

U.S. Fish and Wildlife Service

Draft Environmental Assessment

**Hunt Program for the Iowa River Corridor
Project**

Port Louisa National Wildlife Refuge

**Regional Director Region 3, U. S. Fish and Wildlife
Bloomington, MN 55111**

Abstract: The United States Fish and Wildlife Service (Service) proposes to provide compatible hunting opportunities for migratory game bird, upland game, furbearer and big game species on the Iowa River Corridor Project (IRCP) of Port Louisa National Wildlife Refuge located within 3 counties in east central Iowa. This environmental assessment evaluates three possible alternatives for hunting opportunities. The preferred alternative will establish compatible hunting opportunities while providing non-hunting visitors with other priority public use opportunities i.e. fishing, wildlife observation, wildlife photography, environmental education and interpretation. The entire IRCP includes Service owned lands, Iowa Department of Natural Resources lands, and Natural Resources Conservation Service wetland easements. A hunt plan is being developed pursuant to the selection of an alternative. The general goals of a hunting program are to:

1. Provide safe and enjoyable hunts that are compatible with the IRCP purposes.
2. Provide quality hunting opportunities that minimize conflict with other public use activities.
3. Contribute to a consistent regulatory framework across the patchwork of public and private holdings in the IRCP.
4. Provide opportunities to hunt for species consistent with the laws and regulations of the State of Iowa that do not adversely affect local or regional populations, and are consistent with the 1997 National Wildlife Refuge System Improvement Act.

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CHAPTER 1. PURPOSE AND NEED FOR ACTION

SECTION 1.1 Purpose

The Purpose of this Environmental Assessment is to evaluate alternatives for opening and administering a hunting program on the fee title lands in the Iowa River Corridor Project (IRCP) of Port Louisa National Wildlife Refuge (Refuge).

SECTION 1.2 Need

Providing compatible wildlife-dependent recreation and educational activities on units of the National Wildlife Refuge System is a Service priority. The National Wildlife Refuge System Administration Act of 1966 (Act) as amended by the National Wildlife Refuge System Improvement Act of 1997 (16 U.S.C. 668dd et seq.) provides authority for the Service to manage the Refuge and its wildlife populations. In addition, it declares that compatible wildlife-dependent public uses are legitimate and appropriate uses of the Refuge System that are to receive priority consideration in planning and management. There are six wildlife-dependent public uses: hunting, fishing, wildlife observation, wildlife photography, environmental education and interpretation. The Act directs managers to facilitate recreational opportunities, including hunting and fishing, on National Wildlife Refuges when compatible with the purposes for which each Refuge is established and the mission of the National Wildlife Refuge System.

Iowa River Corridor lands were added to the refuge after record flooding in 1993. The Iowa Department of Natural Resources (IADNR) manages the refuge lands under a Memorandum of Understanding (MOU) with the Service. Lands were originally opened to hunting in 1995 and 1996 as lands were turned over to IADNR management under the MOU. The 1995 environmental assessment and finding of no significant impact prepared for acquisition anticipated increased recreational opportunities including hunting, trapping, and fishing. A formal opening package for hunting on refuge lands was therefore not completed at that time. Compatibility determinations were done in 2004 to assess these activities on selected Refuge units, but no formal plans had been developed. A draft hunting plan will be developed pursuant to alternatives in this Environmental Assessment, and will be incorporated into an overall Visitor Services Plan for the IRCP once completed.

Continuing these activities is desirable by refuge management and by the IADNR. A hunting plan and associated documents are now needed to define how hunting would be applied and managed in order to continue or modify these activities. Hunting on the IRCP would 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 floodplain habitats and their associated fish and wildlife resources. Implementation of the preferred alternative would be consistent and compatible with the Refuge Recreation Act, Refuge Administration Act, and the Environmental Assessment for the establishment of the IRCP. In addition, implementation of the preferred alternative would promote a consistent regulatory framework across the patchwork of public and private lands in the corridor.

SECTION 1.3 Decisions That Need To Be Made

This Environmental Assessment was prepared to evaluate the environmental consequences of a hunting program on fee title lands of the IRCP, Port Louisa NWR in Benton, Iowa, and Tama

Counties. Three alternatives are presented in this document:

- Alternative A: No Action – Continue hunting on the IRCP consistent with state and federal regulations. (Preferred Alternative)
- Alternative B: Restrict hunting to specific events such as Special Firearms Deer Hunt for Hunters with Disabilities, or Youth Deer Hunt.
- Alternative C: Close the IRCP to hunting.

Alternatives considered but not pursued further were:

- Alternative B2. Restrict hunting to specific species. This alternative would not contribute to regulatory consistency across state, federal, and private lands in the corridor; would create confusion for recreational users, and would create enforcement issues for conservation agents in the field. This alternative would not allow the use of hunting to manage some species.
- Alternative B3. Restrict hunting to specific dates and times. This alternative would also not contribute to regulatory consistency across state, federal, and private lands in the corridor; and would create enforcement issues for conservation agents in the field.

The Regional Director, U. S. Fish and Wildlife Service, Bloomington, Minnesota, is the official responsible for determining the action to be taken in the proposal by choosing an alternative. He will also determine whether this Environmental Assessment (EA) is adequate to support a Finding of No Significant Impact (FONSI) decision, or whether there is a significant impact on the quality of the human environment, thus requiring the preparation of an Environmental Impact Statement (EIS).

SECTION 1.4 Background

The IRCP was established after the flood of 1993 to provide relief to floodplain landowners along the Iowa River and advance sound national policy for floodplain management. The IRCP is a partnership between the IADNR, the USDA Natural Resources Conservation Service (NRCS), and the Service. The IRCP is located in 3 counties in east-central Iowa (Figure 1) and is a mix of riverine aquatic, wetland, grassland, and floodplain forest habitat types (Figure 2). The Service issued a Final Environmental Assessment and Finding of No Significant Impact for U.S. Fish and Wildlife Service Proposed Land Acquisition in the IRCP, dated July 20, 1995.

The authority for acquisition of these lands was the Emergency Wetland Resources Act of 1986 (16 U.S.C. 3901). The purpose of these refuge lands is therefore the conservation of the wetlands of the nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions. The environmental assessment for land acquisition (U.S. Fish and Wildlife Service 1995) also outlined the purposes of:

1. Providing habitat for migratory birds and endangered species.
2. Improving the natural diversity of the ecosystem through restoration and protection of floodplain habitat.
3. Providing an alternative to levee reconstruction and reclaiming damaged farmland.

4. Increasing public opportunities for outdoor recreation, such as hunting or fishing, and environmental education compatible with the preceding purposes.

Currently, there are approximately 9,300 acres of land acquired by the Service within a proposed 15,000 acre acquisition area. The IRCP is intended to permanently preserve wetland, grassland, and forested habitats within the historic floodplain of the Iowa River. The IRCP contributes to goals for ecosystem conservation and restoration, threatened and endangered species recovery, neotropical migrant bird conservation, biological diversity, and wildlife oriented public recreation.

The total area in the IRCP focus area is approximately 50,000 acres along a 45 mile section of the Iowa River in Tama, Benton, and Iowa Counties. Service lands are intermingled with USDA easements and land owned by IADNR. The IADNR manages the refuge lands under a Memorandum of Understanding (MOU), most recently signed in 2001. Lands are managed as part of the Iowa River Corridor Wildlife Management Area. In November of 2012 a draft Comprehensive Management Plan (CMP) was developed by the IADNR, per the terms of the MOU between that agency and the Service to address future management of the IRCP, including visitor services. A draft hunting plan is a step down plan of the CMP, and as such, will contain more detailed information describing the potential hunting program on the IRCP. The hunting plan will also be incorporated into a future Visitor Services Plan.

Most of the Service fee title lands overlay USDA wetland easements. There is a mixture of easements on private lands, DNR lands, and FWS lands (Figure 1). The IRCP began with disastrous floods and subsequent programs to enroll eligible landowners into various easement programs such as the Emergency Wetland Resources Program and the Wetland Reserve Program that are designed to return farmland to wetlands. The purpose of the easements are to restore, protect, and maintain the functional values of wetlands and other eligible lands for wildlife habitat, water quality improvement, flood water retention, groundwater recharge, open space, aesthetic values, and environmental education. NRCS developed restoration plans under a plan of operations for each easement. Prohibitions under the easement include construction of structures, planting for harvest any agricultural commodity, manipulation of the easement area which would have an adverse effect on the hydrology, and alteration of the wildlife habitat or other natural land features of the easement area. Improvements for environmental education such as parking lots, interpretive signing, and observation decks are allowed on these easements. Hunting, fishing, and trapping are also allowed on easement lands. Vehicle use, except for management and inspection purposes is not allowed on easements. Annual management plans and reports have been used to determine that management and uses on refuge lands are compatible with the USDA easements. Hunting has been occurring on easement lands and the Service and IADNR regularly coordinate with NRCS.

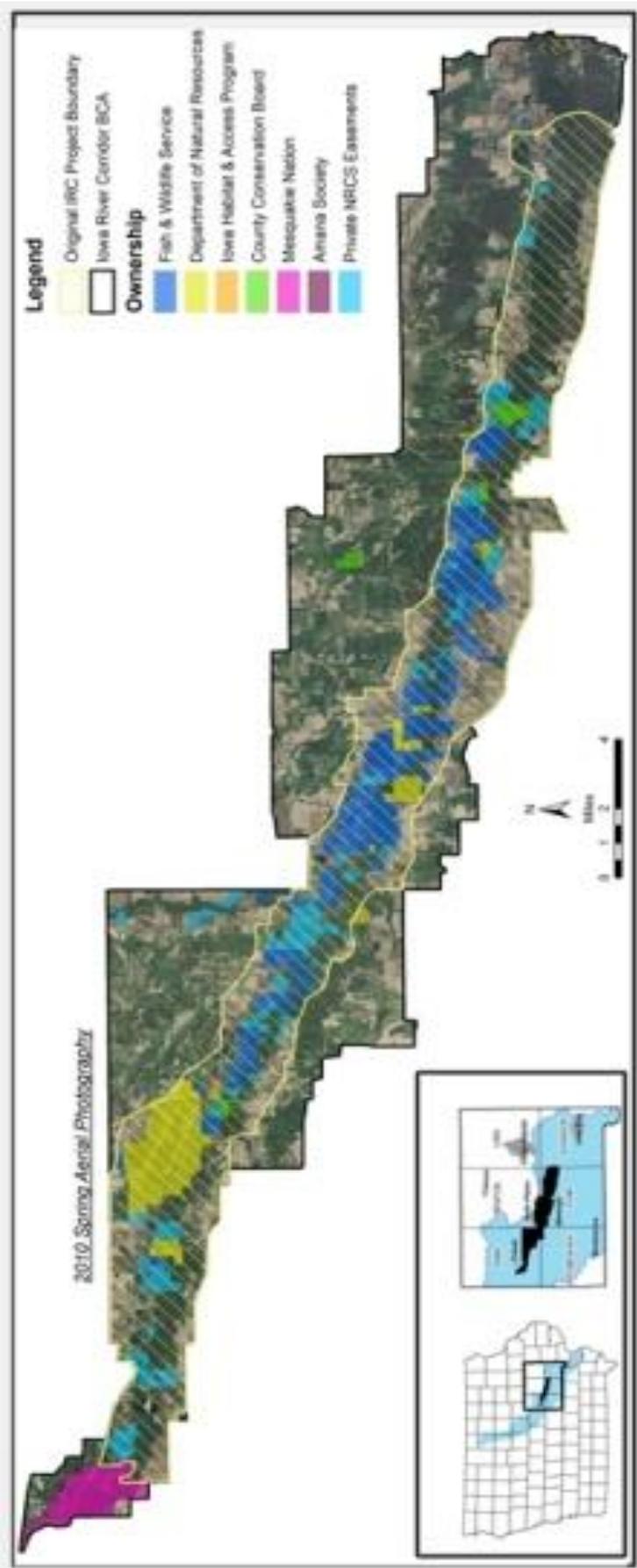


Figure 1. Location and land ownerships within the Iowa River Corridor Project.

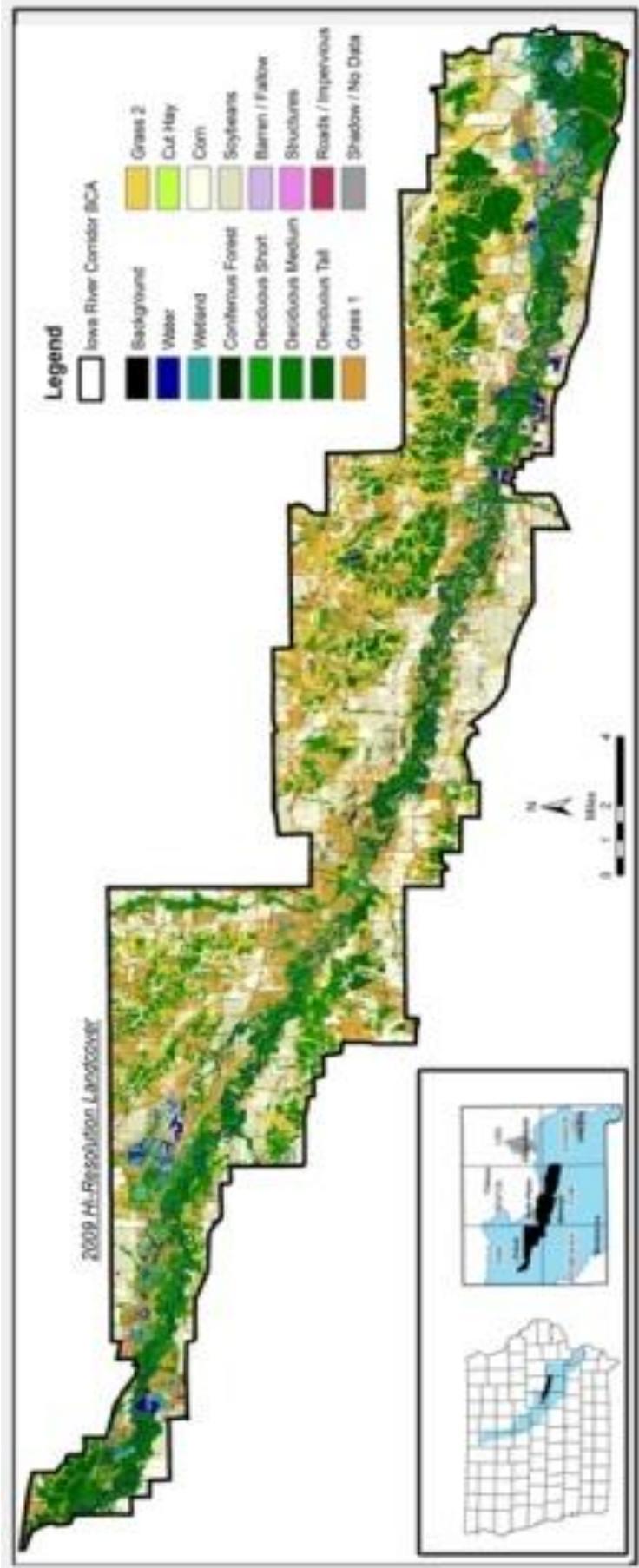


Figure 2. Landcover within the Iowa River Corridor Project.

