

Compatibility Determinations and Findings of Appropriateness

- Wildlife Observation, Photography, Environmental Education, and Interpretation
- Migratory Game Bird Hunting
- Big Game Hunting
- Small/Upland Game Hunting
- Sport Fishing
- Walking and Hiking*
- Jogging and Bicycling*
- Cross Country Skiing and Snoeshowing*
- Haying*
- Commercial Forest Management*
- Furbearer Management

* includes a Finding of Appropriateness

COMPATIBILITY DETERMINATION

USE: Wildlife Observation, Photography, Environmental Education, and Interpretation

REFUGE NAME: Iroquois National Wildlife Refuge

DATE ESTABLISHED: May 19, 1958

ESTABLISHING AUTHORITY: Migratory Bird Conservation Act (16 U.S.C. 715d)

PURPOSE(S) FOR WHICH ESTABLISHED:

...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds...
16 U.S.C. § 715d (Migratory Bird Conservation Act)

MISSION OF THE NATIONAL WILDLIFE REFUGE SYSTEM:

To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

DESCRIPTION OF USE:

(a) What is the use? Is the use a priority public use?

The uses are wildlife observation, wildlife photography, environmental education, and interpretation. Wildlife observation, wildlife photography, environmental education, and interpretation are priority public uses of the National Wildlife Refuge System under the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd-668ee), and the Improvement Act of 1997 (Public Law 105-57).

(b) Where would the use be conducted?

Wildlife observation, wildlife photography, environmental education, and interpretation will occur on designated roads, trails, overlooks, and visitor contact facilities throughout the refuge. Access on the refuge will be restricted from March 1 through September 30 except in designated public use areas (trails, overlooks, photo blinds, and fishing locations). Refuge visitors will be able to go off trail in upland areas only during the fall and winter from October 1 to the end of February.

Self-conducted wildlife observations and interpretation activities should take place at Feeder Road, Kanyoo, Onondaga, and Swallow Hollow Nature Trails, and Cayuga, Mallard, Ringneck, and Schoolhouse Overlooks. Slide show presentations, program introductions, and exhibits will be conducted at the refuge visitor contact station or the refuge waterfowl check station. Excellent opportunities for wildlife observation, interpretation and photography will also occur along Oak Orchard Creek (from Knowlesville Road to Route 63), which can be accessed via non-motorized boats. Two photo blinds will be available one located on the south side of Ringneck Marsh and the other will be a combination photo / accessible waterfowl hunting blind located in Mohawk Pool West. Annual refuge events include the Spring into Nature celebration and Youth Fishing Derby. Iroquois Observations is a series of weekly programs offered at the refuge during spring and fall of each year. Sponsored by Buffalo Audubon Society (BAS), this program is entirely organized and operated by BAS volunteers. Many of the programs focus on birding, but the programs cover many other nature topics and there's something for all age groups and skill levels. Interpretive programs for the public are offered throughout the year, in conjunction with Iroquois Observations, in the refuge visitor contact station and at trails and overlooks.

Other programs held at the refuge include waterfowl identification classes and youth hunt orientations, which are in cooperation with refuge partners such as the Finger Lakes and Western New York Waterfowl Association, the Wild Turkey Federation, and the Buffalo Audubon Society.

A new nature trail beginning at the refuge office will provide access to an observation tower that will overlook the wetlands that are just north of the refuge office. The observation tower will be an elevated platform to allow visitors to see over the tall wetland vegetation. It will be located off of an existing refuge trail that is used seasonally for other refuge recreation, mostly waterfowl hunting access.

Environmental education and interpretation provided directly by the refuge may be conducted at sites that are not located within the existing trails systems. Most of these will be associated with conducting environmental education of specific wildlife management actions and taking students into the field to discuss and show specific techniques (e.g., wetland management via water control structures).

(c) When would the use be conducted?

Self-directed wildlife observation, wildlife photography, environmental education, and interpretation will be allowed on the refuge daily, year-round, sunrise to sunset unless a conflict with a management activity or an extenuating circumstance necessitates deviating from these procedures. Closures for events affecting human safety, or for the nesting season and other sensitive times of the year are examples that will require these uses to be temporarily suspended.

Access on the refuge will be restricted from March 1 through September 30 to designated public use areas (trails, overlooks, photo blinds, and fishing locations). Refuge visitors will be able to go off trail in upland areas only during the fall and winter from October 1 to the end of February. Some programs may be conducted before sunrise or after sunset (e.g., night interpretive programs on bats, bugs or owls). These will be conducted by refuge staff or in cooperation with a refuge partner.

(d) How would the use be conducted?

Wildlife observation, photography, environmental education, and interpretation will be allowed to occur on the refuge. As an integral part of these programs, we will incorporate the strategies found in Goal 4 of the proposed action of the final Comprehensive Conservation Plan (CCP) for Iroquois National Wildlife Refuge. Refuge staff will be responsible for:

- on-site evaluations to resolve public use issues;
- monitoring and evaluating impacts;
- maintaining boundaries and signs;
- meeting with adjacent landowners and interested public;
- recruiting volunteers;
- preparing and presenting interpretive programs;
- maintaining existing trails and overlooks;
- revising leaflets and developing new ones;
- installing kiosks and continually updating kiosk information;
- developing needed signage;
- organizing and conducting refuge events;
- conducting regularly scheduled programs for the public;
- displaying off-site exhibits at local events;
- developing relationships with media; and
- providing law enforcement and responding immediately to public inquiries.

Rehabilitation of the existing visitor contact station/refuge office will provide approximately 5,000 square feet of area for conducting on-site interpretive programs, exhibits, Friends of Iroquois Refuge book store,

and a potential classroom area. This area will be rehabilitated after a new office wing is added. The new office wing will house the refuge staff, Fisheries staff and the NYS Department of Environmental Conservation.

Adding access to a new observation tower that will be located to the north of the visitor contact station will require a new structure to be built as well as allowing access to this site during times of year when visitors have not been allowed before.

Wildlife observation, wildlife photography, environmental education, and interpretation can occur via a non-motorized boat or canoe along Oak Orchard Creek from Knowlesville Road to Route 63. Canoes and non-motorized boats may be launched from any one of three road intersections on the refuge (Knowlesville Road, Sour Springs Road, and Route 63).

(e) Why is this use being proposed?

Wildlife observation, wildlife photography, environmental education, and interpretation are Priority Public Uses as defined by The National Wildlife Refuge System Administration Act of 1966, as amended by the Improvement Act of 1997 (Public Law 105-57), and, if compatible, are to receive enhanced consideration over other general public uses. These uses will be conducted to provide compatible educational and recreational opportunities for visitors to enjoy the refuge's natural resource and to gain understanding and appreciation for fish and wildlife, ecology, and wildlife management. These uses will enhance the public's knowledge of natural resource management programs and ecological concepts which will facilitate a better understanding of the problems facing our natural resources, what effect the public has on wildlife resources, and to learn about the U.S. Fish and Wildlife Service's (Service) role in conservation. Additionally, the public will be aware of biological facts upon which Service management programs are based, and these uses will foster an appreciation as to why wildlife and wildlands are important to them. The authorization of these uses will produce a more informed public and increased support for Service programs. Likewise, these uses will provide opportunities for visitors to observe and learn about wildlife and wildlands at their own pace, in an unstructured environment, and to observe wildlife habitats firsthand.

Professional and amateur photographers will also be provided opportunities to photograph wildlife in their natural habitats. Photographic opportunities will result in increased publicity and advocacy for Service programs. These uses will also provide wholesome, safe, outdoor recreation in a scenic setting, with the realization that those who come strictly for recreational enjoyment will be enticed to participate in the more educational facets of the public use program, and can then become advocates for the refuge and the Service.

AVAILABILITY OF RESOURCES:

The refuge has trail system in place maintained to support priority public uses. Allowing wildlife observation, wildlife photography, environmental education, and interpretation on these trails will not increase the maintenance or operational needs. Feeder Road is the main service road used by refuge employees and also provides access to the refuge for a variety of public uses, thus maintenance of this facility is on-going and no additional needs will be required.

The following breakdown shows the estimated amount of funds needed to administer the program.

Annual costs to support wildlife observation, photography, environmental education and interpretation:

Identifier	Cost
Trail/road maintenance*	\$10,000
Maintain kiosks	\$5,000
News releases, brochures, fact sheets	\$10,000
Program development and implementation	\$5,000
Routine maintenance and staff days	\$10,000
Hosting special events	\$10,000
Law enforcement	\$5,000
Total Cost	\$55,000

**Refuge trails and roads are maintained for a variety of activities. Costs shown are a percentage of total costs for trail/road maintenance on the refuge and are reflective of the percentage of trail/road use for this activity. Volunteers account for some maintenance hours and help to reduce overall cost of the program.*

There will be a onetime cost to construct an observation platform and provide trail access to it from the refuge headquarters. This cost is estimated to be about \$40,000. Routine maintenance of these facilities is already indicated in the above figures.

One photo blind and one photo / handicapped accessible waterfowl hunting blind will be constructed to replace the two photo blinds the refuge currently has. A one-time cost of approximately \$40,000 will be necessary for construction and installation of these two blinds. Annual maintenance, and management are already considered in the above figures.

ANTICIPATED IMPACTS OF USE:

Wildlife observation and photography, environmental education, and interpretation can produce positive or negative impacts to the wildlife resource. A positive effect of public involvement in these priority public uses will be a better appreciation and more complete understanding of the wildlife and habitats associated with Iroquois Refuge. This can translate into more widespread and stronger support for the refuge, the National Wildlife Refuge System, and the Service.

The rehabilitation and expansion of the refuge administrative building from the existing 5,000 square feet to the anticipated 10,609 square feet will impact greater surface area. However, the new facility is expected to stay within previously disturbed ground that was fill material when the current office was built. The addition of the Division of Fisheries to the expanded refuge administrative building will increase the daily traffic in the office area from Service employees and also from associated entities that the Service cooperates with. Overall, we will expect a minor increase to the refuge's overall visitation because of the new building since we will have enhanced our ability to conduct programs and handle larger crowds, as well as reaching out to other groups that are associated with the Division of Fisheries.

Constructing an observation platform, the photo blind, and the photo/hunting blind will increase traffic to these specific parts of the refuge. Also, there will be trails/paths associated with these structures that will provide access to them and outside of the removal of vegetation, soil, and temporary impacts during construction the remaining annual disturbance associated with these facilities are described below.

Wildlife observation and photography, environmental education, and interpretation have the potential to impact shorebird, waterfowl, and other migratory bird populations feeding and resting near the trails during certain times of the year.

Human disturbance to migratory birds has been documented in many studies in different locations. Conflicts arise when migratory birds and humans are present in the same areas (Boyle and Samson 1985). Response of wildlife to human activities includes: departure from site (Owen 1973, Burger 1981, Kaiser and Fritzell 1984, Korschen et al 1985, Henson and Grant 1991, Kahl 1991, Klein 1993), use of sub-optimal habitat (Erwin 1980, Williams and Forbes 1980), altered behavior (Burger 1981, Korschen et al. 1985, Morton et al. 1989, Ward and Stehn 1989, Havera et al. 1992, Klein 1993), and increase in energy expenditure (Morton et al. 1989, Belanger and Bedard 1990). McNeal et al. (1992) found that many waterfowl species avoid disturbance by feeding at night instead of during the day. Studying the effects of human visitation on waterbirds at J.N. "Ding" Darling Refuge, Klein (1989) found resident waterbirds to be less sensitive to disturbance than migrants; she also found that sensitivity varied according to species and individuals within species. Ardeids were quite tolerant of people but were disturbed as they took terrestrial prey; great blue herons, tricolored herons, great egrets, and little blue herons were observed to be disturbed to the point of flight more than other birds. Kushlan (1978) found that the need of these birds to move frequently while feeding may disrupt interspecific and intraspecific relationships. In addition, Batten (1977) and Burger (1981) found that wading birds were extremely sensitive to disturbance in the northeastern United States. Klein (1993), in studying waterbird response to human disturbance, found that as intensity of disturbance increased, avoidance response by the birds increased and that out-of-vehicle activity to be more disruptive than vehicular traffic; Freddy et al. (1986) and Vaske (1983) also found the latter to be true. In regards to waterfowl, Klein (1989) found migratory dabbling ducks to be the most sensitive to disturbance and migrant ducks to be more sensitive when they first arrived in the late fall, than later in winter. She also found gulls and sandpipers to be apparently insensitive to human disturbance, with Burger (1981) finding the same to be true for various gull species.

For songbirds, Gutzwiller et al. (1994) found that singing behavior of some species was altered by low levels of human intrusion. Some studies have found that some bird species habituate to repeated intrusion; frequently disturbed individuals of some species have been found to vocalize more aggressively, have higher body masses, or tend to remain in place longer (Cairns and McLaren 1980). Disturbance may affect the reproductive fitness of males by hampering territory defense, male attraction, and other reproductive functions of song (Arrese 1987). Disturbance, which leads to reduced singing activity, will make males rely more heavily on physical deterrents in defending territories which are time and energy consuming (Ewald and Carpenter 1978).

Travel routes can disturb wildlife outside the immediate trail corridor (Miller et al. 2001). Miller et al. (1998) found bird abundance and nesting activities (including nest success) increased as distance from a recreational trail increased in both grassland and forested habitats. Bird communities in this study were apparently affected by the presence of recreational trails, where "generalists" (American robins) were found near trails and "specialist" species (i.e. grasshopper sparrows) were found farther from trails. Nest predation was also found to be greater near trails (Miller et. al 1998).

Disturbance can cause shifts in habitat use, abandonment of habitat, and increased energy demands on affected wildlife (Knight and Cole, 1991). Flight in response to disturbance can lower nesting productivity and cause disease and death. Hammitt and Cole (1998) conclude that the frequent presence of humans in "wildland" areas can dramatically change the normal behavior of wildlife mostly through "unintentional harassment."

Seasonal sensitivities can compound the effect of disturbance on wildlife. Examples include regularly flushing birds during nesting or causing mammals to flee during winter months, thereby consuming large amounts of stored fat reserves. Hammitt and Cole (1998) note that females with young (such as white-tailed deer) are more likely to flee from a disturbance than those without young.

The Delaware Natural Heritage Program, Division of Fish & Wildlife and the Department of Natural Resources and Environmental Control prepared a document on the “The Effects of Recreation on Birds: A literature Review” which was completed in April of 1999. The following information is in reference to this document:

Several studies have examined the effects of recreationists on birds using shallow-water habitats adjacent to trails and roads through wildlife refuges and coastal habitats in the eastern United States (Burger 1981; Burger 1986; Klein 1993; Burger et al. 1995; Klein et al. 1995; Rodgers & Smith 1995, 1997; Burger & Gochfeld 1998). Overall, the existing research clearly demonstrates that disturbance from recreation activities always have at least temporary effects on the behavior and movement of birds within a habitat or localized area (Burger 1981, 1986; Klein 1993; Burger et al. 1995; Klein et al. 1995; Rodgers & Smith 1997; Burger & Gochfeld 1998). The findings that were reported in these studies are summarized as follows in terms of visitor activity and avian response to disturbance.

