hunting for beaver and otter is not permitted by state regulations and is not proposed in this alternative. Methods of take for furbearers would include shotgun, muzzleloader, and archery. Dogs, vehicles, or bait may not be used to hunt furbearers or coyotes. Coyotes may not be hunted from a vehicle or a road. Electronic calls would be permitted for coyote and furbearer. Hunting would be permitted during daylight hours (one-half hour before legal sunrise until one-half hour past legal sunset). Hunting seasons would be consistent with state regulations.



**Figure 2. Vicinity Map Showing Open (Blue) Areas and Closed (Green) Areas of Marais des Cygnes National Wildlife Refuge.**

## ***Crow***

Under the Proposed Action Alternative, the Service would open hunting for crow on the 4,995-acre open unit. Seasons and bag limits would follow state regulations. Methods of take would be limited to shotgun (nontoxic shot only) and archery.

### ***Mitigation Measures to Avoid Conflicts***

Mitigating measures include prohibiting the use of centerfire rifles to provide for public safety of the surrounding private landowners. In addition, the refuge is developing a hiking trail near the headquarters. When completed, this will provide recreation for hikers, birdwatchers, and photographers in a nonhunting portion of the refuge.

Under this alternative, the refuge law enforcement officer and/or KDWP wardens would monitor the hunts. They would conduct license, bag limit, and compliance checks.

The proposed alternative offers increased opportunities for public hunting and fulfills the Service's mandate under the Improvement Act. The Service has determined that the hunting and fishing plan is compatible with the purposes of the refuge and the mission of the Refuge System.

### **Alternative B – Continue Current Management Strategies – No Action Alternative**

Under the No Action Alternative, the refuge would continue to prohibit furbearer and coyote hunting, as well as crow hunting. Other hunting seasons would remain in place, as outlined in the refuge hunting regulations.

## **3.0 Affected Environment and Environmental Consequences**

### **3.1 Affected Environment**

The refuge consists of 7,565 acres of wetlands, riparian forests, tallgrass prairie, and agricultural lands. Established in 1992, the refuge is owned in fee by the Service as part of the Refuge System. Prior to refuge establishment, significant alterations occurred to vegetation and hydrology. Although much of the native tallgrass prairie was cleared for agriculture, native habitats still occur within bottomland hardwood forests, tallgrass prairie, and gravel beds harboring freshwater mussels. Former agricultural fields provide sites for restoration of hardwood forests, tallgrass prairie, and the creation of moist soil wetlands.

The refuge provides significant bottomland hardwood habitat in a 3,300-square-mile watershed which consists primarily of private land managed for agriculture. The majority of the watershed is dominated by grassland/pasture (59 percent of acreage) and cultivated crops (20 percent of acres). Shrublands account for one-tenth of one percent of acreage. Land cover data show only 11 percent of the acreage as forest, the majority of that on upland sites, with very little bottomland hardwood habitat. Therefore, bottomland hardwood habitats at the refuge offer something unique to the Marais des Cygnes River drainage: a bottomland hardwood forest that can be actively managed to counteract the regionally prevalent oak decline resulting from forest densification and reduced fire. Most forests in eastern Kansas are not actively managed, and therefore revert to shade-tolerant elm-ash-hackberry (Hodges 1997). Therefore, bottomland hardwood forests and shrub or scrub wetlands provide important migratory bird habitat along the Marais des Cygnes River. Mensik and Paveglio (2004) present management concepts that apply well to refuge habitats:

*“Because many refuges are located in areas that have fragmented habitats as well as dramatically altered hydrology and vegetation, they are often islands of habitat surrounded by large urban areas or intensive agricultural development. Many of the refuges located along the Continent’s four major flyways were established to conserve and intensively manage nesting, migration, and wintering areas for migratory waterfowl and waterbirds.”*

For more information regarding the affected environment, please see the refuge’s comprehensive conservation plan (<https://www.fws.gov/mountain-prairie/refuges/mrs.php>).

### **3.2 Environmental Consequences of the Action**

This section analyzes the environmental consequences of the action on each affected resource, including direct and indirect effects. This EA only includes the written analyses of the environmental consequences on a resource when the impacts on that resource could be more than negligible and therefore considered an “affected resource.” Any resources that would not be more than negligibly affected by the action have been dismissed from further analyses.

Tables 1 through 5 provide:

- a brief description of the affected resources in the proposed action area;
- impacts of the proposed action and any alternatives on those resources, including direct and indirect effects.

Table 6 provides a brief description of the cumulative impacts of the proposed action and any alternatives.

Impact Types:

- *Direct effects* are those that are caused by the action and occur at the same time and place.
- *Indirect effects* are those that are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable.
- *Cumulative impacts* result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions.

