

HUNTING MANAGEMENT PLAN

WALNUT CREEK NATIONAL WILDLIFE REFUGE
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PRAIRIE CITY, IOWA 50228

U.S. FISH AND WILDLIFE SERVICE
DEPARTMENT OF THE INTERIOR

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Walnut Creek National Wildlife Refuge HUNTING PLAN

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I. INTRODUCTION

Walnut Creek National Wildlife Refuge was established by Congress in 1990 to restore native tallgrass prairie, wetland, and woodland habitats and to serve as a major environmental education center. The 8,654 acre refuge is located southwest of Prairie City in Jasper County, Iowa, approximately 20 miles east of Des Moines. The Service is currently in the process of acquiring land within the established refuge boundary under a willing seller acquisition program. As of March 1993, approximately 5,000 acres have been acquired.

The refuge is in the initial stages of development. An Environmental Assessment (EA) was prepared on the establishment of the refuge to comply with the provisions of the National Environmental Policy Act (NEPA). In August 1990, following preparation and review of the EA, the Fish and Wildlife Service determined that the establishment of the refuge would not result in adverse impacts to the quality of the human environment.

In December of 1990, the Service initiated the preparation of a Master Plan to guide the reconstruction and development of facilities and the program (including hunting activities) at the refuge. To comply with the provisions of NEPA, the service has prepared a Draft Environmental Impact Statement (DEIS) to evaluate the effects of the various Master Plan alternatives considered by the Service on the natural, social, and economic environments. The evaluation of Master Plan alternatives contained in the DEIS is used as the basis for the selection of the preferred alternative by the Service. The Master Planning process including approval of the Final Environmental Impact Statement will be completed by the 30th of August 1993. This document will serve as the Hunting Plan for Walnut Creek National Wildlife Refuge.

II. CONFORMANCE WITH STATUTORY AUTHORITIES

The goals guiding the development of Walnut Creek NWR are unique among the National Wildlife Refuge System of refuges. Unlike other refuges established to create and maintain habitat for migratory waterfowl and other wildlife, Walnut Creek NWR has been established to restore tallgrass prairie, one of the rarest of all of North America's major Biomes. The primary purposes of the Walnut Creek National Wildlife Refuge as described by the Congressional act authorizing the creation of the Refuge are:

- * to restore native tallgrass prairie, wetland and woodland habitats for breeding and migratory waterfowl and resident wildlife;
- * to serve as a major environmental education center providing opportunities for study;
- * to provide outdoor recreation benefits to the public; and
- * to provide assistance to local landowners to improve their lands for wildlife.

A comprehensive hunting program is consistent, and fully compatible, with these purposes and is an important part of the reconstruction process and overall management of the refuge. In addition to the recreational opportunities provided to the public through a well designed program, hunting provides refuge managers an important tool for managing wildlife populations that pose a threat to prairie reconstruction efforts as well as other activities, including agriculture, undertaken in the surrounding area. Additionally the hunting program will allow

the public to view first hand the effects of the habitat management practices used on the refuge. The public will be able to see the results of the management practices as it relates to the various wildlife species present.

Funding Requirements/Sources

Total funding requirement for the 1993 hunting program is anticipated at \$11,127.12. Total Walnut Creek NWR operating budget for 1993 is \$303,125.

Annual Hunter Visits

Whitetail deer: 1863 hunter days distributed as follows

Shotgun: 252 hunter days in 2 weeks

Bow: 1386 hunter days in 11 weeks

Muzzleloader: 225 hunter days in 11 weeks

Upland game birds: 2310 hunter days in 11 weeks

Cotton tail Rabbit: 315 hunter days in 21 weeks

Squirrel: 210 hunter days in 21 weeks

III. STATEMENT OF OBJECTIVES

~~While the Master Planning process is still underway,~~ The following major goals have been established for Walnut Creek NWR:

*** Biodiversity:** to promote effective resource management by encouraging biodiversity through sound land stewardship.

A wide variety of plant and animal species will be introduced to the area through the prairie reconstruction process. Many of these species are rare or of limited distribution. The impact on biodiversity due to selective browsing of plants has been well documented, and is being investigated by the USFWS and other conservation organizations and agencies including The Nature Conservancy and the Illinois State Preserve system (1). A hunting program will allow managers to protect individual species from over grazing and or predation and thereby increase the diversity of the habitat within the refuge. No significant negative impacts to the biodiversity of the refuge are anticipated from the development of an hunting program.