Presence: Birds avoided places where people were present and when visitor activity was high (Burger 1981; Klein et al. 1995; Burger & Gochfeld 1998).

Distance: Disturbance increased with decreased distance between visitors and species (Burger 1986), though exact measurements were not reported.

Approach Angle: Visitors directly approaching birds on foot caused more disturbance than visitors driving by in vehicles, stopping vehicles near birds, and stopping vehicles and getting out without approaching birds (Klein 1993). Direct approaches may also cause greater disturbance than tangential approaches to birds (Burger & Gochfeld 1981; Burger et al. 1995; Knight & Cole 1995a; Rodgers & Smith 1995, 1997).

Type and Speed of Activity: Joggers and landscapers caused birds to flush more than fishermen, clambers, sunbathers, and some pedestrians, possibly because the former groups move quickly (joggers) or create more noise (landscapers). The latter groups tend to move more slowly or stay in one place for longer periods, and thus birds likely perceive these activities as less threatening (Burger 1981, 1986; Burger et al. 1995; Knight and Cole 1995a). Alternatively, birds may tolerate passing by with unabated speed whereas if the activity stops or slacks birds may flush (Burger et al. 1995).

Noise: Noise caused by visitors resulted in increased levels of disturbance (Burger 1986; Klein 1993; Burger & Gochfeld 1998), though noise was not correlated with visitor group size (Burger & Gochfeld 1998).

In determining compatibility, the cumulative effects of all public use on trails are considered. Due to the limitations put on these activities and that historical records show low use, wildlife observers, photographers, and those partaking in environmental education and interpretation are not expected to greatly increase the disturbance to wildlife.

PUBLIC REVIEW AND COMMENT:

As part of the CCP process for Iroquois Refuge, this compatibility determination underwent a comment period of 30 days concurrent with the release of our draft CCP.

DETERMINATION (check one below):

THIS USE IS COMPATIBLE X

THIS USE IS NOT COMPATIBLE

STIPULATIONS NECESSARY TO ENSURE COMPATIBILITY:

Bald eagle nesting zones will be managed according to the *National Bald Eagle Management Guidelines*.

Almost all non-staff environmental education and interpretive activities will be limited to the headquarters area and/or designated nature trails to minimize habitat destruction or disturbance to wildlife during the nesting season.

Special Use Permits may be issued for environmental education and interpretation programs that are not conducted by refuge staff and require access outside of designated nature trails areas so long as these programs are compatible with the goal to maintain minimal wildlife disturbance.

JUSTIFICATION:

Wildlife observation and photography, environmental education, and interpretation are priority wildlife dependent uses for the National Wildlife Refuge System through which the public can develop an appreciation for fish and wildlife (Executive Order 12996, March 25, 1996 and The National Wildlife Refuge System Administration Act of 1966, as amended by the Improvement Act of 1997 (Public Law 105-57)).

The Service's policy is to provide expanded opportunities for these uses when compatible and consistent with sound fish and wildlife management and ensure that they receive enhanced attention during planning and management. Allowing wildlife observation, wildlife photography, environmental education, and interpretation on Iroquois Refuge will not materially interfere with or detract from the mission of the National Wildlife Refuge System or the purposes for which the refuge was established as evidenced by the impact analysis that shows this use will not compromise our ability to achieve the goals and objectives set forth under the Iroquois Refuge CCP. In fact, allowing these uses supports those goals and objectives and the Service's Mission.

CONSULTATION WITH THE REFUGE SUPERVISOR:

The refuge supervisor was consulted on January 2010; changes were made as needed.

Signature: Refuge Manager: Sharon M. A. 8/29/2011
(Signature/Date)

Concurrence: Regional Chief: Scott B. Ken 9/1/2011
(Signature/Date)

Mandatory 15 - year Reevaluation Date: 9/1/2026

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COMPATIBILITY DETERMINATION

USE: Migratory Game Bird Hunting

REFUGE NAME: Iroquois National Wildlife Refuge

DATE ESTABLISHED: May 19, 1958

ESTABLISHING AUTHORITY: Migratory Bird Conservation Act (16 U.S.C. 715d)

PURPOSE(S) FOR WHICH ESTABLISHED:

...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds...
16 U.S.C. § 715d (Migratory Bird Conservation Act)

MISSION OF THE NATIONAL WILDLIFE REFUGE SYSTEM:

To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

DESCRIPTION OF USE:

(a) What is the use? Is the use a priority public use?

The use is migratory game bird hunting which includes waterfowl (geese and ducks), coots and other migratory game birds (woodcock, snipe, and rail). Hunting is a priority public use of the National Wildlife Refuge System under the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd-668ee), as amended by the Improvement Act of 1997.

(b) Where would the use be conducted?

Waterfowl and Coots: Waterfowl and coot hunting will be permitted in Cayuga, Mohawk and Oneida Pools, and Sutton's Marsh. Hunting will be from designated stand markers and/or on a "free-roam" type system. The number of available hunting permits will be limited for both stand and free-roam hunting systems. The refuge hosts a Young Waterfowler's Program for junior hunters between 12-15 years of age. This includes an orientation program, held at the refuge office, and a youth only waterfowl hunt. Youth waterfowl hunting will be permitted in the same areas of the refuge open to the regular waterfowl hunt. The number of participants in this program may vary from year to year, and are limited.

Other Migratory Game Birds: The hunting of other migratory birds will be permitted on refuge areas east of Sour Springs Road only.

(c) When would the use be conducted?

All Migratory Game Bird Hunts: Hunting will be conducted during the New York State waterfowl and other migratory bird hunting seasons, in accordance with federal and state regulations. All hunting hours will follow New York State regulations including woodcock hunting from sunrise to sunset and snipe and rails one-half hour before sunrise to sunset. Refuge regulations on specific hunt seasons are as follows:

Waterfowl and Coots: Waterfowl and coot hunting will begin on the refuge opening day and end at the conclusion of the first split of the New York State waterfowl season or when regular deer season begins, which typically starts in mid-November, whichever comes first. The exception to this will be that

waterfowl and coot hunting will continue in Cayuga Pool after the start of the regular (shotgun) deer season until December 1.

We will allow hunting on Tuesdays, Thursdays and Saturdays from one-half hour before legal sunrise until 12:00 P.M. Check out will be at the Waterfowl Permit Station no later than 1:00 P.M. We will not hunt Thanksgiving Day.

The Youth Waterfowl Hunt Program orientation will be held in late September or early October, before the youth designated hunt day. A youth waterfowl and coot hunt will be held during the New York State designated Youth Days, usually two weeks prior to the regular duck season. Hunting will occur from one-half hour before legal sunrise until 12:00 P.M. Check out will be at the Waterfowl Permit Station no later than 1:00 P.M.

Other migratory game birds: Other migratory game bird hunting season is typically early October to early November. The refuge will suspend other migratory game bird hunting once the waterfowl hunt season begins. Laws directly linked to refuge establishment require us to balance the amount of refuge acres open to migratory game bird hunting to 40 percent of the total refuge area. Therefore, other migratory game bird hunting will take place on the refuge from early October to mid-late October, depending on the start of the waterfowl hunt season.

(d) How would the use be conducted?

We will continue to conduct the use according to state and federal regulations. Federal regulations in 50 CFR pertaining to the National Wildlife Refuge System Administration Act, as well as existing, specific refuge regulations will apply. However, the refuge manager may, upon annual review of the hunting program, impose further restrictions on hunting, recommend that the refuge be closed to hunting, or further liberalize hunting regulations up to the limits of state regulations. We will restrict hunting if it becomes inconsistent with other, higher priority refuge programs or endangers refuge resources or public safety.

All Migratory Game Bird Hunts: All persons hunting on the refuge must first hold a valid state hunting license and must then obtain a refuge hunting permit. One general refuge hunting permit will be used for all refuge hunt programs. Hunters may then choose to apply for specific hunts and submit the required fees depending on their preferences. Permits must be applied for in person or via mail.

Individuals hunting on the refuge are subject to the inspection of permits, licenses, hunting equipment, game bagged, boats, vehicles, and their contents by federal or state officers. Hunters may use only approved non-toxic shot for the shotgun hunting. Unarmed hunters may scout areas that will be open to waterfowl and coot hunting with parameters that will be set annually. Dogs are allowed for hunting of migratory birds during designated seasons. Dogs are prohibited during scouting.

Hunters with disabilities possessing, or who qualify for, a New York State disabled hunting license, Golden Access, or America the Beautiful Access Pass may qualify for special accommodations. We issue a non-ambulatory hunt permit for waterfowl hunting at a specified location. Hunters may contact the refuge office for locations and more information. Hunters must apply in person and show proof of permanent disability.

No hunting zones include, but are not limited to: the immediate areas around the refuge office; around refuge residences; the vicinity of the Iroquois Job Corps Center; Swallow Hollow, Kanyoo and Onondaga Nature Trails; and safety zones around private residences adjacent to the refuge. Permission must be obtained from refuge personnel to enter a “No Hunting Zone” or “Closed Area” for the purpose of tracking and/or retrieving legally taken game animals.

Waterfowl hunters are required to wear 400 square inches of solid-colored hunter orange clothing or material that is visible 360 degrees in a conspicuous manner on their head, chest, and back while walking from their vehicle to their stand and back during the firearms deer season.

Vehicles are only allowed on established roads marked open for vehicular travel. Vehicles must be parked off the lane of travel and clear of gates.

Canoes and other non-motorized boats may only be used on Oak Orchard Creek, from Knowlesville Road to Route 63. Hunters may launch boats from Route 63, Sour Springs Road and Knowlesville Road. Canoes and non-motorized boats are also allowed for canoe designated waterfowl and coot hunting stands. Hunting from canoes and non-motorized boats is permitted per state law. Temporary ground blinds are acceptable and must be removed daily.

Waterfowl: Waterfowl (geese, ducks) and coots may be hunted with shotguns only. All waterfowl hunters are required to have taken and passed the New York State Waterfowl Identification Course. There will be an application fee per hunter per year for participating in the refuge waterfowl hunt program. We will continue to provide a 50 percent discount on permit fees for Golden Age and America the Beautiful – Interagency Senior Pass Holders.

A pre-season lottery to select hunters for high volume hunt days will be conducted. The number of days selected for the pre-season lottery will be determined annually based on trend data, as well as when waterfowl hunting opens in the refuge's region. Hunters will complete the Waterfowl Lottery Application and drop it off or send it via mail to refuge office with a predetermined application fee prior to established deadline. We will not accept faxed or electronic application forms. Hunters will receive notification of selection and the date for which they were selected.

On waterfowl hunt days the refuge will hold a daily drawing for hunt stands and "free roam" areas at the Waterfowl Permit Station on Route 77 at 5:00 A.M. All hunters will be required to show their hunting license, valid duck stamp and Waterfowl Education Certification of Qualification card to enter the drawing. Hunters will then be handed a numbered disc. When their number is called, they may choose a hunt stand or "free roam" area spot. The Migratory Bird Hunt Report form will serve as the hunter's permit for the day. Up to two other hunters may accompany the permit holder. After all hunters that were preselected have chosen a stand or free roam area, if there are any remaining hunting slots open a stand-by drawing will be conducted for any additional hunters present at the check station.

Hunters hunting from designated stand markers must stay within 100 feet of their stand marker unless they are dispatching a crippled bird. Non-motorized boats and canoes are permitted in the free roam areas as well as designated stand areas where it is deemed more appropriate to access via this method and not by foot. Hunting from canoes and non-motorized boats is permitted per state law.

Vegetation may not be removed or altered in any way. No permanent structures are allowed. Hunters may not possess more than 25 shot shells in the field, and only approved nontoxic shot may be used.

A blind will be constructed in the waterfowl hunting area for non-ambulatory hunter access. At the current time the refuge is proposing putting this blind in Mohawk West Pool. This location will allow the non-ambulatory hunter to experience a quality hunting opportunity integrated with other hunters and it will also take advantage of an existing seasonal road for access. We will develop parameters for hunting and reserving this blind.

Youth that would like to participate in the Youth Waterfowl Hunt Program must pre-register by completing a waterfowl lottery application form and be 12 to 15 years old. To take part in the program, participants need their parent/guardian's permission. The application must be received by the deadline. The program is free but space is limited to 25 with preference given to first time participants; therefore pre-registration does not guarantee participation. If selected, participants must attend an orientation program held in late September or early October. The orientation covers: 1) waterfowl identification (optional for those who already have a Waterfowl Education Certificate of Qualification) and 2) hunting regulations, safety, equipment, a retriever demonstration and a trap shoot. Attendance is mandatory for everyone regardless of how many times they have been through the program.

Youth will be paired up with non-hunting guides who will coach as well as help call in birds if needed. A parent/guardian may arrange with the instructors to serve as a non-hunting guide on the hunt otherwise one will be assigned by the instructors. Guides must have a valid New York State hunting license, valid duck stamp and a Waterfowl Education Certificate of Qualification. The waterfowl youth hunt will take place during the New York State Waterfowl Youth Days, which is usually 2 weeks prior to the regular duck season. The procedures for the check station are the same as the regular waterfowl hunts (see above). Parents that act as the hunting guide will be required to attend the orientation as well.

Other Migratory Game Birds: Other migratory game birds (woodcock, snipe, and rail) may be hunted with shotguns during designated state and refuge seasons. The refuge will suspend other migratory game bird hunting once the waterfowl hunt season begins. Laws directly linked to refuge establishment require us to balance the amount of refuge acres open to migratory game bird hunting to a maximum of 40 percent of the total refuge area. Therefore, other migratory game bird hunting will take place on the refuge from early October to mid-late October, depending on the start of the waterfowl hunt season. The hunting of other migratory birds will be permitted on refuge areas east of Sour Springs Road only.

(e) Why is the use being proposed?

Hunting is one of the priority uses outlined in the Improvement Act of 1997. The Service supports and encourages priority uses when they are appropriate and compatible on National Wildlife Refuge lands. Hunting is used in some instances to manage wildlife populations. It is also a traditional form of wildlife-oriented recreation that many National Wildlife refuges can accommodate. When managed appropriately, hunting can instill a unique understanding and appreciation of wildlife, their behavior, and their habitat needs. Hunting has regionally been identified as one of the top two priority Areas of Emphasis at the refuge.

AVAILABILITY OF RESOURCES:

The following breakdown shows the estimated amount of funds needed to administer the program.

Annual costs to administer migratory bird hunting:

Identifier	Cost
Preparation of hunt areas, parking lots	\$3,000
News releases, fact sheets brochures	\$500
Lottery systems, check station	\$2,500
Signs	\$500
Enforcement	\$2,500
Total Annual Cost	\$9,000

ANTICIPATED IMPACTS:

The following are anticipated impacts for hunting migratory birds on the refuge. For more specific impacts including a cumulative impact analysis please refer to the CCP for Iroquois Refuge.