CHAPTER 2. PROPOSED ACTION AND THE ALTERNATIVES

SECTION 2.1 Alternatives Eliminated From Detailed Study

Alternative B2. Restrict hunting to specific species. This alternative would not contribute to regulatory consistency across state, federal, and private lands in the IRCP; would create confusion for recreational users, and would create enforcement issues for conservation agents in the field. It would also not allow population management for some species through the use of hunting.

Alternative B3. Restrict hunting to specific dates and times. This alternative would also not contribute to regulatory consistency across state, federal, and private lands in the IRCP; confuse recreational users; and would create enforcement issues for conservation agents in the field.

SECTION 2.2 Alternatives Carried Forward for Detailed Analysis

This Environmental Assessment is prepared to evaluate the environmental consequences of allowing hunting on fee title lands within the IRCP and the methods of hunting on the Refuge. The following criteria were used in developing alternatives:

1) The area(s) selected for hunting is(are) large enough to support the anticipated quantity, frequency, and duration of hunter use without adversely affecting game populations or habitat conditions within the area; 2) Hunter access does not require travel across private lands or closed government lands; 3) Sites are available for hunters to park their vehicles legally and in a manner that will not adversely affect the habitat in the unit or existing public travel routes; 4) Public hunting will not have adverse effects on any federally listed or species of concern; and 5) Hunting can be conducted without jeopardizing public safety.

The Refuge manager, after consulting with the IADNR, may establish specific regulations for an individual unit to ensure the above requirements are met. Certain units or portions of units may remain closed or be periodically closed to hunting if the refuge manager determines that there are specific habitat, wildlife protection, and/or public safety needs that require establishing sanctuary areas.

Hunting would be conducted in accordance with all applicable state and federal regulations. Coordination with Iowa DNR biologists will promote continuity and understanding of Service and state resource goals and objectives, and will help assure that the decision-making process takes into account all interests. With the foregoing background, three alternatives are presented in this document:

Alternative A: No Action – Continue hunting on the IRCP consistent with state and federal regulations. (Preferred Alternative)

Alternative B: Restrict hunting to specific events such as Special Firearms Deer Hunt for Hunters with Disabilities, or Youth Deer Hunt.

Alternative C: Close the IRCP to hunting.

2.2.1 Alternative A: No Action Alternative (Preferred Alternative)

This alternative would allow hunting of migratory game birds, upland game, furbearers, and big game species on all fee title lands within the IRCP in accordance with the hunting seasons and regulations set by the State of Iowa. Considerations would not be made on a tract by tract or unit by unit basis. Hunting would be conducted in accordance with all applicable state and federal regulations. Coordination with IADNR biologists will promote continuity and understanding of Service and state resource goals and objectives, and will help assure that the decision-making process takes into account all interests.

Under alternative A, the Service would continue to purchase conservation easements and fee title properties. Planning for and implementing habitat restoration activities would continue to enhance these areas. Management of existing habitats for wetlands and wildlife would continue. These actions would be carried out in cooperation with volunteers and partners.

2.2.2 Alternative B: Reduce hunting to only allow hunting on fee title lands within the IRCP for hunters with disabilities and/or youth, consistent with Iowa State regulations and refuge-specific regulations.

This alternative would only allow hunting of migratory game birds, upland game, furbearers, and big game species through special hunts for underserved populations on the IRCP in accordance with the hunting seasons and regulations set by the State of Iowa.

Under alternative B, the Service would continue to purchase conservation easements and fee title properties. Planning for and implementing habitat restoration activities would continue to enhance these areas. Management of existing habitats for wetlands and wildlife would continue. These actions would be carried out in cooperation with volunteers and partners.

2.2.3 Alternative C: Restrict hunting on all fee title lands within the IRCP.

Under this alternative, the refuge units would continue to serve as habitat for wildlife and provide for five of the compatible wildlife dependent public uses – fishing, wildlife observation, photography, environmental education, and interpretation. Some populations, such as white-tailed deer and Canada geese, would continue to grow and possibly increase to levels that result in damage to adjacent agricultural croplands as well as to native vegetation without the population control provided by hunting. The potential for depredation complaints from local landowners and farmers would increase. Under this alternative, the public would not be able to participate in a compatible wildlife-dependent public use. Local expenditures from hunter use of the area would decrease.

Under alternative C, the Service would continue to purchase conservation easements and fee title properties. Planning for and implementing habitat restoration activities would continue to enhance these areas. Management of existing habitats for wetlands and wildlife would continue. These actions would be carried out in cooperation with volunteers and partners.

Table 1 below summarizes the actions that are anticipated under each alternative. Detailed discussion of the environmental impacts of each alternative can be found in Chapter 4. Some of the issues carried into the impact assessment are described in more detail in Chapter 4.

Section 2.3. Table 1. Alternative Action Table

Action	Alternative A (No Action Alternative)	Alternative B Reduced Hunting	Alternative C Eliminate Hunting
Species that will be hunted	White-tailed deer and wild turkey; mourning and Eurasian collared doves; ducks and geese, coots and gallinules, sora and Virginia rails, doves, woodcock, snipe, and crows; ring-necked pheasant, bobwhite quail, grey and fox squirrel, and cottontail rabbit; and coyote, fox, and raccoon.	Same as alternative A, reduced seasons for special hunts only.	None
Compatible with Refuge & IRCP Goals and Purpose	Yes. Provides for priority public uses and maintain healthy wildlife populations to benefit the IRCP floodplain ecosystem.	Yes. Provides for priority public uses and contributes to, but puts limitations on, maintaining healthy wildlife populations to benefit the IRCP ecosystem.	Yes, but only provides for 5 of 6 priority public uses.
Provides for Priority Public Uses	Yes. Provides for hunting opportunities.	Partially. Provides for limited hunting opportunities.	No. Does not provide for hunting opportunities.
Hunting and non-hunting uses segregated	No. Doesn't separate uses, conflicts possible, but deemed minimal. If conflicts exist, unit manager would be able to close an area or unit to alleviate conflicts.	No. Doesn't separate uses, conflicts possible, but deemed minimal. If conflicts exist, unit manager would be able to close an area or unit to alleviate conflicts.	Yes. Does not allow hunting and therefore no conflict exists with non-hunting activities, but conflict among the other uses could still occur.
Meets needs identified by public and partners	Yes. Maximizes hunting opportunities as identified by most public and partners.	Yes, but creates hunting opportunities reduced from what is identified by most public and partners.	No. Does not maximize hunting opportunities as identified by most public and partners.

CHAPTER 3 AFFECTED ENVIRONMENT

SECTION 3.1 Physical Characteristics

3.1.1. Location

The 50,000 acre Iowa River Corridor study area is an approximate 45 mile stretch of the Iowa River in Benton, Iowa, and Tama Counties in east central Iowa (Figure 1). The majority of lands in the floodplain of the Iowa River within this boundary are considered part of the Service approved acquisition area for the IRCP.

3.1.2. Geomorphic/Physiographic

The IRCP lies near the northern border of the geologic landform region known as the Southern Iowa Drift Plain. It is adjacent to the Iowan Surface which was formerly a part of the pre-Illinoian Southern Iowa Drift Plain, but redefined in subsequent glaciations. The Iowa River is flat and winding through the IRCP, with a wide floodplain that is abundant with wetlands, sloughs, and backwater oxbows. The Iowa River rises in Hancock County, Iowa, and drains about 4,375 square miles above the confluence of the Cedar River in southeastern Iowa. The Basin is covered by deposits from two of the earliest glacial sheets, the Nebraskan and Kansan.

3.1.3. Climate

The Iowa River Basin has a typical humid continental climate. At Toledo, Iowa, near the upper end of the planning area, the average daily high temperatures vary from the low 80 degrees Fahrenheit during the summer months to the mid- twenties during the winter. Annual precipitation at Toledo averages 34 inches.

3.1.4. Hydrologic Resources

The Service recently completed a Water Resource Inventory and Assessment (WRIA) Summary Report for the IRCP that describes and summarizes current hydrologic information, provides an assessment of water resource needs, identifies issues of concern, and makes recommendations regarding Refuge water resources (U.S. Fish and Wildlife Service 2012). The WRIA is a reconnaissance-level effort intended to inventory and assess water rights, water quantity, water quality, water management, climate, and other water resource issues for each refuge.

The IRCP is located within the Middle Iowa River HUC (0780208). Entering the IRCP at the upstream boundary, the drainage area is 1,896 sq. miles. The mean annual discharge at this point is 1,034.3 cubic feet per second (ft³/s), varying from 381 ft³/s to 1,890 ft³/s (Littin & McVay, 2008). A brief evaluation of the flow lines available from the National Hydrologic Dataset within the acquired units indicated roughly 57 km of streams, rivers or artificial flow paths. The Iowa River was approximately 11.3 km of this total. The new flood of record occurred in 2008.

Wetland identification and categorization for this area was completed using color infrared aerial photography from 2002 (1:40,000). The primary wetland types were identified from the National Wetlands Inventory (NWI) for the acquired units within the IRCP. The most common wetland types included: freshwater emergent (2500 acres), freshwater forested or shrub (1950 acres), freshwater pond (177 acres) and riverine (250 acres).

A water quality and biological assessment was performed by the U.S. Geological Survey for the Meskwaki Nation in 2006 and 2007. That assessment included three sites on the Iowa River.

Results of that assessment indicated that nitrates exceeded the U.S. Environmental Protection Agency's primary drinking water Maximum Contaminant Level of 10µg/L; however none of the samples analyzed for pesticides, trace metals, wastewater, or fuel contaminants were found to exceed drinking water regulations for the USEPA or State of Iowa targeted constituents (Littin & McVay, 2008). The periphyton community was sampled to provide an indicator of nutrient enrichment or trophic condition. Results indicated that the surface water could be considered nutrient enriched. This would not be unexpected given the agricultural land use throughout the Iowa River basin.

3.1.5. Soils

The floodplain within the Iowa River Corridor is part of the Colo-Bremer-Nevin-Nodoway association. Slopes range from 0 to 2 percent and drainage ranges from very poorly drained to well drained soils. Much of the area is subject to frequent or occasional flooding and is also subject to sedimentation. Based on rough estimates, about 60% of the IRCP floodplain is comprised of hydric soils and soils with hydric inclusions (U.S. Fish and Wildlife Service 2012).

3.1.6. Minerals and Energy Resources

There are no known minable deposits of energy or mineral resources within the Iowa River Corridor area. Some riverine sand deposits may be economically recoverable.

SECTION 3.2 Natural Resources

3.2.1. Habitat

Habitat in the Iowa River Corridor is a mixture of riverine and seasonal wetlands, riparian and floodplain forest, grassland, and early successional scrub/shrub habitat. Restoration of grasslands to native prairie species and restoration of wetlands has occurred since acquisition. Tree plantings have taken place as well. Prescribed burning is a primary management tool for maintaining grasslands. The floodplain habitats in the IRCP have management challenges associated with invasive reed canary grass (*Phalaris arundinacea*) and encroachment by early successional species like willow.

The primary wetland types were identified from the NWI for the acquired units within the IRCP. The most common wetland types included: freshwater emergent (2500 acres), freshwater forested or shrub (1950 acres), freshwater pond (177 acres) and riverine (250 acres). Approximately 82 wetlands were restored by the NRCS since easements were established after the 1993 floods using ditch plugs, tile plugs, and dikes. A few water control structures were placed on some wetlands. There are opportunities for additional wetland restorations or enhancements to further restore hydrology.

Most of the forest habitat is located in a band along the Iowa River near washes and oxbows. Much of the forested area consists of tracts of former crop and pastureland, which is now dominated by silver maples, with cottonwood as a minor species. Silver maples have diameters up to 30 cm and seem to be arranged in age classes. A few small burr oak groves, remnants perhaps of the "groves" reported in pre-settlement times, remain throughout the IRCP. The flood of 1993 caused great damage to mast producing hardwoods, such as the oaks and walnuts. In 1994, timber harvesting was active in the Iowa River Corridor to recover any marketable wood. Vegetation cover mapping for the corridor identified about 2800 acres of

woodland. Current management includes some timber stand improvement and tree planting with maintenance of new tree plantings.