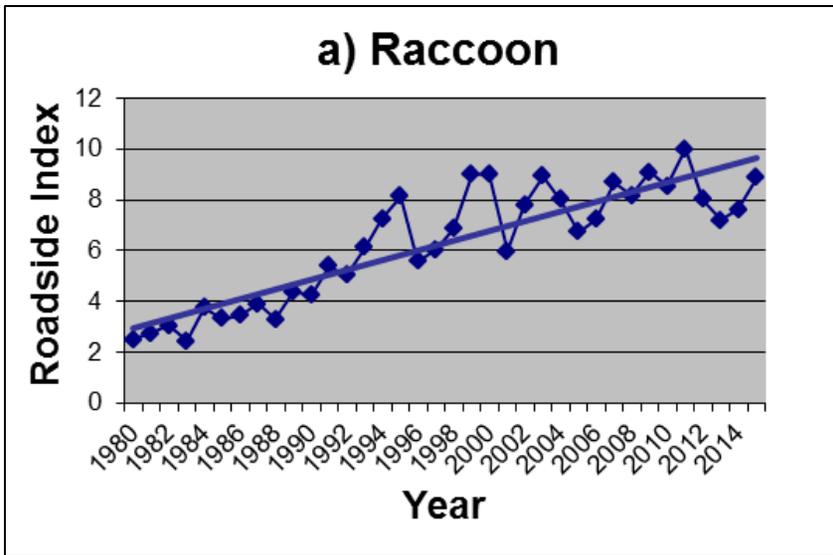
**Table 1. Affected Natural Resources and Anticipated Direct and Indirect Impacts of the Proposed Action and Any Alternatives.**

<p><b>Affected Resources</b></p>	<p><b><u>Alternative A (Proposed Action)</u></b> <i>No additional acres for hunting would be opened, but hunting of new species (crow, furbearers, and coyote) would be permitted. The closed unit on Marais des Cygnes NWR would remain so.</i></p>	<p><b><u>Alternative B (No Action)</u></b> <i>Hunting would continue as outlined in the refuge hunting regulations. Furbearer, coyote, and crow hunting would continue to be prohibited.</i></p>
<p><b>Furbearer and Coyote</b></p>		
<p>At the statewide level in Kansas, these furbearer species have increasing population trends according to summer roadside surveys by the KDWPT (KDWPT 2018). Coyotes appeared ubiquitous across the refuge, and observed individuals looked relatively healthy. Hunters report seeing furbearers, particularly coyotes when they are deer and turkey hunting. These public users regularly inquire if coyote and raccoon hunting is a possibility at the refuge.</p> <p>The survey trends from 1967–2011 for these species are shown in Figure 3 and Figure 4.</p> <p>Refuge staff members report abundant coyotes and raccoons. The coyote population is dense enough that an unattended harvested deer is quickly shredded and devoured by coyotes. Raccoons are commonly seen during nighttime spotlight deer surveys.</p> <p>Other furbearers (opossum, striped skunk, badger, and fox) do not seem to be increasing as rapidly, either on the refuge, or throughout the state. Frequent flooding of the refuge likely reduces the populations of some species.</p>	<p>Furbearer hunting on the refuge would add to the opportunity and quality of outdoor recreation experience offered on the refuge. The refuge likely would see some “dedicated” raccoon hunters willing to hunt or call furbearers during the day. However, harvest would likely be dominated by incidental take. Deer hunters and squirrel hunters may encounter and harvest furbearers. Refuge law enforcement officers estimate that 20 dedicated raccoon hunters might take approximately 25-30 animals throughout the year. Estimated take of the other furbearer species would be even fewer than that of raccoon.</p>	<p>Furbearer and coyote hunting would continue to be prohibited on the refuge. Populations would likely continue increasing, as they are throughout the state.</p> <p>Neotropical migrant birds have declined continentally over several decades, and mid-sized predators are suspected as part of this problem. Raccoons are known nest predators (Staller et al. 2005). The refuge presents some of the western extent of prothonotary warblers. Within the refuge’s floodplain forests, raccoons are a likely nest predator of this species. Nest predation from these species would continue unabated.</p>

<b>Affected Resources</b>	<b><u>Alternative A (Proposed Action)</u></b> <i>No additional acres for hunting would be opened, but hunting of new species (crow, furbearers, and coyote) would be permitted. The closed unit on Marais des Cygnes NWR would remain so.</i>	<b><u>Alternative B (No Action)</u></b> <i>Hunting would continue as outlined in the refuge hunting regulations. Furbearer, coyote, and crow hunting would continue to be prohibited.</i>
<b>Crow</b>		
<p>American crows are widespread, and long-term population trends continue to increase nationally and worldwide (Verbeek and Caffrey 2002: <a href="https://birdsna.org/Species-Account/bna/species/amecro/introduction">https://birdsna.org/Species-Account/bna/species/amecro/introduction</a>).</p> <p>Crows are common on the refuge and did not show appreciable declines from the West Nile Virus introduction in the early 2000s.</p>	<p>Refuge law enforcement officers estimate that approximately 5 hunters would take advantage of this expanded hunting opportunity. The success rate would be somewhere around 50 percent. These effects are considered to be negligible due to the small number of hunters and the limited season in which these impacts occur.</p>	<p>Neutral effects on the population because hunting is not permitted under current conditions.</p>
<b>Other Wildlife and Aquatic Species</b>		
<p>The refuge supports a diversity of wildlife species of eastern Kansas, including game and nongame species, reptiles, amphibians, and invertebrates, which are important contributors to the overall biodiversity on the refuge. Songbirds breed at the refuge, whereas waterfowl, rails, and raptors primarily use the refuge as wintering and migratory habitat. The refuge supports 200 acres of managed wetlands within the nonhunting area. This habitat provides sanctuary and roosting areas for migratory birds and helps to offset potential disturbance effects.</p>	<p>Increased hunting may result in little disturbance to wildlife, since no additional units would be open to hunting. The open unit is already open to hunting during the proposed furbearer and coyote hunting season. Similarly, during the crow season, small game, deer, and migratory bird hunting is allowed in the open hunt unit.</p> <p>Hunting would not occur during the active breeding season for most birds; therefore, no disturbance is expected. However, coyotes are known to depredate white-tailed deer fawns and ground nesting birds such as northern bobwhite quail and turkeys (Cooper et al. 2015, Rollins and Carroll 2001, Staller et al. 2005). Raccoons are documented egg predators and opportunistically take multiple migratory bird species (Rollins and Carroll 2001, Staller et al. 2005). Furthermore, high densities of coyotes and raccoons can be reservoirs for distemper, rabies, West Nile Virus, round worm, mange, and likely other understudied diseases (Chronert et al. 2006, Fischer 1995). Some of these diseases are zoonotic, transmittable to humans. Visitors at the refuge enjoy seeing wildlife but do not want to contract diseases from those species.</p>	<p>Furbearer and coyote hunting would continue to be prohibited on the refuge. Populations likely would continue increasing, as they are throughout the state. Nest predation from these species would continue unabated.</p>