All Migratory Game Bird Hunts: The Service manages migratory birds on a flyway basis and states establish hunting regulations in each state based on flyway data and the regulations framework provided by the Service. Atlantic Flyway and New York State regulations apply to the migratory game bird hunting program at Iroquois Refuge. The refuge hunting regulations, which are more restrictive than state and other federal regulations, limit hunt days and hunting hours, and include shot shell restrictions, etc. These refuge-specific restrictions are in place to help provide a quality hunting experience for refuge hunters, and ensure that hunting remains compatible with other refuge purposes. Hunting will reduce the number of birds in the flyway, within allowable limits, as determined by state and federal agencies. Hunting and the associated hunter activities likely will cause the indirect disturbance of non-target birds, but only for the short term. There is no anticipated impact on endangered or threatened species on the refuge.

Migratory game bird hunting is a very popular, longstanding public use on the refuge. All areas of the refuge are open to some form of hunting during the hunting season except areas posted with safety zone or closed area signage. Although conflicts among user groups can arise, that does not appear to be a significant issue at the present levels of use. In the future, we may need to manage public use to minimize conflicts and insure public safety, should significant conflicts become evident. That may include public outreach or zoning to separate user groups. Conflicts between hunters can also occur. Competition among hunters for choice sites is keen and can lead to unethical behavior. This may become more evident in the future when the refuge opens impoundments to free-roam during the waterfowl hunting season.

Because the refuge has been open to hunting since it was established, and hunting occurred in the area for many years before the creation of the refuge, we expect no additional impacts. Some disturbance of non-target wildlife species and impacts on vegetation may occur. However, those impacts should be minimal because migratory game bird hunting is regulated by the refuge, occurs outside the breeding season and specific refuge regulations prohibit the use of ATVs, off-road travel, permanent stands and blinds, camping and fires, which are most likely to significantly damage vegetation.

Waterfowl and coot: The temporary impacts of waterfowl and coot hunting are mitigated by the presence of adjacent refuge habitat where hunting does not occur and where birds can feed and rest undisturbed. Refuge regulations ensure that areas of inviolate sanctuary remain free of disturbance throughout the season. Additionally, waterfowl and coot hunting occurs 3 days per week on the refuge which gives the birds an opportunity to feed and rest undistributed on non-hunting days in the hunting locations.

The long term average number of waterfowl harvested per hunter per day since 1975 on the refuge is 1.4. This equates to a little over 1,000 birds being harvested per year on the refuge. The waterfowl most often harvested by hunters on the refuge are mallard, widgeon, green-wing teal, wood duck, and Canada goose.

The activity of waterfowl and coot hunters has little impact on other refuge visitors, with the exception of those who wish to observe or photograph wildlife at the Cayuga overlook and areas along Feeder Road. Some users may be impacted by the presence and noise associated with waterfowl and coot hunting on the entire western portion of the refuge beginning at Route 63.

Other Migratory Game Birds: The temporary impacts of other migratory game bird hunting are mitigated by the presence of adjacent refuge habitat where hunting does not occur and where birds can feed and rest undisturbed. Refuge regulations ensure that areas of inviolate sanctuary remain free of disturbance throughout the season. Additionally, other migratory game bird hunting will only occur on the refuge for approximately 2-3 weeks which will give the birds an opportunity to feed and rest undistributed in designated hunting areas before and after the season.

Refuge harvest totals for other migratory game birds are low. This is a result of a low number of hunter visits for these species. Over the last 6 years, woodcock have been hunted an average of 15 visits per year, with a harvest of 3.8 birds per year. Although snipe and rail have been hunted on the refuge in the last 6 years, none have been harvested.

The activity of hunting for other migratory game birds has little impact on other refuge visitors, due to the fact that hunting for these species occurs east of Sour Springs road where there are no overlooks. Effects are minimal because of the minimal number of hunters targeting these species. Other refuge users that may be impacted will be those walking on Onondaga and Swallow Hollow Trails that may hear the noise associated with hunting. Hunters must be at least 500 feet from refuge trails.

PUBLIC REVIEW AND COMMENT:

As part of the CCP process for Iroquois Refuge, this compatibility determination underwent extensive public review, including a comment period of 30 days following the release of the draft CCP.

DETERMINATION (check one below):

THIS USE IS COMPATIBLE X

THIS USE IS NOT COMPATIBLE

STIPULATIONS NECESSARY TO ENSURE COMPATIBILITY:

We will manage the hunt program in accordance with federal and state regulations, and review it annually to ensure that wildlife and habitat management goals are achieved and that the program is providing a safe, high quality hunting experience for participants. Therefore, adherence to the regulations for each hunting program will ensure compatibility with the purpose for which the refuge was established.

Prohibited Activities:

- Using illuminating devices, including automobile headlights, for the purpose of spotlighting game species.
- The distribution of bait, salt, or any attractant, or hunting over a baited area.
- Under the influence or possession of alcoholic beverages while hunting.
- Possessing axes, hatchets, saws, nails, tacks, paint, or flagging for the marking of trees and shrubs.
- Using nails, wire, screws, or bolts to attach a stand to a tree.
- Commercial guiding on the refuge.
- Camping, overnight parking, open fires, and littering.

JUSTIFICATION:

Iroquois Refuge is located in a rural area between Buffalo and Rochester, New York. Hunting is a traditional and well established activity, and does not conflict with other types of public uses that may occur on the refuge. Hunting satisfies a recreational need, but hunting is also an important, proactive management action that can prevent over population and the deterioration of habitat.

Hunting is a wildlife-dependent priority public use with minimal impact on refuge resources. It is consistent with the purposes for which the refuge was established, the Service policy on hunting, the Improvement Act of 1997, and the broad management objectives of the National Wildlife Refuge System.

We do not expect this use to materially interfere with or detract from the mission of the Refuge System nor diminish the purposes for which the refuge was established. It will not cause an undue administrative burden. Annual adjustments can be made in the hunting program to ensure its continued compatibility.

CONSULTATION WITH THE REFUGE SUPERVISOR:

The refuge supervisor was consulted on January 2010; changes were made as needed.

Signature: Refuge Manager:


(Signature/Date) 8/29/2011

Concurrence: Regional Chief:


(Signature/Date) 9/1/2011

Mandatory 15 - year Reevaluation Date:

9/1/2026

COMPATIBILITY DETERMINATION

USE: Big Game Hunting

REFUGE NAME: Iroquois National Wildlife Refuge

DATE ESTABLISHED: May 19, 1958

ESTABLISHING AUTHORITY: Migratory Bird Conservation Act (16 U.S.C. 715d)

PURPOSE(S) FOR WHICH ESTABLISHED:

...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds...
16 U.S.C. § 715d (Migratory Bird Conservation Act)

MISSION OF THE NATIONAL WILDLIFE REFUGE SYSTEM:

To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

DESCRIPTION OF USE:

(a) What is the use? Is the use a priority public use?

The use is big game hunting, which includes deer and turkey. Hunting is a priority public use of the National Wildlife Refuge System under the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd-668ee), as amended by the Improvement Act of 1997.

(b) Where would the use be conducted?

Deer: Deer hunting will be permitted throughout the entire refuge, except in areas closed to protect facilities and structures, as well as buffers around refuge trail systems. Additionally, Cayuga Pool will be closed to facilitate waterfowl hunting.

All Turkey Hunts (Fall, Spring and Youth): The hunting of turkey in the fall and spring will be permitted throughout the entire refuge except closed areas to protect facilities and structures, as well as buffers around refuge trail systems, bald eagle nesting areas, and emergent marsh habitat.

(c) When would the use be conducted?

All Big Game Hunts: Hunting will be conducted during New York State's big and small game hunting seasons, in accordance with federal and state regulations. While the refuge refers to turkey as a big game species, in New York State manages turkey under small game. In cooperation with the state, we may adjust hunt season dates and bag limits in the future as needed to achieve balanced wildlife population levels within habitat carrying capacities. No hunting occurs on the refuge before October 1, regardless of the start of the state seasons. No night hunting is allowed on the refuge. Refuge regulations on specific hunt seasons are as follows:

Deer: Deer hunting will be permitted during the New York State's archery, shotgun, and muzzleloader seasons between October 1 and the last day of February. Typically bow-hunting is open from mid-October to mid-November and then again for a week in December (after the regular shotgun season closes). The regular shotgun season is typically mid-November to mid-December. Muzzleloader season

is typically during the same time as the late bow-hunting season, one week in December. Hunting hours are sunrise to sunset.

Spring and Youth turkey: Spring turkey hunting will be permitted during the entire season, which is typically the month of May. Hunting hours are one-half hour before sunrise to noon. The youth spring turkey hunt will be held during the New York State Youth Hunt weekend which is usually the third or fourth weekend in April. An orientation program for youth selected to hunt will be held at the refuge prior to the youth hunt.

Fall turkey: Fall turkey hunting will be permitted during the typical two week long season (which is usually the last week of October and first week of November). Hunting hours are one-half hour before sunrise to noon.

(d) How would the use be conducted?

We will continue to conduct big game hunting according to state and federal regulations. Federal regulations in 50 CFR pertaining to the National Wildlife Refuge System Administration Act, as well as existing, refuge specific regulations will apply. However, the refuge manager may, upon annual review of the hunting program, impose further restrictions on hunting, recommend that the refuge be closed to hunting, or further liberalize hunting regulations up to the limits of state regulations. We will restrict hunting if it becomes inconsistent with other, higher priority refuge programs or endangers refuge resources or public safety.

All Big Game Hunts: All persons hunting on the refuge must first hold a valid state hunting license, and must then obtain a refuge hunting permit. One general refuge hunting permit will be used for all refuge hunt programs and will coincide with state hunting seasons. Hunters may then choose to apply for hunts conducted through a lottery system and submit the appropriate fee/fees. Permits must be applied for in person or via mail

Individuals hunting on the refuge are subject to the inspection of permits, licenses, hunting equipment, game bagged, boats, vehicles, and their contents by federal or state officers. An application fee will be collected for all pre-season lottery hunts, except youth programs. Unarmed hunters may scout areas that will be open to hunting before a particular season with parameters set annually. Dogs are prohibited during scouting.

Hunters with disabilities possessing, or who qualify for, a New York State disabled hunting license, Golden Access, or America the Beautiful Access Pass may qualify for special accommodations. We issue a non-ambulatory hunt permit which allows the use of two off-road parking sites for hunting deer and small game. They must apply in person and show proof of permanent disability.

No Hunting Zones include but are not limited to: the immediate areas around the refuge office; around refuge residences; the vicinity of the Iroquois Job Corps Center; Swallow Hollow, Kanyoo and Onondaga Nature Trails; and safety zones around private residences adjacent to the refuge and within the refuge. Permission must be obtained from refuge personnel to enter a “No Hunting Zone” or “Closed Area” for the purpose of tracking and/or retrieving legally taken game animals.

Weapons may not be discharged within, into or across a “No Hunting Zone” or “Closed Area”; or from on or across any refuge road. All refuge trails are open to foot traffic throughout the entire year. No trails will be closed during the hunting season including Onondaga Trail. Hunting from within 500 feet of any hiking trail or from within 500 feet of any resident or refuge building is prohibited.

All hunters are required to wear 400 square inches of solid-colored hunter orange clothing or material that is visible 360 degrees in a conspicuous manner on their head, chest, and back during the firearms deer season. Vehicles are only allowed on established roads marked open for vehicular travel. Vehicles must be parked off the lane of travel and clear of gates. ATV's and snowmobiles are not allowed. Canoes and other non-motorized boats may only be used on Oak Orchard Creek, from Knowlesville Road to Route 63. Canoes and other non-motorized boats may be launched on the refuge from Route 63, Sour Springs Road, and Knowlesville Road. Hunting from canoes and non-motorized boats is permitted per state law.

Temporary, portable tree stands and ground blinds are acceptable and must be removed daily. Permanent tree stands and ground blinds are prohibited. Hunters cannot use screw-in steps, nails, spikes, wire, or bolts as climbing or hanging devices to attach a stand to a tree.

Deer: Deer may be hunted with shotguns, muzzleloaders, or archery equipment during designated state and refuge seasons.

Shotgun-specific: A pre-season lottery drawing or some other form of restricting the number of hunters may be used for days/dates where the refuge receives high level of use, after further data collections are done to determine trends and impacts and the necessity to restrict the number of hunters. During the 2007 and 2008 hunt seasons, the refuge had between 400 and 450 individuals register for hunting on opening day. Quality of hunting experience as well as providing ample hunting room per hunter will be achieved by reducing the number of hunters on a given day, if necessary.

Onondaga Trail will no longer be closed to non-hunting visitors during the regular deer hunting season. Like all refuge trails, it will have a 500 foot no hunting zone associated with it. A separate lottery system for non-ambulatory hunters will be created.

Spring and Youth Turkey: A pre-season lottery drawing will be conducted to select hunters for the 75 slots that are available for the refuge's spring turkey season. All hunters interested in the spring turkey hunt will have to apply by close of business March 30. The lottery draw will allow hunters to be considered for two separate sessions that they will rank by preference; Session 1 runs from May 1 to May 15 with 50 permits available and Session 2 runs from May 16 to May 31 with 25 permits available. Scouting parameters will be set annually after New York State sets turkey seasons and youth hunting days. Hunters are required to turn in a harvest report.

The Youth Spring Turkey Hunt will be held on the Saturday and Sunday of the New York State Youth Hunting weekend, which is usually the third or fourth weekend in April. This hunt is for youth ages 12 to 15. Youth interested in participating in the program must complete a big game hunt application. Application deadlines will be March 15 each year. The youth must have permission from their parent or guardian to participate in this program. The program is free, but space is limited to 25 participants. Those selected must attend an orientation program that will be conducted by the refuge and possibly in cooperation with the local chapter of the National Wild Turkey Federation. The orientation will review hunter safety, turkey calling, equipment, ethics, and sportsmanship, as well as conservation and messages about the Refuge System. After the orientation we will issue a Big Game Harvest Report to all participants. All junior hunters must be accompanied by an adult both at the orientation and during the day of the hunt. Adult guides must have a valid New York State Hunting license but may not hunt.

Fall turkey: Fall turkey hunting will be permitted in accordance with state seasons and regulations and under refuge general permits.

(e) Why is the use being proposed?

Hunting is one of the priority uses outlined in the Improvement Act of 1997. The Service supports and encourages priority uses when they are appropriate and compatible on national wildlife refuge lands. Hunting is used in some instances to manage wildlife populations. It is also a traditional form of wildlife-oriented recreation that many National Wildlife Refuges can accommodate. When managed appropriately, hunting can instill a unique understanding and appreciation of wildlife, their behavior, and their habitat needs. Hunting has regionally been identified as one of the top two priority Areas of Emphasis at the refuge.

AVAILABILITY OF RESOURCES:

The following breakdown shows the estimated amount of funds needed to administer the program.

