

MINGO NATIONAL WILDLIFE REFUGE

HUNTING CHAPTER of VISITOR SERVICES PLAN (Amended)



U. S. Fish & Wildlife Service

Midwest Region

2014

DRAFT

MINGO NATIONAL WIDLIFE REFUGE

Hunting Chapter of Visitor Services Plan (Amended)

Submitted by: _____ **Date:** _____
Project Leader

Concurrence: _____ **Date:** _____
Refuge Supervisor

Approved: _____ **Date:** _____
Regional Chief, National Wildlife Refuge System

Abstract: The United States Fish and Wildlife Service propose to provide hunting opportunities on the Mingo National Wildlife Refuge in Wayne and Stoddard Counties, Missouri that are compatible with the purpose of the Refuge. This Hunt Plan outlines compatible hunting opportunities while providing non-hunting visitors with other priority public use opportunities (i.e., wildlife observation, wildlife photography, environmental education and interpretation). Hunting opportunities for persons with disabilities would be provided through use of specially located and designed blinds. Parking lots would provide appropriate access and help distribute use. The general goals of the hunting program are to:

1. Provide the public with safe and enjoyable hunts that are compatible with the Refuge purpose.
2. Provide quality hunting opportunities that minimize conflict with other public use activities.
3. Provide the public with opportunities to hunt wildlife species allowed by the State of Missouri. Hunts will not adversely affect localized wildlife populations and will be consistent with the 1997 National Wildlife Refuge System Improvement Act and state of Missouri regulations.
4. Provide special opportunities for persons with disabilities and youth.

For further information about the Hunt Plan, please contact Ben Mense, Mingo National Wildlife Refuge, 24279 State Highway 51, Puxico, MO 63960, 573-222-3589, fax: 573-222-6343, Ben_Mense@fws.gov.

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	CONFORMANCE WITH STATUTORY AUTHORITY	1
III.	STATEMENT OF OBJECTIVES	4
IV.	ASSESSMENT	5
V.	DESCRIPTION OF HUNTING PROGRAM	9
	A. Hunt Areas and Opportunities for 2013 and Beyond	9
	B. Consultation with the State and Public	27
	C. Methods of Control and Enforcement	28
	D. Funding and Staff Requirements	28
VI.	MEASURES TAKEN TO AVOID CONFLICT	28
	A. Biological Conflicts	28
	B. Public Use Conflicts	30
	C. Administrative Conflicts	30
VII.	CONDUCT OF THE HUNT	31
	A. Hunting Regulations	31
	B. Special Hunts	34
	C. Anticipated Public Reaction	35
	D. Hunter Selection	35
	E. Hunter Application and Registration Procedures	35
	F. Announcing and Publicizing Hunt Plan	37
	G. Hunting Orientation and Safety	37
	H. Refuge Hours of Operation	38
VIII.	REFERENCES	38

I. INTRODUCTION

Since 1944, Mingo National Wildlife Refuge (NWR; Refuge) has protected a remnant of the bottomland hardwood and cypress-tupelo swamp ecosystem that once formed a 2.5 million-acre contiguous natural landscape throughout the Mississippi River basin. The 21,592-acre Refuge consists of the largest remaining bottomland hardwood forest in Stoddard and Wayne counties in southeast Missouri (Figure 1). The Refuge touches the southeast boundary of the Ozark Plateau and slopes abruptly from an upland oak-hickory forest to bottomland hardwood forest, lower marsh, and expansive swamp and ditch system.

Since the beginning of the 20th century, these lands have been drained and deforested for agricultural purposes, which has highly modified the natural landscapes and ecosystem functions. Guided by legal mandates, the Refuge has successfully pioneered techniques that maintain a delicate balance of preservation and active management strategies for reforestation and hydrological integrity of the natural systems for the benefit of migratory birds, other wildlife, and wildlife-dependent public use, which includes hunting. Adaptive strategies will also assure continued consideration of the values and preservation of cultural resources where appropriate and consistent with natural resources management.

Mingo NWR developed this Hunting Chapter (also referred to as Hunt Plan) to guide future hunting opportunities on the Refuge in a manner that allows us to fulfill the purposes for which the Refuge was established as well as provide wildlife-dependent recreation. Priority public-use opportunities will be provided and enhanced for the more than 120,000 annual visitors, in harmony with healthy habitats and sustainable wildlife populations.

II. CONFORMANCE WITH STATUTORY AUTHORITY

The purpose of the Mingo NWR Hunting Chapter amendment is to formulate direction and guidance for hunting opportunities on the Refuge. In accordance with 620 FW 1 Sec 1.10A of the Service manual, this plan and the direction set forth herein have been developed subsequent to the Mingo, Pilot Knob, Ozark Cavefish National Wildlife Refuges Comprehensive Conservation Plan (CCP; USFWS 2007). This document has been developed in detail through a set of goals, objectives, and strategies that will align with the CCP and will direct hunting opportunities on Mingo NWR for the next 15 years. The most recent Hunt Plan for Mingo NWR was completed in 2013.

Hunting on refuges is authorized under the National Wildlife Refuge Administration Act, 16 U.S.C. 688dd (a) (2). It was amended in 1997 by the National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57). The Improvement Act states, "...compatible wildlife-dependent recreation is a legitimate and appropriate general public use of the System...through which the American public can develop an appreciation for fish and wildlife." The Improvement Act recognizes that wildlife-dependent recreational uses involving hunting, fishing, wildlife observation, wildlife photography, and environmental education and interpretation, when determined to be compatible, are a legitimate and appropriate use of the Refuge System lands. The Act states that these specific six uses should receive priority consideration in refuge planning and administration. Other uses not listed as priority public uses



Figure 1. Location of Mingo National Wildlife Refuge, Puxico, Missouri.

may be allowed if they are determined to be appropriate and compatible with the purposes for which the refuge was established.

According to the Improvement Act, when a wildlife-dependent recreational use is determined to be a compatible use and is not inconsistent with public safety, that activity should be facilitated. The term “compatible use” is defined as a wildlife-dependent recreational use or any other use of a Refuge unit that, in the sound professional judgment of the Director, will not materially interfere with or detract from the fulfillment of the mission of the System or the purposes of the Refuge. The U.S. Fish & Wildlife Service’s Final Compatibility Policy (USFWS 2000) pursuant to the Improvement Act delegates the responsibility of determining compatibility to the Refuge Manager with concurrence by the Regional Office Supervisor.

The Service developed a strategic plan for implementing the National Wildlife Refuge System Improvement Act called “Conserving the Future” (USFWS 2011a). This plan clarifies the vision for the National Wildlife Refuge System and outlines strategies for improving delivery of the System’s mission. This Hunt Plan is consistent with the priorities and strategies outlined in “Conserving the Future.”

Hunting on Mingo NWR will allow Refuge staff to manage wildlife populations at acceptable levels, provide wildlife-dependent recreational opportunities for the public, and promote a better understanding and appreciation of the bottomland hardwood forest and associated fish and wildlife resources. Implementation of the proposed actions will be consistent and compatible with the Refuge Recreation Act, the Refuge Administration Act, and the Final Environmental Assessment for Mingo NWR.

Relationships to Other Plans and Documents

Hunting has been approved on Mingo NWR since 1967 and the last Hunt Plan was modified in 2013. The plan included an Environmental Assessment that evaluated the possibilities and effects of a hunting program within the Refuge boundaries. Changes to Mingo NWR’s hunting program were published in the *Federal Register* and the *Code of Federal Regulations* (50 CFR 32.42) as needed.

This Hunt Plan is a step-down plan from the Refuge’s Visitor Services Plan. It also steps-down from the CCP by implementing the CCP’s goals, objectives, and strategies. Within the CCP process, hunting was determined to be compatible with the mission of the Refuge and the Refuge System. This use, which includes big game, upland game, furbearers, and migratory bird hunting, is presented in this Hunt Plan. A list and detailed descriptions of the hunting opportunities proposed for the Refuge are provided for in this document.

Upon completion and adoption of the Hunt Plan, the Service will publish in the *Federal Register* a Proposed Rule that updates the hunting program on the Refuge. Following the comment period on the Proposed Rule, a determination will be made whether to implement Refuge hunting as outlined in this Hunt Plan. Subsequently, a Final Rule will be published outlining hunting opportunities on the Refuge.

III. STATEMENT OF OBJECTIVES

Mingo NWR was established in 1944 under the Migratory Bird Conservation Act "...for the use as an inviolate sanctuary, or for any other management purpose for migratory birds" (16 U.S.C. 715d). One tract of the Refuge was acquired with Bureau of Outdoor Recreation funds. The purpose associated with this funding derives from the Refuge Recreation Act and includes lands "...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 (Refuge Recreation Act (16 U.S.C. 460k-460k-4), as amended).

An additional purpose for the Refuge was identified when Congress designated the 7,730 acre Mingo Wilderness in 1976. The establishing legislation for the Wilderness (Public Law 94-557) states that "...wilderness areas designated by this Act shall be administered in accordance with the applicable provisions of the Wilderness Act..." The purposes of the Wilderness Act are to "...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,...provide for the protection of these areas, [and] the preservation of their wilderness character" (Public Law 88-577). The Wilderness Act prioritizes public uses that are recreational, scientific, educational, scenic, or of conservation or historical value as primary Refuge objectives permit (Public Law 88-577).

Mingo NWR's bottomland hardwood forests, open marshes, and upland forest support high populations of diverse wildlife. Some species are important game animals, such as white-tailed deer, wild turkey, fox and gray squirrels, and waterfowl. Other species of interest from the general public, such as resident songbirds, and small and medium-sized mammals, are critical to the environmental health and biodiversity of the Refuge and its ecosystem. In compliance with establishing purposes and partnership conservation plans; sound biological principles are used in the assessment of and when feasible, management for resident wildlife species. Habitat conditions which were historically found in the Mississippi Alluvial Valley and management efforts for priority wildlife species such as waterfowl, migratory landbirds, shorebirds, waterbirds, and threatened and endangered species, should benefit many of these species and species groups.

A well-managed hunting program directly supports the Refuge's overall purpose and goals. The Refuge's hunting program objective in the CCP and the Visitor Services Plan (USFWS 2010b) is to: provide opportunities for approximately 4,200 hunting visits per year while maintaining sustainable resources and providing participants with minimal conflicts with other user groups. The following strategies were identified as options to help meet that objective:

1. Manage hunts to minimize conflicts with other uses and resources.
2. Maintain good communication with hunters and other user groups as to minimize conflicts and any friction between different users.

3. Host participants of Missouri Department of Conservation's (MDC) Spring Turkey Women's Outdoor Skills event within the public hunting area.
4. Offer educationally-based fall youth firearms deer hunt within the public hunting area.
5. Offer Refuge-hosted hunter education courses at the new Refuge Visitor Center.
6. Offer access to Ditch 3 access area by opening Sand Blow Ridge Road year-round except when it is flooded.
7. Request assistance from MDC for muzzleloader hunt.
8. Participate in State waterfowl drawing held at Duck Creek that includes Pool 8.
9. Offer waterfowl hunting on Pool 8 when water levels reach a suitable elevation. Provide a maximum of 50 individuals through a daily drawing.

IV. ASSESSMENT

Currently, wildlife population dynamics are monitored by the U.S. Fish & Wildlife Service and MDC as part of refuge, county, state, or national wildlife population surveys. Specific monitoring efforts relative to this Hunt Plan include: white-tailed deer population estimates using post hunt spotlight survey data following the December muzzleloader hunts – a long-standing Refuge survey spanning 20+ years, weekly waterfowl surveys, coordinated regional ground and aerial waterfowl surveys with MDC, MDC's annual turkey brood survey results, and observations from hunters that report on the Office of Management and Budget (OMB)-approved hunter survey cards. These surveys, or reports, combined with habitat and hydrological conditions and biological knowledge of individual species is used to regulate species hunted or establish a harvest objective.

For migratory game bird hunting, the Service is required to take many factors into consideration for adopting migratory game bird hunting regulations. To determine the appropriate framework for each species, the Service considers factors such as population size and trend, geographical distribution, annual breeding effort, the condition of breeding and wintering habitat, the number of hunters, and the anticipated harvest. The annual assessments are based upon a number of surveys throughout the year in conjunction with the Canadian Wildlife Service, State and Provincial wildlife-management agencies, and others.