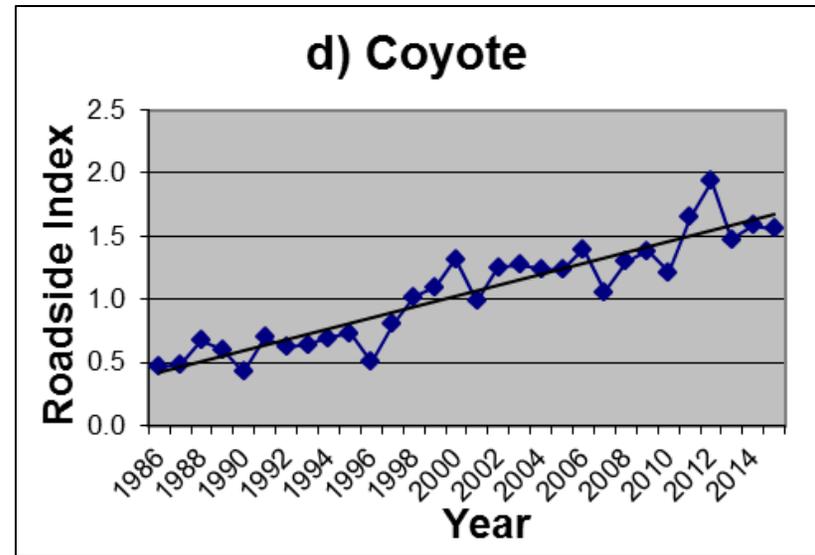
<b>Affected Resources</b>	<b><u>Alternative A (Proposed Action)</u></b> <i>No additional acres for hunting would be opened, but hunting of new species (crow, furbearers, and coyote) would be permitted. The closed unit on Marais des Cygnes NWR would remain so.</i>	<b><u>Alternative B (No Action)</u></b> <i>Hunting would continue as outlined in the refuge hunting regulations. Furbearer, coyote, and crow hunting would continue to be prohibited.</i>
<b>Threatened and Endangered Species and Other Special Status Species</b>		
There are no threatened and endangered species or species of special management concern in the area of the proposed hunting expansion.	The proposed action and alternatives would not affect any species of special management concern.	This alternative would have no impact on threatened and endangered species.
<b>Vegetation</b>		
Forest vegetation may include Pin Oak, Silver maple, American sycamore, elm, pecan, green ash, hackberry, eastern cottonwood, willow, and oak species. Wetland species are mixed, but include shrubs such as coralberry, sedge, millet, and smartweed.	The proposed action would not affect any vegetation of special management concern.	If no changes are made to the hunting regulations, there would be no changes to vegetation species or structure.

Key: KDWPT = Kansas Department of Wildlife, Parks, and Tourism; NWR = National Wildlife Refuge



Source: KDWPT, Summer Roadside Survey (2015)

**Figure 3. Kansas Survey Trend for Raccoon (1967–2011).**



Source: KDWPT, Summer Roadside Survey (2015)

**Figure 4. Kansas Survey Trend for Coyote (1967–2011).**

**Table 2. Affected Visitor Use and Experience and Anticipated Direct and Indirect Impacts of the Proposed Action and Any Alternatives.**