Annual costs to administer big game hunting:

Identifier	Cost
News releases, publications, fact sheets	\$1,000
Lottery drawing, hunter notification	\$1,500
Signs	\$500
Youth orientations	\$500
Total Annual Cost	\$3,500

** Refuge trails and roads are maintained for a variety of activities. Costs shown are a percentage of total costs for trail/road maintenance on the refuge and are reflective of the percentage of trail/road use for this activity. Volunteers account for some maintenance hours and help to reduce overall cost of the program.*

ANTICIPATED IMPACTS:

The following anticipated impacts are expected, for more specific impacts including a cumulative impact analysis please refer to the CCP for Iroquois Refuge.

All Big Game Hunts: Big game hunting is a very popular, longstanding public use on the refuge. All areas of the refuge are open to some form of hunting during hunting season except safety zones and closed areas. Although conflicts between user groups can arise, that does not appear to be a significant issue at the present levels of use. In the future, we may need to manage public use to minimize conflicts and ensure public safety, should significant conflicts become evident. That may include public outreach or zoning to separate user groups.

Conflicts between hunters can occur. In some cases, competition among hunters for choice sites is keen, and has led to unethical behavior. Hunters may only use portable tree stands that must be removed on a daily basis. However, some stands are left in place illegally for prolonged periods or are nailed directly into trees.

Because the refuge has been open to hunting since it was established and hunting occurred in the area for many years before the creation of the refuge, we expect no additional impacts. Some disturbance of non-target wildlife species and impacts on vegetation may occur. However, those impacts should be minimal, because big game hunting is regulated by the refuge and specific refuge regulations prohibit the use of ATVs, off-road travel, permanent stands and blinds, camping, and fires, which are most likely to significantly damage vegetation.

Hunting and the associated hunter activity likely will cause indirect disturbance of non-target birds, but only for the short term. There is no anticipated impact on endangered or threatened species on the refuge.

Deer: Since 2000, the total number of deer harvested on the refuge is 1,795. This averages out to approximately 200 deer harvested each season. The buck to doe ratio in the harvest is approximately 1:1. This ratio includes young of the year deer which are all taken with antlerless permits. On average 6 deer are harvested per day across the entire deer season. State deer density estimates for this region are approximately 30 per square mile and have shown little change in the last several years. Refuge staff believes that the refuge deer population is similar to the overall western New York population, which is intensely managed by New York State.

While many hunters use the refuge to hunt deer, more do so during the shotgun season than any other season. The heaviest usage is during the first full week of shotgun and on the weekends. Hunter visits increased from around 3,000 visits in 2006 to 4,500 in 2008. The increase in number in such a sort amount of time could be for many reasons. One in particular is that fewer hunters won their own land than in the past.

The activity of deer hunters has some impact on other refuge visitors. While the bow hunting season has little or no impact on the public, the shotgun and muzzleloader season may. Some users may be impacted by the presence and noise associated with shotgun and muzzleloader hunting which occurs on the entire refuge. Visitors will be impacted by this as they walk on refuge trails and visit refuge overlooks, or avoid the refuge completely for concerns of safety.

Deer hunting helps to keep deer populations within the carrying capacity of the habitat, thus reducing excessive damage to vegetation caused by over-browsing and maintaining understory habitat for other species. There may be temporary impacts on other species of wildlife during deer season. However, in the case of migratory waterfowl, deer hunters will cause little disturbance to them in the marshes where the birds feed and rest since most deer hunting takes place in upland habitats. Additionally, shotgun deer hunting will only occur on the refuge for approximately three weeks which will give the birds an opportunity to feed and rest undisturbed in those areas before and after the season.

Spring Turkey: Between 1986 and 2008, 103 turkeys were harvested on the refuge, three of which were harvested during the youth hunt. Since 1994, the refuge has given out 50 permits per season. Prior to 1994, a greater number of permits were given out annually. This number fluctuated, depending on the year. The average annual hunter success rate since 1994 has been 14.6 percent. We did not see a decrease in the success rate once the number of permits was set at 50.

The impacts of turkey hunting on non-target species on the refuge will be minimal due to the small number of permits issued, and the secretive nature of this hunting activity. Additionally, known sensitive areas, like bald eagle nesting sites, will be closed to any entry.

Turkey hunting has little impact on other refuge visitors, due to the fact that hunting only occurs during the month of May where hunters are far from other public use areas, relatively few permits are allocated, and hunting takes place from a half hour before sunrise to noon when the refuge does not have other activities going on except in designated closed areas like interpretive trails. Refuge users that may be impacted will be those walking refuge trails and those visiting overlooks. They may hear a single shotgun discharge associated with hunting. Hunters must hunt at least 500 feet from refuge trails.

Fall Turkey: The fall turkey season is usually for two weeks in late-October to early-November. Fall turkey hunting is typically an opportunistic hunting by hunters already afield. Since, the refuge is already opened to other activities and it is opportunistic in nature, we do not expect any additional impacts to refuge wildlife or resources.

PUBLIC REVIEW AND COMMENT:

As part of the CCP process for Iroquois Refuge, this compatibility determination underwent extensive public review, including a comment period of 30 days following the release of the draft CCP for Iroquois Refuge.

DETERMINATION (check one below):

THIS USE IS COMPATIBLE X

THIS USE IS NOT COMPATIBLE

STIPULATIONS NECESSARY TO ENSURE COMPATIBILITY:

We will manage the hunt program in accordance with federal and state regulations and review it annually to ensure that wildlife and habitat management goals are achieved and that the program is providing a safe, high quality hunting experience for participants. Therefore, adherence to the regulations highlighted above for each hunting program will ensure compatibility with the purpose for which the refuge was established. Eagle nesting zones will be managed according to the *National Bald Eagle Management Guidelines*.

Prohibited Activities:

- Using illuminating devices, including automobile headlights, for the purpose of spotlighting game species.
- The distribution of bait, salt, or any attractant, or hunting over a baited area.
- Under the influence or possession of alcoholic beverages while hunting.
- Possessing axes, hatchets, saws, nails, tacks, paint, or flagging for the marking of trees and shrubs.
- Commercial guiding on the refuge.
- Camping, overnight parking, open fires, and littering.

JUSTIFICATION:

Iroquois Refuge is located in a rural area between Buffalo and Rochester, NY. Hunting is a traditional and well established activity on the refuge. It does not conflict with other types of public uses that may occur on the refuge. Hunting satisfies a recreational need, but hunting on National Wildlife Refuges is also an important, proactive management action that can prevent over population and the deterioration of habitat.

Hunting is a wildlife-dependent priority public use with minimal impact on refuge resources. It is consistent with the purposes for which the refuge was established, the Service policy on hunting, the Improvement Act of 1997, and the broad management objectives of the National Wildlife Refuge System.

We do not expect this use to materially interfere with or detract from the mission of the refuge

System nor diminish the purposes for which the refuge was established. It will not cause an undue administrative burden. Annual adjustments can be made in the hunting program to ensure its continued compatibility.

CONSULTATION WITH THE REFUGE SUPERVISOR:

The refuge supervisor was consulted on January 2010; changes were made as needed.

Signature: Refuge Manager: Thomas P. Merty 8/29/2011
(Signature/Date)

Concurrence: Regional Chief: Scott B. Kuhn 9/1/2011
(Signature/Date)

Mandatory 15 - year Reevaluation Date: 9/1/2026

COMPATIBILITY DETERMINATION

USE: Small/Upland Game Hunting

REFUGE NAME: Iroquois National Wildlife Refuge

DATE ESTABLISHED: May 19, 1958

ESTABLISHING AUTHORITY: Migratory Bird Conservation Act (16 U.S.C. 715d)

PURPOSE(S) FOR WHICH ESTABLISHED:

...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds...
16 U.S.C. § 715d (Migratory Bird Conservation Act)

MISSION OF THE NATIONAL WILDLIFE REFUGE SYSTEM:

To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

DESCRIPTION OF USE:

(a) What is the use? Is the use a priority public use?

The use is small/upland game hunting which includes ringneck pheasant, ruffed grouse, cottontail rabbit, gray squirrel, coyote, raccoon, skunk, opossum, and fox. Hunting is a priority public use of the National Wildlife Refuge System under the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd-668ee), as amended by the Improvement Act of 1997.

(b) Where would the use be conducted?

Small/upland game hunting will be permitted throughout the entire refuge, with the exception of areas closed to protect refuge facilities, maintain buffers around nature trails and overlooks, and the Iroquois Job Corps Center.

(c) When would the use be conducted?

Hunting will be conducted during New York State upland game hunting seasons, in accordance with federal and state regulations. No small/upland game hunting occurs on the refuge before October 1, regardless of the start of the state seasons. Hunting concludes on the refuge on the last day of February.

Cottontail rabbit, gray squirrel, coyote and ruffed grouse hunting is typically open from October 1 to the last day of February. Hunting for raccoon, skunk, opossum, and fox is usually open from late October to mid- February. Pheasant hunting is typically mid-October to mid-November. No night hunting is allowed on the refuge. All upland game hunting hours are sunrise to sunset.

(d) How would the use be conducted?

The refuge will allow small/upland game - ringneck pheasant, ruffed grouse, cottontail rabbit, gray squirrel, coyote, raccoon, skunk, opossum, and fox - to be hunted with shotguns during designated state and refuge seasons.

We will continue to conduct the small/upland game hunting according to state and federal regulations. Federal regulations in 50 CFR pertaining to the National Wildlife Refuge System Administration Act, as

well as existing, specific refuge regulations will apply. The refuge manager may, upon annual review of the hunting program, impose further restrictions on hunting, recommend that the refuge be closed to hunting, or further liberalize hunting regulations within the limits of state law. We will restrict hunting if it becomes inconsistent with other, higher priority refuge programs or endangers refuge resources or public safety.

All persons hunting on the refuge must first hold a valid state hunting license, and must then obtain a refuge hunting permit. One general refuge hunting permit will be used for all refuge hunt programs and will coincide with state hunting seasons. Hunters may then choose to apply for different hunts that are conducted under a lottery system and submit the required fees depending on their preferences. Application must be submitted to the refuge office.

Individuals hunting on the refuge are subject to the inspection of permits, licenses, hunting equipment, game bagged, boats, vehicles, and their contents by federal or state officers. Hunters may use only approved non-toxic shot for the shotgun hunting of all species. Dogs are allowed for hunting of migratory game birds, cottontail rabbits, ringneck pheasants and ruffed grouse.

Hunters with disabilities possessing, or who qualify for, a New York State disabled hunting license, Golden Access or America the Beautiful Access Pass may qualify for special accommodations. We issue a non-ambulatory hunt permit which allows the use of two off-road parking sites for deer and upland game. You must apply in person and show proof of permanent disability.

No hunting zones include but are not limited to: the immediate areas around the refuge office; around refuge residences; the vicinity of the Iroquois Job Corps Center; Swallow Hollow, Kanyoo and Onondaga Nature Trails; and safety zones around private residences adjacent to and within the refuge. Permission must be obtained from refuge personnel to enter a “No Hunting Zone” or “Closed Area” for the purpose of tracking and/or retrieving legally taken game animals.

Weapons may not be discharged within, into or across a “No Hunting Zone” or “Closed Area”; or from on or across any refuge road. All refuge trails are open to foot traffic throughout the entire year. No trails will be closed during the hunting season including Onondaga Trail. Hunting from within 500 feet of any hiking trail or from within 500 feet of any resident or refuge building is prohibited.

All hunters during any firearms deer seasons must wear in a conspicuous manner on head, chest, and back a minimum of 400 square inches of solid-colored hunter orange clothing or material and must be visible from 360 degrees. Vehicles are only allowed on established roads marked open for vehicular travel. Vehicles must be parked off the lane of travel and clear of gates. ATV's and snowmobiles are not allowed. Canoes and other non-motorized boats may only be used on Oak Orchard Creek, from Knowlesville Road to Route 63. You may launch boats from Route 63, Sour Springs Road and Knowlesville Road. Hunting from canoes and non-motorized boats is permitted per state law. Temporary, portable tree stands and ground blinds are acceptable and must be removed daily.

(e) Why is the use being proposed?

Hunting is one of the priority uses outlined in the Improvement Act of 1997. The Service supports and encourages priority uses when they are appropriate and compatible on National Wildlife Refuge lands. Hunting is used in some instances to manage wildlife populations. It is also a traditional form of wildlife-oriented recreation that many National Wildlife Refuges can accommodate. When managed appropriately, hunting can instill a unique understanding and appreciation of wildlife, their behavior, and their habitat needs. Hunting has regionally been identified as one of the top two priority Areas of Emphasis at the refuge.

AVAILABILITY OF RESOURCES:

The following breakdown shows the estimated amount of funds needed to administer the program.

Annual costs to administer upland game hunting:

Identifier	Cost
Maintain roads, trails	\$350
Maintain kiosks, signs	\$500
Fact sheets, brochures, reports	\$1,000
Total Annual Cost	\$1,850

** Refuge trails and roads are maintained for a variety of activities. Costs shown are a percentage of total costs for trail/road maintenance on the refuge and are reflective of the percentage of trail/road use for this activity. Volunteers account for some maintenance hours and help to reduce overall cost of the program.*

ANTICIPATED IMPACTS:

The following anticipated impacts are expected. For more specific impacts including a cumulative impact analysis please refer to the CCP for Iroquois Refuge.

Hunting is a very popular, longstanding public use on the refuge, although upland game hunting is the not as popular as others. All areas of the refuge are open to some form of hunting during hunting season except safety zones and closed areas. Although conflicts between user groups can arise, that does not appear to be a significant issue at the present levels of use. In the future, we may need to manage public use to minimize conflicts and insure public safety, should significant conflicts become evident. That may include public outreach or zoning to separate user groups. Conflicts between hunters can also occur. Competition among hunters for choice sites is keen and can lead to unethical behavior.

Because the refuge has been open to hunting since it was established and hunting occurred in the area for many years before the creation of the refuge, we expect no additional impacts. Some disturbance of non-target wildlife species and impacts on vegetation may occur. However, those impacts should be minimal, because small/upland game hunting is regulated by the refuge, occurs outside the breeding season, and specific refuge regulations prohibit the use of ATVs, off-road travel, permanent stands and blinds, camping and fires, which are most likely to significantly damage vegetation.

Refuge harvest averages for the past 6 years (2003-2009) for small/upland game are as follows. Cottontail rabbits were hunted on average 127 times per season with approximately 40 harvested annually. Ruffed grouse were hunted on average 33 times per season with approximately 2 birds harvested yearly. Squirrels are hunted on the refuge approximately 110 times a season with 34 harvested on average per year. Pheasant hunting occurred on average 24 times a season with an average of 1.5 birds harvested. Fox have been hunted on average 34 times per season and only one fox was harvested in the last 6 years. Similarly, coyotes have been hunted on average 29 times per season and only one coyote was harvested in the last 6 years. Most small/upland game hunters are hunting multiple species each time they hunt therefore the number of times a hunter is actually on the refuge hunting during the season is lower than the numbers above suggest.

The activity of upland game hunters has little impact on other refuge visitors, with the exception of those who wish to observe or photograph wildlife at some of the overlooks and areas along Feeder Road. Some users may be impacted by the presence and noise associated with upland game hunting on the entire refuge. Hunting and the associated hunter activity likely will cause the indirect disturbance of non-target

birds, but only for the short term. There is no anticipated impact on endangered or threatened species on the refuge.