After frameworks are established for season lengths, bag limits, and areas for migratory game bird hunting, migratory game bird management becomes a cooperative effort of State and Federal governments. States may select season dates, bag limits, and other regulatory options for the hunting seasons. States may always be more conservative in their selections than the Federal frameworks but never more liberal. Season dates and bag limits for national wildlife refuges open to hunting are never longer or larger than the State regulations. In fact, based upon the findings of an environmental assessment developed when a national wildlife refuge opens a new hunting activity, season dates and bag limits may be more restrictive than the State allows.

Bobcat

Bobcats (*Lynx rufus*) are present on Mingo NWR. Bobcats can be hunted under state seasons and regulations while hunting other species on the Refuge. In 2010, MDC estimated the statewide bobcat population at 12,000 – 18,000 with annual harvest of 3,888 during the 2010-2011 season (MDC 2011a). Wayne (38) and Stoddard (50) counties had a 2010/2011 harvest of 88 bobcats (MDC 2011a). It is estimated that 3-5 bobcats would be harvested on the Refuge per season. These numbers would have a negligible effect on the state population and a minimal effect on the regional population.

Eastern Gray & Fox Squirrel

Eastern gray squirrel (*Sciurus carolinensis*) and fox squirrel (*Sciurus niger*) hunting is popular on Mingo NWR. It opens from the start of the statewide season in May until September 30. Squirrel hunting closes early to avoid potential conflicts with archery deer hunting. The average total harvest for the previous 4 years on the Refuge is 261 squirrels per season. Approximately 2,000,000 squirrels are harvested each year with a statewide population estimate of over 6 million (MDC 2012b). With additional hunting areas opened for squirrel hunting the average is expected to be between 290 – 330 squirrels. These numbers would have a negligible effect on statewide or regional populations. The abundance of mast-producing trees and habitat availability fully supports a healthy squirrel population.

Raccoon

A common mammal present on Mingo NWR, the raccoon (*Procyon lotor*) may be hunted on the Refuge. Under this Hunt Plan, raccoons can be hunted under state seasons and regulations with a Special Use Permit and while also hunting other species. In 2009, MDC estimated the statewide raccoon population at 1.4 million with annual trapping of only 100,000. This has led to an increase in the occurrences of distemper across the state (MDC 2009). Raccoon harvest levels will be controlled through issued Special Use Permits (SUP) and will be based on annual raccoon survey data. Control of raccoons may reduce impacts to nesting species such as wood ducks and hooded mergansers. The harvest would have a negligible effect on statewide or regional populations.

Waterfowl

Waterfowl hunting in Pool 8 is a very popular activity for both resident and nonresident hunters. Pool 8 and Duck Creek Conservation Area are some of the last public lands available to hunt waterfowl in flooded timber in Missouri. In addition to hunting in Pool 8, Pool 7 will be open to some waterfowl hunting. According to the National Wildlife Refuge System Administration Act of 1966, amended in 1978, a refuge may open up to 40% of a migratory bird sanctuary to hunting (USFWS 1978). The addition of Pool 7 to limited waterfowl hunting would increase available waterfowl hunting on the Refuge by 4.6% or 800 acres. This leaves a total of 15,667 acres (89.7%) of waterfowl habitat, excluding Pools 7 and 8, not being hunted for waterfowl. In addition, waterfowl hunting opportunity is tied to tree phenology (dormancy), rainfall, and temperatures each winter. Flooding will not be initiated by refuge

staff in Pool 7 or 8 until trees are dormant in November in order to eliminate stress on growth or survival.

The annual Waterfowl Population Status Report (USFWS 2011e) includes the most current breeding population and production information available for North America. According to the 2011 Waterfowl Population Status Report, the total duck population estimate was 45.6 ± 0.8 million birds and represents an 11% increase over last year's estimate of 40.9 ± 0.7 million birds and was 35% above the long-term average (1955-2010). Mallard (*Anas platyrhynchos*) abundance was estimated to be 9.2 ± 0.3 million birds, which was 9% above the 2010 estimate of 8.4 ± 0.3 million birds and 22% above the long-term average. The projected mallard fall-flight index was 11.9 ± 1.1 million birds (USFWS 2011e).

In 2011, an estimated 43.89 million duck-use days were recorded and is the second highest total on MDC and USFWS intensively-managed wetlands in Missouri (MDC 2012a). In 2011/12, approximately 44,071 hunters harvested 98,719 ducks on all MDC areas with an average of 2.24 birds/hunter. In 2011/12, 1,102 hunters harvested 2,120 waterfowl with an average of 1.92 birds/hunter in Pool 8. It is estimated that seasonal waterfowl harvest will average between 1,050 – 1,250 ducks and 2 – 3 geese. These harvest numbers have a negligible effect on the flyway population. The number of hunters and waterfowl harvested from Pool 8 are shown in Table 1.

Table 1. Pool 8 Waterfowl Harvest Data

Hunt Season	Ducks	Geese	# Hunters	Birds/hunter
2011/12	2,120	1	1,102	1.92
2010/11*	11	0	18	0.61
2009/10	222	10	316	0.73
2008/09	56	0	217	0.26
2007/08	1708	0	783	2.18
2006/07	1634	2	681	2.4

*Pool 8 never reached full pool and it was a very dry year which limited the number of hunters and reduced hunt days.

Further clarification of hunting opportunities in Pools 7 and 8 can be found below in *Section V(A): Hunt Areas and Opportunities for 2013 and Beyond*. Some disturbance would be expected in Pool 7 due to the addition of waterfowl hunting in that unit. These disturbances would be minimized by limiting the number of hunters, days the unit is hunted, and by current regulations. During the waterfowl hunting timeframe, this area would also be open to raccoon, bobcat, archery turkey, and archery deer hunting.

White-tailed Deer

A popular game mammal hunted and viewed on Mingo NWR is the white-tailed deer (*Odocoileus virginianus*). Viewed as being important by both hunters and non-hunters, deer pose serious socioeconomic and ecological challenges for wildlife managers, such as deer-vehicle collisions, crop depredation on private property, and forest regeneration concerns (Dexter 2008). Deer populations in Missouri remain high at 1.4 million with a deer density of 21 deer per square mile in the state and only 13.8 deer per square mile in the Southeast Region. Deer populations on the Refuge remain above desired levels (Table 2) with a 5 year average of 1,623 deer. This is an average of 50 deer per square mile, well over the state average. Increasing hunting opportunities would likely increase doe harvest to the desired level of 200 does a year per MDC recommendation (MDC, Lonnie Hanson Personal Communication 2001).

In Missouri, the 2011 total harvest was 288,594 deer. The total combined harvest for Wayne and Stoddard counties in 2011 was 5,233 deer (MDC 2011b). The average total harvest for the previous 5 years on the Refuge is 154 deer per season. With additional hunting areas opened for archery and additional quota hunts, the average season harvest is expected to be between 190-260 deer. These numbers would have a negligible effect on the state and regional deer population.

Table 2. Mingo NWR Total Deer Harvest and Spotlight Population Estimates.

Year	Harvest (Archery+Quota)	Spotlight Survey (mean)
2006/07	149	1600-2535(2068)
2007/08	202	1091-2069 (1580)
2008/09	105	1099-1990 (1544)
2009/10	171	385-1301 (843)*
2010/11	143	1747-2413 (2080)
*Only 3 surveys completed post hunt		Unpublished USFWS Data

Wild Turkey

Wild turkeys (*Meleagris gallopavo*) are prevalent in Missouri and on Mingo NWR. According to MDC, brood-survey results for the state of Missouri indicated that 2011's hatch was 42% above the previous five-year average overall. In 2011 the turkey population in Missouri was estimated at 440,000 birds with a spring 2011 harvest of 42,220 and a fall harvest of 6,000. Wayne and Stoddard counties had a 2011 spring harvest of 676 birds (MDC 2011c).

Turkey hunting is allowed during spring (firearms) and fall (archery). In 2009, hunters reported taking 28 turkeys on the Refuge; in 2010 hunters harvested 19 turkeys; in fall of 2011 hunters reported 16 turkeys; and in spring of 2012 hunters reported 5 turkeys. The Refuge was closed during the 2008 and 2011 seasons due to flooding. With additional hunting areas opened for turkey hunting, the average harvest is expected to be between 25 – 40

turkeys. These numbers would have a negligible effect on statewide populations and a minimal effect on regional populations.

Feral Hog

Feral hog population and management are currently overseen by Missouri Department of Agriculture. The MDC also attempts to control feral hog populations within the state. Feral hogs are a non-regulated species and are not managed as game animals. The current estimated population of feral hogs on Mingo NWR is 400-700 animals (Personal communication, MDC). The desired population of feral hogs on the Refuge is zero. The U.S. Department of Agriculture estimates there are 5,000,000 feral swine in the country and MDC estimates there are 10,000 feral swine in the state.

Hunters have taken feral hogs each year since 2011 on the Refuge. A total of 28 feral hogs have been taken during the managed hunts since 2011 and 22 were taken in the 2013 by archery hunters in the general hunt area (the first year reporting was required). State and national harvest totals are unavailable due to lack of tracking and reporting requirements by any one agency. Under this alternative, it is expected that hunters would harvest 75-100 feral hogs per year on the Refuge if populations remain stable. As feral hog populations increase, this number could increase.

Feral hogs may be taken incidental to any Refuge hunt by legal means for that species until the daily bag limit of that species is taken and as deemed necessary during other periods for the control of feral hog populations (Figure 6).

If a deemed necessary by Refuge staff, a managed hunt could take place outside of existing big game seasons. The number of hunters and exact location on the refuge would be set at the time of the hunt, based on hog population estimates, other refuge activities and refuge staff availability (Figure 7). The hunt dates would occur outside of big games seasons for that year on the Refuge. Only firearms approved for use during the Missouri Firearms Deer Hunt will be allowed. A managed hunt would be implemented when resource damage and hog populations are at levels that pose a long-term impact to habitat and native species populations.

V. DESCRIPTION OF HUNTING PROGRAM

In this Hunt Plan, the Service is proposing new public hunting opportunities. These opportunities include expanding the Public Hunt Area, providing additional hunting opportunities for species not currently being hunted, and adding types of hunts to keep target species within quota. This enables the Refuge to balance species needs, continue to provide sanctuary during key times of the year, and to avoid conflicts with other recreational, administrative, or hunting activities. The hunt program will mimic state seasons and regulations as appropriate considering the Service's responsibilities.

The Refuge is open to hunting for migratory waterfowl (i.e., ducks and geese), upland game (i.e., fox squirrel and gray squirrel), big game (i.e., white-tailed deer and wild turkey), and

furbearers (i.e., raccoon and bobcat). Feral hogs may be taken incidental to any Refuge hunt by legal means for that species until the daily bag limit of that species is taken and as deemed necessary during other periods for the control of feral hog populations. The Refuge is closed to hunting for species not listed as open including rabbit, mourning dove, woodcock, snipe, quail, rails, red fox, gray fox, opossum, striped skunk, coyote, American crow, and all other species not listed as open, including species designated as unprotected by state regulations.

Hunting on the Refuge follows the season dates and bag limits of the State of Missouri, unless otherwise specified in the Refuge-specific regulations. Hunting is permitted only in designated areas shown on the map.