<p><b>Affected Resources</b></p>	<p><b><u>Alternative A (Proposed Action)</u></b></p> <p><i>No additional acres for hunting would be opened, but hunting of new species (crow, furbearers, and coyote) would be permitted. The closed unit on Marais des Cygnes NWR would remain so.</i></p>	<p><b><u>Alternative B (No Action)</u></b></p> <p><i>Hunting would continue as outlined in the refuge hunting regulations. Furbearer, coyote, and crow hunting would continue to be prohibited.</i></p>
<p>The refuge staff estimates that 7,000 people visit the refuge annually. This number does not include visitors who travel through the refuge on the several county roads that bisect refuge property.</p> <p>The refuge has been tasked with developing its visitor use opportunities, along with its connection to the greater Kansas City Area. The refuge hopes to add a staff member focused on developing these urban connections. The refuge also is planning trails and educational infrastructure to further this message.</p>	<p>Hunters are the primary constituency on the refuge, accounting for more than half of the total visits. Hunting furbearers, coyotes, and crow would be unlikely to disturb refuge visitors engaged in other priority public uses. Furbearer hunting season typically opens from mid-November through mid-February. This is a segment of the year with fewer birders and hikers. The proposed hunt should not conflict with other refuge wildlife-dependent recreational programs such as wildlife observation, wildlife photography, wildlife interpretation, environmental education, or fishing.</p> <p>Furthermore, expanded hunting opportunity could slow the downward trend in hunting at the refuge by providing for the recruitment, retention, and reactivation of sportsmen and women.</p>	<p>The visiting public would continue to be frustrated by a lack of furbearer and coyote hunting options at the refuge. Deer hunters would likely continue to express concern over the abundance of coyotes and predators they see while hunting from a deer stand.</p>

Key: NWR = National Wildlife Refuge

**Table 3. Affected Cultural Resources and Anticipated Direct and Indirect Impacts of the Proposed Action and Any Alternative.**

<p><b>Affected Resources</b></p>	<p><b><u>Alternative A (Proposed Action)</u></b></p>	<p><b><u>Alternative B (No Action)</u></b></p>
<p>Limited archeological work has been done in the refuge. Preliminary reconnaissance work done by the Kansas State Historical Society in conjunction with development on the Marais des Cygnes Waterfowl Management Area did not yield sites of archaeological significance. However, investigators did report that studies of contour maps of the region and reports of sites located in adjacent drainages indicate the area’s potential for the presence of archaeological sites. Currently, the most notable historical resource in the proposal area would be the old Fort Leavenworth-Fort Scott Military Road.</p> <p>The refuge also encompasses the remains of abandoned farmsteads and two community cemeteries. Agriculture and coal mining have been important economic activities in Linn County since the mid1800s. The refuge lies within the Pleasanton Coal Mining District. The earliest record of coal production in the district is in 1872. Several abandoned coal mines are present on the refuge. These include shaft and open pit mines—both large commercial operations and small family mines.</p>	<p><i>No additional acres for hunting would be opened, but hunting of new species (crow, furbearers, and coyote) would be permitted. The closed unit on Marais des Cygnes NWR would remain so.</i></p> <p>Because of the temporary and superficial use of refuge habitats during hunting and fishing activities, there should be no direct or indirect impacts on cultural resources under this alternative from visitors engaged in hunting and fishing activities, as delineated in the hunting and fishing plan. The Service has determined that, in accordance with the implementing regulations for section 106 of the National Historic Preservation Act (36CFR800), “. . . the undertaking is a type of activity that does not have the potential to cause effects on historic properties, assuming such historic properties were present, [and] the agency official has no further obligations under section 106 or 36 CFR 800.3(a)(1).”</p>	<p><i>Hunting would continue as outlined in the refuge hunting regulations. Furbearer, coyote, and crow hunting would continue to be prohibited.</i></p> <p>Under this alternative, there would be no change to existing environmental conditions; subsequently, no direct or indirect effects on cultural resources would be anticipated under this alternative.</p>

Key: CFR = Code of Federal Regulations; NWR = National Wildlife Refuge

**Table 4. Affected Refuge Management and Operations and Anticipated Direct and Indirect Impacts of the Proposed Action and Any Alternatives.**

<b>Affected Resources</b>	<b><u>Alternative A (Proposed Action)</u></b> <i>No additional acres for hunting would be opened, but hunting of new species (crow, furbearers, and coyote) would be permitted. The closed unit on Marais des Cygnes NWR would remain so.</i>	<b><u>Alternative B (No Action)</u></b> <i>Hunting would continue as outlined in the refuge hunting regulations. Furbearer, coyote, and crow hunting would continue to be prohibited.</i>
<b>Land Use</b>		
<p>The refuge has ongoing projects of habitat management and restoration of forests, shrublands, wetlands, and grasslands. Some of these activities (prescribed fire, tree plantings, water management, and wetland management) coincide with hunting seasons. The staff continues with this habitat work during hunting season, using the opportunity to engage and educate the public in land management.</p>	<p>This alternative likely would not cause any conflicts with the visitor use program. The expanded hunting opportunities would not be adversely affected. The refuge would continue to engage in habitat management and cooperative agriculture during the hunting season to ensure that the refuge meets its other management objectives.</p>	<p>Under the current hunting and fishing plan, there would be no change in the refuge management and operations.</p>
<b>Administration</b>		
<p>The refuge currently has law enforcement coverage from a federal officer, with additional coverage from KDWPT officers.</p>	<p>The expanded hunting opportunities would not require any additional cost for law enforcement. The proposed hunting seasons occur during months of the year when officers would be making other hunter contacts anyway. The hunts would occur in existing hunt units, thus requiring no new signage. The only local administrative change would be reprinting the refuge hunting brochure with the updated regulations. This occurs on an annual basis and would not require any additional expense.</p>	<p>Under the current hunting and fishing plan, there would be no change in refuge management and operations.</p>