PUBLIC REVIEW AND COMMENT:

As part of the CCP process for the Iroquois Refuge, this compatibility determination underwent extensive public review, including a comment period of 30 days following the release of the draft CCP.

DETERMINATION (check one below):

THIS USE IS COMPATIBLE X

THIS USE IS NOT COMPATIBLE

STIPULATIONS NECESSARY TO ENSURE COMPATIBILITY:

We will manage the hunt program in accordance with federal and state regulations and review it annually to ensure that wildlife and habitat management goals are achieved and that the program is providing a safe, high quality hunting experience for participants. Therefore, adherence to the regulations highlighted above for each hunting program will ensure compatibility with the purpose for which the refuge was established. Annual review of regulations will be conducted to ensure compatibility. Eagle nesting zones will be managed according to the *National Bald Eagle Management Guidelines*.

Prohibited Activities:

- Using illuminating devices, including automobile headlights, for the purpose of spotlighting game species.
- The distribution of bait or hunting over a baited area, salt or any attractant.
- Under the influence or possession of alcoholic beverages while hunting.
- Possessing axes, hatchets, saws, nails, tacks, paint or flagging for the marking of trees and shrubs.
- Using nails wire, screws, or bolts to attach a stand to a tree.
- Commercial guiding on the refuge.
- Camping, overnight parking, open fires and littering.

JUSTIFICATION:

Iroquois Refuge is located in a rural area between Buffalo and Rochester, New York. Hunting is a traditional and well established activity on the refuge. It does not conflict with other types of public uses that may occur on the refuge. Hunting satisfies a recreational need, but hunting on a National Wildlife Refuge is also an important, proactive management action that can prevent overpopulation and the deterioration of habitat.

Hunting is a wildlife-dependent priority public use with minimal impact on refuge resources. It is consistent with the purposes for which the refuge was established, the Service policy on hunting, the Improvement Act of 1997, and the broad management objectives of the National Wildlife Refuge System.

We do not expect this use to materially interfere with or detract from the mission of the refuge System nor diminish the purposes for which the refuge was established. It will not cause an undue administrative burden. Annual adjustments can be made in the hunting program to ensure its continued compatibility.

CONSULTATION WITH THE REFUGE SUPERVISOR:

The refuge supervisor was consulted on January 2010; changes were made as needed.

Signature: Refuge Manager: *Thomas P. Katt* 8/29/2011
(Signature/Date)

Concurrence: Regional Chief: *Scott B. Kuhn* 9/1/2011
(Signature/Date)

Mandatory 15 - year Reevaluation Date: 9/1/2026

COMPATIBILITY DETERMINATION

USE: Sport Fishing

REFUGE NAME: Iroquois National Wildlife Refuge

DATE ESTABLISHED: May 19, 1958

ESTABLISHING AUTHORITY: Migratory Bird Conservation Act (16 U.S.C. 715d)

PURPOSE(S) FOR WHICH ESTABLISHED:

...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds...
16 U.S.C. § 715d (Migratory Bird Conservation Act)

MISSION OF THE NATIONAL WILDLIFE REFUGE SYSTEM:

To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

DESCRIPTION OF USE:

(a) What is the use? Is the use a priority public use?

The use is fishing, a priority public use of the National Wildlife Refuge System under the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd-668ee), as amended by the Improvement Act of 1997.

(b) Where would the use be conducted?

The use will be conducted at Ringneck Marsh and along Oak Orchard Creek. Fishing at Ringneck Marsh will occur along Sour Springs Road, and along the dike, north of the water control structure on the western side of the marsh. Fishing along Oak Orchard Creek can occur from any one of three road intersections on the refuge (Knowlesville Road, Sour Springs Road and Route 63) and via canoe or a non-motorized boat along Oak Orchard Creek from Knowlesville Road to Route 63. Anglers fishing from the road intersections must stay on stream banks within 100 feet of the road / bridge intersections.

(c) When would the use be conducted?

Fishing on the refuge will be conducted during the hours and in the seasons specified in the fishing regulations of the State of New York. Therefore fishing will be permitted year around at designated areas. Ice fishing on Ringneck Marsh is typically from the beginning of December to the end of February, depending on ice conditions. On the first Saturday in June the refuge holds the Youth Fishing Derby at Ringneck Marsh.

(d) How would the use be conducted?

Fishing will be conducted under the State of New York fishing regulations for open water fishing and ice fishing, with some additional restrictions to protect fish, wildlife, and habitat, and reduce potential conflicts among public uses. Per New York State fishing regulations, frogging is a form of fishing. The refuge will permit frogging for bullfrogs only in accordance with state fishing regulation. A valid State of New York fishing license will be required to fish on the refuge in accordance with state regulations.

The refuge will install a floating dock or pier structure on Ringneck Marsh to provide better access to fisheries resources in this area. At the discretion of the refuge manager, we may close some areas seasonally, temporarily, or permanently to fishing if wildlife or habitat impacts or user conflicts become an issue. In cooperation with state fisheries biologists, we may manipulate the fisheries or habitat to promote or improve the fishery resource, if warranted. That may include changing fishing regulations (season dates, creel limits, and methods of take), directly manipulating the fisheries (by controlling exotic species or stocking), adjusting water levels, introducing or removing fish barriers, manipulating in-stream or stream bank habitat.

(e) Why is the use being proposed?

The use is being proposed to accommodate one of the priority public uses of the Refuge System. We have the opportunity to provide public fishing in a manner and location that will offer high quality, wildlife-dependent recreation, and maintain the level of current fish and wildlife values.

AVAILABILITY OF RESOURCES:

The following breakdown shows the estimated amount of funds needed to administer the program.

Annual cost for sport fishing:

Identifier	Cost
Fact sheets, brochures	\$500
Dike mowing	\$500
Total Annual Cost	\$1000

ANTICIPATED IMPACTS OF USE:

Accidental or deliberate introductions of non-native fish may negatively affect native fish, wildlife, or vegetation. Adding a refuge law enforcement officer will help supplement state enforcement.

Accidental introduction of invasive plants, pathogens, or exotic invertebrates as a result of being attached to non motorized boats. Some invasive aquatic plants do exist on the refuge. However, we have not carried out extensive surveys of aquatic invasive plants. We can mitigate their impacts by continuing education, outreach, and initiating an intensive monitoring program.

Negative effects on eagles, osprey, waterfowl, and other wildlife from lost fishing gear (e.g., from ingesting lead sinkers, hooks, lures, and litter or becoming entangled in fishing line or hooks): Lost fishing tackle may harm waterfowl, eagles, and other birds externally by catching and tearing skin. Fishing line may also become wrapped around body parts and hinder movement (legs, wings), impair feeding (bills), or cause a constriction with subsequent reduction of blood flow and tissue damage. An object above or below the water surface may snag and entangled animals, from which they are unable to escape. Birds may also ingest sinkers, hooks, floats, lures, and fishing line. Ingested tackle may damage or penetrate the mouth or other parts of the digestive tract, resulting in impaired function or death. Lead tackle is particularly toxic for wildlife. New York prohibits the sale and use of lead sinkers weighing one half ounce or less. The refuge will continue to provide education and outreach on the hazards of lead sinkers and discarded fishing tackle. A new refuge Officer will help in that public outreach.

Disturbance of wildlife (particularly breeding and brood-rearing waterfowl, eagles, ospreys, and wading birds). Fishing seasons in New York coincide in part with spring-early summer nesting and brood-rearing

periods for many species of aquatic dependent birds. Anglers and other non-motorized boaters may disturb nesting birds by approaching too close to nests, causing nesting birds to flush. Flushing may expose eggs to predators or cooling, resulting in egg mortality. We will close refuge areas, as needed, to fishing and boating around sensitive nest sites. We will also continue public outreach and the placement of warning signs.

Bank and trail erosion from human activity (boat launches, foot traffic), which may increase aquatic sediment loads of streams and rivers or alter riparian or lakeshore habitat or vegetation in ways harmful to fish or other wildlife. Non-motorized boat access will be restricted to designated areas only. Those areas will be 'hardened' to contain impacts in a small area. We will monitor launch sites, and may modify, restore, or close them if conditions warrant. Wetlands guard much of the refuge shoreline, making it extremely difficult to access for fishing. All new trail and access construction will follow best management practices. Therefore, at current levels of use, we do not expect trail erosion to increase because of foot traffic related to fishing.

Vegetation disturbance associated with improving boat launch and fishing access sites. Because fishing will occur from non-motorized boats, we expect minimal erosion from bank fishing or trampling of vegetation.

PUBLIC REVIEW AND COMMENT:

As part of the CCP process for Iroquois Refuge, this compatibility determination underwent a comment period of 30 days concurrent with the release of our draft CCP.

DETERMINATION (check one below):

THIS USE IS COMPATIBLE X

THIS USE IS NOT COMPATIBLE

STIPULATIONS NECESSARY TO ENSURE COMPATIBILITY:

We will manage the fishing program in accordance with federal and state regulations and review it annually to ensure that wildlife and habitat management goals are achieved and that the program is providing a safe, high quality fishing experience for participants. We based this on our stipulations listed below.

- We will review the fishing program annually to ensure that it contributes to refuge objectives in managing a quality fishery and protecting habitats. That may include surveys of anglers, fish, and habitats.
- We will prohibit lead sinkers and other lead tackle to prevent their ingestion by wildlife and possible lead poisoning.
- We will permit non-motorized boat launching only in designated areas to prevent the erosion and degradation of wetlands or water quality and ensure public safety.
- We will allow access to Ringneck Marsh dike via foot access only.
- We will close wildlife nesting and brood-rearing areas as needed, to all public use, to prevent the disturbance of wildlife.

- We will increase public outreach and education to minimize conflicts among user groups, help control aquatic invasive plants and lead in the environment, reduce the introduction of nonnative fish species, and minimize the disturbance of wildlife and habitat.

Prohibited Activities:

- The use of bows or spears to take fish
- Snagging, foul hooking or snatching fish
- Collection of bait fish
- Releasing unused bait fish and baitfish and eggs into refuge waters
- The use of lead sinkers
- Littering and discarding tackle and line

JUSTIFICATION:

Fishing is one of the six priority public uses of the Refuge System, and has been determined to be a compatible activity on many refuges nationwide. The Improvement Act of 1997 instructs refuge managers to seek ways to accommodate those six uses. We do not expect this use to materially interfere with or detract from the mission of the Refuge System or diminish the purposes for which the refuge was established. It will not pose significant adverse effects on refuge resources, nor interfere with public use of the refuge, nor cause an undue administrative burden. We can make annual adjustments in the fishing program to ensure its continued compatibility.

CONSULTATION WITH THE REFUGE SUPERVISOR:

Signature: Refuge Manager: *Thomas M. ...* 8/29/2011
(Signature/Date)

Concurrence: Regional Chief: *Scott B. ...* 9/1/2011
(Signature/Date)

Mandatory 15 - year Reevaluation Date: 9/1/2026

BIBLIOGRAPHY

New York State Fishing Regulation Guide, 2009, Department of Environmental Conservation.

Finding of Appropriateness of a Refuge Use (603 FW 1, Exhibit 1)

Refuge Name: Iroquois National Wildlife Refuge

Use: Walking and Hiking

This exhibit is not required for wildlife-dependent recreational uses, forms of take regulated by the state, or uses already described in a refuge CCP or step-down management plan approved after October 9, 1997.

Decision criteria:	YES	NO
(a) Do we have jurisdiction over the use?	X	
(b) Does the use comply with applicable laws and regulations (Federal, State, Tribal, and local)?	X	
(c) Is the use consistent with applicable Executive orders and Department and Service policies?	X	
(d) Is the use consistent with public safety?	X	
(e) Is the use consistent with goals and objectives in an approved management plan or other document?	X	
(f) Has an earlier documented analysis not denied the use or is this the first time the use has been proposed?	X	
(g) Is the use manageable within available budget and staff?	X	
(h) Will this be manageable in the future within existing resources?	X	
(i) Does the use contribute to the public's understanding and appreciation of the refuge's natural or cultural resources, or is the use beneficial to the refuge's natural or cultural resources?	X	
(j) Can the use be accommodated without impairing existing wildlife-dependent recreational uses or reducing the potential to provide quality (see section 1.6D. for description), compatible, wildlife-dependent recreation into the future?	X	

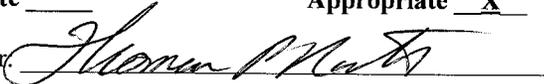
Where we do not have jurisdiction over the use ("no" to (a)), there is no need to evaluate it further as we cannot control the use. Uses that are illegal, inconsistent with existing policy, or unsafe ("no" to (b), (c), or (d)) may not be found appropriate. If the answer is "no" to any of the other questions above, we will generally not allow the use.

If indicated, the refuge manager has consulted with State fish and wildlife agencies. Yes X No

When the refuge manager finds the use appropriate based on sound professional judgment, the refuge manager must justify the use in writing on an attached sheet and obtain the refuge supervisor's concurrence.

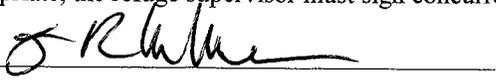
Based on an overall assessment of these factors, my summary conclusion is that the proposed use is:

Not Appropriate Appropriate X

Refuge Manager: 

Date: 8/29/2011

If found to be Not Appropriate, the refuge supervisor does not need to sign concurrence if the use is a new use.
 If an existing use is found Not Appropriate outside the CCP process, the refuge supervisor must sign concurrence.
 If found to be Appropriate, the refuge supervisor must sign concurrence:

Refuge Supervisor: 

Date: 9/1/11

A compatibility determination is required before the use may be allowed.

Justification for a Finding of Appropriateness of a Refuge Use

Refuge Name: Iroquois National Wildlife Refuge

Use: Walking and Hiking

Narrative

Trail and non-trail activities consisting of walking and hiking will be used to facilitate priority public uses on Iroquois Refuge. Priority public uses of the National Wildlife Refuge System as defined by statute regulation are hunting, fishing, wildlife observation and photography, environmental education, and interpretation. 16 U.S.C. § 668ee (2); 50 C.F.R. § 25.12. Currently all priority public uses are permitted on Iroquois Refuge.

Foot travel may increase root exposure and trampling effects, however it is anticipated that under the current use the incidence of these problems will be minor. Routes for pedestrian travel consist of roads and trails through the woods. The roads have hardened surfaces or are existing trails that have been used for many years. Routes do not have any known occurrences of rare plant species on their surface that will be impacted by this use. It is anticipated that some soil erosion could occur as a result of continuing pedestrian access on designated routes or meandering through the uplands.

Wildlife species using habitat on or directly adjacent to the designated pedestrian routes will likely be affected. These disturbances are likely to be short term and infrequent based on the current level of use. Sedimentation impacts will likely be minor as a result of foot travel. Long-term impacts may include some wildlife species avoiding designated trails as a result of this use over time. These impacts are not likely to significantly affect wildlife populations along these routes based on current use.