A. Hunt Areas and Opportunities for 2014 and Beyond

There will be four hunt areas on Mingo NWR: General Hunt Area (GHA), Expanded General Hunt Area (EGHA), Managed Hunt Area (MHA), and Special Hunt Area (SHA). The hunt areas are as described below:

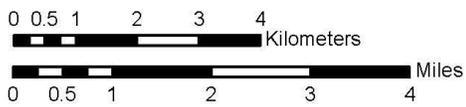
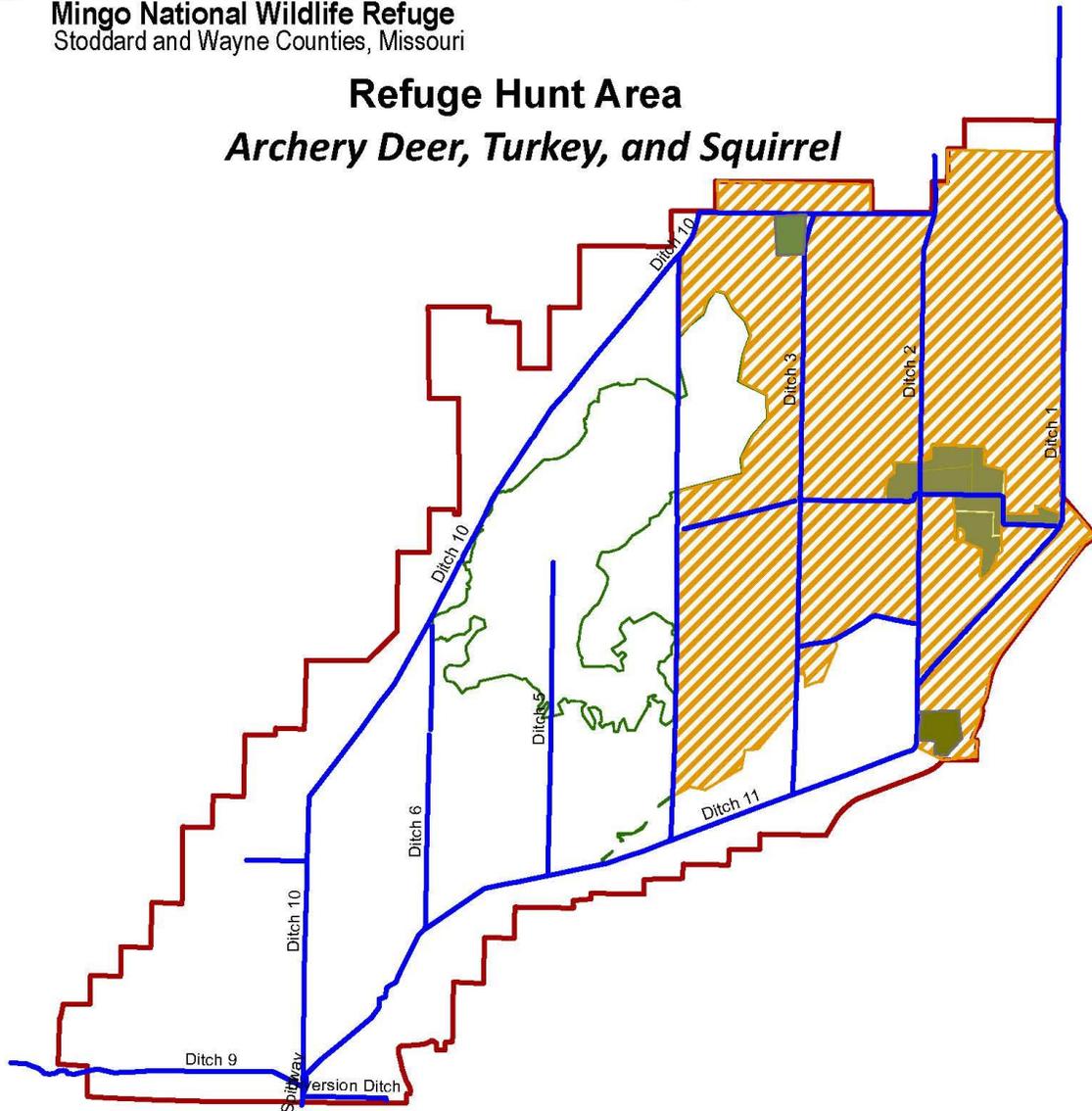
- 1) The GHA totals 8,960 acres of 21,592 acres. The GHA encompasses the area east of Ditch 4 and north of Ditch 11 while excluding areas as Gum Stump Pool, Rockhouse Marsh, Highway 51 Overlook Area, and impoundments (moist soil units) (Figure 2).
- 2) The EGHA encompasses 3,689 acres; which includes all areas south of the Ozark Highland Auto Tour (OHAT), north of Ditch 11, and west of Ditch 4 to Ditch 6 and to the water's edge of Monopoly Marsh, while excluding Rockhouse Marsh, Stanley Creek, and Mingo River (Figure 3).
- 3) The MHA totals 8,420 acres and includes all areas west of Ditch 4 and north of Ditch 11 and to the water's edge of Monopoly Marsh but is closed in areas south of Ditch 11, Rockhouse Marsh, and moist soil units (Figure 4).
- 4) The SHA contains 1,000 acres and includes the area north of Bluff Road, east of Ditch 10 to the Mingo River and Moist Soil Unit 12 (Figure 5).



U.S. Fish & Wildlife Service

Mingo National Wildlife Refuge
Stoddard and Wayne Counties, Missouri

Refuge Hunt Area *Archery Deer, Turkey, and Squirrel*



 General Hunt Area

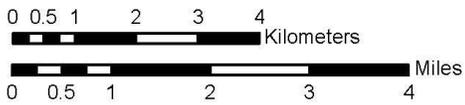
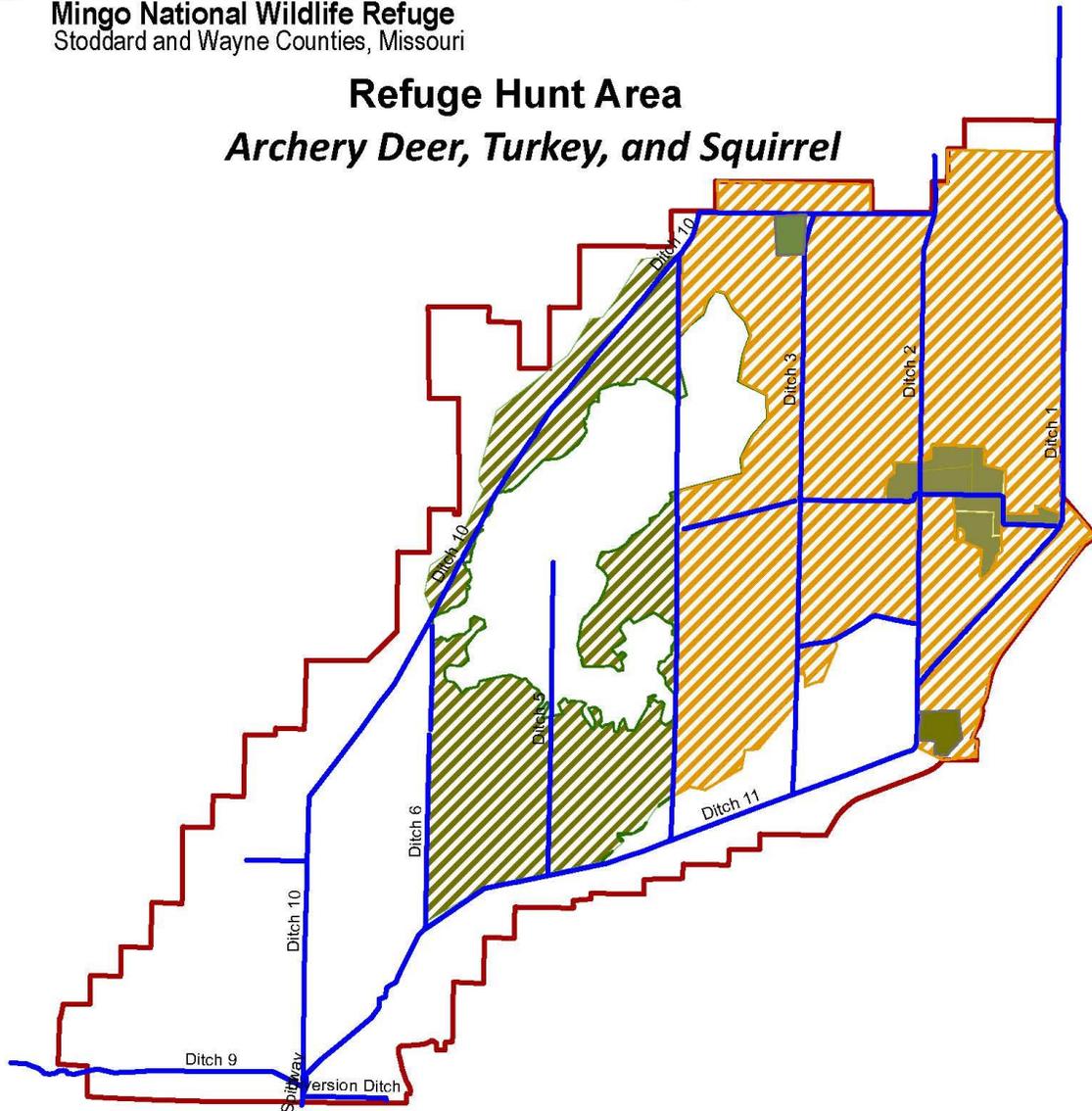
Figure 2. General Hunt Area for archery deer, archery turkey, firearm turkey, squirrel, raccoon, bobcat, and feral hog.



U.S. Fish & Wildlife Service

Mingo National Wildlife Refuge
Stoddard and Wayne Counties, Missouri

Refuge Hunt Area *Archery Deer, Turkey, and Squirrel*



	General Hunt Area
	Expanded Hunt Area - Closes October 31st

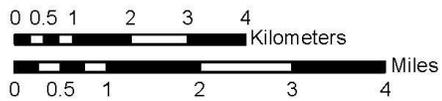
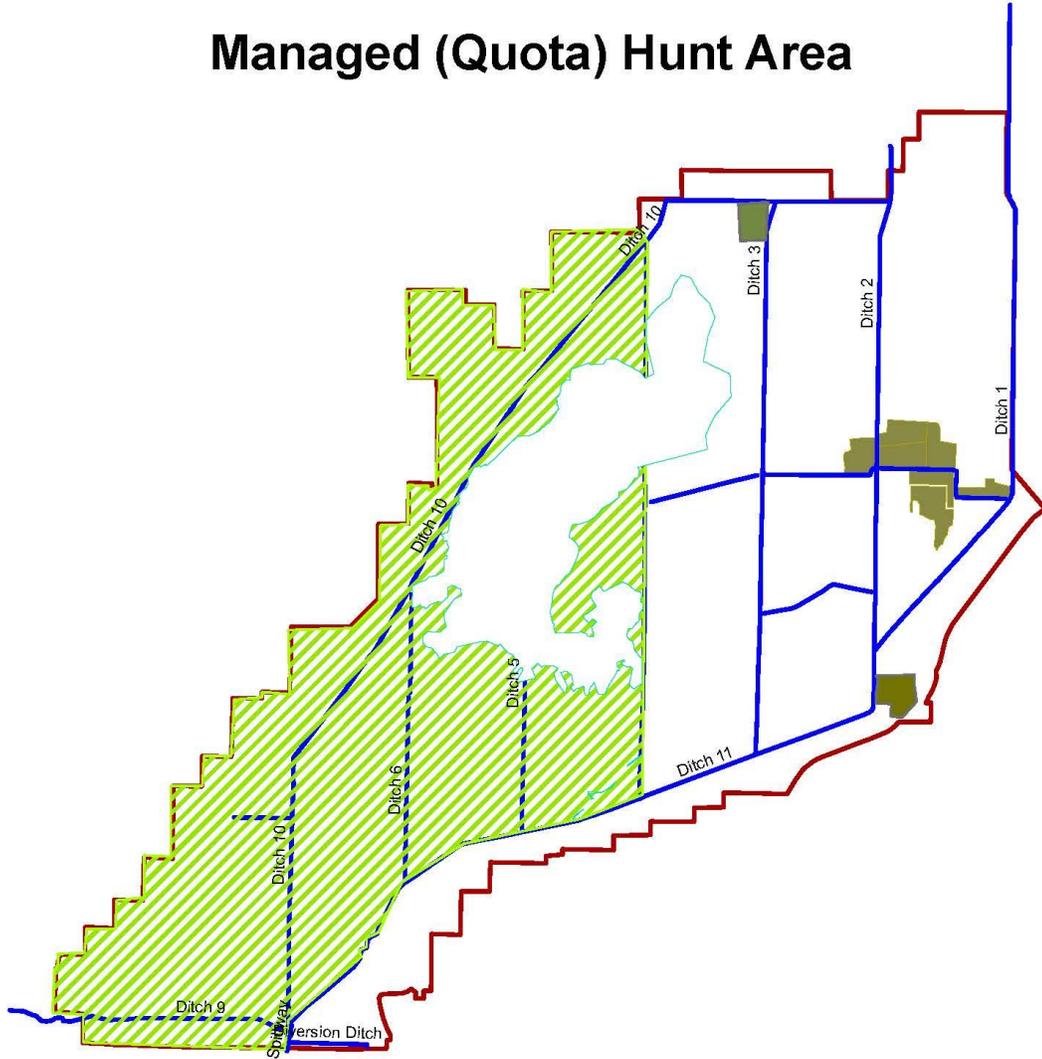
Figure 3. Expanded General Hunt Area for archery deer, archery turkey, firearm turkey, squirrel, raccoon, bobcat, and feral hog.