Vegetation cover mapping by the Iowa DNR identified about 2000 acres of native grassland and about 2000 acres of non-native grassland, primarily invasive reed canary grass. Much of the native grassland was planted in the first 10 years after acquisition. Initial seed mixes did not include a high number of species and forbs were sometimes excluded to allow chemical control of weeds during establishment. Consequently, many of the native grasslands are predominantly warm season grasses. Restoration is still occurring with more diverse seed mixes and there is more potential for grassland restoration. Additional acres have been planted in the last few years. Current management includes prescribed fire and mowing to reduce encroaching woody vegetation and promote diversity.

3.2.2. Land Use

Currently, the land use within the Service acquisition boundary is approximately 31% wetlands, 30% cultivated crops and 24% herbaceous vegetation based on the 2006 National Land Cover Database (NLCD; Homer 2004, Xian 2009). However, land use and land cover in the Iowa-Cedar watershed is primarily agricultural with about 93 percent of the total area used for cropland or pasture (<http://iowacedarbasin.org/>). Land is largely privately owned in the watershed. The principal crops are corn, soybeans, hay, and oats. The remaining land area consists of about 4 percent forests, about 2 percent urban and about 1 percent water and wetlands (<http://iowacedarbasin.org/>). This land use greatly affects the hydrology and habitats within the IRCP.

3.2.3. Fish.

The fisheries resource is primarily restricted to the river and a few shallow oxbow ponds. The Iowa River in the IRCP is one of the more productive portions of this river due to the absence of channelization. Channel and flathead catfish are the dominant game fish in this section of the river. Northern pike, walleye, saugeye, crappie, white bass and black bullhead are species of moderate abundance. Bluegill, yellow bass, largemouth and smallmouth bass are not as common. Non-game species are dominated by common carp, bigmouth and smallmouth buffalo, river carpsucker, gizzard shad, minnow species (brassy, flathead, bluntnose and suckermouth), spotfin, common shiner, creek and silver chub. The river also contains mussel species common to Iowa's interior rivers.

During 2007, data were collected on aquatic communities within the Meskwaki Nation at the upstream boundary of the IRCP to provide a baseline assessment of stream conditions (Littin and McVay 2008). Three of the sample sites included the Iowa River. Data were used to develop Indices of Biological Integrity for fish, benthic macroinvertebrates, and periphyton. Based on the samples in 2007, the fish community was rated in fair condition, and the benthic macroinvertebrate community was rated as good. The periphyton data is used as an indicator of water condition and was discussed under Hydrologic Resources preceding.

3.2.4 Wildlife

The Iowa River floodplain wetlands and woodlands provide an important interior corridor for migratory birds. Migratory waterfowl numbers have exceeded 25,000 ducks at Otter Creek marsh during fall. Nesting mallards, blue winged teal, wood ducks and Canada geese are

common. Resident game species include a variety of upland bird and small and big game mammals common to the area. Turkey populations continue to grow and spread along the river. White-tailed deer populations remain high in the corridor. Muskrats, mink, raccoon and coyote population are high while beavers are on the increase.

The Iowa River Corridor was designated as a Bird Conservation Area in 2004, and is also an Audubon Important Bird Area. Over 130 species are confirmed or likely breeders on the corridor and 80% of Iowa's 85 Bird Species of Greatest Conservation Need occur here.

3.2.5 Threatened and Endangered Species and Species of Special Concern

The project area includes important habitat for a number of species identified in the Iowa Natural Areas Inventory (INAI). Certain habitat types required by some species are not present on the IRCP. There are two active bald eagle nests in the Corridor. In 1992, the first successful nesting sandhill cranes in Iowa since the early 1900's occurred at Otter Creek marsh. The pair has successfully reared young every year since. Table 2 provides the current county species lists from the INAI website.

The only recorded occurrences within the IRCP of federal threatened and endangered species are for the Indiana bat (*Myotis sodalists*) in Tama County. The potential exists in all three IRCP counties for Indiana bats, prairie bush clover (*Lespedeza leptostachya*), and Western prairie fringed orchid (*Platanthera praeclara*). Habitat for Indiana bats is caves, mines (hibernacula); small stream corridors with well-developed riparian woods; upland forests (foraging). Prairie bush clover occurs in dry to mesic prairies with gravelly soil and the orchid occurs in wet prairies and sedge meadows. All of these habitats, except caves, occur in the IRCP but there are no known occurrences of these species. There are no remnant original prairies.

Table 2. Species identified in the Iowa Natural Areas Inventory. Federally threatened or endangered species are indicated by an asterisk.

	Tama County	Benton County	Iowa County
Mammals	Indiana bat* <i>Myotis sodalis</i>	Plains Pocket Mouse <i>Perognathus flavescens</i>	
Birds	Bald eagle <i>Haliaeetus leucocephalus</i>	Bald eagle <i>Haliaeetus leucocephalus</i>	Bald eagle <i>Haliaeetus leucocephalus</i>
	Barn owl <i>Tyto alba</i>	Red-shouldered hawk <i>Buteo lineatus</i>	Henslow's sparrow <i>Ammodramus henslowii</i>
	Short-eared owl <i>Asio flammeus</i>		
Reptiles	Blanding's turtle <i>Emydoidea blandingii</i>	Blanding's turtle <i>Emydoidea blandingii</i>	Ornate box turtle <i>Terrapene ornata</i>
	Ornate box turtle <i>Terrapene ornata</i>	Ornate box turtle <i>Terrapene ornata</i>	Wood turtle <i>Clemmys insculpta</i>
	Smooth green snake <i>Liochlorophis vernalis</i>	Wood turtle <i>Clemmys insculpta</i>	Smooth green snake <i>Liochlorophis vernalis</i>
		Smooth green snake <i>Liochlorophis vernalis</i>	
Fish		American brook lamprey <i>Lampetra appendix</i>	Topeka shiner <i>Notropis topeka</i>
		Black redhorse <i>Moxostoma duquesnei</i>	Weed shiner <i>Notropis texanus</i>
		Blacknose shiner <i>Notropis heterolepis</i>	
		Weed shiner <i>Notropis texanus</i>	
		Western sand darter <i>Ammocrypta clara</i>	
Mussels		Cylindrical papershell <i>Anodontoides ferussacianus</i>	
		Ellipse <i>Venustaconcha ellipsiformis</i>	
Insects			Regal fritillary <i>Speyeria idalia</i>
			Two-spotted skipper <i>Euphyes bimacula</i>
Plants	Missouri lambsquarters <i>Chenopodium missouriensis</i>	Bent milkvetch <i>Astragalus distortus</i>	Earleaf foxglove <i>Tomanthers auriculata</i>
	Sensitive briar <i>Schrankia nuttlii</i>	Bog Willow <i>Salix pedicellaris</i>	Fineberry hawthorn <i>Crataegus chrysocarpa</i>
	Softleaf arrow-wood <i>Viburnum molle</i>	Sage Willow <i>Salix candida</i>	Flat top white aster <i>Aster pubentior</i>

	Glomerate sedge <i>Carex aggregata</i>	Cleft phlox <i>Phlox bifida</i>	Fogg's Goosefoot <i>Chenopodium foggii</i>
	Green Adder's mouth <i>Malaxis unifolia</i>	Kitten tails <i>Besseyia bullii</i>	Hill's thistle <i>Cirsium hillii</i>
	Large-leaf pondweed <i>Potamogeton amplifolius</i>	Lance-leaved violet <i>Viola lanceolata</i>	Low bindweed <i>Calystegia spithamea</i>
	Muskroot <i>Adoxa moschatellina</i>	Muskroot <i>Adoxa moschatellina</i>	Pink milkwort <i>Polygala incarnata</i>
	Oval ladies' tresses <i>Spiranthes ovalis</i>	Narrowleaf pinweed <i>Lechea intermedia</i>	Spring avens <i>Geum vernum</i>
	Showy ladies' slipper <i>Cypripedium reginae</i>	Slender copperleaf <i>Acalypha gracilens</i>	Tunnel-formed penstemon <i>Penstemon tubiflorus</i>
	W Prairie fringed orchid* <i>Platanthera praeclara</i>	Swamp thistle <i>Cirsium muticum</i>	Violet <i>Viola macloskeyi</i>
		Sweet Indian plantain <i>Cacalia suaveolens</i>	E Prairie fringed orchid* <i>Platanthera leucophaea</i>
		Green's rush <i>Juncus greenei</i>	Glomerate sedge <i>Carex aggregata</i>
		Small white lady's slipper <i>Cypripedium candidum</i>	Great Plains lady's tresses <i>Spiranthes magnicamporum</i>
		Cotton grass <i>Eriophorum angustifolium</i>	Green Adder's mouth <i>Malaxis unifolia</i>
		Yellow-eyed grass <i>Xyris torta</i>	Showy ladies' slipper <i>Cypripedium reginae</i>
		Ledge spikemoss <i>Selaginella rupestris</i>	Slender ladies' tresses <i>Spiranthes lacera</i>
		Northern adder's tongue <i>Ophioglossum pusillum</i>	Slender sedge <i>Carex tenera</i>
		W Prairie fringed orchid* <i>Platanthera praeclara</i>	W Prairie fringed orchid* <i>Platanthera praeclara</i>
			Crowfoot clubmoss <i>Lycopodium digitatum</i>
			Ground pine <i>Lycopodium clavatum</i>
			Woodland horsetail <i>Equisetum sylvaticum</i>

Section 3.3. Cultural Resources

No National Historic Landmarks are located within the IRCP boundaries. The Iowa Historic Preservation Officer has identified 76 known archaeological sites within the floodplain of the Iowa River. A few of these sites occur within the boundary of the IRCP. Specific projects that have the potential to disturb resources are reviewed on a case by case basis.

Section 3.4. Local Socio-Economic Conditions

The IRCP area is approximately 50,000 acres, and stretches along 45 miles of the Iowa River, from Tama to the Amana Colonies in Benton, Iowa and Tama Counties. The Refuge is located near the towns of Belle Plaine, Marengo, and Tama and is approximately 75 miles east of Des Moines and 31 miles west of Iowa City, Iowa. The Service owns about 9300 acres and IADNR about 4200 acres. Figure 1 shows public ownership in the IRCP. Easements that have remained in private ownership are also shown on Figure 1 and make up 5111 acres with 52 easements.

The most recent U.S. census data for IRCP counties is shown in Table 3. Important industry types in Tama, Benton, and Iowa Counties include agriculture, manufacturing and health care.

Table 3. Data from U.S. Census Bureau websites.

	Benton County	Iowa County	Tama County
Population	26,076	16,355	17,767
Race	97% white non-hispanic	96% white non-Hispanic	84% white, 7.5% American Indian, 7.8% Hispanic or latino
Per Capita income	39,066	37,797	35,046

The IRCP provides outdoor recreation opportunities including several wildlife-dependent activities: wildlife observation, photography, hiking, hunting, and fishing. The IRCP is also a valuable location for conducting outdoor environmental education related activities.

The financial impact of National Wildlife Refuges is reported in the Banking on Nature report (U.S. Fish and Wildlife Service 2007). Using findings from 80 national wildlife refuges considered typical in terms of the nation's recreation interests and spending habits, the report analyzed recreational participation in, and expenditures for freshwater fishing, saltwater fishing, migratory bird hunting, small game hunting, big game hunting, and non-consumptive activities, including wildlife observation. Calculation of the total economic activity included money spent for food, lodging, and transportation. Trempealeau NWR, a refuge on the Mississippi river, similar to Port Louisa NWR in size and recreational opportunities, but with more visitations, was included in the report. Economists found total visitor recreation expenditures were \$804,600 with non-residents accounting for \$476,200 or 59 percent of total expenditures. Expenditures on non-consumptive activities accounted for 99 percent of all expenditures. Recreational activities included birding and other non-consumptive uses, hunting, and fishing. In addition, local economic effects associated with recreation were estimated at about \$1,000,000.

Economic benefits from wildlife-associated recreation, including hunting, are reported every 5 years by the U.S. Fish and Wildlife Service. The 2011 National Survey of fishing, hunting, and wildlife-associated recreation (U.S. Fish and Wildlife Service 2012) found \$277,999,000 in fishing, \$405,451,000 in hunting, and \$711,186,000 in wildlife-watching total expenditures in Iowa for residents and non-residents. The 2011 Survey found that 1.25 million Iowa residents and nonresidents 16 years old and older fished, hunted, or watched wildlife in Iowa. Of the total number of participants 473,000 fished, 253,000 hunted, and 837,000 participated in wildlife watching activities, which include observing, feeding, and photographing wildlife. The IRCP provides an important place in Iowa for these recreational economic expenditures. For Iowa, total expenditures for hunting increased from \$288,324,000 in 2006 to \$405,451,000 in 2011.

CHAPTER 4. ENVIRONMENTAL CONSEQUENCES

This chapter describes the foreseeable environmental consequences of implementing the three management alternatives in Chapter 2. When detailed information is available, a scientific and analytic comparison between alternatives and their anticipated consequences is presented, which is described as “impacts” or “effects.” When detailed information is not available, those comparisons are based on the professional judgment and experience of refuge staff and Service and State biologists.

SECTION 4.1 Alternative A: Preferred Alternative – Continue hunting on the IRCP consistent with state and federal regulations.

Under this alternative, all of the fee title tracts of the IRCP would remain open to hunting. Table 4 displays the species hunted and dates in Iowa.

4.1.1 Habitat Impacts

Hunting access, in most cases, will be by foot access only. Parking will be restricted to designated parking lots. Impacts on vegetation should be temporary and similar to that occurring from non-consumptive users. Hunters with disabilities will utilize existing gravel roads and trails and be accommodated by permit on a case by case basis. Habitat impacts would not change from current conditions.