Key: KDWPT = Kansas Department of Wildlife, Parks, and Tourism; NWR = National Wildlife Refuge

**Table 5. Affected Socioeconomics and Anticipated Direct and Indirect Impacts of the Proposed Action and Any Alternatives.**

<p><b>Affected Resources</b></p>	<p><b><u>Alternative A (Proposed Action)</u></b></p> <p><i>No additional acres for hunting would be opened, but hunting of new species (crow, furbearers, and coyote) would be permitted. The closed unit on Marais des Cygnes NWR would remain so.</i></p>	<p><b><u>Alternative B (No Action)</u></b></p> <p><i>Hunting would continue as outlined in the refuge hunting regulations. Furbearer, coyote, and crow hunting would continue to be prohibited.</i></p>
<p align="center"><b>Local and Regional Economies</b></p>		
<p>The refuge is approximately a 1.5-hour drive from the Kansas City Metropolitan Area, with a population of 2.3 million. The city of Pleasanton, Kansas, where the refuge is located, has a stable population of more than 1,000 people. The predominant land uses in the vicinity of the refuge are grazing and non-irrigated farming. The refuge averages about 7,000 visitors per year.</p>	<p>Expenditures by hunters in Kansas averaged \$1,240 per year in 2011 (USDOI 2011). Expenditures in Kansas by wildlife watchers in 2011 averaged \$371 (USDOI 2011).</p> <p>The proposed alternative likely would increase hunting on the refuge not only by providing additional hunts, but also by simplifying regulations, bringing them more into alignment with state hunting regulations.</p>	<p>Under the No Action Alternative, there would be no change to the existing refuge hunting program, nor would there be any additional impacts on local and regional economies.</p>
<p align="center"><b>Environmental Justice</b></p>		
<p>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 describing and addressing disproportionately high or adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities.</p>	<p>Within the spirit and intent of Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations, and Low Income Populations, no actions being considered in this EA would disproportionately place any adverse environmental, economic, social, or health effects on minority or low-income populations when compared with the public.</p> <p>The Service is committed to ensuring that all members of the public have equal access to the nation’s fish and wildlife resources, and equal access to information that would enable them to take part meaningfully in activities and policy shaping.</p>	<p>Under the No Action Alternative, there would be no change to the existing refuge hunting program. Supporting the existing program would have no effects on minority or low-income communities.</p>

Key: EA = Environmental Assessment; NWR = National Wildlife Refuge

### 3.3 Cumulative Impact Analysis

Cumulative impacts are defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions” (40 CFR 1508.7).

For more information on the national cumulative impacts of the Service’s hunting and fishing program on the Refuge System, see 2020–2021 Cumulative Impacts Report.

**Table 6. Anticipated Cumulative Impacts of the Proposed Action and Any Alternatives.**

Other Past, Present, and Reasonably Foreseeable Activity Impacting Affected Environment	Descriptions of Anticipated Cumulative Impacts
<b>Hunting and Fishing</b>	
<p>Both coyote and furbearer harvest have decreased dramatically over the past decades. One factor may be the significant decline in fur prices over the past 40+ years. Furbearer populations have risen dramatically, in part because of decreased harvest.</p> <p>Between 1955 and 2015, hunter participation among Kansas residents declined by half, from 10 percent down to 5 percent. During that same time-frame, Kansas experienced an increase in hunters from other states.</p> <p>The survey trend from 2017–2018 for the harvest, participation, and activity levels for hunters in Kansas during the 2017–2018 harvest season is shown in Table 7.</p>	<p>The refuge conducts its hunting program in coordination with state regulations and in consultation with state wildlife professionals. In many cases, refuge regulations are more restrictive than state regulations.</p> <p>Under the proposed action, the Service would allow crow hunting, and furbearer and coyote hunting during daylight hours. The proposed action would be more restrictive than state regulations for each hunt. For this reason, as well as the 2,570-acre no hunting zone (closed unit), the proposed hunts would have a negligible cumulative effect on local or statewide wildlife populations.</p> <p><b>Furbearers</b></p> <p>Considering the low numbers of occurrence of many furbearer species and refuge hunting limitations (for example, area and hours), the potential take is likely negligible in proportion to regional or state numbers.</p> <p><b>Coyote</b></p> <p>Based on an estimated average of 0.47 bag per day over a 181-day refuge season, potential harvest is about 85 coyotes. In reality, it is not expected that coyote hunting would or could occur every day of the season. Also, considering the refuge hunting limitations (for example, no use of vehicles or lights, no dogs, or the hours), we expect that the actual take would be much less.</p> <p><b>Migratory Birds</b></p> <p>Crow is the only new migratory bird species proposed to be hunted under Alternative A. American crow are widespread and long-term population trends continue to increase nationally and worldwide (Verbeek and Caffrey 2002; <a href="https://birdsna.org/Species-Account/bna/species/amecro/introduction">https://birdsna.org/Species-Account/bna/species/amecro/introduction</a>). Harvest of crow on the refuge would be negligible in context of cumulative impacts to the population at regional and larger landscape scales.</p>