U.S. Fish & Wildlife Service

Mingo National Wildlife Refuge
Stoddard and Wayne Counties, Missouri

Managed (Quota) Hunt Area



 **Managed Hunt Area**

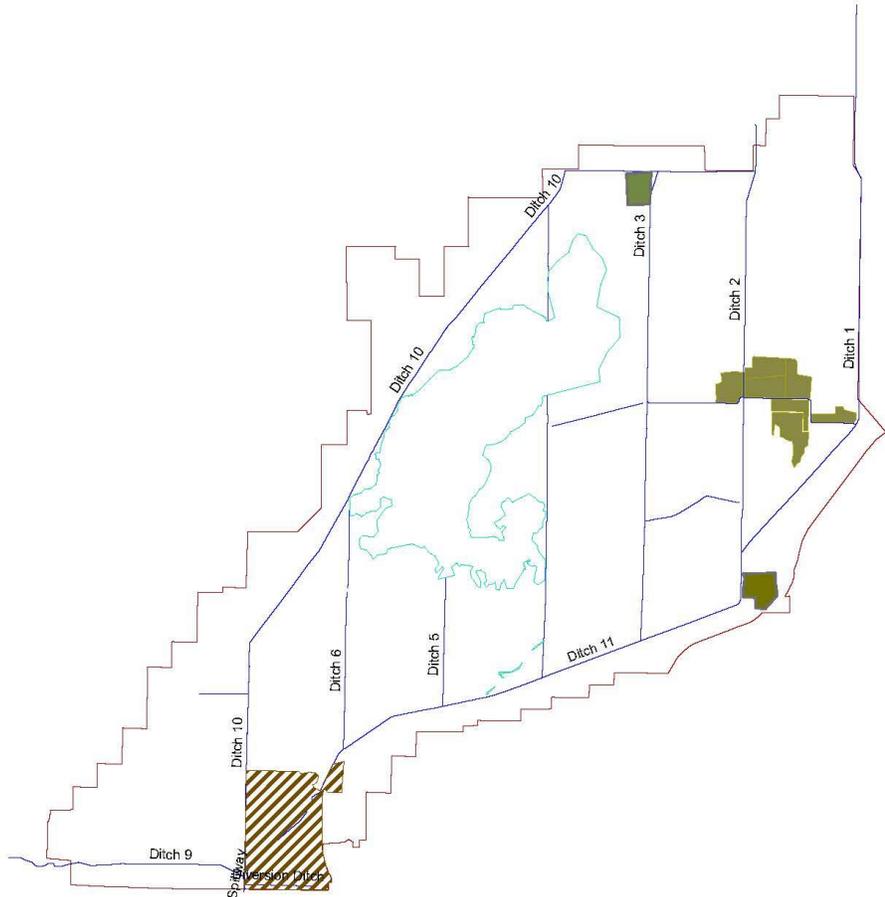
Figure 4. Managed Hunt Area for deer, raccoon, bobcat, and feral hog.



U.S. Fish & Wildlife Service

Mingo National Wildlife Refuge
Stoddard and Wayne Counties, Missouri

Special Hunt Area



 **Special Hunt Area**

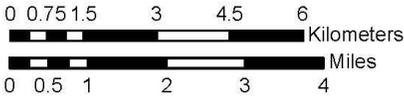


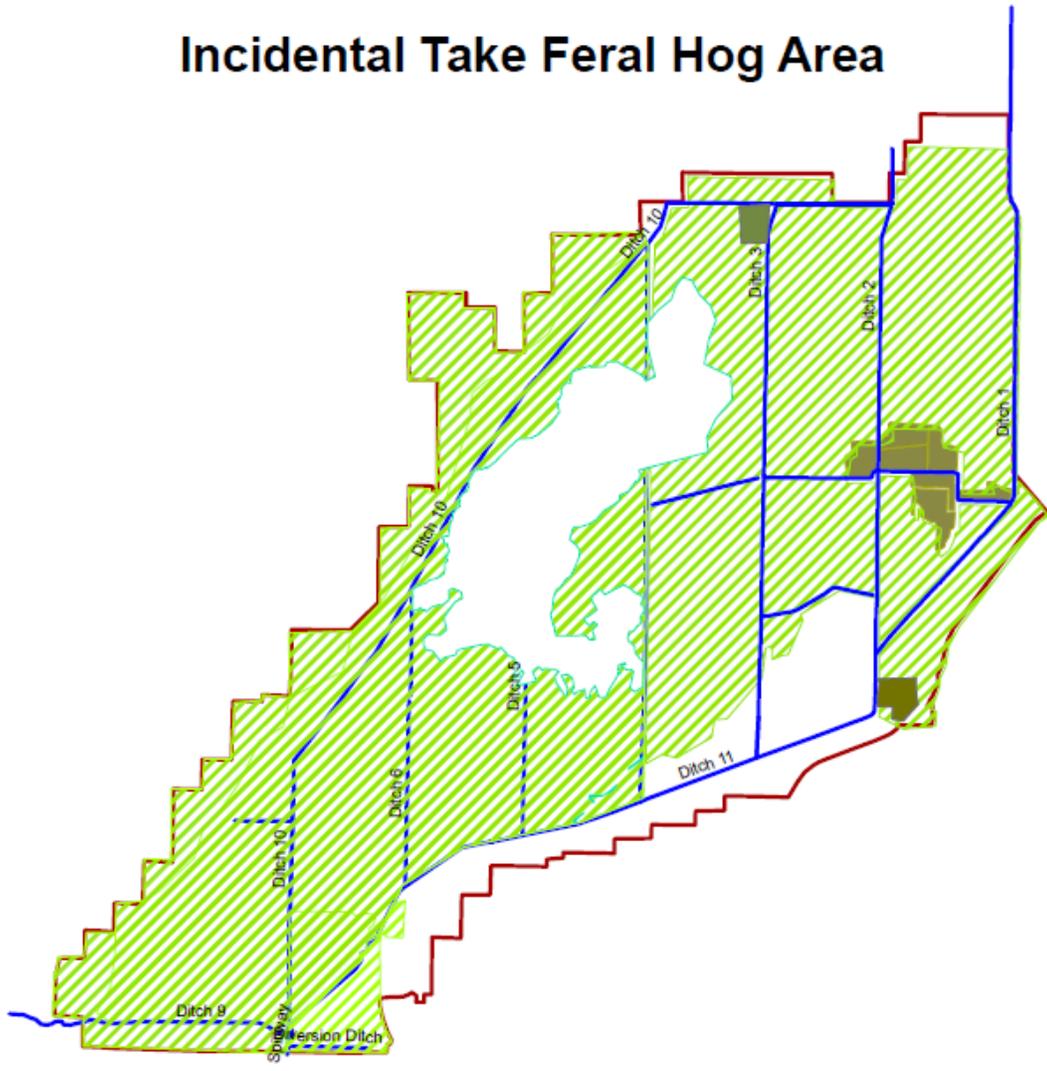
Figure 5. Special Hunt Area to take deer, raccoon, bobcat, and feral hog.



U.S. Fish & Wildlife Service

Mingo National Wildlife Refuge
Stoddard and Wayne Counties, Missouri

Incidental Take Feral Hog Area



 Incidental Take Hunt Area



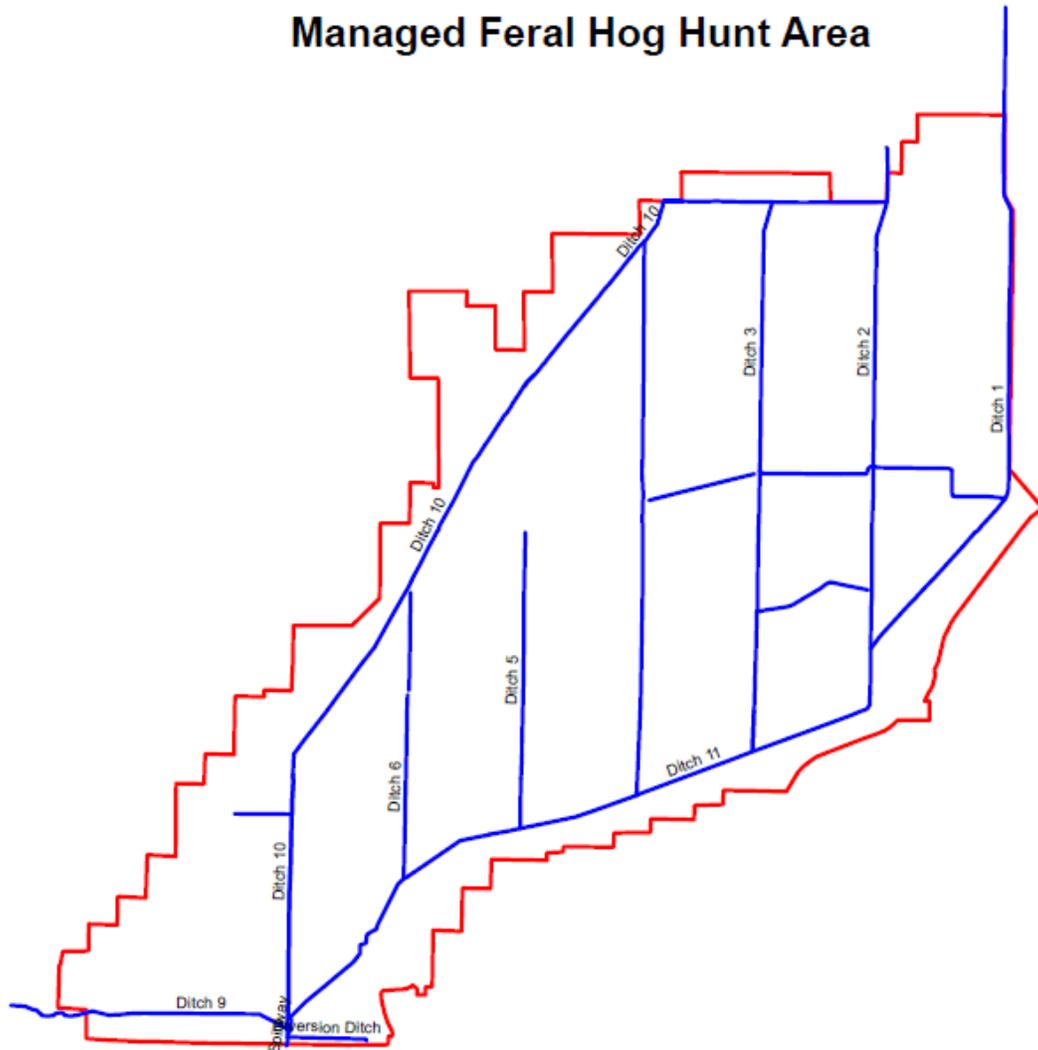
Figure 6. Areas open to incidental take of feral hog.



U.S. Fish & Wildlife Service

Mingo National Wildlife Refuge
Stoddard and Wayne Counties, Missouri

Managed Feral Hog Hunt Area



 Managed Feral Hog Hunt Area



Figure 7. Area open for managed feral hog hunts.

Refuge General

Open to hunting according to State regulations and limits and/or according to Refuge regulations for all Refuge-specified species on designated areas of the Refuge as follows:

1. Waterfowl: ducks and geese (this modification reflects addition of Pool 7 and increasing the number of hunters in Pool 8 to 50).
2. Upland Game: fox and gray squirrel (this modification reflects addition of Expanded General Hunt Area).
3. Big Game: white-tailed deer and wild turkey (this modification reflects addition of Expanded General Hunt Area).
4. Furbearers: incidental take of raccoon and/or bobcat (this modification reflects addition of aforementioned species).
5. Feral hogs: incidental take may occur during any Refuge hunt by any legal means for the game species pursued, until the daily bag limit for that game species is taken. Feral hogs may be taken anytime, by any legal method, while hunting other game species open on the refuge and as deemed necessary for the control of feral hog populations. If a deemed necessary by Refuge staff, a managed hunt could take place outside of existing big game seasons.