4.1.2 Biological Impacts

Given the nature of these lands, disturbance of migratory birds, upland and small and big game, and resident wildlife will be the same as occurs on the surrounding state Wildlife Management Areas (WMAs). The harvest of refuge wildlife species will be in accordance with Federal regulations and limits set by the state of Iowa. Other wildlife not being harvested may be disturbed by hunters approaching an animal’s site, and flushing or moving the wildlife as the animals try to avoid human contact. This disturbance will be similar to the disturbance non hunted animals experience on state Wildlife Management Areas and will be minimal and temporary in nature. Management of the refuge under the Comprehensive Management Plan (IADNR 2012) ensures annual monitoring and management of habitats.

4.1.3 Listed Species

No effect is expected for any federally listed threatened or endangered species or their critical habitat. A consultation pursuant to Section 7 of the Endangered Species Act was conducted as part of this EA and the updated Hunt Plan. A finding of “No Effect” was determined. No impacts are anticipated for state listed species.

4.1.4 Historic Properties and Cultural Resources

There are no historical properties documented on current Refuge lands. Hunting is not expected to cause ground disturbance or disturbance to standing structures and will have no effect on any historic properties located on lands acquired in the future. The addition of facilities associated with hunting and fishing would undergo individual cultural resources reviews by the Service.

Table 4. State of Iowa hunting seasons.

Deer Hunting			
Season	Season Dates		
Youth Season	Sept. 15– 30		
Disable Hunter Season	Sept. 15 – 30		
Archery Season-Early Split	Oct. 1 – Nov 30		
Archery Season-Late Split	Dec. 17 – Jan. 10, 2013		
Early Muzzleloader	Oct. 13 - 21		
Late Muzzleloader	Dec. 17 – Jan. 10, 2013		
Shotgun-Season 1	Dec. 1-5		
Shotgun-Season 2	Dec. 8 -16		
Resident Antlerless Season	Jan 11 – Jan. 20, 2013		
Nonresident Antlerless Season	Jan. 11 – Jan.20, 2013		
Nonresident Holiday Season	Dec. 24 – Jan. 2, 2013		
Turkey Hunting			
Season	Type of License	Season Dates	
Fall Season	Combination Gun/Bow	Oct. 15- Nov. 30	
Fall Archery	Archery Only	Oct. 1-Nov. 30 and Dec. 17 - Jan. 10, 2013	
Youth Season (Residents Only)	Combination Gun/Bow	April 6 -14, 2013	
Season 1	Combination Gun/Bow	April 15-18, 2013	
Season 2	Combination Gun/Bow	April 19-23, 2013	
Season 3	Combination Gun/Bow	April 24-30, 2013	
Season 4	Combination Gun/Bow	May 1 – May 19, 2013	
Season 1 – 4	Resident Archery-Only	April 15-May 19, 2013	
Upland Game Hunting		Furbearer Hunting	
Species	Season	Species	Season
Youth Rooster Pheasant	Oct. 20-21	Coyote	Continuous Open Season
Rooster Pheasant	Oct. 27 – Jan. 10, 2013	Raccoon, Opossum, Badger, Striped skunk	Nov. 3 – Jan. 31, 2013
Bobwhite Quail	Oct. 27 – Jan. 31, 2013	Fox (Red and Gray)	Nov. 3 – Jan. 31, 2013
Gray Partridge	Oct. 13 – Jan. 31, 2013	Bobcat	Nov. 3 – Jan. 31, 2013
Rabbit (Cottontail)	Sept. 1 – Feb. 28, 2013		
Rabbit (Jack)	CLOSED		
Squirrel (Fox and Gray)	Sept.1 – Jan. 31, 2013		
Groundhog	Continuous Open Season		
Crow	Oct. 15 – Nov. 30 and Jan. 14 – March 31, 2013		
Migratory Game Bird Hunting			
Species	Season (North Duck Zone)	Season (South Duck Zone)	Missouri River
Ducks, Mergansers, Coots	Sept. 22 – 26 and Oct. 13– Dec. 6	Sept. 22-26 and Oct. 20 – Dec. 13	Sept. 22 – 26 and Oct 27 – Dec. 20
Youth Waterfowl Hunting Days	Oct. 2-3	Oct. 9-10	Oct. 20 - 21
Canada geese and brant	Sept. 29– Jan. 4, 2013	Oct. 6 -Jan. 11, 2013	Oct. 13 – Jan. 18
White-fronted geese	Sept. 29 -Dec. 11	Oct. 6- Dec. 18	Oct. 13 – Dec. 25
Light geese (white and blue phase snow geese and Ross' geese)	Sept. 29 – Jan.13, 2013	Oct. 6- Jan. 18, 2011	Oct. 13 – Jan. 18
Statewide			
Species	Season		
Light geese Conservation Order (white and blue phase snow geese and Ross' geese)	Jan. 18 – April 15, 2011 (Additional Regulations May Apply)		
Woodcock	Oct. 6 – Nov. 19		
Snipe	Sept. 1 – Nov. 30		
Rail (Sora and Virginia)	Sept. 1 – Nov. 9		
Doves (mourning and Eurasian collared)	Sept. 1 – Nov. 9		
Special September Canada Goose Seasons			
Only in designated zones around Des Moines, Cedar Rapids/Iowa City, and Cedar Falls/Waterloo. See Special September Canada Goose Season maps at select license agents in hunt zones and online at www.iowadnr.gov/huntingregs			

4.1.5 Cumulative Impact Analysis of the Alternatives

4.1.5.A Anticipated Direct and Indirect Impact of Alternative A

The Service has allowed public hunting since acquisition began in 1995. During the acquisition period through today, the Service and IADNR have not noted any significant adverse effects of hunting on regulated wildlife populations. The Service has determined that this use is compatible with the purposes of the refuge and with the NWRS mission.

The allowance of hunting on the Refuge will expose the largest user group to IRCP habitats and facilitate a better appreciation and understanding of the floodplain ecosystem which was a purpose given in the EA for land acquisition (U.S. Fish and Wildlife Service 1995). Increased public understanding will increase the success of floodplain preservation and restoration efforts. The allowance of public hunting will also nurture a cooperative relationship with adjacent landowners by minimizing crop depredation. In Iowa, the majority of private rural lands are hunted during at least some of the state seasons.

Resident Wildlife

Resident wildlife populations are actively managed by the IADNR. Through surveys and monitoring, the state develops density figures when determining each year's harvest needs to keep populations healthy. Although hunting is expected to annually reduce resident wildlife populations by a small amount, overall populations in the IRCP are expected to remain the same as a result of this alternative. Habitat changes and weather may affect population numbers more than harvest. The number of hunters per square mile should stay about the same in the areas where refuge lands are located. The wildlife populations on refuge units should continue to reflect densities in the surrounding area.

□ White-tailed Deer:

In the Trends in Iowa Populations and Harvest 2011 report, the IADNR reports that deer densities as a whole are declining after strong growth for almost a decade (IADNR 2011). This is due to the increased harvest pressure applied to the female segment of the herds beginning with the 2003 hunting season. The state's population goal is to reach a level comparable to the mid-to-late 1990s. A population at this level should sustain an estimated annual harvest of 100,000 to 120,000 deer. In the 2010/2011 Iowa deer season, a total of 334,463 hunters harvested 127,094 deer.

For the 2010/2011 hunting season, IADNR estimated the total number of deer harvested per square mile in Benton County at 1.6, in Iowa County at 3.1, and in Tama County at 2.2. Total deer harvest in Benton County was 1179 deer at 1.64 per square mile, in Iowa County was 1828 deer at 3.13 per square mile, and in Tama County was 1590 deer at 2.21 per square mile. Since IRCP lands make up a substantial portion of public hunting lands in these counties, the harvest is likely similar per square mile on IRCP lands.

Summary

The Service owns about 9300 acres in the IRCP. Those acres, divided by 640 acres/square mile, equals 14.53 square miles. Using an average from the three counties in the IRCP of 2.3 deer per square mile, approximately 33.4 deer would be harvested on IRCP lands annually. This estimate is probably low, but a number in that range would likely have a negligible effect on the deer population in Iowa.

□ **Wild Turkey:**

The statewide wild turkey (*Meleagris gallopavo*) population in Iowa, reported as the number of young observed per all hens was 25% higher in 2010 than in 2009 (IDNR 2011). The IRCP lies within the IDNR Central and East-Central survey regions. Data for the Central region showed a 53.3% increase in poults per hens and the East-Central Region showed an 18.8% increase.

Turkeys rely on a combination of forested and open cover for food and roosting sites throughout the year. The habitat goal stated in the Comprehensive Management Plan for the IRCP calls for a mix of 30% grassland, 30% forest, and 30% early successional habitat with intermingled wetland and riverine habitat. Given more specific objectives to restore the forest mast tree component, it is likely that the IRCP will continue to improve conditions for the wild turkey for the foreseeable future.

Iowa has both spring and fall turkey seasons. In the fall 2010 season there were 8491 licenses issued with 805 birds harvested with a success rate of 9.5%. In 2011, 48,305 licenses were issued for spring turkey hunting and a total of 9527 birds were harvested with a 19.1% success rate.

Summary

Estimated harvest on IRCP on the total complement of refuge lands is estimated at approximately 50 birds annually. This number of birds harvested will likely have a minimal effect on state turkey populations.

□ **Ring-necked pheasant:**

The ring-necked pheasant (*Phasianus colchicus*) is one of the most popular upland game birds in Iowa. The state has managed pheasant hunting since 1925 when this non-native bird was established. The state conducts annual population counts and deems this population huntable. The 2010 and 2011 estimates reflected a continued decrease in the population attributable to recent severe winters, cold, wet nesting seasons, and the continued loss of habitat through loss of lands enrolled in the Conservation Reserve Program (CRP). However the 2012 outlook provided by the IADNR August Roadside Survey indicates stable or increasing trends in the Central and East-Central regions that contain the IRCP.

An estimated 60,058 pheasant hunters (29% of licensed hunters, 79% of small game hunters) took to Iowa's fields last fall and harvested 238,208 roosters. The number of pheasant hunters declined by 19%, while total harvest declined 12% compared to 2009 estimates. Roadside counts showed populations were down 30% compared to 2009, so the decline in hunters and harvest was expected. This year's estimate of 60,058 pheasant hunters (71% below the historic average) sets a new all-time low for pheasant hunter numbers in Iowa. The 2012 harvest estimate is the lowest ever recorded for Iowa. The harvest estimate was 61% below the 10-year average, and 80% below the historical average harvest of 1.2 million roosters. This marks the fourth time Iowa's total pheasant harvest has fallen under 500,000 roosters. Four consecutive winters with statewide snowfall of 30 inches or more have impacted Iowa's pheasant numbers. Above normal

rainfall in 2010 also reduced nest success. This sequence of poor weather and declining CRP habitat has Iowa's pheasant numbers at all-time lows.

Summary

Iowa conducts annual population counts and deems this population huntable. Harvest on the IRCP may affect local populations to some extent, but will not affect the State populations in the IRCP. Response to low populations will be developed by the IADNR if needed and regulations in the IRCP would align with that.

Data for other small (upland) game is collected by the state during their August roadside surveys. Annual population indices, 10-year averages, and historical information are used to determine hunting guidelines for the species. This information can be accessed at:

<http://www.iowadnr.gov/Hunting/PheasantSmallGame/AugustRoadsideSurveyData.aspx>

□ **Bobwhite Quail:** IADNR surveys show quail numbers fluctuate annually, but have dropped considerably since 1977. Similar to the pheasant population, the quail population decreases have also been contributed to the continued loss of habitat and the recent severe winter. Roadside counts showed quail numbers had declined 70% over 2009 estimates, caused by the severe winter of 2009-10 (snowfall 111% above normal) across Iowa's southern quail range, thus the decline in hunter harvest was expected. Roadside counts showed quail numbers had increased 45% over 2008 estimates. As bird numbers drop, so do hunter numbers and harvest figures. Approximately 10,604 quail hunters (5% of licensed hunters, 14% of small game hunters) harvested 11,620 quail during the 2010 quail season. Hunter numbers increased 4% and harvest declined 4% compared to 2009 estimates. This is another new all-time low quail harvest for Iowa. Quail are not abundant in the IRCP and are more common in southern counties of Iowa.

Rabbit (cottontail) and Squirrel Populations: Numbers of cottontail rabbits observed on the August roadside survey have fluctuated with changing land use and weather conditions (IADNR 2011). Hunter interest has declined in recent years. No data on squirrel populations is available from either state. Hunting pressure is estimated to be low on these species and the take of these species is most commonly incidental to other upland game hunting.

□ **Coyote, Raccoon, and Fox Populations:** Iowa DNR show stable, huntable populations of these species and have hunting and trapping programs. This alternative would only allow the hunting of these species. Trapping in the IRCP is treated separately in a trapping management plan. The hunting of these species is dependent on the price of pelts in any given year. Weather also plays a part in harvest. Fox and coyote hunters are more successful during years with snow than in drier years.

Coyote populations are prevalent throughout much of Iowa through 2011 with indications their population is growing throughout most of the state. For coyotes in Iowa, it is a continuous open season year round. The total harvest for the 2010-11 season was 8,089 which was up significantly from the previous year's harvest of 2,501. Approximately 25% of the coyote harvest was done with trapping and 75% from hunting (IADNR 2011).

Based on the mean number of raccoons observed per survey route it appears that the raccoon population has fluctuated considerably but is currently trending up. The raccoon spotlight survey index of the 1990s has been the highest ever recorded since the survey began in 1978. Reduced raccoon harvest up until this past year since 1987 is most likely one major reason for the record

high population in recent years. If the spotlight survey is a true indicator of population trends, then the raccoon population has been fairly stable, but at high levels for the past several years and continues to increase (IADNR 2011).