<b>Other Past, Present, and Reasonably Foreseeable Activity Impacting Affected Environment</b>	<b>Descriptions of Anticipated Cumulative Impacts</b>
	<p>Estimated hunters = 5.00</p> <p>Estimated season days/hunter = 4.00</p> <p>Estimated season bag/hunter = 6.50</p> <p>Estimated average bag/day = 2.10</p>
<b>Other Wildlife-Dependent Recreation</b>	
<p>Hunters comprise a majority of the public use on the refuge. The refuge does keep trails for hiking, nature observation, photography, and nature interpretation. Hunting is prohibited in the 2,750-acre Closed Unit. Significant acreage exists for other wildlife-dependent recreation.</p>	<p>The proposed alternative would not interfere with other wildlife-dependent recreation. Similarly, other wildlife-dependent recreation would not preclude the proposed action. For example, hunting and birding currently coexist in the same areas of the refuge. Yet, if nonhunters want to recreate in areas without hunting, there are many acres for those activities.</p> <p>The net cumulative effect of the proposed action would likely be positive, because the refuge has received numerous requests for the proposed hunts, and this would not adversely affect other recreation.</p>
<b>Development and Population Increase</b>	
<p>Land use has remained relatively stable since the refuge was established. The human population has not increased enough to promote development and habitat conversion.</p>	<p>Since 1980, the population of Linn County, Kansas, has decreased by approximately 1,500 people (from 9,750 to 8,200). The city of Pleasanton, Kansas, where the refuge is located, has a stable population of approximately 1,200 people. Over the past 20 years, development has been minimal. In the past two years, a 60-turbine wind project began construction 20 miles southwest of the refuge. This had been met with some opposition in Linn County. Refuge staff has not observed changes to wildlife populations as a result.</p> <p>Development should remain stable and population may continue to decrease. The effects on the proposed action likely would be negligible.</p>
<b>Agricultural Land Uses</b>	
<p>Tillable agriculture and pastures for cattle dominate the land use in the area surrounding the refuge. Over the past two decades, there has been a slight increase in tillable acres as Conservation Reserve Program acres decrease and some private land pasture are converted to row crops.</p>	<p>Over the same time period, on refuge land, the Service has restored habitats, thus reducing cropland acreage from 900 acres to zero acres today. The refuge staff has not noticed a decrease in deer densities over the past two decades. Furbearer and coyote populations have increased, but reasons for that extend beyond land conversion. Refuge staff anticipates relative stability in agricultural land use. Therefore, cumulative impacts would be minor.</p>

Other Past, Present, and Reasonably Foreseeable Activity Impacting Affected Environment	Descriptions of Anticipated Cumulative Impacts
<b>Use of Ammunition and Tackle</b>	
<p>The Service prohibits the use of lead shot on the refuge. Lead would not be allowed for crow hunting but would be allowed in muzzleloaders and shotguns under the proposed alternative.</p>	<p>Lead slugs in shotguns, and lead balls in muzzleloaders, would be permitted under refuge regulations. Lead buckshot would not be allowed for furbearer and coyote hunting.</p> <p>Refuge staff anticipates relatively light furbearer hunting pressure, and no use of lead in crow hunting. Therefore, the total accumulation of lead on the refuge landscape would likely be negligible.</p>
<b>Climate Change</b>	
<p>Climate change refers to the increasing changes in the measures of climate over a long period of time—including precipitation, temperature, and wind patterns (USGS 2019). Although climate change is a naturally occurring phenomenon and temperature and precipitation changes are anticipated, there are many unknowns. Consequently, we do not fully understand the potential effects that climate change may have on terrestrial and aquatic habitats and the associated wildlife species.</p> <p>Based on the National Oceanic and Atmospheric Administration’s summary of potential climate change effects on Kansas (Frankson et al. 2017; <a href="https://statesummaries.ncics.org/chapter/ks/">https://statesummaries.ncics.org/chapter/ks/</a>), the prediction is for future warmer winter and spring temperatures relative to summer and fall. The number of cold (minimum temperature below 0 degrees Fahrenheit) nights would decrease. Annual precipitation, although uncertain, is predicted to be less in summer and more in winter. The intensity of droughts is expected to increase.</p> <p>It is reported that temporal shifts are occurring in species migration patterns in response to climate change. Of relevance to this environmental assessment and hunt plan is reports of temporal shifts in migration of the whooping cranes (Jorgensen and Bomberger Brown 2017).</p> <p>Over the last 20 years there have been changes to farming practices and crop rotations, some of those attributable to weather patterns.</p>	<p>Using available and emerging science, the Service would continue to assess predictions of these complex effects and use an adaptive management approach to implement this action to ensure that it would not add to the effects of climate change on the environment. Hunting programs and mitigation measures would adapt to changing conditions to continue to conserve natural resources and balance compatible recreational uses.</p>

<b>Other Past, Present, and Reasonably Foreseeable Activity Impacting Affected Environment</b>	<b>Descriptions of Anticipated Cumulative Impacts</b>
Although Kansas still leads the nation in hard red winter wheat production, local farmers have significantly reduced their acreage of this crop. Some cite the increased rain and disease problems with winter wheat. This leaves corn and soybeans as the primary crops.	