The Refuge is closed to hunting for species not listed as open including rabbit, mourning dove, woodcock, snipe, quail, rails, red fox, gray fox, opossum, striped skunk, coyote, American crow, and all other species not listed as open, including species designated as unprotected by state regulations.

Hunters must register daily at the Hunter Sign-In Stations and have in their possession valid State game license, a free hunter-signed Refuge hunting brochure, and a Refuge entrance permit or pass. Hunters must sign out by reporting hours hunted and harvest data on OMB-approved hunt cards available at specific exit kiosks.

Hunting activities proposed on Mingo NWR are as follows:

General Hunt Area

- Migratory Birds (i.e., Ducks and Geese, Figure 6)
 - Pool 7
 - Hunts allowed only 3 days per week; to be determined prior to the start of the season.
 - Maximum 25 hunters, dependent on management needs and water level conditions.
 - Random draw process at Duck Creek Conservation Area.
 - Pool 8
 - Hunts allowed 7 days per week unless otherwise specified.
 - Daily draw process at Duck Creek Conservation Area.
 - Maximum of 50 hunters, dependent on management needs and water level conditions.
 - Authorized hunter access allowed 1 ½ hours before legal shooting time.

- Parking allowed in designated parking areas, adjacent to roadways, or otherwise posted. Do not block gates or field access roads.
- Authorized hunting hours are ½ hour before legal sunrise until 1:00 p.m.
- Use of hunting dogs permitted for waterfowl only.
- Non-toxic shot only.

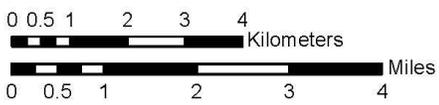
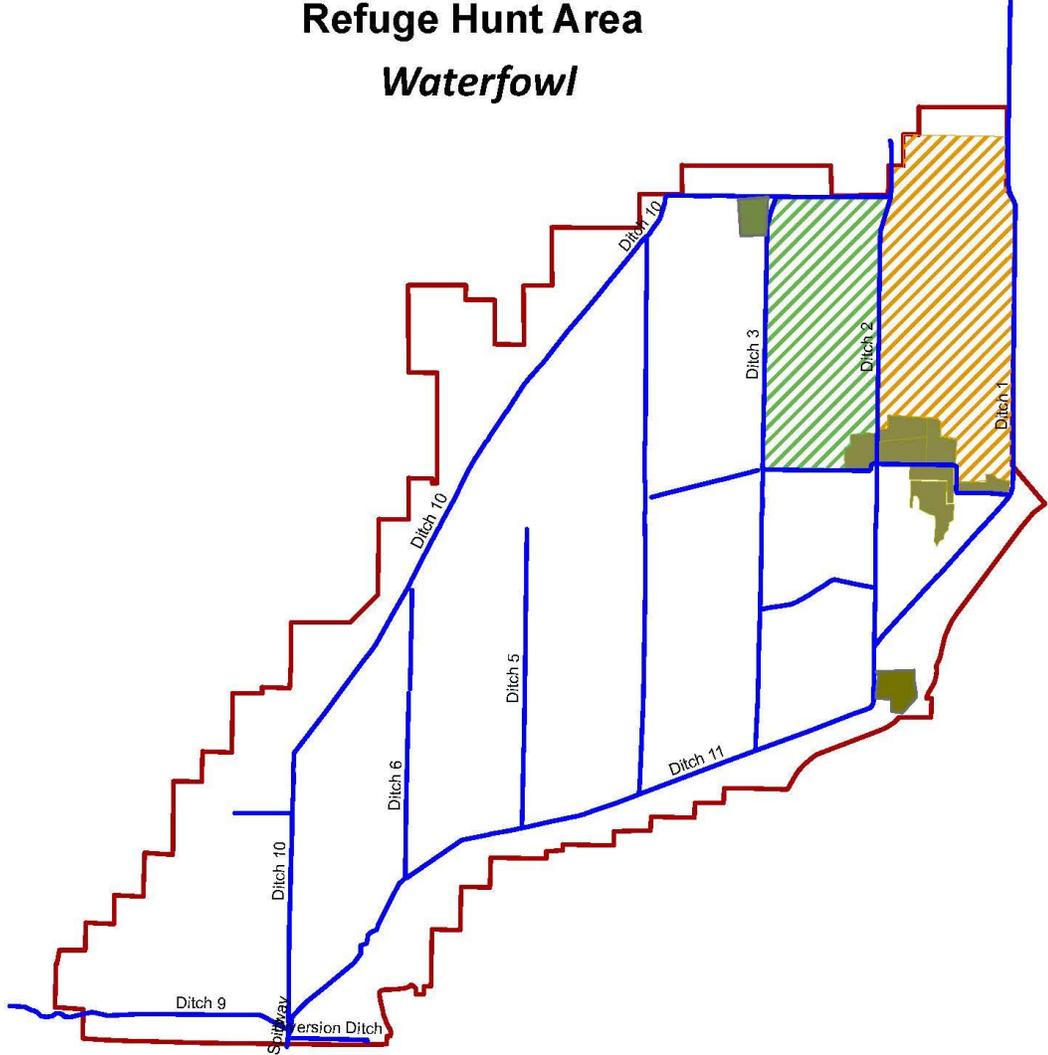
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U.S. Fish & Wildlife Service

Mingo National Wildlife Refuge
Stoddard and Wayne Counties, Missouri

Refuge Hunt Area
Waterfowl



-  Pool 8 - drawn 7 days per week
-  Pool 7 - drawn 3 days per week

Figure 6. Pool 7 & Pool 8 Waterfowl Hunt Areas.

- Upland Game (i.e., Fox and Gray Squirrel)
 - Open to hunting during the state season until the evening before the state archery deer season.
 - Non-toxic shot or rimfire cartridges permitted.
 - Use of dogs is not permitted.
 - Squirrel may be taken by archery deer hunters with archery equipment while in pursuit of deer.
 - Authorized hunter access allowed from 1 ½ hours before legal shooting time until 1 ½ hours after legal shooting time.
 - Parking allowed in designated parking areas, adjacent to roadways, or otherwise posted. Do not block gates or field access roads.

- Big Game (i.e., White-tailed Deer and Turkey)
 - Deer open to fall archery hunting during state season.
 - Squirrel may be taken by archery deer hunters with archery equipment while in pursuit of deer.
 - One (1) tree stand allowed per hunter from two weeks before until two weeks after the state archery deer season; marked with owner's name, address, and phone number.
 - Turkey open to fall archery hunting during state season.
 - Turkey open to spring gun hunting during state season including the state youth season for youth hunters.
 - Non-toxic shot only for spring turkey hunting.
 - Authorized hunter access allowed from 1 ½ hours before legal shooting time until 1 ½ hours after legal shooting time.
 - Parking allowed in designated parking areas, adjacent to roadways, or otherwise posted. Do not block gates or field access roads.

- Furbearers (i.e., Raccoon and Bobcat)
 - Incidental take of raccoon or bobcat is allowed during the statewide furbearer season during any Refuge hunt by legal means for that game species until the daily bag limit for that game species is taken.
 - Raccoon hunting with dogs or night hunts open refuge-wide during the state furbearer season.
 - By Special Use Permit only.
 - Training is not allowed, kill is required.
 - GPS or radio collars on dogs required.
 - Non-toxic shot or rimfire cartridges permitted.
 - No trapping allowed.

- Feral Hogs
 - Incidental take of feral hogs is allowed during any Refuge hunt by legal means for that game species until the daily bag limit for that game species is taken and as deemed necessary during other periods for the control of feral hog populations.

- If a deemed necessary by Refuge staff, a managed hunt could take place outside of existing big game seasons. The number of hunters and exact location on the refuge would be set at the time of the hunt, based on hog population estimates, other refuge activities and refuge staff availability. The hunt dates would occur outside of big games seasons for that year on the Refuge. Only firearms approved for use during the Missouri Firearms Deer Hunt will be allowed. A managed hunt would be implemented when resource damage and hog populations are at levels that pose a long-term impact to habitat and native species populations.
- During the hunt season, boats are only allowed on Ditch 1, 2, 3, 4, 11, and the lateral ditch on the south end of Gum Stump Pool.
 - Electric trolling motors allowed outside the Mingo Wilderness Area.
 - Possession or use of gasoline-powered boat motors is prohibited on all Refuge waters.
 - Boats must be removed at the end of each day's hunt.
- Hunters may utilize bicycles to access hunt areas and must stay on roads at all times.
- ATVs/UTVs are prohibited.

Expanded General Hunt Area

- Migratory Birds
 - Closed
- Upland Game
 - Open to hunting during the state season until the evening before the state archery deer season.
 - Non-toxic shot or rimfire cartridges permitted.
 - Use of dogs are not permitted.
 - Squirrel may be taken by archery deer or turkey hunters with archery equipment while in pursuit of deer or turkey.
 - Authorized hunter access allowed from 1 ½ hours before legal shooting time until 1 ½ hours after legal shooting time.
 - Parking allowed in designated parking areas, adjacent to roadways, or otherwise posted. Do not block gates or field access roads.
- Big Game (i.e., White-tailed Deer and Turkey)
 - Deer open to fall archery hunting during state season.
 - Area open to fall archery hunting during the state season through October 31st.
 - Area closed to public for any Managed Hunt(s) that may conflict during that specific time period during the deer archery season (e.g., Youth Rifle Deer Hunt).

- Managed Hunt(s) dates will be determined prior to the start of the hunting season.
 - One (1) tree stand allowed per hunter during the state archery season; marked with owner's name, address, and phone number.
 - Personal property (e.g., tree stands, blinds, etc.) must be removed from the Wilderness Area by the end of each day's hunt (i.e., pack in and out).
 - Turkey open to fall archery hunting during state season through October 31st.
 - Turkey open to spring gun hunting during state season including the state youth season for youth hunters.
 - Non-toxic shot only for spring turkey hunting.
 - Squirrel may be taken by archery deer or turkey hunters with archery equipment while in pursuit of deer or turkey.
 - Authorized hunter access allowed from 1 ½ hours before legal shooting time until 1 ½ hours after legal shooting time.
 - Parking allowed in designated parking areas, adjacent to roadways, or otherwise posted. Do not block gates or field access roads.
- Furbearers (i.e., Raccoon and Bobcat)
 - Incidental take of raccoon or bobcat is allowed during the statewide furbearer season during any Refuge hunt by legal means for that game species until the daily bag limit for that game species is taken.
 - Raccoon hunting with dogs or night hunts open refuge-wide during the state furbearer season.
 - By Special Use Permit only.
 - Training is not allowed; kill is required.
 - GPS or radio collars on dogs required.
 - Non-toxic shot or rimfire cartridges permitted.
 - No trapping allowed.
- Feral Hogs
 - Incidental take of feral hogs is allowed during any Refuge hunt by legal means for that game species until the daily bag limit for that game species is taken and as deemed necessary during other periods for the control of feral hog populations.
 - If a deemed necessary by Refuge staff, a managed hunt could take place outside of existing big game seasons. The number of hunters and exact location on the refuge would be set at the time of the hunt, based on hog population estimates, other refuge activities and refuge staff availability. The hunt dates would occur outside of big games seasons for that year on the Refuge. Only firearms approved for use during the Missouri Firearms Deer Hunt will be allowed. A managed hunt would be implemented when resource damage and hog populations are at levels that pose a long-term impact to habitat and native species populations.

- During the hunt season, boats are only allowed on Ditch 4, 5, 6, and 11.
 - Electric trolling motors allowed outside the Mingo Wilderness Area.
 - Possession or use of gasoline-powered boat motors is prohibited on all Refuge waters.
 - Boats must be removed at the end of each day's hunt.
- Hunters may utilize bicycles to access hunt areas and must stay on roads at all times.
- ATVs/UTVs are prohibited.