Fox hunter numbers have declined substantially as has the red fox population. An extensive outbreak of mange in foxes throughout the northern half of the state has greatly reduced fox numbers, and has also contributed to reduced fox harvest during the decade of the 1990s and the early 2000s (IADNR 2011).

Summary

The number of hunters for those species in the IRCP is relatively low and harvest is unlikely to impact populations.

□ **Other Hunted Species:** Iowa allows the hunting of species covered under their upland/small game regulations. These species include the hunting of opossum, badger, striped skunk and crows, and groundhog. They do not publish population surveys of these species and any take of these species would be incidental to the hunting of other wildlife, similar to harvest on state WMAs.

□ **Non-hunted Resident Wildlife:** 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.

Some species of butterflies and moths are migratory. Cumulative effects to these species at the “flyway” level should be negligible. These species are in torpor or have completely passed through the IRCP by the hunting seasons in late September and late November - December. Any hunter interaction would be similar to that of non-consumptive users.

Disturbance to non-hunted wildlife would be similar to current conditions. However, significant disturbance would be unlikely since small mammals are generally inactive during late November and early December and many of these species are nocturnal. Both of these qualities make hunter interactions with small mammals very rare. Hibernation or torpor by cold-blood reptiles and amphibians also limits their activity when temperatures are low. Hunters would rarely encounter reptiles and amphibians during most of the hunting season. Invertebrates are also not active during cold weather and would have few interactions with hunters during the 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.

Migratory Birds

Migratory game birds are those bird species so designated in conventions between the United States and several foreign nations for the protection and management of these birds. Under the Migratory Bird Treaty Act (16 U.S.C. 703-712), the Secretary of the Interior is authorized to determine when "hunting, taking, capture, killing, possession, sale, purchase, shipment, transportation, carriage, or export of any ... bird, or any part, nest, or egg" of migratory

game birds can take place, and to adopt regulations for this purpose. These regulations are written after giving due regard to "the zones of temperature and to the distribution, abundance, economic value, breeding habits, and times and lines of migratory flight of such birds, and are updated annually (16 U.S.C. 704(a)). This responsibility has been delegated to the U.S. Fish and Wildlife Service as the lead federal agency for managing and conserving migratory birds in the United States. Acknowledging regional differences in hunting conditions, the Service has administratively divided the nation into four Flyways for the primary purpose of managing migratory game birds. Each Flyway (Atlantic, Mississippi, Central, and Pacific) has a Flyway Council, a formal organization generally composed of one member from each State and Province in that Flyway. The IRCP is located in the Mississippi Flyway.

The process for adopting migratory game bird hunting regulations, located in 50 CFR part 20, is constrained by three primary factors. Legal and administrative considerations dictate how long the rule making process will last. Most importantly, however, the biological cycle of migratory game birds controls the timing of data-gathering activities and thus the dates on which these results are available for consideration and deliberation. The process of adopting migratory game bird hunting regulations includes two separate regulations-development schedules based on "early" and "late" hunting season regulations. Early hunting seasons pertain to all migratory game bird species in Alaska, Hawaii, Puerto Rico, and the Virgin Islands; migratory game birds other than waterfowl (e.g. dove, woodcock, etc.); and special early waterfowl seasons, such as teal or resident Canada geese. Early hunting seasons generally begin prior to October 1. Late hunting seasons generally start on or after October 1 and include most waterfowl seasons not already established. There are basically no differences in the processes for establishing either early or late hunting seasons. For each cycle, Service biologists and others gather, analyze, and interpret biological survey data and provide this information to all those involved in the process through a series of published status reports and presentations to Flyway Councils and other interested parties.

Because the Service is required to take an abundance of migratory birds and other factors in to consideration, the Service undertakes a number of surveys throughout the year in conjunction with the Canadian Wildlife Service, State and Provincial wildlife-management agencies, and others. 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. 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. After Service establishment of final frameworks for hunting seasons, the 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. The waterfowl season on IRCP will follow the frameworks set in place for Iowa.

NEPA considerations by the Service for hunted migratory game bird species are addressed by the programmatic document, "Final Supplemental Environmental Impact Statement: Issuance of Annual Regulations Permitting the Sport Hunting of Migratory Birds (FSES 88-14)," filed with

the Environmental Protection Agency on June 9, 1988. We published Notice of Availability in the Federal Register on June 16, 1988 (53 FR 22582), and our Record of Decision on August 18, 1988 (53 FR 31341). Annual NEPA considerations for waterfowl hunting frameworks are covered under a separate Environmental Assessment, “Duck Hunting Regulations for 2006-07,” and an August 24, 2006, Finding of No Significant Impact. Further, in a notice published in the September 8, 2005, Federal Register (70 FR 53376), the Service announced its intent to develop a new Supplemental Environmental Impact Statement for the migratory bird hunting program. Public scoping meetings were held in the spring of 2006, as announced in a March 9, 2006, Federal Register notice (71 FR 12216). More information may be obtained from: Chief, Division of Migratory Bird Management, U.S. Fish and Wildlife Service, Department of the Interior, MS MBSP-4107-ARLSQ, 1849 C Street, NWR., Washington, DC 20240.

□ **Waterfowl:** The IRCP primarily provides spring and fall migration habitat for waterfowl. Wood ducks and Canada geese commonly nest in the IRCP and there is a small amount of nesting by mallards and other species.

Breeding population estimates are made each year for 10 key species of ducks in the principal breeding areas of Alaska, Canada, and the north central United States. Surveys are conducted in May and early June by the Service, Canadian Wildlife Service, and provincial and state conservation agency personnel. Ducks are counted from fixed-wing aircraft on the same transects each year. Estimates of ducks and ponds seen from the air are corrected for visibility bias by conducting ground counts on a sample of the transects. Although numbers of breeding ducks have fluctuated substantially from year to year, trend analysis suggests that total duck numbers are stable. This stable trend, however, is the result of increasing numbers of some species (e.g., gadwall, green-winged teal, shovelers and blue-winged teal) and decreasing numbers of others (e.g., pintails and scaup). Despite the improvements in duck numbers in the 1990’s, there are still concerns about the long-term loss of both wetland and upland habitat in the prairie pothole region and the long-term outlook for duck populations in the future. Duck populations have fluctuated substantially over time. Duck populations will continue to fluctuate in the future as the numbers of wetlands on the landscape in north-central North America rise and fall with the varying weather. Iowa does not report a population index of ducks for the state.

In the Migratory Bird Hunting Activity and Harvest During the 2010 and 2011 Hunting Seasons report (Raftovich et al. 2012), the Service estimates the total harvest of waterfowl in Iowa to be 245,500(±16%) in 2010 and 201,800(±24%) in 2011. There were 22,200 (±10%) active hunters in 2010 and 18,700(±16%) in 2011. Seasonal duck harvest per active hunter in Iowa was estimated to be 11.1 in 2010 and 10.8 in 2011. These numbers would be unlikely to affect local, state, or flyway populations or harvest numbers. Giant Canada geese in Iowa are estimated at over 60,000 adult birds in 2010. The USFWS 2011 breeding population in North America for mallards is estimated at over 9 million birds, 8.9 million blue-winged teal, and 4.4 million pintails. The mid-continent mallard fall flight population for 2012 was estimated at 12.7 million birds (U.S. Fish and Wildlife Service 2012).

Note: All hunter activity and harvest estimates are preliminary, pending final counts of the number of migratory bird hunters in each state and complete audits of all survey response data.

The above numbers have been determined to support huntable waterfowl populations in Iowa, including the IRCP.

Mourning Dove: Iowa is part of the 14 state Central Management Unit (CMU) established with the Eastern and Western Management Units in 1960 to reflect mourning dove populations that are largely independent of each other (Seamans 2012). Dove hunting was approved in Iowa in 2011. Although call count survey data indicated an overall decrease in abundance in the CMU, this decrease was attributable to only 3 of 14 states. Iowa's mourning dove abundance trend has been increasing in the survey period from 1966 to 2011.

Other Hunted Migratory Birds: Other migratory birds that will be hunted under this alternative are the woodcock, coot, snipe, and rails (Virginia and sora). Woodcock are found in the IRCP. Coot, snipe, rails, and common moorhens (gallinules) are all found in wetlands and wet meadow areas of the IRCP. Hunting of these species in Iowa is light compared to other migratory game birds.

Non-hunted migratory birds: Non-hunted migratory birds include songbirds, wading birds, raptors, and woodpeckers. Disturbance to non-hunted migratory birds could have regional, local, and flyway effects. Regional and flyway effects would not be applicable to species that do not migrate such as most woodpeckers, and some songbirds including nuthatches, finches, and chickadees. Disturbance by hunting to non-hunted migratory birds should not have cumulative negative impacts since the hunting seasons would not coincide with the nesting season, and disturbance to the daily wintering activities, such as feeding and resting, of birds would probably be similar to that caused by non-consumptive users.

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.

4.1.5.B Anticipated Direct and Indirect Impact of Alternative A on Refuge Programs, Facilities, and Cultural Resources

Other Refuge Wildlife-Dependent Recreation

Most of these visits occurred from April into October for the purpose of fishing, bird and wildlife observation. Environmental education and interpretation also occur on these units, but to a lesser degree than wildlife observation. The majority of the environmental education and interpretation activities occur in the spring, summer and early fall. Due to this seasonality, conflicts with hunting are expected to be minimal. Varied public uses have taken place in the IRCP for many years and the Service has experienced few conflicts between hunters and non-hunters engaging in wildlife observation, environmental education and interpretation.

This alternative will give the public the opportunity to participate in another wildlife-oriented recreation that is compatible with the purposes for which the refuge was established and have an increased awareness of the IRCP and the National Wildlife Refuge System. The Service will be meeting public use demand and public relations will be enhanced with the local communities.

Refuge Facilities

Current facilities are gravel or grass parking lots and access roads. There is one observation deck. There are boat ramps on adjacent state and county lands. Few, if any, additional impacts to Refuge facilities (roads, parking lots, and trails) will occur with this alternative. Refuge facilities will receive the same use as currently and impacts are minimal. Annual maintenance of facilities

is a routine part of management. Any maintenance or improvement of existing roads and parking areas will cause minimal short term impacts to localized soils and may cause some temporary wildlife disturbance.

Physical developments to accommodate the public's use and enjoyment of these refuge lands will generally be limited to small parking areas, informational and educational signs, and access roads. On some units, short hiking trails and wildlife observation areas may be developed.

Disturbance by vehicles will be limited to existing parking areas. Special access accommodations for persons with disabilities can be allowed, utilizing existing gravel trails on the Refuge. These accommodations will be made on a case by case basis by permit by the onsite manager.

Cultural Resources

This alternative will not have any additional impacts to cultural resources. No sites listed on the National Register of Historic Places are located on fee title tracts within the designated boundaries of the Refuge. Hunting activities will result in no ground disturbance or disturbance to standing structures and would have no effect on any historic properties.

4.1.5.C Anticipated Direct and Indirect Impact of Alternative A on Refuge Environment and Community

Refuge personnel expect no measurable adverse impacts by this alternative on the refuge environment which includes soils, vegetation, air quality, water quality and solitude. Some disturbance to surface soils and vegetation would occur in some areas, however these disturbances would be minimal. Access would also be controlled to minimize habitat degradation.

As a result of this alternative, expenditures by visitors for meals, lodging and transportation would remain about the same in the communities where these refuge lands are located since hunting is already occurring. According to the 2006 National Survey of Fishing, Hunting, and Wildlife Associated Recreation, hunters spent \$110.76 million in Iowa on hunting trip-related expenses. In addition, Iowa residents spent \$318 million on non-consumptive recreational activities in 2006. Municipalities and community organizations could bring additional tourism revenues into their economies by establishing partnerships with the Service to develop and promote the recreational opportunities that are available on the IRCP lands surrounding their communities.

During its history, the Service has not observed any substantial adverse effects of this hunting program on the goals of the IRCP, and has determined that this use is compatible with the purposes of the IRCP and the NWR System's mission statement.

Impacts of this alternative on the refuge physical environment would have minimal to negligible effects. Some disturbance to surface soils, topography, and vegetation would occur in areas opened to hunting, and is expected to be minimal. Refuge regulations do not permit the use of vehicles off of designated Refuge roads. Vehicles for hunters with disabilities would be confined to existing roads and parking lots.

Hunting would benefit vegetation as it is used to keep resident deer populations in balance with the carrying capacity of the habitat. The biological integrity of the refuge would be protected under this alternative, and the refuge purpose of restoring floodplain habitats for migratory birds and wildlife would be achieved.

Impacts to the natural hydrology would be negligible. The Refuge staff expects impacts to air and water quality to be minimal and only due to Refuge visitor's use of automobiles on adjacent township and county public roads. The effect of these Refuge-related activities on overall air and water quality in the region are anticipated to be negligible. Existing State water quality criteria and use classifications are adequate to achieve desired refuge conditions; thus, implementation of this alternative would not impact adjacent landowners or users beyond the constraints already implemented under existing State standards and laws. Impacts associated with solitude are expected to be minimal given the limited time, season, and space management techniques used to avoid conflicts among user groups.

Public hunting has not resulted in any significant adverse effects on the soils, vegetation, air and water quality, solitude, or Service management activities associated with IRCP lands. Since hunting has already been occurring, this alternative should not impact the area's economy either positively or negatively. The Preferred Alternative would have similar minimal to negligible effects on human health and safety.