COMPATIBILITY DETERMINATION

USE: Walking and Hiking

REFUGE NAME: Iroquois National Wildlife Refuge

DATE ESTABLISHED: May 19, 1958

ESTABLISHING AUTHORITY: Migratory Bird Conservation Act (16 U.S.C. 715d)

PURPOSE(S) FOR WHICH ESTABLISHED:

...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds...
16 U.S.C. § 715d (Migratory Bird Conservation Act)

MISSION OF THE NATIONAL WILDLIFE REFUGE SYSTEM:

To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

DESCRIPTION OF USE:

(a) What is the use? Is the use a priority public use?

The uses are walking and hiking. These uses are not priority public uses.

(b) Where would the use be conducted?

These activities will be conducted on refuge nature trails, including Swallow Hollow, Kanyoo, and Onondaga. Feeder Road will also be open to these activities. Walking and hiking will also be permitted in refuge uplands from October 1 to the end of February.

(c) When would the use be conducted?

The trails will be used daily from sunrise to sunset, year round. Trails will be open during the hunting seasons. A safety zone of 500 feet is in effect in which no hunting will take place around refuge trails, however, visitors should still proceed with caution while using the trails during the hunting season.

Refuge visitors will be able to go off trail in upland areas only during the fall and winter from October 1 to the end of February.

(d) How would the use be conducted?

The uses are self-regulating with signs indicating appropriate routes of travel in the case of refuge trails. Refuge staff will remove fallen trees and limbs provided staff resources are available to provide safe conditions that could become hazardous for visitors. The trail surfaces are maintained each year by applying gravel where needed, repairing boardwalks and handrails, and so on. Dogs are allowed on all designated trails while on a leash of 10 feet or shorter in length and under the control of their owner.

Visitors are encouraged, but not required, to wear hunter orange while on the refuge while on the refuge during most hunting seasons. However, walkers/hikers who take advantage of off-trail opportunities October 1 through February will be required to wear 400 square inches of solid-colored hunter orange clothing or material that is visible 360 degrees in a conspicuous manner on their head, chest, and back during the firearms deer season.

(e) Why is this use being proposed?

Walking and hiking are not priority public uses; however, they facilitate priority public uses on the refuge. Although walking and hiking are classified as non-wildlife activities, most visitors use the refuge for the "wildlands" experience it provides. Walking and hiking usually occur on designated trails through most of the year. Many walkers and hikers stop at the visitor contact station to obtain refuge or wildlife viewing information.

AVAILABILITY OF RESOURCES:

The refuge has a trail system in place to support public uses and these trails are being maintained. Allowing walking and hiking on these trails will not increase the maintenance or operational needs. Feeder Road is the main service road used by refuge employees and also provides access to the refuge for other public uses, thus maintenance of this facility is on-going and no additional resources will be required.

The following breakdown shows the estimated amount of funds needed to administer the program.

Staff time to administer the walking and hiking program:

Identifier	Cost
Trail/road maintenance	\$500
Fact sheets/publications	\$150
Total Annual Cost	\$750

** Refuge trails and roads are maintained for a variety of activities. Costs shown are a percentage of total costs for trail/road maintenance on the refuge and are reflective of the percentage of trail/road use for this activity. Volunteers account for some maintenance hours and help to reduce overall cost of the program.*

ANTICIPATED IMPACTS OF THE USE:

Hiking and walking, as well as other forms of trail use, have the potential to impact shorebird, waterfowl, and other migratory bird populations feeding and resting near the trails during certain times of the year. Human disturbance to migratory birds has been documented in many studies in different locations. Conflicts arise when migratory birds and humans are present in the same areas (Boyle and Samson 1985). Response of wildlife to human activities includes: departure from site (Owen 1973, Burger 1981, Kaiser and Fritzell 1984, Korschen et al 1985, Henson and Grant 1991, Kahl 1991, Klein 1993), use of sub-optimal habitat (Erwin 1980, Williams and Forbes 1980), altered behavior (Burger 1981, Korschen et al. 1985, Morton et al. 1989, Ward and Stehn 1989, Havera et al. 1992, Klein 1993), and increased energy expenditure (Morton et al. 1989, Belanger and Bedard 1990). McNeal et al. (1992) found that many waterfowl species avoid disturbance by feeding at night instead of during the day. Studying the effects of human visitation on waterbirds at J.N. "Ding" Darling Refuge, Klein (1989) found resident waterbirds to be less sensitive to disturbance than migrants; she also found that sensitivity varied according to species and individuals within species. Ardeids were quite tolerant of people but were disturbed as they took terrestrial prey; great blue herons, tricolored herons, great egrets, and little blue herons were observed to be disturbed to the point of flight more than other birds. Kushlan (1978) found that the need of these birds to move frequently while feeding may disrupt interspecific and intraspecific relationships. In addition, Batten (1977) and Burger (1981) found that wading birds were extremely sensitive to disturbance in the northeastern U.S. Klein (1993) in a studying waterbird response to human disturbance found that as intensity of disturbance increased, avoidance response by the birds increased and found that out-of-vehicle activity to be more disruptive than vehicular traffic; Freddy et al. (1986) and Vaske (1983)

also found the latter to be true. In regards to waterfowl, Klein (1989) found migratory dabbling ducks to be the most sensitive to disturbance and migrant ducks to be more sensitive when they first arrived, in the late fall, than later in winter. She also found that gulls and sandpipers to be apparently insensitive to human disturbance, with Burger (1981) finding the same to be true for various gull species.

For songbirds, Gutzwiller et al. (1994) found that singing behavior of some species was altered by low levels of human intrusion. Some studies have found that some bird species habituate to repeated intrusion; frequently disturbed individuals of some species have been found to vocalize more aggressively, have higher body masses, or tend to remain in place longer (Cairns and McLaren 1980). Disturbance may affect the reproductive fitness of males by hampering territory defense, male attraction and other reproductive functions of song (Arrese 1987). Disturbance, which leads to reduced singing activity, will make males rely more heavily on physical deterrents in defending territories which are time and energy consuming (Ewald and Carpenter 1978).

Travel routes can disturb wildlife outside the immediate trail corridor (Miller et al. 2001). Miller et al. (1998) found bird abundance and nesting activities (including nest success) increased as distance from a recreational trail increased in both grassland and forested habitats. Bird communities in this study were apparently affected by the presence of recreational trails, where “generalists” (American robins) were found near trails and “specialist” species (i.e. grasshopper sparrows) were found farther from trails. Nest predation was also found to be greater near trails (Miller et. al 1998).

Disturbance can cause shifts in habitat use, abandonment of habitat and increased energy demands on affected wildlife (Knight and Cole, 1991). Flight in response to disturbance can lower nesting productivity and cause disease and death. Hammitt and Cole (1998) conclude that the frequent presence of humans in “wildland” areas can dramatically change the normal behavior of wildlife mostly through “unintentional harassment.”

Seasonal sensitivities can compound the effect of disturbance on wildlife. Examples include regularly flushing birds during nesting or causing mammals to flee during winter months, thereby consuming large amounts of stored fat reserves. Hammitt and Cole (1998) note that females with young (such as white-tailed deer) are more likely to flee from a disturbance than those without young.

The Delaware Natural Heritage Program, Division of Fish & Wildlife and the Department of Natural Resources and Environmental Control prepared a document titled “The Effects of Recreation on Birds: A Literature Review” which was completed in April of 1999. The following information was reference from this document:

Several studies have examined the effects of recreationists on birds using shallow-water habitats adjacent to trails and roads through wildlife refuges and coastal habitats in the eastern United States (Burger 1981; Burger 1986; Klein 1993; Burger et al. 1995; Klein et al. 1995; Rodgers & Smith 1995, 1997; Burger & Gochfeld 1998). Overall, the existing research clearly demonstrates that disturbance from recreation activities always have at least temporary effects on the behavior and movement of birds within a habitat or localized area (Burger 1981, 1986; Klein 1993; Burger et al. 1995; Klein et al. 1995; Rodgers & Smith 1997; Burger & Gochfeld 1998). The findings that were reported in these studies are summarized as follows in terms of visitor activity and avian response to disturbance.

Presence: Birds avoided places where people were present and when visitor activity was high (Burger 1981; Klein et al. 1995; Burger & Gochfeld 1998).

Distance: Disturbance increased with decreased distance between visitors and species (Burger 1986), though exact measurements were not reported.

Approach Angle: Visitors directly approaching birds on foot caused more disturbance than visitors driving by in vehicles, stopping vehicles near birds, and stopping vehicles and getting out without approaching birds (Klein 1993). Direct approaches may also cause greater disturbance than tangential approaches to birds (Burger & Gochfeld 1981; Burger et al. 1995; Knight & Cole 1995a; Rodgers & Smith 1995, 1997).

Type and Speed of Activity: Joggers and landscapers caused birds to flush more than fishermen, clammers, sunbathers, and some pedestrians, possibly because the former groups move quickly (joggers) or create more noise (landscapers). The latter groups tend to move more slowly or stay in one place for longer periods, and thus birds likely perceive these activities as less threatening (Burger 1981, 1986; Burger et al. 1995; Knight and Cole 1995a). Alternatively, birds may tolerate passing by with unabated speed whereas if the activity stops or slacks birds may flush (Burger et al. 1995).

Noise: Noise caused by visitors resulted in increased levels of disturbance (Burger 1986; Klein 1993; Burger & Gochfeld 1998), though noise was not correlated with visitor group size (Burger & Gochfeld 1998).

In determining compatibility, the cumulative effects of all public use on trails are considered. Due to the limitations put on these activities and that historical record show low use, disturbance from walkers and hikers is not expected to greatly increase the disturbance to wildlife.

PUBLIC REVIEW AND COMMENT:

As part of the CCP process for Iroquois Refuge, this compatibility determination underwent a comment period of 30 days concurrent with the release of our draft CCP.

DETERMINATION (check one below):

THIS USE IS COMPATIBLE X

THIS USE IS NOT COMPATIBLE

STIPULATIONS NECESSARY TO ENSURE COMPATIBILITY:

- Dogs are allowed on refuge trails, but need to be on a leash 10 feet long or shorter and in the immediate control of their owner.
- Off trail walking/hiking is permitted in upland areas only between October 1 and the end of February. However, eagle nesting areas between October 1 and January 1 will be closed. Walkers/hikers will be required to wear blaze orange.
- Activities will be allowed from sunrise to sunset

JUSTIFICATION:

The Service and the National Wildlife Refuge System maintain the goal of providing opportunities to view wildlife. Allowing the use of already established trail system by persons engaging in walking and hiking will provide visitors the chance to view wildlife, and hence promotes public appreciation of conservation wildlife and habitats. Walking and hiking are not priority public uses; however they facilitate priority public uses on the refuge. This use will not materially interfere with or detract from the

fulfillment of the National Wildlife Refuge System mission or the purpose for which the refuge was established.

CONSULTATION WITH THE REFUGE SUPERVISOR:

The refuge supervisor was consulted on January 2010; changes were made as needed.

Signature: Refuge Manager: Thomas Marks 8/29/2011
(Signature/Date)

Concurrence: Regional Chief: Sean B. Kahn 9/1/2011
(Signature/Date)

Mandatory 10 - year Reevaluation Date: 9/1/2021

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Finding of Appropriateness of a Refuge Use (603 FW 1, Exhibit 1)

Refuge Name: Iroquois National Wildlife Refuge

Use: Jogging and Bicycling

This exhibit is not required for wildlife-dependent recreational uses, forms of take regulated by the state, or uses already described in a refuge CCP or step-down management plan approved after October 9, 1997.

Decision criteria:	YES	NO
(a) Do we have jurisdiction over the use?	X	
(b) Does the use comply with applicable laws and regulations (Federal, State, Tribal, and local)?	X	
(c) Is the use consistent with applicable Executive orders and Department and Service policies?	X	
(d) Is the use consistent with public safety?	X	
(e) Is the use consistent with goals and objectives in an approved management plan or other document?	X	
(f) Has an earlier documented analysis not denied the use or is this the first time the use has been proposed?	X	
(g) Is the use manageable within available budget and staff?	X	
(h) Will this be manageable in the future within existing resources?	X	
(i) Does the use contribute to the public's understanding and appreciation of the refuge's natural or cultural resources, or is the use beneficial to the refuge's natural or cultural resources?	X	
(j) Can the use be accommodated without impairing existing wildlife-dependent recreational uses or reducing the potential to provide quality (see section 1.6D. for description), compatible, wildlife-dependent recreation into the future?	X	

Where we do not have jurisdiction over the use ("no" to (a)), there is no need to evaluate it further as we cannot control the use. Uses that are illegal, inconsistent with existing policy, or unsafe ("no" to (b), (c), or (d)) may not be found appropriate. If the answer is "no" to any of the other questions above, we will generally not allow the use.

If indicated, the refuge manager has consulted with State fish and wildlife agencies. Yes X No

When the refuge manager finds the use appropriate based on sound professional judgment, the refuge manager must justify the use in writing on an attached sheet and obtain the refuge supervisor's concurrence.

Based on an overall assessment of these factors, my summary conclusion is that the proposed use is:

Not Appropriate Appropriate X

Refuge Manager: *Thomas P. Kelly*

Date: 8/29/2011

If found to be Not Appropriate, the refuge supervisor does not need to sign concurrence if the use is a new use. If an existing use is found Not Appropriate outside the CCP process, the refuge supervisor must sign concurrence. If found to be Appropriate, the refuge supervisor must sign concurrence:

Refuge Supervisor: *JR Kelly*

Date: 9/1/11

A compatibility determination is required before the use may be allowed.

Justification for a Finding of Appropriateness of a Refuge Use

Refuge Name: Iroquois National Wildlife Refuge

Use: Jogging and Bicycling

Narrative

Trail activities consisting of jogging and bicycling will be used to facilitate priority public uses on Iroquois Refuge. Priority public uses of the National Wildlife Refuge System as defined by statute regulation are hunting, fishing, wildlife observation and photography, environmental education, and interpretation. 16 U.S.C. § 668ee (2); 50 C.F.R. § 25.12. Currently all priority public uses are permitted on Iroquois Refuge.

Jogging and bicycling are not priority public uses, however, they facilitate priority public uses on the refuge. Although jogging and bicycling are classified as a non-wildlife activity, most use the refuge for the "wildlands" experience it provides. Jogging and bicycling generally occur between March and September. Some bicyclist stop at the visitor contact station to obtain refuge or wildlife viewing information. Visual observations indicate that total use is extremely light, but exact numbers are currently not available. Some hunters use bicycles to access hunting spots along Feeder Road.

It is anticipated that some soil erosion could occur as a result of jogging and bicycling access on designated routes. There are also temporal disturbances to wildlife species using habitat, on or directly adjacent to, the routes as well. These disturbances are likely to be short term and infrequent based on current levels of use. Therefore the disturbance from joggers and bicyclists is not expected to greatly increase the disturbance to wildlife or the refuge's habitats.