*** Environmental Protection:** To promote sound land management practices to sustain fish and wildlife resources while accommodating compatible human uses and activities.

Implementation of an Hunting Plan is consistent with the environmental protection goal described above. Hunting is a compatible use.

*** Environmental Education:** To assist in the establishment of a citizenry who understand the issues which affect the quality of the environment and wildlife/wildlands resources.

An outdoor skills education program is an important component of the Environmental Education program at Walnut Creek NWR. Programs on hunter safety and hunting techniques will be designed to impart in participants a sense of responsibility and land stewardship toward this country's natural resources. No significant impacts to other Environmental Education activities are anticipated due to the development of a hunting plan.

*** Research:** To document the tallgrass prairie and prairie/savannah reconstruction and restoration process in a scientific format and transfer that knowledge to active refuge management and other educational forms.

No significant negative impacts to research activities are anticipated due to the development of a hunting plan.

*** Public Use:** To provide, where suitable, opportunities for the public to utilize, associate with, learn about, and enjoy fish and wildlife resources.

A variety of recreational opportunities will eventually be available to Walnut Creek NWR visitors. These opportunities will be limited during the initial phase of development as limited acreages are converted from row crops to native grasses and forbs. Larger developments (including the Prairie Learning Center, the auto tour route, and large animal pastures) will occur in the future and therefore require a revised hunting plan to accommodate these changes. No significant impact to other public use functions is anticipated from the development of an hunting plan. A well designed hunting program will aid in the realization of the refuge goals listed above.

IV. ASSESSMENT

Approximately 80% of lands within the Walnut Creek NWR are currently dedicated to agricultural production. To a large measure, these practices will continue throughout the duration of this hunting plan. (Due to on going acquisition of properties). Eventually these lands will be converted from row crops and pasture to tallgrass prairie and oak/hickory savanna. A revised hunting plan will replace this plan to respond to changes in habitat and species distribution as well as the changing emphasis on research, environmental education and other public uses of the refuge. This hunting plan is designed to meet the intermediate, (developmental phases), term needs of the refuge.

Current wildlife species distribution and population levels reflect the existing dominance of agricultural uses of lands within the refuge and adjoining properties. Habitat alterations naturally resulting from the reconstruction of the tallgrass prairie community will significantly alter the diversity and distribution of wildlife species within the refuge. Throughout this transformation to the target habitat types, hunting will provide refuge managers with an important tool in controlling populations of whitetail deer, cottontail rabbits, and other small game species that represent potentially negative impacts on target plant and animal species within the refuge as well as agricultural activities on adjoining privately owned properties. The hunting plan also provides recreational hunting opportunities for the harvest of species including ring-necked pheasants not associated with tallgrass prairie community.

Whitetail Deer:

Deer populations throughout Iowa have increased dramatically over the past century. The first statewide population estimates instituted in 1947 indicated a herd size of 1,650 animals. By 1953, the estimated winter population had expanded to 13,000 due to protection from hunting, favorable habitat conditions, and the whitetails' adaptation to agricultural activities (Iowa Deer Management Plan, 1990). The first hunting season in 1953 was five days long in 45 counties and about 4000 deer were harvested. In 1988, 166,543 hunters harvested about 94,000 deer and hunted more than one million days during 14-day shotgun season, 32-day special muzzleloader season, and 86-day archery season (IDMP, 1990).

The 1990 Iowa Deer Management Plan reports that annual population trends on a regional basis have generally increased over the past 12 years (1976-1987) because of high reproductivity and low mortality. Statewide average annual increase in population trends indicators during this period has been about 10-15 percent.

The following statewide objectives have been identified within the Iowa Deer Management Plan of 1990:

1. **Population:** Stabilize the herd at 1987-1989 levels.
2. **Harvest:** Provide a sustainable average harvest of 90,000-100,000 animals.
3. **Hunter Density:** Maintain a reasonable and safe hunter density.
4. **Provide all hunters with an any sex license.**
5. **Maintain success rates of at least 60 percent for shotgun, 45 percent**

for muzzleloaders and 25 percent for archery.