There is a potential to have some minimal disturbance on the general public, nearby residents, and refuge visitors. The disturbance factor is considered minimal, as the refuge already has hunting taking place on thousands of acres of federal and state properties, and on thousands of acres of private property. It is possible that refuge hunting will increase hunting opportunities on surrounding lands, by increasing the wildlife moving beyond the boundary of the individual refuge units.

4.1.5.D Other Past, Present, Proposed, and Reasonably Foreseeable Hunts and Anticipated Impacts

Hunting has been allowed on IRCP lands since they were acquired. If public use levels expand in the future, unanticipated conflicts between user groups may occur. Service experience has proven that time and space zoning can be an effective tool in eliminating conflicts between user groups. No expansion of use is proposed, but on a case by case basis, the onsite manager, in consultation with the Project Leader, will determine if such a tool is necessary to limit conflicts.

4.1.5.E Anticipated Impacts If Individual Hunts Are Allowed To Accumulate

There are many seasons and species which an individual hunter may hunt, and any one hunter may be in the field multiple times in a season. Hunting events are basically constituted by individual hunters visiting the refuge lands. These events are sporadic and numbers fluctuate depending on season, river levels, and weather. Different species are found in varying habitats and hunters pursuing deer likely would not be in the same location as hunters pursuing waterfowl. Although some of these activities will accumulate, these events should not provide any impacts beyond what has been discussed elsewhere in the analysis.

National Wildlife Refuges conduct or will conduct hunting programs within the framework of State and Federal regulations. The Preferred Alternative is at least as restrictive as the State of Iowa and in some cases, the hunts may be more restrictive. By maintaining hunting regulations

that are as, or more, restrictive than the States, individual refuges ensure that they are maintaining seasons which are supportive of management on a regional basis. This EA was reviewed by the IADNR. This alternative stated that hunting would be permitted on all fee title units of the IRCP. Additionally, refuges coordinate with the IADNR annually to maintain regulations and programs that are consistent with the States' management program.

The hunting of big game, upland/small game, and migratory bird game species will have minimal impacts to local, regional, state, and flyway populations. The majority of these lands were open to hunting before being acquired by the Service. There may be a slight increase in the number of animals harvested on refuge lands from when these lands were in private ownership simply because they are open to more people. However, the large amount of acreage spreads the use out.

Refuge personnel expect and witness that most hunters respect spacing needs between hunters and blinds and will essentially regulate themselves. User conflicts might occur between non-consumptive users and hunters. This is not expected, as hunting seasons take place when most non-consumptive uses (wildlife observation, photography) have become minimal, after early October.

4.1.6. Environmental Justice

Executive Order 12898 "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" was signed by President Bill Clinton on February 11, 1994, to focus federal attention on the environmental and human health conditions of minority and low-income populations with the goal of achieving environmental protection for all communities. The Order directed federal agencies to develop environmental justice strategies to aid in identifying and addressing disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. The Order is also intended to promote nondiscrimination in federal programs substantially affecting human health and the environment, and to provide minority and low-income communities with access to public information and participation in matters relating to human health or the environment. This assessment has not identified any adverse or beneficial effects unique to minority or low-income populations in the affected area. This alternative will not disproportionately place any adverse environmental, economic, social, nor health impacts on minority or low-income populations.

The Refuge Recreation Act of 1962 (16 U. S. C. 460K) and the National Wildlife Refuge System Administration Act of 1966 (16 U. S. C. 668-ddee) provide authorization for hunting and fishing on National Wildlife Refuges. The effects of hunting and fishing on refuges have been examined in several environmental review documents, including the Final Environmental Impact Statement on the Operation of the National Wildlife Refuge System (1976), Recommendations on the Management of the National Wildlife Refuge System (1978), and the Draft Environmental Impact Statement on the Management of the National Wildlife Refuges (1988). Nothing in the establishing authority for the IRCP [Emergency Wetland Resources Act of 1986] precludes hunting on the Refuge.

In the 1995 IRCP Final Environmental Assessment developed for the acquisition of these lands, the selected alternative (Alternative 3) stated one of the acquisition objectives for the expressed

purposes of increasing public opportunities for outdoor recreation, such as hunting or fishing, and environmental education compatible with the other purposes listed (see chapter 1).

Hunting accounts for many of the visits to the IRCP. The continued allowance of hunting on the Refuge will expose public user groups to the prairie habitats and facilitate a better appreciation and understanding of this ecosystem. This will increase the success of floodplain preservation and restoration efforts. Also, the allowance of public hunting will nurture a cooperative relationship with adjacent landowners by minimizing crop depredation.

As stated, public hunting has been allowed on IRCP lands and adjacent DNR lands. During this period, public hunting has not resulted in any significant adverse effects on the Service's management activities. Potential public use conflicts will be minimized by seeking a balance between the consumptive and non-consumptive uses and/or by closing areas where conflict cannot be avoided by other means.

SECTION 4.2 Alternative B: Restrict Hunting to Specific Events such as Special Firearms or Archery Deer Hunt for Hunters with Disabilities, or Youth Deer Hunt.

Special Hunts would typically be for deer, turkey, waterfowl, or pheasants. Iowa currently has youth seasons for these species and disabled hunts for deer. Special hunts would be allowed on all IRCP lands unless safety or access considerations limit areas that could be open.

4.2.1 Habitat Impacts

Hunting access, in most cases, will be by foot access only. This alternative may reduce habitat impacts from current, since there would be fewer overall hunters. However, special events would concentrate users and managers would need to plan to use areas where habitat impacts would be minimal. Parking will be restricted to designated parking lots. Impacts on vegetation should be temporary and similar to that occurring from non-consumptive users. Hunters with disabilities will utilize existing gravel roads and trails and be accommodated on a case by case basis.

4.2.2 Biological Impacts

Given the nature of these lands, disturbance of migratory birds, upland and small and big game, and resident wildlife will be the same as occurs on the surrounding state Wildlife Management Areas (WMAs). The harvest of refuge wildlife species will be in accordance with Federal regulations and Iowa state limits. Harvest under this alternative would be more concentrated to specific events so that harvest may be higher at a particular time, but overall would likely be reduced from current harvest. Other wildlife not being harvested will be disturbed by hunters approaching an animal's site, and flushing or moving the wildlife as the animals try to avoid human contact. This disturbance will be similar to the disturbance that non-hunted animals experience on state Wildlife Management Areas and be minimal and temporary in nature.

4.2.3 Listed Species

No effect is expected for any federally listed threatened or endangered species or their critical habitat. A consultation pursuant to Section 7 of the Endangered Species Act was conducted as part of this EA and the updated Hunt Plan. A finding of "No Effect" was determined. No impacts are anticipated for state listed species.

4.2.4 Historic Properties and Cultural Resources

There are no historical properties documented on current refuge lands. Hunting is not expected to cause ground disturbance or disturbance to standing structures and will have no effect on any historic properties located on lands acquired in the future. The addition of facilities associated with hunting would have individual cultural resources review.

4.2.5 Cumulative Impact Analysis of Alternative B

4.2.5.A Anticipated Direct and Indirect Impact of Alternative B on Wildlife Species

The Service has allowed public hunting since acquisition began in 1995. During the acquisition period through today, the Service and IADNR have not noted any significant adverse effects of hunting on regulated wildlife populations. The Service has determined that this use is compatible with the purposes of the NWRS mission statement.

The allowance of hunting for events for underserved populations will increase appreciation and understanding of IRCP habitats and the floodplain ecosystem for this user group, but may reduce the overall exposure of the public to IRCP lands. This increase in exposure and understanding of the ecosystem was a purpose given in the EA for land acquisition (U.S. Fish and Wildlife Service 1995). This benefit of public understanding and education may be reduced under this alternative. Also, public hunting nurtures a cooperative relationship with adjacent landowners by minimizing crop depredation. This alternative may decrease the ability to facilitate those relationships and may increase depredation of crops if local deer, or other wildlife, populations increase. In Iowa, the majority of private rural lands are hunted during at least some of the state seasons.

Resident Wildlife

Resident wildlife populations in Iowa are actively managed by the DNR. Through surveys and monitoring the state develops density figures when determining each year's harvest needs to keep populations healthy. The resident wildlife populations in the IRCP would not be impacted by special hunts as the number of animals harvested would be minimal. The wildlife populations on refuge units should continue to reflect densities in the surrounding area.

□ White-tailed Deer:

In the Trends in Iowa Populations and Harvest 2011 report, the IADNR reports that deer densities as a whole are declining after strong growth for almost a decade. This is due to the increased harvest pressure applied to the female segment of the herds beginning with the 2003 hunting season. The state's population goal is to reach a level comparable to the mid-to-late 1990s. A population at this level should sustain an estimated annual harvest of 100,000 to 120,000 deer. In Iowa, harvest is reported for each county. In the 2010/2011 Iowa deer season, a total of 334,463 hunters harvested 127,094 deer.

The total number of licenses issued (9,284) for youth and disabled deer hunts in 2010 was 2% lower than in 2009. About 290 of the licenses were issued to disabled hunters which was a 4% decrease from 2009. The reported success rate was 34% with 3,169 deer registered with the harvest reporting system (a 12% decrease from 2009). About 48% of the deer reported were antlerless and the reported harvest consisted of 40% does.

Success rates for any additional special hunts in the IRCP would likely be similar to the above and the impact on local populations would likely be minimal.

□ **Wild Turkey:**

The statewide wild turkey (*Meleagris gallopavo*) population in Iowa, reported as the number of young observed per all hens was 25% higher in 2010 than in 2009 (IADNR 2011). The IRCP lies within the IADNR Central and East-Central survey regions. Data for the Central region showed a 53.3% increase in poults per hens and the East-Central Region showed an 18.8% increase.

Turkeys rely on a combination of forested and open cover for food and roosting sites throughout the year. The habitat goal stated in the Comprehensive Management Plan for the IRCP calls for a mix of 30% grassland, 30% forest, and 30% early successional habitat with intermingled wetland and riverine habitat. Given more specific objectives to restore the forest mast tree component, it is likely that the IRCP will continue to improve conditions for the wild turkey for the foreseeable future.

Iowa's 5th youth spring turkey season has held in April, 2011. A total of 2,631 youth purchased licenses for the season. Youth season license sales decreased slightly (40 fewer licenses sold) in 2011. From 2001-2006, youth spring turkey hunters (age 15 and under) increased each year. After the first youth season in 2006, youth licenses have varied slightly, but overall have remained similar. The total number of licenses sold has decreased each year since 2005 with a slight increase in 2009, and a decrease in 2010 and 2011.

Success rates for any additional special hunts in the IRCP would likely be similar to the above and the impact on local populations would be minimal.

□ **Ring-necked pheasant:**

The ring-necked pheasant (*Phasianus colchicus*) is one of the most popular upland game birds in Iowa. The state has managed pheasant hunting since 1925. The state conducts annual population counts and deems this population huntable. The 2010 and 2011 estimates reflected a continued decrease in the population attributable to recent severe winters, cold, wet nesting seasons, and the continued loss of habitat through loss of lands enrolled in the Conservation Reserve Program (CRP). However the 2012 outlook provided by the IDNR August Roadside Survey indicates stable or increasing trends in the Central and East-Central regions that contain the IRCP (IADNR 2012).

In addition to the regular pheasant Season in 2010, an estimated 1,281 adults took 3,363 youth pheasant hunters (under the age of 16) hunting during Iowa's special 2-day youth pheasant season. These young hunters harvested an estimated 1,880 roosters.

Summary

Success rates for any additional special hunts in the IRCP would likely be similar to the above and the impact on local populations would likely be minimal.

□ **Bobwhite Quail:** Iowa DNR surveys show quail numbers fluctuate annually, but have dropped considerably since 1977. Similar to the pheasant population, the quail population decreases have also been contributed to the continued loss of habitat and the recent severe winter. As bird numbers drop, so do hunter numbers and harvest figures. Approximately 10,179 hunters statewide harvested 12,136 birds in 2009. This harvest is a 9.4% decrease from 2008 and a decrease of 80.3% from the 10-year average (IADNR 2011). Special hunts likely would not occur for quail specifically, but quail may be taken incidentally during a special pheasant hunt. Numbers in the IRCP are low and harvest would be incidental.

□ **Non-hunted Resident Wildlife:** 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.

Some species of butterflies and moths are migratory. Cumulative effects to these species at the “flyway” level should be negligible. These species are in torpor or have completely passed through the IRCP by the hunting seasons in late September and late November - December. Any hunter interaction would be similar to that of non-consumptive users.

Disturbance to non-hunted wildlife would increase slightly. However, significant disturbance would be unlikely since small mammals are generally inactive during late November and early December and many of these species are nocturnal. Both of these qualities make hunter interactions with small mammals very rare. Hibernation or torpor by cold-blood reptiles and amphibians also limits their activity when temperatures are low. Hunters would rarely encounter reptiles and amphibians during most of the hunting season. Invertebrates are also not active during cold weather and would have few interactions with hunters during the 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.

Migratory Birds

Migratory game birds are those bird species so designated in conventions between the United States and several foreign nations for the protection and management of these birds. Under the Migratory Bird Treaty Act (16 U.S.C. 703-712), the Secretary of the Interior is authorized to determine when "hunting, taking, capture, killing, possession, sale, purchase, shipment, transportation, carriage, or export of any ... bird, or any part, nest, or egg" of migratory game birds can take place, and to adopt regulations for this purpose. These regulations are written after giving due regard to "the zones of temperature and to the distribution, abundance, economic value, breeding habits, and times and lines of migratory flight of such birds, and are updated annually (16 U.S.C. 704(a)). This responsibility has been delegated to the U.S. Fish and Wildlife Service as the lead federal agency for managing and conserving migratory birds in the United States. Acknowledging regional differences in hunting conditions, the Service has administratively divided the nation into four Flyways for the primary purpose of managing migratory game birds. Each Flyway (Atlantic, Mississippi, Central, and Pacific) has a Flyway Council, a formal organization generally composed of one member from each State and Province in that Flyway. The IRCP is located in the Mississippi Flyway.