**Table 7. Harvest, Participation, and Activity Levels for Hunters in Kansas during the 2017–2018 Furbearer Harvest Survey.**

Species	Survey Respondents Who Pursued (n)	Estimated Harvest	% of Hunters Who Pursued	Harvest/100 Days	Maximum Harvest	Ave Harvest/Hunter
Badger	35	91	5	13.8	2	0.66
Bobcat	310	728	42	10.1	7	0.6
Coyote	637	17,537	86	48.7	100	6.99
Red Fox	44	122	6	10.3	20	0.7
Gray Fox	19	4	3	0.2	1	0.05
Swift Fox	11	4	1	1.5	1	0.09
Opossum	55	980	7	32.4	40	4.49
Raccoon	218	10,378	29	109.8	100	12.09
Skunk	22	153	3	60.6	6	1.77

Source: KDWP 2018c

### **Mitigation Measures and Conditions**

To mitigate potential conflicts between raccoon hunters’ dogs and the surrounding private landowners, the Service would prohibit the use of dogs and night hunting for furbearers. On national wildlife refuges, no unconfined domestic animals (dogs, hogs, cats, horses, sheep, or cattle) shall be permitted to enter or roam at large (CFR S26.21[b]). Therefore, furbearer hunting would be limited to daylight hours, without dogs.

To provide for safety of neighbors, centerfire rifles and pistols are prohibited on the refuge.

### **3.4 Monitoring**

The State of Kansas conducts and uses surveys that are used to facilitate decision-making related to hunting and fishing activities (<https://ksoutdoors.com/Services/Research-Publications/Wildlife-Research-Surveys>). The refuge would heavily rely on the same information, such as what was used in this proposed EA and Hunting and Fishing Plan. Local or refuge-specific information would be used to supplement statewide surveys or reports.

Service law enforcement officers would offer the best source of monitoring for both the wildlife populations and also the hunting impact.

### **3.5 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 or a Finding of No Significant Impact.

#### **Alternative A – Proposed Action Alternative**

This alternative helps meet the purpose and needs of the Service as described above, because it provides additional wildlife-dependent recreation opportunities on the refuge. This hunting and fishing plan also would bring the refuge into alignment with the KDWPT regulations and other national wildlife refuges in Kansas. Furthermore, the coyote hunting proposal would provide some consistency of regulations with the adjacent state wildlife area. Simplifying regulations could assist with reducing the downward trend in hunters and anglers by providing for the recruitment, retention, and reactivation of sportsmen and women.

The proposed alternative would create hunting opportunity, yet not likely enough take to adversely affect populations of the hunted species. Vegetation change would be minimal. There would be no impact on threatened and endangered species. Cultural resources would not be affected. The proposed hunts would require minimal additional administration and law enforcement. Visitor use would increase and thus positively affect the local economy.

The Service has determined that the proposed action would be compatible with the purposes of refuge and the mission of the Refuge System (see the compatibility determination).

#### **Alternative B – No Action Alternative**

The visiting public would continue to be frustrated by a lack of furbearer and coyote hunting options at the refuge. Deer hunters likely would continue to express concern over the abundance of coyotes and predators they see while hunting from a deer stand.

### **3.6 List of Sources, Agencies, and Persons Consulted**

- Kansas Department of Wildlife, Parks, and Tourism
- Barbara Boyle, Refuge Supervisor, USFWS, DOI Region 5
- Aaron Mize, Hunt and Fish Coordinator, USFWS, DOI Regions 5 and 7
- Bernardo Garza, Hunt and Fish Coordinator, USFWS, DOI Regions 5 and 7
- Craig Mowry, Project Leader, USFWS, Kansas National Wildlife Refuge Complex

The Service Ecological Services program Kansas field supervisor was contacted via phone and follow-up email about the Kansas National Wildlife Refuge Complex hunting plans (for Flint Hills, Marais des Cygnes, and Quivira NWRs) on October 31, 2019. A request was made by the national wildlife refuges for Ecological Services to review the list of species threatened, endangered, proposed, and under review as part of the Environmental Assessment Section 7 consultation requirement associated with the hunting plans.

### 3.7 List of Preparers

Name	Position	Work Unit
Tim Menard	Refuge Biologist	Marais des Cygnes National Wildlife Refuge

### 3.8 State Coordination

Representatives of the Kansas National Wildlife Refuge Complex (Flint Hills, Marais des Cygnes, and Quivira NWRs) met with the Secretary of the KDWPT and a KDWPT wildlife research supervisor migratory bird specialist about potential future hunting opportunities on the refuges on October 30, 2019, in Hartford, Kansas. The state shared organization and public interests and responded to proposed hunting opportunities at the meeting and in follow-up verbal and written communications. These discussions helped adjust our plan to align, where possible, with state management goals. Overall, the state was supportive of the Service’s proposals of expanded hunting opportunities and both agencies confirmed the continuance of a strong partnership. The refuge received a letter of concurrence from the state director on November 18, 2019.