Managed Hunt Area

- Migratory Birds
 - Closed
- Upland Game
 - Closed
- Big Game (i.e., White-tailed Deer only)
 - Open to lottery hunts.
 - Applicants selected randomly through State of Missouri Draw System.
 - Number of hunts and hunters dependent on deer population objectives.
 - No limit on number of quota hunts.
 - Number of hunts, types of hunts, number of individuals, and dates to be determined before the start of the season.
 - Quota Hunt: Two-day hunt(s); optional and based on deer quota and concurrence with MDC.
 - During the 2012 hunt season, the following hunts were offered. These hunts are subject to change in the future.
 - Two (2) deer, only 1 may be antlered.
 - Maximum 160 hunters plus 5 mobility-impaired hunters selected for muzzleloader.
 - Two (2) Doe(s) only
 - Maximum 70 hunters plus 5 mobility-impaired hunters selected for muzzleloader.
 - One (1) deer of either sex.
 - Youth Hunt - Maximum 50 youth hunters (ages 11 – 15) selected plus 5 mobility-impaired youth hunters for shotgun/centerfire rifle.
 - A “party” consists of one youth hunter and one non-hunting mentor.
 - One tree stand allowed each per hunter and mentor during the quota hunt; marked with the owner's name, address, and phone number.

- Personal property (e.g., tree stands, blinds, etc.) must be removed from the Wilderness Area by the end of each day's hunt (i.e., pack in and out).
 - Authorized hunter access allowed from 1 ½ hours before legal shooting time until 1 ½ hours after legal shooting time.
 - Parking allowed in designated parking areas, adjacent to roadways, or otherwise posted. Do not block gates or field access roads.
- Furbearers (i.e., Raccoon and Bobcat)
 - Incidental take of raccoon or bobcat is allowed during the statewide furbearer season during the Quota Hunt by legal means for that hunt until the daily bag limit for that game species is taken.
 - Raccoon hunting with dogs or night hunts open refuge-wide during the state furbearer season.
 - By Special Use Permit only.
 - Training is not allowed; kill is required.
 - GPS or radio collars on dogs are required.
 - Non-toxic shot or rimfire cartridges permitted.
 - No trapping allowed.
- Feral Hogs
 - Incidental take of feral hogs is allowed during any Refuge hunt by legal means for that game species until the daily bag limit for that game species is taken and as deemed necessary during other periods for the control of feral hog populations.
 - If a deemed necessary by Refuge staff, a managed hunt could take place outside of existing big game seasons. The number of hunters and exact location on the refuge would be set at the time of the hunt, based on hog population estimates, other refuge activities and refuge staff availability. The hunt dates would occur outside of big games seasons for that year on the Refuge. Only firearms approved for use during the Missouri Firearms Deer Hunt will be allowed. A managed hunt would be implemented when resource damage and hog populations are at levels that pose a long-term impact to habitat and native species populations.
- During the hunt season, boats are allowed on Ditch 4, 5, 6, 11.
 - Electric trolling motors allowed outside the Mingo Wilderness Area.
 - Possession or use of gasoline-powered boat motors is prohibited on all Refuge waters.
 - Boats must be removed at the end of each day's hunt.
- Hunters may utilize bicycles to access hunt areas and must stay on roads at all times.
- ATVs/UTVs are prohibited.

Special Hunt Area

- Migratory Birds
 - Closed

- Upland Game
 - Closed

- Big Game (i.e., White tailed Deer only)
 - Quota Hunt: optional and based on deer quota and concurrence with MDC.
 - During the 2012 hunt season, the following hunts were offered. These hunts are subject to change in the future.
 - Two (2) deer, only 1 may be antlered.
 - Maximum 160 hunters plus 5 mobility-impaired hunters selected for muzzleloader.
 - Two (2) Doe(s) only.
 - Maximum 70 hunters plus 5 mobility-impaired hunters selected for muzzleloader.
 - One (1) deer of either sex.
 - Youth Hunt - Maximum 50 youth hunters (ages 11 – 15) selected plus 5 mobility-impaired youth hunters for shotgun/centerfire rifle.
 - A “party” consists of one youth hunter and one non-hunting mentor.

- Furbearers (i.e., Raccoon and Bobcat)
 - Incidental take of raccoon or bobcat is allowed during the statewide furbearer season during the Special Hunt by legal means for that game species until the daily bag limit for that game species is taken.
 - Non-toxic shot or rimfire cartridges permitted.
 - No trapping allowed.

- Feral Hogs
 - Incidental take of feral hogs is allowed during any Refuge hunt by legal means for that game species until the daily bag limit for that game species is taken and as deemed necessary during other periods for the control of feral hog populations.

 - If a deemed necessary by Refuge staff, a managed hunt could take place outside of existing big game seasons. The number of hunters and exact location on the refuge would be set at the time of the hunt, based on hog population estimates, other refuge activities and refuge staff availability. The hunt dates would occur outside of big games seasons for that year on the Refuge. Only firearms approved for use during the Missouri Firearms Deer Hunt will be allowed. A managed hunt would be implemented when resource damage and

hog populations are at levels that pose a long-term impact to habitat and native species populations.

- Accessible blinds can be utilized for mobility-impaired hunters.
 - For accessible hunts, a “party” consists of one helper and one mobility-impaired hunter.
- Incidental take of feral hogs is allowed during any Refuge hunt by legal means for that game species until the daily bag limit for that game species is taken and as deemed necessary for the control of feral hog populations.
- Authorized hunter access allowed from 1 ½ hours before legal shooting time until 1 ½ hours after legal shooting time.
 - Parking allowed in designated parking areas, adjacent to roadways, or otherwise posted. Do not block gates or field access roads.

A summary of hunt opportunities proposed on Mingo NWR are presented below in Table 3.

Table 3. Table of Mingo NWR hunt opportunities identified in the Hunt Plan.

Action	Hunt Opportunity
Archery Deer/Turkey	Archery hunting allowed East of Ditch 4 and North of Ditch 11 (General Hunt Area) during statewide season. Hunting allowed between Ditches 4 and 6, South of Ozark Highland Auto Tour, North of Ditch 11 (Expanded General Hunt Area) and to the water’s edge of Monopoly Marsh from state opening day through October 31 st . Personal property (e.g., tree stands, blinds) must be removed each day from the Wilderness Area. Archery hunting in EGHA may be closed for any authorized Deer Quota Hunts that may occur during its timeframe (e.g., Youth Firearms Deer Weekend).
Spring Turkey	Spring turkey adult and youth firearm seasons allowed East of Ditch 6, North of Ditch 11 and South of the Ozark Highland Auto Tour (General Hunt Area and Expanded General Hunt Area) during statewide season.
Deer Quota/ Special Hunts	Additional quota/special hunts allowed West of Ditch 4 and North of Ditch 11 (Managed Hunt Area), and North of Bluff Road, East of Ditch 10 to the Mingo River and Moist Soil Unit 12 (Special Hunt Area), based on population management needs and concurrence with MDC.
Waterfowl	Waterfowl hunting by MDC draw only in Pool 8 for up to 50 hunters seven (7) days per week and for three (3) days per week for up to 25 hunters in Pool 7. The 3 days will be determined prior to the start of the season. Hunting authorized ½ hour before legal sunrise and will cease at 1:00 p.m. for both areas. Some years the hunt would not occur due to lack of water or management needs for Pool 7 and/or 8.
Squirrel	Squirrel hunting allowed East of Ditch 6, North of Ditch 11 and South of the Ozark Highland Auto Tour (General Hunt Area and Expanded General Hunt Area). Season opens with statewide season and closes the evening before the opening of statewide archery season. Archery

	hunters may continue to take squirrel by use of archery equipment during archery deer season.
Raccoon	Open by Special Use Permit (SUP) refuge-wide only during the statewide season. Hunters will be assigned areas and dogs must have GPS or radio collars to allow for tracking of dogs.
Raccoon/bobcats, while hunting other species	Raccoons and bobcats allowed to be taken while hunting any other species open to hunting on the Refuge. Hunter must still abide by legal method of take, limits, and season for raccoons and bobcats.
Feral hogs	Feral hogs may be taken anytime, by any legal method, while hunting any other species open on the Refuge, until the daily bag limit for that game species is taken and as deemed necessary during other periods for the control of feral hog populations. If a deemed necessary by Refuge staff, a managed hunt could take place outside of existing big game seasons. The number of hunters and exact location on the refuge would be set at the time of the hunt, based on hog population estimates, other refuge activities and refuge staff availability. The hunt dates would occur outside of big games seasons for that year on the Refuge. Only firearms approved for use during the Missouri Firearms Deer Hunt will be allowed. A managed hunt would be implemented when resource damage and hog populations are at levels that pose a long-term impact to habitat and native species populations.

B. Consultation with the State and Public

Prior to the completion of the Hunt Plan, the plan was initiated with MDC on November 9th, 2011. This coordination was accomplished through formal meetings as well as the Refuge soliciting MDC comments on the Draft Hunt Plan, Environmental Assessment, and other supporting documents. Mingo NWR hosted a formal public scoping meeting on December 15th, 2011. On September 17, 2012, the Draft Hunt Plan, Environmental Assessment, and Compatibility Determination was made available to the public through printed notifications in the local newspapers with printed copies available at the Refuge Visitor Center and Puxico Library; the documents were linked on the Refuge website, and announced on Facebook. A formal public all-day listening session was held on September 25, 2012, to solicit written comments from the public. Both formal comment periods concluded after 30 days. To ensure private landowners adjacent to the Refuge had equal opportunities to comment, the comment period was re-opened to the public and to private landowners on December 13, 2012. Letters were mailed to the private landowners to notify them and to allow them to review the Draft Environmental Assessment, Hunt Plan, and Compatibility Determination, and to allow them to submit comments. The re-opened comment period was announced through local newspapers, on the Refuge website, and on Facebook. The comment period concluded on January 4, 2013. The Refuge moved forward with developing the final Hunt Plan, Environmental Assessment, and Compatibility Determination, based on discussions with the USFWS Regional Office, Refuge staff, MDC, and the public.

The Hunt Plan Amendment was open for comment from August 8th, 2014 to September 8th, 2014. A listening station was held at Mingo NWR on August 26th, 2014 from 12:00 p.m. to 6:00 p.m. The comment period and listening station were announced through local newspaper, the Mingo NWR webpage and the Mingo NWR Facebook page.

C. Methods of Control and Enforcement

The enforcement of Refuge and State hunting regulations, trespass, and other public use violations normally associated with management of a National Wildlife Refuge is the responsibility of commissioned Refuge Law Enforcement Officers. Refuge Officers cooperate with, and are assisted, by state, county, and city police officers as well as state conservation officers.

The Refuge also uses non-law enforcement staff to manage hunting activities. For example, some staff work during the Managed Hunts and the hunt orientations. The staff assists hunters to ensure that all selected hunters understand Refuge regulations specific for the Managed Hunts.

D. Funding and Staff Requirements

The hunting program is designed to be administered with minimal Refuge resources. The annual costs of Refuge activities to attain the Hunting Program objectives are supported through the Refuge operating budget. These costs include staff and operating expenses for Refuge law enforcement and hunter assistance during the hunting season. The budget also includes Refuge staff activities associated with evaluating resources available for hunting (e.g., biological assessments of target species) and preparing for the hunt(s) (e.g., special signage and access). The Recreational Fee Program is also utilized to cover costs associated with the hunt such as hunting brochures, blind maintenance, road maintenance, mowing, and other upkeep.

VI. MEASURES TAKEN TO AVOID CONFLICT

A. Biological Conflicts

The Refuge avoids conflicts related to biological resources by adopting the “wildlife first” principle explicitly stated in the Improvement Act. Refuge, state, and university affiliates monitor species’ population trends to ensure that target species can be hunted at the Refuge without adversely affecting the species. These monitoring activities include direct observation of populations, consultation with State and Service species specialists, and review of current species survey information and research. In addition, the Refuge limits or excludes hunting activities on portions of the Refuge. Areas of the Refuge are not hunted specifically to provide areas of sanctuary for hunted species. Special hunts are used to manage hunting pressure and overall take at appropriate levels.

Hunted Species

Populations for certain species, for example, white-tailed deer, are monitored by Refuge staff. Survey information indicates that limited harvest will not adversely affect the overall deer

population level. Without harvest, deer will quickly overpopulate an area causing degradation to the quality and quantity of vegetation. Deer hunting may also reduce the number of deer/car collisions on adjacent roadways. Temporary disturbance to other wildlife may occur during hunting activity.