The process for adopting migratory game bird hunting regulations, located in 50 CFR part 20, is constrained by three primary factors. Legal and administrative considerations dictate how long the rule making process will last. Most importantly, however, the biological cycle of migratory game birds controls the timing of data-gathering activities and thus the dates on which these results are available for consideration and deliberation. The process of adopting migratory game bird hunting regulations includes two separate regulations-development schedules based on "early" and "late" hunting season regulations. Early hunting seasons pertain to all migratory game bird species in Alaska, Hawaii, Puerto Rico, and the Virgin Islands; migratory game birds other than waterfowl (e.g. dove, woodcock, etc.); and special early waterfowl seasons, such as

teal or resident Canada geese. Early hunting seasons generally begin prior to October 1. Late hunting seasons generally start on or after October 1 and include most waterfowl seasons not already established. There are basically no differences in the processes for establishing either early or late hunting seasons. For each cycle, Service biologists and others gather, analyze, and interpret biological survey data and provide this information to all those involved in the process through a series of published status reports and presentations to Flyway Councils and other interested parties.

Because the Service is required to take an abundance of migratory birds and other factors in to consideration, the Service undertakes a number of surveys throughout the year in conjunction with the Canadian Wildlife Service, State and Provincial wildlife-management agencies, and others. 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. 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. After Service establishment of final frameworks for hunting seasons, the 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. Special hunts for waterfowl in the IRCP would follow the frameworks set in place for Iowa.

NEPA considerations by the Service for hunted migratory game bird species are addressed by the programmatic document, “Final Supplemental Environmental Impact Statement: Issuance of Annual Regulations Permitting the Sport Hunting of Migratory Birds (FSES 88– 14),” filed with the Environmental Protection Agency on June 9, 1988. We published Notice of Availability in the Federal Register on June 16, 1988 (53 FR 22582), and our Record of Decision on August 18, 1988 (53 FR 31341). Annual NEPA considerations for waterfowl hunting frameworks are covered under a separate Environmental Assessment, “Duck Hunting Regulations for 2006-07,” and an August 24, 2006, Finding of No Significant Impact. Further, in a notice published in the September 8, 2005, Federal Register (70 FR 53376), the Service announced its intent to develop a new Supplemental Environmental Impact Statement for the migratory bird hunting program. Public scoping meetings were held in the spring of 2006, as announced in a March 9, 2006, Federal Register notice (71 FR 12216). More information may be obtained from: Chief, Division of Migratory Bird Management, U.S. Fish and Wildlife Service, Department of the Interior, MS MBSP-4107-ARLSQ, 1849 C Street, NWR., Washington, DC 20240.

□ **Waterfowl:** The IRCP primarily provides spring and fall migration habitat for waterfowl. Wood ducks and Canada geese commonly nest in the IRCP and there is a small amount of nesting by mallards and other species.

Breeding population estimates are made each year for 10 key species of ducks in the principal breeding areas of Alaska, Canada, and the north central United States. Surveys are conducted in May and early June by the Service, Canadian Wildlife Service, and provincial and state conservation agency personnel. Ducks are counted from fixed-wing aircraft on the same

transects each year. Estimates of ducks and ponds seen from the air are corrected for visibility bias by conducting ground counts on a sample of the transects. Although numbers of breeding ducks have fluctuated substantially from year to year, trend analysis suggests that total duck numbers are stable. This stable trend, however, is the result of increasing numbers of some species (e.g., gadwall, green-winged teal, shovelers and blue-winged teal) and decreasing numbers of others (e.g., pintails and scaup). Despite the improvements in duck numbers in the 1990's, there are still concerns about the long-term loss of both wetland and upland habitat in the prairie pothole region and the long-term outlook for duck populations in the future. Duck populations have fluctuated substantially over time. Duck populations will continue to fluctuate in the future as the numbers of wetlands on the landscape in north-central North America rise and fall with the varying weather. Iowa does not report a population index of ducks for the state.

In the Migratory Bird Hunting Activity and Harvest During the 2010 and 2011 Hunting Seasons report (Raftovich et al. 2012), the Service estimates the total harvest of waterfowl in Iowa to be 245,500($\pm 16\%$) in 2010 and 201,800($\pm 24\%$) in 2011. There were 22,200 ($\pm 10\%$) active hunters in 2010 and 18,700($\pm 16\%$) in 2011. Seasonal duck harvest per active hunter in Iowa was estimated to be 11.1 in 2010 and 10.8 in 2011. These numbers would likely not affect local, state, or flyway populations or harvest numbers. Giant Canada geese in Iowa are estimated at over 60,000 adult birds in 2010. The USFWS 2011 breeding population in North America for mallards is estimated at over 9 million birds, 8.9 million blue-winged teal, and 4.4 million pintails. The mid-continent mallard fall flight population for 2012 was estimated at 12.7 million birds (U.S. Fish and Wildlife Service 2012).

Note: All hunter activity and harvest estimates are preliminary, pending final counts of the number of migratory bird hunters in each state and complete audits of all survey response data.

Success rates for any additional special hunts in the IRCP would likely be similar to the above and the impact on local populations would likely be minimal.

Mourning Dove: Iowa is part of the 14 state Central Management Unit (CMU) established with the Eastern and Western Management Units in 1960 to reflect mourning dove populations that are largely independent of each other (Seamans 2012). Dove hunting was approved in Iowa in 2011. Although call count survey data indicated an overall decrease in abundance in the CMU, this decrease was attributable to only 3 of 14 states. Iowa's mourning dove abundance trend has been increasing in the survey period from 1966 to 2011.

2012 was only the second season in Iowa and harvest data are not yet available. Special hunts for this species on the IRCP would likely provide only a minor amount of harvest out of the population.

Non-hunted migratory birds: Non-hunted migratory birds include songbirds, wading birds, raptors, and woodpeckers. Disturbance to non-hunted migratory birds could have regional, local, and flyway effects. Regional and flyway effects would not be applicable to species that do not migrate such as most woodpeckers, and some songbirds including nuthatches, finches, and chickadees. Disturbance by hunting to non-hunted migratory birds should not have cumulative negative impacts since the hunting seasons would not coincide with the nesting season, and disturbance to the daily wintering activities, such as feeding and resting, of birds would probably be similar to that caused by non-consumptive users.

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.

4.2.5.B Anticipated Direct and Indirect Impact of Alternative B on Refuge Programs, Facilities, and Cultural Resources, Other Refuge Wildlife-Dependent Recreation

Most of these visits occurred from April into October for the purpose of fishing, bird and wildlife observation. Environmental education and interpretation also occur on these units, but to a lesser degree than wildlife observation. The majority of the environmental education and interpretation activities occur in the spring, summer and early fall. Due to this seasonality, conflicts with hunting are expected to be minimal. Special hunts would be very limited in time and would be unlikely to conflict with other uses. Varied public uses have taken place on the IRCP for many years and the Service has experienced few conflicts between hunters and non-hunters engaged in wildlife observation, environmental education and interpretation.

Although this alternative will provide fewer opportunities for hunting, it will give the public the opportunity to participate in another wildlife-oriented recreation that is compatible with the purposes for which the Refuge was established and have an increased awareness of the IRCP and the National Wildlife Refuge System.

Refuge Facilities

Current facilities are gravel or grass parking lots and access roads. There is one observation deck. There are boat ramps on adjacent state and county lands. Few, if any, additional impacts to Refuge facilities (roads, parking lots, and trails) will occur with this alternative. Refuge facilities would be used less than currently. However, additional facilities would likely be needed to provide opportunities for underserved audiences such as youth or people with disabilities. Special access accommodations for persons with disabilities can be allowed, utilizing existing gravel trails on the Refuge. These accommodations will be made on a case by case basis with permits by the onsite manager.

Physical developments to accommodate the public's use and enjoyment of these Refuge lands may include small parking areas, informational and educational signs, and access roads. On some units, short hiking trails and wildlife observation areas may be developed.

Disturbance by vehicles will be limited to existing parking areas. Any maintenance or improvement of existing roads and parking areas will cause minimal short term impacts to localized soils and may cause some temporary wildlife disturbance.

Cultural Resources

This alternative will not have any additional impacts to cultural resources. No sites listed on the National Register of Historic Places are located on fee title tracts within the designated boundaries of the Refuge. Hunting activities will result in no ground disturbance or disturbance to standing structures and would have no effect on any historic properties.

4.2.5.C Anticipated Direct and Indirect Impact of Alternative B on Refuge Environment and Community

Refuge personnel expect no measurable adverse impacts by this alternative on the refuge environment which includes soils, vegetation, air quality, water quality and solitude. Some

disturbance to surface soils and vegetation would occur in some areas, however these disturbances would be minimal. Access would also be controlled to minimize habitat degradation.

As a result of this alternative, expenditures by visitors for meals, lodging and transportation would likely decrease in the communities where these refuge lands are located compared to current hunting expenditures. According to the 2006 National Survey of Fishing, Hunting, and Wildlife Associated Recreation, hunters spent \$110.76 million in Iowa on hunting trip-related expenses (U.S. Fish and Wildlife Service 2007). In addition, Iowa residents spent \$318 million on non-consumptive recreational activities in 2006. Municipalities and community organizations could bring additional tourism revenues into their economies by establishing partnerships with the Service to develop and promote the recreational opportunities that are available on the IRCP lands surrounding their communities.

During its history, the Service has not observed any substantial adverse effects of this hunting program on the goals of the IRCP, and has determined that this use is compatible with the purposes of the IRCP and the NWR System's mission statement.

Impacts of this alternative on the refuge physical environment would have minimal to negligible effects. Some disturbance to surface soils, topography, and vegetation would occur in areas opened to hunting, and is expected to be minimal. Refuge regulations do not permit the use of vehicles off of designated refuge roads. Vehicles for hunters with disabilities would be confined to existing roads and parking lots.

Hunting would benefit vegetation as it is used to keep resident deer populations in balance with the carrying capacity of the habitat. This alternative would reduce the amount of harvest of some species and so may impact vegetation if populations become too high. The refuge purpose of restoring floodplain habitats for migratory birds and wildlife would still be achieved.

Impacts to the natural hydrology would be negligible. The Refuge staff expects impacts to air and water quality to be minimal and only due to refuge visitor's use of automobiles on adjacent township and county public roads. The effect of these refuge-related activities on overall air and water quality in the region are anticipated to be negligible. Existing State water quality criteria and use classifications are adequate to achieve desired on-Refuge conditions; thus, implementation of this alternative would not impact adjacent landowners or users beyond the constraints already implemented under existing State standards and laws.

Impacts associated with solitude are expected to be minimal given the limited time, season, and space management techniques used to avoid conflicts among user groups. Public hunting has not resulted in any significant adverse effects on the soils, vegetation, air and water quality, solitude, or Service management activities associated with IRCP lands.

Reducing hunting from the current level to only special hunts will likely negatively affect the area's economy. There would be fewer overall hunters without the full opening of all seasons in align with state regulations. However, more hunters would be concentrated for a specific event to provide local tourism. This alternative would have minimal to negligible effects on human health and safety.

There is a potential to have some minimal disturbance on the general public, nearby residents, and Refuge visitors. The disturbance factor is considered minimal, as the refuge already has hunting taking place on thousands of acres of federal and state properties, and thousands of acres of private property.

4.2.5.D Other Past, Present, Proposed, and Reasonably Foreseeable Hunts and Anticipated Impacts

Hunting has been allowed on IRCP lands since they were acquired. If public use levels expand in the future, unanticipated conflicts between user groups may occur. Service experience has proven that time and space zoning can be an effective tool in eliminating conflicts between user groups. No expansion of use is proposed, but on a case by case basis, the onsite manager, in consultation with the Project Leader, will determine if such a tool is necessary to limit conflicts.

4.2.5.E Anticipated Impacts If Individual Hunts Are Allowed To Accumulate

Under this alternative there would be fewer individual hunts. Special hunts would be separated by date due to the nature of different species being hunted so that hunts would not overlap. However, hunters would be more concentrated in time and place for special hunts. National Wildlife Refuges conduct or will conduct hunting programs within the framework of State and Federal regulations. This alternative is at least as restrictive as the State of Iowa and in some cases, the hunts may be more restrictive. By maintaining hunting regulations that are as, or more, restrictive than the States, individual refuges ensure that they are maintaining seasons which are supportive of management on a regional basis. This EA was reviewed by the Iowa Department of Natural Resources (IADNR). This alternative stated that special hunts would be permitted on most fee title units of the IRCP. Additionally, Refuges coordinate with the IADNR annually to maintain regulations and programs that are consistent with the States' management program.

The hunting of big game, upland/small game, and migratory bird game species will have minimal impacts to local, regional, state, and flyway populations. The majority of these lands were open to hunting before being acquired by the Service.

Refuge personnel expect and witness that most hunters respect spacing needs between hunters and blinds and will essentially regulate themselves. User conflicts might occur between non-consumptive users and hunters. This is not expected, as hunting seasons take place when most non-consumptive uses (wildlife observation, photography) have become minimal, after early October.

4.2.6. Environmental Justice

Executive Order 12898 "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" was signed by President Bill Clinton on February 11, 1994, to focus federal attention on the environmental and human health conditions of minority and low-income populations with the goal of achieving environmental protection for all communities. The Order directed federal agencies to develop environmental justice strategies to aid in identifying and addressing disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. The Order is also intended to promote nondiscrimination in federal programs substantially affecting human health and the environment, and to provide minority and low-income communities with access to public information and participation in matters relating to human health or the environment. This assessment has not identified any adverse or beneficial

effects unique to minority or low-income populations in the affected area. This alternative will not disproportionately place any adverse environmental, economic, social, nor health impacts on minority or low-income populations.