COMPATIBILITY DETERMINATION

USE: Jogging and Bicycling

REFUGE NAME: Iroquois National Wildlife Refuge

DATE ESTABLISHED: May 19, 1958

ESTABLISHING AUTHORITY: Migratory Bird Conservation Act (16 U.S.C. 715d)

PURPOSE(S) FOR WHICH ESTABLISHED:

...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds...
16 U.S.C. § 715d (Migratory Bird Conservation Act)

MISSION OF THE NATIONAL WILDLIFE REFUGE SYSTEM:

To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

DESCRIPTION OF USE:

(a) What is the use? Is the use a priority public use?

The uses are jogging and bicycling. Jogging and bicycling are not priority public uses.

(b) Where would the use be conducted?

Jogging will be allowed on designated refuge trails including Swallow Hollow, Kanyoo, and Onondaga Trails and Feeder Road. Bicycling will be allowed on Feeder Road only.

(c) When would the use be conducted?

The activities will be allowed year-round from sunrise to sunset.

(d) How would the use be conducted?

The uses are self-regulating with signs indicating appropriate routes of travel. During the entire year, persons engaged in bicycling will only use the Feeder Road to bike and will only use existing public roads and refuge parking areas to access the Feeder Road. Refuge staff will remove fallen trees and limbs provided staff resources are available so to provide safe conditions that could become hazardous for visitors. The trail surfaces are maintained each year by applying gravel where needed, repairing boardwalks and handrails, and so on. Dogs are allowed on the trails while on a leash of 10 feet or shorter in length and under the control of their owner.

(e) Why is this use being proposed?

Jogging and bicycling are not priority public uses; however they facilitate priority public uses on the refuge. Although jogging and bicycling are classified as a non-wildlife activity, most use the refuge for the "wildlands" experience it provides. Jogging and bicycling generally occur between March and September. Some bicyclist stop at the visitor contact station to obtain refuge or wildlife viewing information. Visual observations indicate that total use is extremely light, but exact numbers are currently not available.

AVAILABILITY OF RESOURCES:

The refuge has a maintained trail system in place to support priority public uses. Allowing jogging on these trails will not increase the maintenance or operational needs. Feeder Road is the main service road used by refuge employees and also provides access to the refuge for other public uses, thus maintenance of this facility is on-going and no additional needs will be required.

The following breakdown shows the estimated amount of funds needed to administer the program.

Staff time to administer the jogging and biking program:

Identifier	Cost
Trail/road maintenance*	\$240
Compliance checks	\$100
Total Annual Cost	\$340

** Refuge trails and roads are maintained for a variety of activities. Costs shown are a percentage of total costs for trail/road maintenance on the refuge and are reflective of the percentage of trail/road use for this activity. Volunteers account for some maintenance hours and help to reduce overall cost of the program.*

ANTICIPATED IMPACTS OF THE USE:

Jogging and bicycle use, as well as other forms of trail use, have the potential to impact shorebird, waterfowl, and other migratory bird populations feeding and resting near the trails during certain times of the year. Human disturbance to migratory birds has been documented in many studies in different locations. Conflicts arise when migratory birds and humans are present in the same areas (Boyle and Samson 1985). Response of wildlife to human activities includes: departure from site (Owen 1973, Burger 1981, Kaiser and Fritzell 1984, Korschen et al 1985, Henson and Grant 1991, Kahl 1991, Klein 1993), use of sub-optimal habitat (Erwin 1980, Williams and Forbes 1980), altered behavior (Burger 1981, Korschen et al. 1985, Morton et al. 1989, Ward and Stehn 1989, Havera et al. 1992, Klein 1993), and increased energy expenditure (Morton et al. 1989, Belanger and Bedard 1990). McNeal et al. (1992) found that many waterfowl species avoid disturbance by feeding at night instead of during the day. Studying the effects of human visitation on waterbirds at J.N. "Ding" Darling Refuge, Klein (1989) found resident waterbirds to be less sensitive to disturbance than migrants; she also found that sensitivity varied according to species and individuals within species. Ardeids were quite tolerant of people but were disturbed as they took terrestrial prey; great blue herons, tricolored herons, great egrets, and little blue herons were observed to be disturbed to the point of flight more than other birds. Kushlan (1978) found that the need of these birds to move frequently while feeding may disrupt interspecific and intraspecific relationships. In addition, Batten (1977) and Burger (1981) found that wading birds were extremely sensitive to disturbance in the northeastern U.S. Klein (1993) in a studying waterbird response to human disturbance found that as intensity of disturbance increased, avoidance response by the birds increased and found that out-of-vehicle activity to be more disruptive than vehicular traffic; Freddy et al. (1986) and Vaske (1983) also found the latter to be true. In regards to waterfowl, Klein (1989) found migratory dabbling ducks to be the most sensitive to disturbance and migrant ducks to be more sensitive when they first arrived, in the late fall, than later in winter. She also found that gulls and sandpipers to be apparently insensitive to human disturbance, with Burger (1981) finding the same to be true for various gull species.

For songbirds, Gutzwiller et al. (1994) found that singing behavior of some species was altered by low levels of human intrusion. Some studies have found that some bird species habituate to repeated intrusion; frequently disturbed individuals of some species have been found to vocalize more aggressively, have higher body masses, or tend to remain in place longer (Cairns and McLaren 1980). Disturbance may

affect the reproductive fitness of males by hampering territory defense, male attraction and other reproductive functions of song (Arrese 1987). Disturbance, which leads to reduced singing activity, will make males rely more heavily on physical deterrents in defending territories which are time and energy consuming (Ewald and Carpenter 1978).

Travel routes can disturb wildlife outside the immediate trail corridor (Miller et al. 2001). Miller et al. (1998) found bird abundance and nesting activities (including nest success) increased as distance from a recreational trail increased in both grassland and forested habitats. Bird communities in this study were apparently affected by the presence of recreational trails, where “generalists” (American robins) were found near trails and “specialist” species (i.e. grasshopper sparrows) were found farther from trails. Nest predation was also found to be greater near trails (Miller et. al 1998).

Disturbance can cause shifts in habitat use, abandonment of habitat and increased energy demands on affected wildlife (Knight and Cole, 1991). Flight in response to disturbance can lower nesting productivity and cause disease and death. Hammitt and Cole (1998) conclude that the frequent presence of humans in “wildland” areas can dramatically change the normal behavior of wildlife mostly through “unintentional harassment.”

Seasonal sensitivities can compound the effect of disturbance on wildlife. Examples include regularly flushing birds during nesting or causing mammals to flee during winter months, thereby consuming large amounts of stored fat reserves. Hammitt and Cole (1998) note that females with young (such as white-tailed deer) are more likely to flee from a disturbance than those without young.

The Delaware Natural Heritage Program, Division of Fish & Wildlife and the Department of Natural Resources and Environmental Control prepared a document titled “The Effects of Recreation on Birds: A literature Review” which was completed in April of 1999. The following information was reference from this document:

Several studies have examined the effects of recreationists on birds using shallow-water habitats adjacent to trails and roads through wildlife refuges and coastal habitats in the eastern United States (Burger 1981; Burger 1986; Klein 1993; Burger et al. 1995; Klein et al. 1995; Rodgers & Smith 1995, 1997; Burger & Gochfeld 1998). Overall, the existing research clearly demonstrates that disturbance from recreation activities always have at least temporary effects on the behavior and movement of birds within a habitat or localized area (Burger 1981, 1986; Klein 1993; Burger et al. 1995; Klein et al. 1995; Rodgers & Smith 1997; Burger & Gochfeld 1998). The findings that were reported in these studies are summarized as follows in terms of visitor activity and avian response to disturbance.

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Approach Angle: Visitors directly approaching birds on foot caused more disturbance than visitors driving by in vehicles, stopping vehicles near birds, and stopping vehicles and getting out without approaching birds (Klein 1993). Direct approaches may also cause greater disturbance than tangential approaches to birds (Burger & Gochfeld 1981; Burger et al. 1995; Knight & Cole 1995a; Rodgers & Smith 1995, 1997).

Type and Speed of Activity: Joggers and landscapers caused birds to flush more than fishermen, clammers, sunbathers, and some pedestrians, possibly because the former groups move quickly

(joggers) or create more noise (landscapers). The latter groups tend to move more slowly or stay in one place for longer periods, and thus birds likely perceive these activities as less threatening (Burger 1981, 1986; Burger et al. 1995; Knight and Cole 1995a). Alternatively, birds may tolerate passing by with unabated speed whereas if the activity stops or slacks birds may flush (Burger et al. 1995).

Noise: Noise caused by visitors resulted in increased levels of disturbance (Burger 1986; Klein 1993; Burger & Gochfeld 1998), though noise was not correlated with visitor group size (Burger & Gochfeld 1998).

In determining compatibility, the cumulative effects of all public use on trails are considered. Due to the limitations put on these activities, and that historical records show low use, disturbance from joggers and bicyclists is not expected to increase disturbance to wildlife.

PUBLIC REVIEW AND COMMENT:

As part of the CCP process for Iroquois Refuge, this compatibility determination underwent a comment period of 30 days concurrent with the release of our draft CCP.

DETERMINATION (check one below):

THIS USE IS COMPATIBLE X

THIS USE IS NOT COMPATIBLE

STIPULATIONS NECESSARY TO ENSURE COMPATIBILITY:

- Activities will be restricted to designated trails and roads.
- Activities will be allowed from sunrise to sunset.
- Mountain bikes, as well as all bikes, will be restricted to Feeder Road. Mountain biking, in the sense of “off-trail” riding, running single-tracks, will not be allowed.
- The refuge will monitor and restrict future activity if, at any time, wildlife disturbance becomes a significant problem.

JUSTIFICATION:

Jogging and bicycling should continue to be permitted but not encouraged on the refuge. Most visitors jog and bike on Feeder Road which is open for a variety of public use activities and is the main service road used by refuge staff for management functions. Visual observations indicate that total use is extremely low and no significant wildlife impacts have been identified on the refuge as a result of these activities. Jogging and bicycling are not priority public uses; however they facilitate priority public uses on the refuge. These uses will not materially interfere with or detract from the fulfillment of the National Wildlife Refuge System mission or the purpose for which the refuge was established.

CONSULTATION WITH REFUGE SUPERVISOR:

The refuge supervisor was consulted on January 2010; changes were made as needed.

Signature: Refuge Manager: Monica Math 8/29/2011
(Signature/Date)

Concurrence: Regional Chief: Scott B. Kow 9/1/2011
(Signature/Date)

Mandatory 10 - year Reevaluation Date: 9/1/2021

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Finding of Appropriateness of a Refuge Use (603 FW 1, Exhibit 1)

Refuge Name: Iroquois National Wildlife Refuge

Use: Cross Country Skiing and Snowshoeing

This exhibit is not required for wildlife-dependent recreational uses, forms of take regulated by the state, or uses already described in a refuge CCP or step-down management plan approved after October 9, 1997.

Decision criteria:	YES	NO
(a) Do we have jurisdiction over the use?	X	
(b) Does the use comply with applicable laws and regulations (Federal, State, Tribal, and local)?	X	
(c) Is the use consistent with applicable Executive orders and Department and Service policies?	X	
(d) Is the use consistent with public safety?	X	
(e) Is the use consistent with goals and objectives in an approved management plan or other document?	X	
(f) Has an earlier documented analysis not denied the use or is this the first time the use has been proposed?	X	
(g) Is the use manageable within available budget and staff?	X	
(h) Will this be manageable in the future within existing resources?	X	
(i) Does the use contribute to the public's understanding and appreciation of the refuge's natural or cultural resources, or is the use beneficial to the refuge's natural or cultural resources?	X	
(j) Can the use be accommodated without impairing existing wildlife-dependent recreational uses or reducing the potential to provide quality (see section 1.6D. for description), compatible, wildlife-dependent recreation into the future?	X	

Where we do not have jurisdiction over the use ("no" to (a)), there is no need to evaluate it further as we cannot control the use. Uses that are illegal, inconsistent with existing policy, or unsafe ("no" to (b), (c), or (d)) may not be found appropriate. If the answer is "no" to any of the other questions above, we will generally not allow the use.

If indicated, the refuge manager has consulted with State fish and wildlife agencies. Yes X No

When the refuge manager finds the use appropriate based on sound professional judgment, the refuge manager must justify the use in writing on an attached sheet and obtain the refuge supervisor's concurrence.

Based on an overall assessment of these factors, my summary conclusion is that the proposed use is:

Not Appropriate Appropriate X

Refuge Manager: *Thomas M. [Signature]*

Date: 8/29/11

If found to be Not Appropriate, the refuge supervisor does not need to sign concurrence if the use is a new use.
 If an existing use is found Not Appropriate outside the CCP process, the refuge supervisor must sign concurrence.
 If found to be Appropriate, the refuge supervisor must sign concurrence:

Refuge Supervisor: *J.R. [Signature]*

Date: 9/1/11

A compatibility determination is required before the use may be allowed.

Justification for a Finding of Appropriateness of a Refuge Use

Refuge Name: Iroquois National Wildlife Refuge

Use: Cross Country Skiing and Snowshoeing

Narrative

Trail activities consisting of cross-country skiing and snowshoeing will be used to facilitate priority public uses on Iroquois Refuge. Priority public uses of the National Wildlife Refuge System as defined by statute regulation are hunting, fishing, wildlife observation and photography, environmental education, and interpretation. 16 U.S.C. § 668ee (2); 50 C.F.R. § 25.12. Currently all priority public uses are permitted on Iroquois Refuge.

There are temporal disturbances to wildlife species using habitat, on or directly adjacent to, the designated cross country skiing and snowshoeing routes. These disturbances are likely to be short term and infrequent based on current levels of use. Due to the limitations put on these activities, the seasonal timing, and that historical record show low use, disturbance from skiers and snowshoers is not expected to greatly increase the disturbance to wildlife or the refuge's habitats.

COMPATIBILITY DETERMINATION

USE: Cross-country Skiing and Snowshoeing

REFUGE NAME: Iroquois National Wildlife Refuge

DATE ESTABLISHED: May 19, 1958

ESTABLISHING AUTHORITY: Migratory Bird Conservation Act (16 U.S.C. 715d)

PURPOSE(S) FOR WHICH ESTABLISHED:

...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds...
16 U.S.C. § 715d (Migratory Bird Conservation Act)

MISSION OF THE NATIONAL WILDLIFE REFUGE SYSTEM:

To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

DESCRIPTION OF USE:

(a) What is the use? Is the use a priority public use?

The use is cross-country skiing and snowshoeing. These two uses are not priority public uses.

(b) Where would the use be conducted?

Cross-country skiing and snowshoeing will be permitted on Kanyoo and Onondaga Nature Trails as well as Mohawk Ski Trail, a 7.5 mile loop around Mohawk Pool. The Mohawk Ski Trail closes every year on March 1.

(c) When would the use be conducted?

The trails will be used daily from sunrise to sunset. Cross-country skiing and snowshoeing will be allowed when adequate snow is present in the fall through the end February. Trails will be open to the use during the hunting seasons. A safety zone of 500 feet is in effect in which no hunting will take place around refuge trails except the Mohawk Ski Trail. However, visitors should still proceed with caution while using the trails during the hunting season.