Currently, habitat is supporting a statewide average fall population of 4-5 deer per square mile. Regionally this varies from 3-12 deer per square mile. In small areas protected from hunting, such as state parks or refuges, deer densities may reach 100-150 per square mile.

A document entitled Trends in Iowa Wildlife Populations and harvest 1991 (TIWPH) reports that deer harvest in Jasper county for 1991 was estimated to be about 848 or about 1.1 deer per mile. In Marion county it was estimated to be approximately 1096 or about 1.9 per square mile. Deer density within Walnut Creek NWR is estimated at 2.0 deer per square mile based on higher quality habitat conditions within the refuge.

Over all deer kill in Iowa deer management zone 5 (includes Walnut Creek NWR) for 1991 was 10,023 or about 1.79 per square mile. There were about 10,505 hunters out during the 1990 shotgun season or about 1.87 per square mile. The success rate for shotgun hunters was about 61% (TIWPH). It is estimated that higher quality habitat within Walnut Creek NWR will attract hunters to a density of approximately 2 per square mile.

Iowa Department of Natural Resources regulations allow for the harvest of whitetail deer throughout the area. Opening Walnut Creek NWR to deer hunting would prevent these highly mobile animals from escaping hunting pressure by concentrating within the refuge. Closing the refuge to deer hunting could reduce the success of the IDNR deer management plan and create high populations throughout the area. In addition to negative impacts of high deer populations to the prairie restoration program on the Refuge due to selective deer grazing on prairie species, large concentrations of deer would cause higher levels of crop damage. A 1988 survey of Iowa farmers indicated that 42 percent had experienced some type of deer damage to crops (IDMR 1990). Public deer hunting will be allowed on Walnut Creek NWR in coordination with IDNR.

It is estimated that 20 to 30 deer will be harvested in Walnut Creek NWR during the 1993-94 bow, muzzleloader, and gun seasons based on deer densities, hunter densities and hunter success rates.

Upland Gamebirds

Ring-necked pheasant, Bobwhite Quail, and Gray partridge hunting will offer the public quality recreational opportunities without negatively impacting refuge goals. Reconstruction and restoration efforts at Walnut Creek NWR will be concentrated on native plant and animal species associated with tallgrass prairies and the associated communities of southern Iowa. Walnut Creek NWR will not be managed specifically for sustainable populations of ring-necked pheasants and Gray partridge. The ring-necked pheasant, introduced into Iowa during the 19th Century represents an exotic species well adapted to the habitat created by the development of the agriculture landscape of Iowa. Changing habitat conditions resulting from reconstruction of tallgrass prairies may over time reduce some components of pheasant habitat while at the same time improve partridge habitat. The prairie reconstruction process is expected to have positive influence on Bobwhite quail populations. Public Upland game bird hunting will be allowed on portions of the refuge in coordination with Iowa DNR regulations.

Cottontail Rabbits:

Rabbits are well adapted to a variety of habitat types found within Walnut Creek NWR. Cottontail rabbit hunting will be developed on portions of the refuge in accordance with Iowa DNR regulations.

Squirrels:

Both grey and fox squirrels are currently found on the refuge, particularly in areas with nut bearing hardwood tree species including oaks, hickory and walnuts.

Squirrels are also common in association with riparian woodland communities in close proximity to agricultural cropland where food is readily available. Squirrel hunting will be developed on portions of the refuge in accordance with Iowa DNR regulations.

Waterfowl:

No waterfowl hunting is proposed for the Walnut Creek NWR at this time.

V. DESCRIPTION OF THE HUNTING PROGRAM.

A. Area supporting target species population.

Whitetail deer, ring-necked pheasants, grey partridge, bobwhite quail, cottontail rabbits and squirrel are found throughout the refuge. The largest concentration of deer are found in the scattered woodland of the steeply rolling southern half of the refuge as well as along the north/south orientated Walnut Creek corridor. These deer move to agricultural areas to feed during the early mornings and evenings. Whitetail deer frequently use fence lines, CRP lands, and other vegetated corridors to move throughout the refuge and adjoining properties.

Upland game birds are found throughout the refuge in thickets, CRP, and fence rows near agricultural crops and stubble where they feed. Gray partridge are found in similar habitats, in smaller numbers. Bobwhite populations are variable with populations heavily influenced by severe winter weather.