The Refuge Recreation Act of 1962 (16 U. S. C. 460K) and the National Wildlife Refuge System Administration Act of 1966 (16 U. S. C. 668-ddee) provide authorization for hunting and fishing on National Wildlife Refuges. The effects of hunting and fishing on Refuges have been examined in several environmental review documents, including the Final Environmental Impact Statement on the Operation of the National Wildlife Refuge System (1976), Recommendations on the Management of the National Wildlife Refuge System (1978), and the Draft Environmental Impact Statement on the Management of the National Wildlife Refuges (1988). Nothing in the establishing authority for the IRCP [Emergency Wetland Resources Act of 1986] precludes hunting on the Refuge.

In the 1995 IRCP Final Environmental Assessment developed for the establishment of the IRCP, the selected alternative (Alternative 3) stated one of the acquisition objectives for the expressed purposes of increasing public opportunities for outdoor recreation, such as hunting or fishing, and environmental education compatible with the other purposes listed (see chapter 1).

Hunting currently accounts for many of the visits to the IRCP. The continued allowance of some hunting on the refuge will expose public user groups to the floodplain habitats and facilitate a better appreciation and understanding of this ecosystem. This will increase the success of floodplain preservation and restoration efforts, but this outreach benefit will be reduced from the current level and from the preferred alternative. Reducing hunting to only special hunts may allow local wildlife populations to increase to unhealthy levels and may negatively impact relationships with adjacent landowners due to crop depredation.

As stated, public hunting has been allowed on IRCP lands and adjacent IADNR lands. During this period, public hunting has not resulted in any significant adverse effects on the Service's management activities. Potential public use conflicts will be minimized by seeking a balance between the consumptive and non-consumptive uses and/or by closing areas where conflict cannot be avoided by other means.

SECTION 4.3 Alternative C: Close the IRCP to hunting.

4.3.1 Habitat Impacts

No additional public use impacts on vegetation are expected with this alternative. Non-consumptive users would still be accessing the areas for other wildlife dependent activities. Damage to agricultural croplands as well as to grassland vegetation and trees can result from white-tailed deer and Canada geese exceeding their carrying capacity due to the lack of population control provided by hunting. Although this extent of damage has not yet been observed, the potential would exist without hunting. IRCP lands under Service ownership would essentially be closed areas within a larger complex of state areas open to hunting and private lands where hunting occurs. Wildlife may therefore congregate on those lands once they learn that they are sanctuary areas. This could lead to more habitat damage if the lands are not managed for these types of concentrations of deer and waterfowl.

4.3.2 Biological Impacts

This alternative will result in few, if any biological impacts given that there are other adjacent lands where hunting would occur. Potential damage to agricultural croplands, as well as to native vegetation, may occur without the population control provided by hunting. When population levels exceed carrying capacity, deer and waterfowl are highly susceptible to disease outbreaks (e.g. botulism, hemorrhagic disease, chronic wasting disease) that result in high mortality. This can result in an abrupt decline in populations, which can adversely affect the genetic structure of the herd or flock.

4.3.3 Listed Species

No effect is expected for any of the threatened and endangered species found within the boundaries of the IRCP as a result of this alternative. A consultation pursuant to Section 7 of the Endangered Species Act was conducted as part of this EA and the updated Hunt Plan. A finding of “No Effect” was determined. No impacts are anticipated to state listed species.

4.3.4 Historic Properties and Cultural Resources

This alternative will result in no additional ground disturbance or disturbance to standing structures, and it would have no effect on any historic properties. Additional facilities associated with hunting would undergo individual review for cultural resources impacts.

4.3.5 Cumulative Impact Analysis of Alternative C

4.3.5.A Anticipated Direct and Indirect Impact on Wildlife Species

This alternative would have little to no effect on most wildlife populations with the possible exception of white-tailed deer. Deer populations would likely increase on those tracts that are large enough to support a local population. Lack of hunting allows more deer the potential to grow older, increasing the percent of mature bucks, popular with non-hunting visitors. Disturbance to refuge wildlife would continue as is presently caused by non-consumptive users.

This alternative could allow deer populations to become too large for an individual unit which in turn would create a situation of the over browsing of vegetation. This can cause degradation of the plant community and reduction of food available for the population. This would have negative impacts on grassland nesting birds and on other resident and non-resident wildlife

populations whose life requirements include diverse grassland communities or varied vegetation structure in forests.

Discontinuing hunting may encourage poaching and other illegal hunting activities. A general decrease in number of hunters could also reduce funds to the state from the Fish and Wildlife Trust Fund that is used to manage wildlife lands.

4.3.5.B Anticipated Direct and Indirect Impact on Refuge Programs, Facilities, and Cultural Resources

Other Refuge Wildlife-Dependent Recreation

The majority of IRCP visits, besides hunting, take place from April through October. Fishing and wildlife observation visits make up most of the other wildlife-dependent activities. Not allowing hunting would reduce conflicts with these other users.

Under this alternative, the public would not have the opportunity to participate in hunting, which is one of the priority public uses, and compatible with the purposes for which the refuge was established. Hunting is also a way for the public to gain an increased awareness of the IRCP and the National Wildlife Refuge System. By not allowing hunting, the Service would not be meeting a public use demand and public relations would not be enhanced with the local community.

Refuge Facilities. The only refuge facilities in the IRCP are parking lots and an observation deck. No additional impacts to refuge facilities (roads, parking lots, trails) will occur with this alternative. Under this alternative, refuge facilities would continue to be used by non-consumptive visitors. Maintenance or improvement of existing roads and parking areas will cause minimal short term impacts to localized soils and may cause some temporary wildlife disturbance.

Cultural Resources. This alternative will not have any additional impacts to cultural resources. No sites listed on the National Register of Historic Places are located on fee title tracts within the designated boundaries of the Refuge.

4.3.5.C Anticipated Direct and Indirect Impact on Refuge Environment and Community

This alternative will have little, if any impact on soils, air quality, water quality or solitude. Vegetation, as stated above, could be affected if the deer population increases to a level to cause degradation of grassland communities. This alternative may have impacts on hunting opportunities in the local area. It has become increasingly difficult for hunters to acquire access to hunt on private land throughout Iowa. More and more landowners are either leasing their land for an entire season, charging hunters a daily fee, or selling their land for recreational use. This change in land use has increased the importance of public land to hunters. Not opening these units to hunting will result in the continued decrease of lands open to hunting for many hunters. However, this alternative could possibly make the private land adjacent to these units more valuable. The landowner will have a wildlife sanctuary adjacent to their land which could conceivably make their property more valuable for leasing or to sell.

4.3.5.D Other Past, Present, Proposed, and Reasonably Foreseeable Hunts and Anticipated Impacts

Hunting was allowed on most of these lands before they became part of the IRCP. These hunts were all done within the state regulations and seasons. This alternative may affect hunting on adjacent state or private lands in negative and positive ways. Wildlife quickly learn where they can avoid shooting. Deer and other wildlife would use refuge lands as sanctuary which may diminish opportunities for hunters on other lands. But the number of animals available to hunt may increase.

This alternative would also not contribute to regulatory consistency across state, federal, and private lands in the corridor; and would create enforcement issues for conservation agents in the field.

4.3.5.E Anticipated Impacts If Individual Hunts are Allowed to Accumulate

This alternative would not allow hunting on fee title units of the IRCP and therefore there would be no anticipated impacts.

4.3.6 Environmental Justice

Executive Order 12898 “Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations” was signed by President Bill Clinton on February 11, 1994, to focus federal attention on the environmental and human health conditions of minority and low-income populations with the goal of achieving environmental protection for all communities. The Order directed federal agencies to develop environmental justice strategies to aid in identifying and addressing disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. The Order is also intended to promote nondiscrimination in federal programs substantially affecting human health and the environment, and to provide minority and low-income communities with access to public information and participation in matters relating to human health or the environment. This assessment has not identified any adverse or beneficial effects for either alternative unique to minority or low-income populations in the affected area. Neither alternative will disproportionately place any adverse environmental, economic, social, nor health impacts on minority or low income populations. Hunting opportunities on the IRCP already exist on state, federal and other public lands in the counties where the Refuge units are located.

Creating the “Closed to Hunting” status on refuge fee title lands does not provide for all the priority public uses identified as goals of the refuge or the National Wildlife Refuge System. The Refuge Recreation Act of 1962 (16U.S.C. 460K) and the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668-ddee) provide authorization for hunting and fishing on National Wildlife Refuges. The effects of hunting on refuges have been examined in several environmental review documents, including the Final Environmental Impact Statement on the Operation of the National Wildlife Refuge System (1976), Recommendations on the Management of the National Wildlife Refuge System (1978), and the Draft Environmental Impact Statement on the Management of the National Wildlife Refuges (1988). Nothing in the establishing authority for the IRCP [Emergency Wetland Resources Act of 1986] precludes hunting on the Refuge.

In the 1995 IRCP Final Environmental Assessment developed for the establishment of the IRCP, the selected alternative (Alternative 3) stated one of the acquisition objectives for the expressed

purposes of increasing public opportunities for outdoor recreation, such as hunting or fishing, and environmental education compatible with the other purposes listed (see chapter 1).

SECTION 4.4 Summary of Environmental Consequences by Alternative

EFFECT	ALTERNATIVE A: NO ACTION	ALTERNATIVE B: SPECIAL HUNTS ONLY	ALTERNATIVE C: NO HUNTING
Habitat	Minimal effect	Minimal effect	Possible depredation to native vegetation and cropland
Biological	Some disturbance of migratory birds, upland/small game and big game species.	Some disturbance of migratory birds, upland/small game and big game species.	Deer and Canada geese populations remain high and may cause some depredation. Migratory game birds and upland wildlife populations may benefit from not being hunted.
Listed Species	No effect	No effect	No effect
Cultural Resources	No effect	No effect	No effect
Cumulative Impacts	The same as hunting on the surrounding state WMAs.	The same as hunting on the surrounding state WMAs.	Public use conflicts minimized. Deer viewing opportunity increased.
Environmental Justice	Hunt authorized by Migratory Bird Conservation Act, Refuge Recreation Act, NWR Admin. Act, and NWR Improvement Act. Listed in Refuge establishment EIS as public use goals.	Hunt authorized by Migratory Bird Conservation Act, Refuge Recreation Act, NWR Admin. Act, and NWR Improvement Act. Listed in Refuge establishment EIS as public use goals.	Does not provide for priority public uses listed in Acts or Refuge establishment EIS. Hunting provided on surrounding state property.

CHAPTER 5 REGULATORY COMPLIANCE

The Refuge Recreation Act of 1962 (16 U.S.C 460k) authorizes the Secretary of the Interior to administer National Wildlife Refuges for public recreation as an appropriate incidental or secondary use (1) to the extent that is practicable and consistent with the primary objectives for which an area was established, and (2) provided that funds are available for the development, operation, and maintenance of permitted recreation. The National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 688dd-ee) authorizes the Secretary of the Interior to permit the use of any area within the NWR System for any purpose, including but not limited to hunting, fishing, and public recreation whenever those uses are determined to be compatible with the purposes for which the area was established. The Improvement Act of 1997 is the latest amendment to the NWR System Administration Act. It supports the NWR System Administration Act's language concerning the authorization of hunting and other recreational uses on Refuge lands. The NWR Improvement Act substantiates the need for the NWR System to focus first and foremost on the conservation of fish, wildlife, and plant resources and their habitats and states that other uses will only be authorized if they are determined to be compatible with this mission statement and the purposes for which the Refuge was established.

The IRCP lands were acquired under the authority of the Emergency Wetlands Resources Act of 1986 and its purpose is therefore the conservation of the wetlands of the nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions. The 1995 Final EA developed for the establishment of the Refuge stated one of the acquisition objectives for the expressed purposes of increasing public opportunities for outdoor recreation, such as hunting or fishing, and environmental education compatible with the other purposes listed (see chapter 1).

The preferred alternative in this current EA states that hunting will be permitted on the IRCP where it is determined compatible. Additionally, hunting was identified in the 2012 Comprehensive Management Plan that was developed for the IRCP as being a priority public use that would be continued. The Service has determined that this use is compatible with the purpose of the Refuge and the mission statement of the NWR System.

CHAPTER 6 LIST OF PREPARERS

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Submitted by:

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Concur:

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Tom Worthington Acting Regional Chief National Wildlife Refuge System	Date
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Approve:

Thomas Melius Regional Director	Date
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CHAPTER 7 CONSULTATION AND COORDINATION WITH THE PUBLIC

The Service sought public involvement for the Draft EA for the acquisition of IRCP lands and met with county officials, pheasants forever, Soil and Water Conservation Districts, other non-governmental organizations, IA DNR, NRCS, and private landowners. Five public meetings were held. Copies of the EA were provided to the news media, local libraries, and individuals on the mailing list. The preferred alternative in the draft acquisition EA permitted fee title units of the refuge to be opened for hunting opportunities. The Service signed the final EA for proposed land acquisition in the Iowa River Corridor on July 20, 1995.

This current Environmental Assessment was released for public comment on November 15, 2012 for 30 days until December 10, 2012. The EA was available to all interested parties through the Port Louisa NWR website (http://www.fws.gov/refuge/port_louisa), at local libraries, and in hard copy or pdf form by contacting the Refuge Office in Wapello, IA. News releases were sent out to area newspapers in the IRCP area announcing the public comment period for the EA.

CHAPTER 8 PUBLIC COMMENT ON DRAFT EA AND RESPONSE

CHAPTER 9 REFERENCES CITED

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