Spring turkey and early season squirrel hunting has the most potential for conflicting with biological activities. Several active bald eagle nests are known to occur on the Refuge. Areas within several hundred feet of each nest should be closed to all public use, including hunting, to avoid disturbing nesting eagles. This eliminates spring turkey and squirrel hunting in the immediate vicinity of these vital nesting areas. Hunters may encounter breeding wood ducks or hooded mergansers on the Refuge. Due to the dispersed and stealthy nature of turkey and squirrel hunting, it presents minimal conflicts with other ground nesting wildlife in the spring.

Waterfowl hunting is allowed in Pool 7 and 8 only. This limits conflicts between waterfowl and deer hunters, plus limits disturbance to migratory birds. Waterfowl hunters may disturb migratory birds and other wildlife as they travel to and from their hunting sites or when retrieving downed birds. Depending on the location and the number of migratory birds in the area, disturbance can be temporary with displaced birds moving to other locations within the hunting area or to nearby closed areas. Disturbance is further minimized in Pool 7 by only allowing hunting three days a week. Conflicts between hunters competing for prime waterfowl hunting spots can occur in areas where birds concentrate; however limiting the number of hunters using the area depending on water levels and available acreage reduces this concern.

Incidental take of raccoon or bobcat during the statewide furbearer season is allowed during any Refuge hunt by legal means for that game species until the daily bag limit for that game species is taken. Raccoon hunting with dogs or night-hunting is allowed Refuge-wide through a Special Use Permit only. Hunters will be assigned areas and allowed to use GPS or radio-collared dogs and required to report their harvest. No trapping is allowed. This activity will occur during the state furbearer season. Except for migratory birds, disturbance from this activity is expected to be minimal. Raccoons spread distemper and are opportunistic feeders and prey on breeding wood ducks, hooded mergansers, and other waterfowl.

Incidental take of feral hogs during is allowed during any Refuge hunt by legal means for that game species until the daily bag limit for that game species is taken and as deemed necessary during other periods for the control of feral hog populations.

Feral hogs may be taken anytime, by any legal method, while hunting any other species open on the Refuge, until the daily bag limit for that game species is taken and as deemed necessary during other periods for the control of feral hog populations. If a deemed necessary by Refuge staff, a managed hunt could take place outside of existing big game seasons. The number of hunters and exact location on the refuge would be set at the time of the hunt, based on hog population estimates, other refuge activities and refuge staff availability. The hunt dates would occur outside of big games seasons for that year on the Refuge. Only firearms approved for use during the Missouri Firearms Deer Hunt will be allowed. A managed hunt

would be implemented when resource damage and hog populations are at levels that pose a long-term impact to habitat and native species populations.

Non-Hunted Species

Non-hunted wildlife would include small mammals such as voles, moles, mice, and shrews; reptiles and amphibians such as snakes, skinks, turtles, lizards, salamanders, frogs and toads; and invertebrates such as butterflies, moths, other insects and spiders. Except for migratory birds and some species of migratory butterflies and moths, these species have very limited home ranges and hunting would not affect their populations regionally.

Disturbance to non-hunted wildlife would increase slightly. However, significant disturbance would be unlikely since small mammals are beginning to become inactive during late November and early December and many of these species are nocturnal during warmer months. Both of these qualities make hunter interactions with small mammals rare.

Hibernation or torpor by cold-blood reptiles and amphibians also limits their activity when temperatures are low. Squirrel and turkey hunters may encounter reptiles and amphibians during a portion of the hunting season. Invertebrates are also not active during cold weather and would have few interactions with hunters during the cooler portions of hunting season.

Refuge regulations further mitigate possible disturbance by hunters to non-hunted wildlife. Vehicles are restricted to roads and the harassment or taking of any wildlife other than the game species legal for the season is not permitted.

B. Public Use Conflicts

No conflicts with public use are anticipated. In an effort to avoid conflicts with non-hunting priority recreational uses as outlined in the Improvement Act; the Refuge enforces a series of Refuge-specific hunting regulations, which include safety measures. Season dates will be scheduled to avoid conflicts between hunters and other Refuge visitors. The primary wildlife viewing areas south of Ditch 11 along Bluff Road and Red Mill Drive are closed to hunter activity. In areas that do support hunting, hunters may be restricted to specific types of hunts or hunting locations.

The boundaries of all lands owned by the Service are posted with Refuge boundary signs. Areas administratively closed to hunting are clearly marked with “No Hunting Zone” or “Area Beyond this Sign Closed” signs.

C. Administrative Conflicts

Sufficient staff members and volunteers are scheduled to handle each of the Managed Hunts. Collaboration between Refuge law enforcement officers and state, county, and city police officers, and state conservation officers will continue.

Missouri Department of Conservation will continue to handle processing of applications for the muzzleloader and youth deer hunts and Duck Creek Conservation Area will continue to handle registration of waterfowl hunters in Pool 7 and Pool 8.

VII. CONDUCT OF THE HUNT

A. Hunting Regulations

Regulations pertaining to hunting on all National Wildlife Refuge System Lands are found in 50 CFR 32.2. They state:

§ 32.2 What are the requirements for hunting on areas of the National Wildlife Refuge System?

The following provisions shall apply to each person while engaged in public hunting on areas of the National Wildlife Refuge System:

- (a) Each person shall secure and possess the required State license.
- (b) Each person 16 years of age and older shall secure and possess a Migratory Bird Hunting Stamp while hunting migratory waterfowl.
- (c) Each person shall comply with the applicable provisions of Federal law and regulations including this subchapter and the current Federal Migratory Bird Regulations.
- (d) Each person shall comply with the applicable provisions of the laws and regulations of the State wherein any area is located unless further restricted by Federal law or regulation.
- (e) Each person shall comply with the terms and conditions authorizing access or use of wildlife refuges, including the terms and conditions under which hunting permits are issued.
- (f) Each person must comply with the provisions of any refuge-specific regulations governing hunting on the wildlife refuge area. Regulations, special conditions, and maps of the hunting areas for a particular wildlife refuge are available at that area's headquarters. In addition, refuge-specific hunting regulations for migratory game bird, upland game, and big game hunting appear in §§32.20 through 32.72.
- (g) The use of any drug on any arrow for bow hunting on national wildlife refuges is prohibited. Archers may not have arrows employing such drugs in their possession on any national wildlife refuge.
- (h) The unauthorized distribution of bait and the hunting over bait is prohibited on wildlife refuge areas. (Baiting is authorized in accordance with State regulations on national wildlife refuges in Alaska).

(i) The use of nails, wire, screws or bolts to attach a stand to a tree, or hunting from a tree into which a metal object has been driven to support a hunter is prohibited on wildlife refuge areas.

(j) The use or possession of alcoholic beverages while hunting is prohibited.

(k) You may possess only approved nontoxic shot while in the field, which we identify in 50 CFR 20.21(j), while on Waterfowl Production Areas, or on certain other areas of the National Wildlife Refuge System as delineated on maps, leaflets and/or signs, available at each refuge headquarters or posted at each refuge, or as stated in refuge-specific regulations. Where we allow turkey and deer hunting, you may use slugs and shot containing lead to hunt these species unless prohibited by refuge-specific regulations and/or State law.

(l) The refuge-specific regulations (§32.20 through §32.72) may include the items discussed in §32.3(b). Refuge permits and brochures should also include those items and any special conditions allowed by paragraph (f) of this section.

[58 FR 5064, Jan. 19, 1993, as amended at 63 FR 46914, Sept. 3, 1998; 65 FR 30777, May 12, 2000; 67 FR 58943, Sept. 18, 2002]

The regulations, as they are published in the Code of Federal Regulations (CFR), are the official notification to the public. Copies of the CFR can be found in libraries and on the internet.

50 CFR 32.44

Missouri

Mingo National Wildlife Refuge

A. Migratory Game Bird Hunting. We allow waterfowl hunting in Pool 7 and Pool 8 in accordance with State regulations subject to the following conditions:

1. We allow the use of hunting dogs only for waterfowl hunting, provided the dogs are under the immediate control of the hunter at all times (see §26.21(b) of this chapter).
2. We allow waterfowl hunting from ½ hour before legal sunrise until 1 p.m.
3. We prohibit the use of paint, non-biodegradable flagging, reflectors, tacks, or other manmade materials to mark trails or hunting locations (see §27.61 of this chapter).
4. You must remove boats, decoys, blinds, and blind materials brought onto the refuge at the end of each day's hunt (see §§27.93 and 27.94 of this chapter).
5. We prohibit the construction or use of permanent blinds, stands, or scaffolds (see §27.92 of this chapter).

6. We require hunters to go through the Missouri Department of Conservation daily draw process at Duck Creek Conservation Area to hunt in Pool 7 and Pool 8.

7. Pool 7 will only be used for waterfowl hunting 3 days a week, when conditions allow.

8. We require hunters to read the current refuge hunting brochure that contains a hunting permit (signature only required). We require hunters to sign the permit and carry the signed brochure while hunting.

9. We prohibit the discharge of firearms, including air guns or any other weapons, on the refuge unless you are a hunter with a valid refuge brochure engaged in authorized activities during established seasons.

10. You may take feral hogs at any time and bobcats when in season, while legally hunting any other species on the refuge.

B. Upland Game Hunting. We allow hunting of squirrel, raccoon, and bobcat in designated areas of the refuge in accordance with State regulations subject to the following conditions:

1. Conditions A3, A8, A9 and A10 apply.

2. We allow hunter access from 1 ½ hours before legal shooting time until 1 ½ hours after legal shooting time.

3. We require that all hunters register at the hunter sign-in stations and complete an Upland Game Hunt Report (FWS Form 3–2362) located at the exit kiosks prior to exiting the refuge.

4. We prohibit the use of dogs for squirrel hunting.

5. We allow squirrel hunting with guns from the State opening day until the day before the State opening of archery deer season.

6. You may only use or possess approved nontoxic shot shot shells while in the field (§ 32.2(k)) and rifles chambered for rimfire cartridges.

7. Archery hunters may take squirrels, raccoons, and bobcats while in season and feral hogs anytime while archery deer hunting.

8. We allow raccoon hunting by Special Use Permit during the statewide raccoon season.

C. Big Game Hunting. We allow big game hunting in designated areas of the refuge in accordance with State regulations subject to the following conditions:

1. Conditions A3, A5, A8, A9, A10 and B2 apply.

2. We require that all hunters register at the hunter sign-in stations and complete the Big Game Harvest Report (FWS Form 3–2359) located at the exit kiosks prior to exiting the refuge.
3. We allow archery hunting for deer and turkey during the fall season.
4. You must remove all boats brought onto the refuge at the end of each day (see §27.93 of this chapter).
5. We allow spring turkey hunting. You may only use or possess approved nontoxic shot shells while in the field, including shot shells used for hunting wild turkey (see §32.2(k)).
6. We prohibit the distribution of bait or hunting with the aid of bait, salt, or other ingestible attractant (see §32.2(h)).
7. We allow archery hunting in the Expanded General Hunt Area through October 31.
8. We allow portable tree stands 2 weeks before to 2 weeks after the State archery deer season with the following exception:
 - i. In the Expanded General Hunt Area, you must remove all personal property at the end of each day.
9. We allow only one tree stand per hunter.
10. We only allow non-motorized boats in the Mingo Wilderness Area.
11. We require hunters to apply for Managed Deer Hunts through the Missouri Department of Conservation internet draw.
12. If managed feral hog hunts occur, we require hunters to apply for the managed hog hunt through the Mingo NWR headquarters.

A general synopsis of regulations relating to hunting on the Refuge, as well as all other national wildlife refuges in Missouri, are published the Missouri Hunting and Trapping Regulation Handbooks. Annual updates to Refuge regulations are provided to MDC for publication. State hunting regulations applicable to the Refuge, such as seasons, bag limits, and general methods of take are also published in the Handbook.

In addition, Refuge-specific regulations are made available to the public in the Refuge's hunting brochure. Copies of the hunting brochure are available at the Refuge Visitor Center, entrance kiosks, and on the Refuge's website.