Cottontail Rabbits inhabit the entire refuge, especially the wooded valleys and creek side habitat of the southern half of the refuge. Rabbits are also plentiful along vegetated fence rows and near human habitation. Squirrel are concentrated in mature woodlands.

B. Areas to be open to the public

See attached map.

C. Species to be taken, hunting period.

The following species may be taken in concurrence with state regulations that apply:

- * Whitetail Deer
- * Ring-necked Pheasant, Bobwhite Quail, Grey Partridge
- * Cottontail Rabbits
- * Squirrel

The hunting period will be from the opening of the respective state deer archery season through the close of the state muzzleloading deer season.

D. Permits Required:

Iowa State hunting licenses and stamps as applicable.

E. Coordination with State of Iowa:

Refuge managers are working cooperatively with the Iowa Department of Natural Resources to develop hunting management and law enforcement plans. The Refuge hunting plan will adopt State regulations.

F. Methods of control and enforcement:

Refuge Project Leader will coordinate enforcement with Iowa DNR, Iowa State Patrol, and the Jasper County Sheriff's Department to insure adequate enforcement of the refuge hunting program.

G. Funding and Staffing Requirements:

Total annual cost of the interim hunting program for 1993 is estimated at \$11,127.12 based on the following computations:

Staff salary:	\$9,437.12	14wks x 16hrs x \$42.13
Transport.	\$ 280.00	
Safety Equip.	\$ 350.00	
Office Support	\$ 250.00	
Signage	\$ 560.00	
Publications/maps	\$ 250.00	

VI. MEASURES TAKEN TO AVOID CONFLICTS WITH OTHER MANAGEMENT OBJECTIVES**A Biological Conflicts**

A complete inventory of birds, mammals, and amphibians was completed by Professor James Dinsmore as part of the ongoing master planning process for the Walnut Creek National Wildlife Refuge. In that study, Dr. Dinsmore determined that the only Federally-listed Endangered Species that occurs regularly at the refuge is the Indiana Bat. This species is known to occur in riparian sites in adjacent counties. The Iowa state endangered species list includes four birds (Northern Harrier, Cooper's Hawk, Bald Eagle and Short-eared Owl) and one mammal (Indiana Bat) that may occur in the refuge. The Iowa threatened species list includes one bird species (Long-eared owl) that is probably a migrant (and possibly a winter resident) on the refuge. Three species from a list of 14 midwestern nongame species receiving special status from the U.S. Fish and Wildlife Service due to declining populations nest in or migrate through the Refuge. These species include: Red-shouldered Hawk (migrant), Loggerhead Shrike (nesting), and Bell's Vireo (nesting). No significant negative impacts to these or other nongame wildlife species are anticipated due to the implementation of an public hunting program.

The Walnut Creek NWR Native Plant Community Assessment completed in October 1991 by Scott J. Bryant and Pauline M. Drobney as part of the site inventory component of the master planning process identified no Federally or State listed threatened or endangered species. As described in section II of this report, over 80 percent of Walnut Creek NWR is currently maintained in pasture and row crops pending reconstruction of native prairie and savanna. No significant negative impacts to plant resources are anticipated due to the implementation of an hunting program.

B. Public Use Conflicts:

None anticipated. The refuge is currently primarily in agricultural crop land. No other public uses are common throughout the refuge.

C. Administrative Conflicts

None Identified.

VII. CONDUCT OF THE HUNT**A. Refuge-specific hunting regulations:**

1. The construction or use of permanent blinds, platforms, or ladders is not permitted.
2. All stands must be removed from the refuge at the end of each day's

hunt.

3. Hunting of ring-necked pheasants, grey partridge, bobwhite quail and cottontail rabbit is permitted from the opening of the State archery deer seasons and will close at the conclusion of the State deer muzzleloader season.

B. Anticipated public reaction to the hunt:

The local community and region maintain a strong hunting tradition. There is strong support for a hunting program at Walnut Creek NWR.

C. Hunter application and registration procedures:

None. This may be instituted in the future as development continues.

D. Description of hunter selection process:

Not applicable.

E. Media selection for announcing and publicizing the hunt:

Local media.

F. Description of hunter orientation, including pre-hunt scouting:

In conformance with Iowa DNR.

G. Hunter Requirements:

In conformance with Iowa DNR.