The refuge and KDWPT will continue to work together to ensure safe and enjoyable recreational hunting opportunities. Law enforcement officers from both the Service and KDWPT work together to patrol the refuge, safeguarding hunters, visitors, and both game and nongame species.

### 3.9 Tribal Consultation

The Service mailed an invitation for comments to all tribes potentially affected by initiating an EA to expand hunting opportunities at the refuge. The Service extended an invitation to engage in government-to-government consultation in accordance with Executive Order 13175.

### 3.10 Public Outreach

The public will have a period of 30 days for review of the draft hunting and fishing plan and associated EA. The hunting and fishing plan and associated EA will be available at <https://www.fws.gov/mountain-prairie/huntfish.php#>. Hard copies will be available upon request.

Special announcements and articles may be released in conjunction with hunting seasons. In addition, information about the hunting and fishing plan revision will be available at refuge headquarters or on the Marais des Cygnes NWR website.

### 3.11 Determination

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

- The 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 Service’s action **may significantly affect** the quality of the human environment and the Service will prepare an Environmental Impact Statement.

### 3.12 References

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- [USDOI] U.S. Department of the Interior, U.S. Fish and Wildlife Service, and U.S. Department of Commerce, U.S. Census Bureau. 2011 National survey of fishing, hunting, and wildlife-associated recreation.
- [USFWS] U.S. Fish and Wildlife Service. 1998. Marais des Cygnes National Wildlife Refuge Comprehensive Conservation Plan. Region 6. 70 p.

**APPENDIX A OTHER APPLICABLE STATUTES, EXECUTIVE ORDERS, AND REGULATIONS**

<b>Statutes, Executive Orders, and Regulations</b>
<b>Cultural Resources</b>
<p>American Indian Religious Freedom Act, as amended, 42 U.S. Code 1996–1996a; 43 CFR Part 7</p> <p>Antiquities Act of 1906, 16 U.S. Code 431-433; 43 CFR Part 3</p> <p>Archaeological Resources Protection Act of 1979, 16 U.S. Code 470aa – 470mm; 18 CFR Part 1312; 32 CFR Part 229; 36 CFR Part 296; 43 CFR Part 7</p> <p>National Historic Preservation Act of 1966, as amended, 16 U.S. Code 470-470x-6; 36 CFR Parts 60, 63, 78, 79, 800, 801, and 810</p> <p>Paleontological Resources Protection Act, 16 U.S. Code 470aaa – 470aaa-11</p> <p>Native American Graves Protection and Repatriation Act, 25 U.S. Code 3001–3013; 43 CFR Part 10</p> <p>Executive Order 11593 – Protection and Enhancement of the Cultural Environment, 36 Fed. Reg. 8921 (1971)</p> <p>Executive Order 13007 – Indian Sacred Sites, 61 Fed. Reg. 26771 (1996)</p>
<b>Fish and Wildlife</b>
<p>Bald and Golden Eagle Protection Act, as amended, 16 U.S. Code 668–668c, 50 CFR 22</p> <p>Endangered Species Act of 1973, as amended, 16 U.S. Code 1531–1544; 36 CFR Part 13; 50 CFR Parts 10, 17, 23, 81, 217, 222, 225, 402, and 450</p> <p>Fish and Wildlife Act of 1956, 16 U.S. Code 742 a-m</p> <p>Lacey Act, as amended, 16 U.S. Code 3371 et seq.; 15 CFR Parts 10, 11, 12, 14, 300, and 904</p> <p>Migratory Bird Treaty Act, as amended, 16 U.S. Code 703–712; 50 CFR Parts 10, 12, 20, and 21</p> <p>Executive Order 13186 – Responsibilities of Federal Agencies to Protect Migratory Birds, 66 Fed. Reg. 3853 (2001)</p>
<b>Natural Resources</b>
<p>Clean Air Act, as amended, 42 U.S. Code 7401–7671q; 40 CFR Parts 23, 50, 51, 52, 58, 60, 61, 82, and 93; 48 CFR Part 23</p> <p>Wilderness Act, 16 U.S. Code 1131 et seq.</p> <p>Wild and Scenic Rivers Act, 16 U.S. Code 1271 et seq.</p> <p>Executive Order 13112 – Invasive Species, 64 Federal Register 6183 (1999)</p>
<b>Water Resources</b>
<p>Coastal Zone Management Act of 1972, 16 U.S. Code 1451 et seq.; 15 CFR Parts 923, 930, 933</p> <p>Federal Water Pollution Control Act of 1972 (commonly referred to as Clean Water Act), 33 U.S. Code 1251 et seq.; 33 CFR Parts 320-330; 40 CFR Parts 110, 112, 116, 117, 230-232, 323, and 328</p> <p>Rivers and Harbors Act of 1899, as amended, 33 U.S. Code 401 et seq.; 33 CFR Parts 114, 115, 116, 321, 322, and 333</p> <p>Safe Drinking Water Act of 1974, 42 U.S. Code 300f et seq.; 40 CFR Parts 141–148</p> <p>Executive Order 11988 – Floodplain Management, 42 Federal Register 26951 (1977)</p> <p>Executive Order 11990 – Protection of Wetlands, 42 Federal Register 26961 (1977)</p>

Key: CFR = Code of Federal Regulations; U.S.C. = U.S. Code