B. Special Hunts

A special hunt is to provide a quality recreational hunting experience that may be limited or not available for underserved hunting populations within the structure of general public hunting. Special hunts are for youth hunters, disabled hunters, and/or other underserved

hunter populations (e.g., wounded veterans, terminally-ill children, etc.) that will be administered on designated areas (i.e., MHA and SHA) of the Refuge. These hunts will be based on quota where the Refuge Manager will consider the biological effect of proposed hunting activities and are conducted within the framework of the State regulations for the species proposed to be hunted. The Refuge Manager will also consider the special hunt's potential to conflict with non-hunting recreational activities. A Special Use Permit (SUP) or Managed Hunt Application may be required.

Youth Deer Hunt

A managed youth deer hunt is held annually at the Refuge which coincides with Missouri's state youth deer hunting weekend. The youth deer hunt occurs in the Managed Hunt Area and in the Special Hunt Area. Participants apply through Missouri Department of Conservation's lottery. This program is designed to provide hunting opportunities to youth ages 11 – 15 years old. One adult mentor accompanies each program participant to hunting locations in the designated areas. Adult mentors are not allowed to hunt at any time during the managed youth deer hunt while accompanying the youth deer hunter.

Accessible Hunts

The Refuge accommodates hunters with disabilities in the General Hunt Area and Special Hunt Area. In the GHA at Schoolhouse Access, there are three blinds available for disabled hunters to use, without reservations or a Special Use Permit. Refuge regulations, state seasons, and limits still apply for game pursued while utilizing these blinds or areas. In the SHA area, a Managed Hunt Application or SUP is required for the blinds. The hunter must still abide by legal methods of take (including crossbows/draw locking device, as authorized with MDC's Hunting Method Exemption – Physician's Statement of Eligibility). Hunters with disabilities possessing a MDC-issued permit exempting them from particular state regulations based upon their disability will be eligible to apply and participate in Refuge-specific accessible hunt opportunities.

C. Anticipated Public Reaction

Hunting programs have been conducted on Mingo NWR since 1967. In general, public reaction has been favorable and is expected to be favorable toward the increased deer, turkey, squirrel, waterfowl hunting opportunities; as well as increased opportunities for take of raccoons and bobcats. No trapping will be allowed. Two comments were solicited in favor of closing the Refuge to all hunting opportunities. This is unfavorable as it does not support the biological capacity of maintaining quota at a level in which the system can support the species (e.g., white-tailed deer).

D. Hunter Selection

For general hunting activities, there is no special hunter selection process. Hunters who are eligible to hunt under Missouri law are allowed to hunt on the Refuge. The sponsors and partners of the managed hunts or special hunts have been able to meet all requests to participate to date so a random draw process is used.

E. Hunter Application and Registration Procedures

For general hunting activities, no special application is required. Hunters are required to sign in at Hunter Check-in Stations at designated kiosks and report their harvest, if any, on OMB-approved forms located at the exit kiosks. There are application and registration processes associated with the managed hunts, youth hunts, hunts for persons with disabilities, and waterfowl hunts which are administered through MDC. The Refuge will issue Special Use Permits for raccoon hunting. Should the Refuge implement other application or registration procedures, it will use the OMB - approved forms.

Firearms Deer Hunt

Applications for the muzzleloader and youth firearm deer hunts are processed by MDC. A valid Refuge entrance permit and state managed deer hunt permit are required. A state fee is charged for the managed hunt permit. A pre-hunt orientation and registration conducted by Refuge staff is also required.

When registering, hunters must present their valid managed deer hunt permit and identification. The hunter is issued an identification tag that must be worn on an outer garment while hunting on the refuge. The identification tag is to be worn by the hunter, youth hunt mentor, and/or helper for the assisted hunts. The requirement is for identification and safety while hunting.

Archery Deer & Turkey, Squirrel, and Spring Firearms Turkey

A valid Refuge entrance permit and archery deer, archery/spring firearms turkey, and/or small game permit are required for the species pursued. A firearms deer permit is required while archery hunting during the state firearms deer hunt season. Hunters are required to sign in and out at the designated hunter entrances. They are required to record their activity hours and harvest, if any, on OMB-harvest report cards and harvest, when they sign out. This data assists Refuge staff in assessing populations and determining harvest rates.

Waterfowl

All hunters are required to enter the random, daily draw conducted at Duck Creek Conservation Area (DCCA) to obtain a hunting permit for entrance in Pools 7 and 8. In addition to the MDC draw permit, a valid Refuge entrance permit, a federal duck stamp, and a migratory bird permit are required. Draw permits are issued on a random draw basis to fairly allocate hunting opportunities in Pools 7 and 8. The number of hunters will be regulated to prevent overcrowding and provide quality hunting opportunities. Depending on water level conditions and management actions, a maximum of 25 hunters are allowed in Pool 7 and 50 hunters are allowed in Pool 8. Hunters will sign in and out of the area and report their harvest through DCCA check station.

Furbearers

A valid Refuge entrance permit, archery permit, firearms deer permit (while archery hunting during the firearms season), small game permit, or migratory bird permit and federal duck stamp, are required for incidental take of bobcat and raccoon during the state furbearer season, while pursuing game species on the Refuge. Hunters must sign in and out at the designated hunter entrances. They are required to record their activity hours and incidental harvest of bobcat and raccoon on OMB-approved cards during the state furbearer season; when they sign out. No trapping is allowed. This data assists Refuge staff in assessing populations and determining harvest rates.

All hunters are required to apply for a SUP through Mingo NWR to raccoon hunt with GPS or radio-collared dogs or conduct night hunts for raccoons during the statewide furbearer season. A Refuge entrance permit and small game permit is required.

Feral Hog

If needed, applications for a feral hog hunt would be processed by Refuge staff at Mingo NWR Headquarters. A valid Refuge entrance permit, a pre-hunt orientation and registration conducted by Refuge staff, is also required.

F. Announcing and Publicizing Hunt Plan

Mingo NWR hosted a formal public scoping meeting on December 15th, 2011. On September 17, 2012, the Draft Hunt Plan, Environmental Assessment, and Compatibility Determination was made available to the public through printed notifications to multiple media markets with printed copies available at the Refuge Visitor Center and Puxico Library; the documents were linked on the Refuge website, and announced on Facebook. A formal all-day listening session was held on September 25, 2012, to solicit written comments from the public. Both formal comment periods concluded after 30 days. To ensure private landowners adjacent to the Refuge had equal opportunities to comment, the comment period was re-opened to the public and to private landowners on December 13, 2012. Letters were mailed to the private landowners to notify them and to allow them to review the Draft Environmental Assessment, Hunt Plan, and Compatibility Determination, and to allow them to submit comments. The re-opened comment period was announced through local newspapers, on the Refuge website, and on Facebook. The comment period concluded on January 4, 2013. The Refuge moved forward with developing the final Hunt Plan, Environmental Assessment, and Compatibility Determination, based on discussions with the USFWS Regional Office, Refuge staff, MDC, and the public. Significant changes to this Hunt Plan or the Refuge hunting program will be announced via a similar public notice procedure. Annual hunting opportunities are posted on the Refuge's website and at the Mingo Visitor Center.

G. Hunting Orientation and Safety

The Refuge requires no specific orientation for hunters participating in general hunts, but is required for managed hunts. The State of Missouri has established hunter education and safety training requirements in order to hunt with a firearm and/or purchase a permit.

Hunter orientation to Refuge lands and areas open to hunting are provided directly on the Refuge through the use of signs, brochures, and maps. Outlets off-Refuge that would be a source of information would be MDC offices, sporting goods stores, chamber of commerce offices, tourism offices, and the internet.

H. Refuge Hours of Operation

The Refuge Visitor Center is open from 8:00 a.m. to 4:00 p.m. Monday through Saturday, excluding Federal holidays. Mingo NWR is open ½ hour before sunrise and ½ hour after sunset. Registered hunters may access the hunt areas and designated access roads 1 ½ hours before legal shooting hours until 1 ½ hours after legal shooting hours. From October 1st until March 1st, the public hunt areas are closed to all public use except for authorized hunters.

VIII. REFERENCES

Bird Monitoring, Division of Migratory Bird Management, U.S. Fish and Wildlife Service, <http://migratorybirds.fws.gov/statsurv/mntrtbl.html>.

Dexter, M. H. 2008. Status of wildlife populations. Unpub. Rep., Division of Fish and Wildlife, Minnesota Department of Natural Resources, St. Paul, Minnesota.

Migratory Bird Harvest Information Program (HIP), U.S. Fish and Wildlife Service, <http://hip.fws.gov/>

Missouri Department of Conservation. 2001. Lonnie Hanson, Deer/Elk/Squirrel Resource Scientist. Personal Communication.

Missouri Department of Conservation. 2009. Distemper Taking a Toll on Missouri Raccoons. <http://extra.mdc.mo.gov/news/out/archive/arc0-2009.html>

Missouri Department of Conservation. 2010. Bobcat Prowl. <http://mdc.mo.gov/conmag/2005/08/bobcat-prowl>

Missouri Department of Conservation. 2011a. 2011 Furbearer Program Annual Report. <http://mdc.mo.gov/sites/default/files/resources/2012/01/fy11furbearerreport.pdf>

Missouri Department of Conservation. 2011b. Missouri Deer Population Status Report and Deer Season Summary. http://mdc.mo.gov/sites/default/files/resources/2011/10/2011-12_missouri_deer_population_status_report_and_deer_season_summary.pdf

Missouri Department of Conservation. 2011c. Missouri Wildlife Harvest and Population Status Report. Wild Turkey 2011. http://mdc.mo.gov/sites/default/files/resources/2010/04/2011_turkey_status.pdf

Missouri Department of Conservation. 2011d. Turkey Management FAQs. <http://mdc.mo.gov/hunting-trapping/turkey-hunting/turkey-management-faqs>

Missouri Department of Conservation. 2012a. Missouri's 2011-2012 Waterfowl Habitat and

- Hunting Season Report. Unpublished Document.
- Missouri Department of Conservation. 2012b. Squirrel Management.
- Missouri Department of Conservation. 2014. Feral Hogs in Missouri.
<http://mdc.mo.gov/discover-nature/field-guide/feral-hog>
- Missouri Department of Conservation. 2014. Feral Hogs Control.
<http://mdc.mo.gov/your-property/problem-plants-and-animals/invasive-animals/feral-hog-control>
- Missouri Department of Conservation. 2014. Blog: Show No Love to Feral Hogs, Hog Hunters.
<https://www.facebook.com/MDCOnline/posts/335460563227000>
- U. S. Fish & Wildlife Service. Digest of Federal Resource Laws: National Wildlife Refuge System Administration Act, Public Law 95-616. 8 November 1978.
<http://www.fws.gov/laws/lawsdigest/NWRSACT.HTML> <10 August, 2012>.
- U.S. Fish and Wildlife Service. 1994. Hunting Plan for Mingo National Wildlife Refuge, Missouri.
- U.S. Fish and Wildlife Service. 2000. "603 FW2, Compatibility." In U.S. Fish and Wildlife Policy Manual. U.S. Department of Interior, Washington, D.C. USA.
- U.S. Fish and Wildlife Service. 2007. Environmental Assessment and Comprehensive Conservation Plan for Mingo National Wildlife Refuge, Missouri.
- U.S. Fish and Wildlife Service. 2010a. Environmental Assessment and Hunting Chapter of Visitor Services Plan for Minnesota Valley National Wildlife Refuge, Minnesota.
- U.S. Fish and Wildlife Service. 2010b. Visitor Services Plan for Mingo National Wildlife Refuge, Missouri. Unpublished Document.
- U.S. Fish and Wildlife Service. 2011a. Conserving the Future, Wildlife Refuges and the Next Generation. The National Wildlife Refuge System. U.S. Department of the Interior, Washington, D.C. USA.
- U.S. Fish and Wildlife Service. 2011b. Environmental Assessment and Hunt Plan for the Northern Tallgrass Prairie National Wildlife Refuge, Minnesota and Iowa.
- U.S. Fish and Wildlife Service. 2011c. Environmental Assessment and Hunt Plan for Sherburne National Wildlife Refuge, Minnesota.

U.S. Fish and Wildlife Service. 2011d. Hunt Plan for Middle Mississippi National Wildlife Refuge, Illinois.

U.S. Fish and Wildlife Service. 2011e. Mingo Annual Narrative for Mingo National Wildlife Refuge. Unpublished Document.

U.S. Fish & Wildlife Service. 2011e. Waterfowl population status, 2011. U.S. Department of Interior, Washington, D.C. USA.

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