(d) How would the use be conducted?

The uses are self-regulating with signs indicating appropriate routes of travel. The trails are not groomed, so skiers will be required to cut their own trail when there is new fallen snow. Provided staff resources are available, refuge staff will remove fallen trees and limbs so to provide safe conditions that could become hazardous for visitors. The trail surfaces are maintained each year by applying gravel where needed, repairing boardwalks and handrails, and so on. Dogs are allowed on all designated trails while on a leash of 10 feet or shorter in length and under the control of their owner.

(e) Why is this use being proposed?

Cross-country skiing and snowshoeing are not priority public uses, however, they facilitate priority public uses on the refuge. Although cross-country skiing and snowshoeing are classified as non-wildlife dependent activities, most visitors use the refuge for the "wildlands" experience it provides. These activities allow visitors to access the refuge during the winter time and partake in wildlife observations of

winter residents. Additionally, many skiers and snowshoers stop at the visitor contact station to obtain refuge or wildlife viewing information. General observations indicate that total use is extremely light, but exact numbers are currently not available.

AVAILABILITY OF RESOURCES:

The refuge has a trail system in place to support priority public uses, and these trails are already being maintained for these purposes. Allowing cross-country skiing and snowshoeing on these trails will not increase the maintenance or operational needs. Refuge staff and volunteers maintain signs designating the location of trails including the Mohawk Ski Trail, but this time is minimal and can be completed with current refuge funding.

The following breakdown shows the estimated amount of funds needed to administer the program.

Annual costs for skiing and snowshoeing:

Identifier	Cost
Trail/road maintenance	\$240
Signage, publications	\$240
Total Annual Cost	\$480

** Refuge trails and roads are maintained for a variety of activities. Costs shown are a percentage of total costs for trail/road maintenance on the refuge and are reflective of the percentage of trail/road use for this activity. Volunteers account for some maintenance hours and help to reduce overall cost of the program.*

ANTICIPATED IMPACTS OF THE USE:

Cross-country skiing and snowshoeing, as well as other forms of trail use, have the potential to impact shorebird, waterfowl, and other migratory bird populations feeding and resting near the trails during certain times of the year. Human disturbance to migratory birds has been documented in many studies in different locations. Conflicts arise when migratory birds and humans are present in the same areas (Boyle and Samson 1985). Response of wildlife to human activities includes: departure from site (Owen 1973, Burger 1981, Kaiser and Fritzell 1984, Korschen et al 1985, Henson and Grant 1991, Kahl 1991, Klein 1993), use of sub-optimal habitat (Erwin 1980, Williams and Forbes 1980), altered behavior (Burger 1981, Korschen et al. 1985, Morton et al. 1989, Ward and Stehn 1989, Havera et al. 1992, Klein 1993), and increased energy expenditure (Morton et al. 1989, Belanger and Bedard 1990). McNeal et al. (1992) found that many waterfowl species avoid disturbance by feeding at night instead of during the day. Studying the effects of human visitation on waterbirds at J.N. "Ding" Darling Refuge, Klein (1989) found resident waterbirds to be less sensitive to disturbance than migrants; she also found that sensitivity varied according to species and individuals within species. Ardeids were quite tolerant of people but were disturbed as they took terrestrial prey; great blue herons, tricolored herons, great egrets, and little blue herons were observed to be disturbed to the point of flight more than other birds. Kushlan (1978) found that the need of these birds to move frequently while feeding may disrupt interspecific and intraspecific relationships. In addition, Batten (1977) and Burger (1981) found that wading birds were extremely sensitive to disturbance in the northeastern U.S. Klein (1993) in a studying waterbird response to human disturbance found that as intensity of disturbance increased, avoidance response by the birds increased and found that out-of-vehicle activity to be more disruptive than vehicular traffic; Freddy et al. (1986) and Vaske (1983) also found the latter to be true. In regards to waterfowl, Klein (1989) found migratory dabbling ducks to be the most sensitive to disturbance and migrant ducks to be more sensitive when they first arrived, in the late fall, than later in winter. She also found that gulls and sandpipers to be

apparently insensitive to human disturbance, with Burger (1981) finding the same to be true for various gull species.

Seasonal sensitivities can compound the effect of disturbance on wildlife. Examples include regularly flushing birds during nesting or causing mammals to flee during winter months, thereby consuming large amounts of stored fat reserves. Hammitt and Cole (1998) note that females with young (such as white-tailed deer) are more likely to flee from a disturbance than those without young.

The Delaware Natural Heritage Program, Division of Fish & Wildlife and the Department of Natural Resources and Environmental Control prepared a document titled “The Effects of Recreation on Birds: A literature Review” which was completed in April of 1999. The following information was reference from this document:

Several studies have examined the effects of recreationists on birds using shallow-water habitats adjacent to trails and roads through wildlife refuges and coastal habitats in the eastern United States (Burger 1981; Burger 1986; Klein 1993; Burger et al. 1995; Klein et al. 1995; Rodgers & Smith 1995, 1997; Burger & Gochfeld 1998). Overall, the existing research clearly demonstrates that disturbance from recreation activities always have at least temporary effects on the behavior and movement of birds within a habitat or localized area (Burger 1981, 1986; Klein 1993; Burger et al. 1995; Klein et al. 1995; Rodgers & Smith 1997; Burger & Gochfeld 1998). The findings that were reported in these studies are summarized as follows in terms of visitor activity and avian response to disturbance.

Presence: Birds avoided places where people were present and when visitor activity was high (Burger 1981; Klein et al. 1995; Burger & Gochfeld 1998).

Distance: Disturbance increased with decreased distance between visitors and (Burger 1986), though exact measurements were not reported.

Approach Angle: Visitors directly approaching birds on foot caused more disturbance than visitors driving by in vehicles, stopping vehicles near birds, and stopping vehicles and getting out without approaching birds (Klein 1993). Direct approaches may also cause greater disturbance than tangential approaches to birds (Burger & Gochfeld 1981; Burger et al. 1995; Knight & Cole 1995a; Rodgers & Smith 1995, 1997).

Type and Speed of Activity: Joggers and landscapers caused birds to flush more than fishermen, clammers, sunbathers, and some pedestrians, possibly because the former groups move quickly (joggers) or create more noise (landscapers). The latter groups tend to move more slowly or stay in one place for longer periods, and thus birds likely perceive these activities as less threatening (Burger 1981, 1986; Burger et al. 1995; Knight and Cole 1995a). Alternatively, birds may tolerate passing by with unabated speed whereas if the activity stops or slacks birds may flush (Burger et al. 1995).

Noise: Noise caused by visitors resulted in increased levels of disturbance (Burger 1986; Klein 1993; Burger & Gochfeld 1998), though noise was not correlated with visitor group size (Burger & Gochfeld 1998).

In determining compatibility, the cumulative effects of all public use on trails are considered. Due to the limitations put on these activities, the seasonal timing, and that historical record show low use, disturbance from skiers and snowshoers is not expected to greatly increase the disturbance to wildlife.

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- Miller, S.G., R.L. Knight, and C.K. Miller. 2001. Wildlife responses to pedestrians and dogs. *Wildlife Society Bulletin* 29(1): 124-132.
- Miller, S.G., R.L. Knight, and C.K. Miller. 1998. Influence of recreational trails on breeding bird communities. *Ecological Applications* 8:162-169.
- Morton, J. M., A. C. Fowler, and R. L. Kirkpatrick. 1989. Time and energy budgets of American black ducks in winter. *J. Wildl. Manage.* 53:401-410(also see corrigendum in *J. Wildl. Manage.* 54:683).
- Owen, M. 1973. The management of grassland areas for wintering geese. *Wildfowl.* 24:123-130.
- Pfister, C., B. A. Harrington, and M. Lavine. 1992. The Impact of Human Disturbance on Shorebirds at a Migration Staging Area. *Biological Conservation* 60 (2):115-126.
- Purdy, K. G., G. R. Goff, D. J. Decker, G. A. Pomerantz, and N. A. Connelly. 1987. *A Guide to Managing Human Activity on National Wildlife Refuges.* Human Dimensions research Unit, Cornell Univ., Ithaca, NY, 34pp.

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Rodgers, J. A., and H. T. Smith. 1995. Set-back distances to protect nesting bird colonies from human disturbance in Florida. *Conservation Biology* 9:89-99.

Rodgers, J. A., and H. T. Smith. 1997. Buffer zone distances to protect foraging and loafing waterbirds from human disturbance in Florida. *Wildlife Society Bulletin* 25:139-145.

Ward, D. H., and R. A. Stehn. 1989. Response of brant and other geese to aircraft disturbance at Izembek Lagoon, Alaska. U.S. Fish and Wildlife Service, Alaska Fish and Wildlife Research Center. Final report to the Minerals Management Service. Anchorage, Alaska. 193 pp.

Williams, G. J., and E. Forbes. 1980. The habitat and dietary preferences of dark-bellied brant geese and widgeon in relation to agricultural management. *Wildfowl*. 31:151-157.

Whittaker, D. and Knight, R. 1998. Understanding wildlife responses to humans. *Wildlife Society Bulletin* 26(3): 312-317.

Vaske, J. J., A. R. Graefe, and F. R. Kuss. 1983. Recreation impacts: a synthesis of ecological and social research. *Trans. N. Amer. Wildl. N*

Finding of Appropriateness of a Refuge Use (603 FW 1, Exhibit 1)

Refuge Name: Iroquois National Wildlife Refuge

Use: Haying

This exhibit is not required for wildlife-dependent recreational uses, forms of take regulated by the state, or uses already described in a refuge CCP or step-down management plan approved after October 9, 1997.

Decision criteria:	YES	NO
(a) Do we have jurisdiction over the use?	X	
(b) Does the use comply with applicable laws and regulations (Federal, State, Tribal, and local)?	X	
(c) Is the use consistent with applicable Executive orders and Department and Service policies?	X	
(d) Is the use consistent with public safety?	X	
(e) Is the use consistent with goals and objectives in an approved management plan or other document?	X	
(f) Has an earlier documented analysis not denied the use or is this the first time the use has been proposed?	X	
(g) Is the use manageable within available budget and staff?	X	
(h) Will this be manageable in the future within existing resources?	X	
(i) Does the use contribute to the public's understanding and appreciation of the refuge's natural or cultural resources, or is the use beneficial to the refuge's natural or cultural resources?	X	
(j) Can the use be accommodated without impairing existing wildlife-dependent recreational uses or reducing the potential to provide quality (see section 1.6D. for description), compatible, wildlife-dependent recreation into the future?	X	

Where we do not have jurisdiction over the use ("no" to (a)), there is no need to evaluate it further as we cannot control the use. Uses that are illegal, inconsistent with existing policy, or unsafe ("no" to (b), (c), or (d)) may not be found appropriate. If the answer is "no" to any of the other questions above, we will generally not allow the use.

If indicated, the refuge manager has consulted with State fish and wildlife agencies. Yes X No

When the refuge manager finds the use appropriate based on sound professional judgment, the refuge manager must justify the use in writing on an attached sheet and obtain the refuge supervisor's concurrence.

Based on an overall assessment of these factors, my summary conclusion is that the proposed use is:

Not Appropriate Appropriate X

Refuge Manager: *Thomas M. [Signature]*

Date: 8/29/2011

If found to be Not Appropriate, the refuge supervisor does not need to sign concurrence if the use is a new use. If an existing use is found Not Appropriate outside the CCP process, the refuge supervisor must sign concurrence. If found to be Appropriate, the refuge supervisor must sign concurrence:

Refuge Supervisor: *J. R. [Signature]*

Date: 9-1-11

A compatibility determination is required before the use may be allowed.

Justification for a Finding of Appropriateness of a Refuge Use

Refuge Name: Iroquois National Wildlife Refuge

Use: Haying

Narrative

The refuge was established to provide habitat for migratory birds. Currently, the refuge supports healthy populations of several grassland nesting birds, including Savannah sparrow, bobolink, and eastern meadowlark and smaller populations of sedge wren, Henslow's sparrow, grasshopper sparrow, and upland sandpiper. Additionally several duck species including mallard, black duck, gadwall, northern shoveler, blue-winged teal, green-winged teal, American widgeon, and northern pintail use refuge grasslands for nesting. During migration and winter several other species use refuge grasslands as resting and feeding areas.

Grasslands must periodically be rejuvenated to maintain their optimum vigor. Haying will be conducted after the nesting season and very little impact to populations is expected. Haying is useful in controlling woody vegetation and broad-leaf forbs, thus maintaining the grassland habitat. Haying of refuge grasslands will have short-term disturbance from equipment during the haying operations. It is plausible that late- or re-nesting birds may be injured or killed from haying equipment. However, this impact is mitigated by the delaying of haying operations until July 15 or later. Some species may be displaced after the mowing while others will colonize recently mowed fields.

COMPATIBILITY DETERMINATION

USE: Haying – Economic Use

REFUGE NAME: Iroquois National Wildlife Refuge

DATE ESTABLISHED: May 19, 1958

ESTABLISHING AUTHORITY: Migratory Bird Conservation Act (16 U.S.C. 715d)

PURPOSE(S) FOR WHICH ESTABLISHED:

...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds...
16 U.S.C. § 715d (Migratory Bird Conservation Act)

MISSION OF THE NATIONAL WILDLIFE REFUGE SYSTEM:

To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

DESCRIPTION OF USE:

(a) What is the use? Is the use a priority public use?

This use permits the harvest and removal of hay from designated refuge grasslands by private parties through the issuance of a Special Use Permit. Hay on the refuge consists of native and naturalized grasslands originally planted and currently maintained to provide habitat for migratory birds and resident wildlife. Haying on the refuge is strictly a tool used to maintain the refuge grasslands in an early successional condition and no attempt is made to improve the hay crop (e.g., fertilizing, planting additional hay species) for the cooperators. The use is an existing use and over the last several years, up to three individuals have annually harvested hay on up to 400 acres. Pursuant to refuge regulations at 50 C.F.R. 29.1, the use is considered an economic use, since the hay has a value as feed for farmer's livestock or as a crop. As such, we must determine if haying by private parties is compatible with and contributes to the refuge purposes or the mission of the Refuge System. The use assists in maintaining grasslands for migratory birds and other wildlife as a component of the grassland management program. Periodic management of grasslands is essential to maintaining them in a grass dominated state and to providing the best possible habitat for grassland dependent wildlife. Haying is not identified as a priority public use in the Improvement Act of 1997.

(b) Where would the use be conducted?

The use is conducted in various refuge grassland management units. Each year the need for a specific unit to be hayed is dependent on the biological needs of maintaining established grasslands or assisting in restoring additional grasslands. See attached map for potential haying locations.

(c) When would the use be conducted?

Haying is permitted in designated grassland units after July 15 to insure that nearly all grassland birds have completed nesting for the year. All haying must be completed by September 15. All hay and equipment is removed by October 1 to insure that refuge habitat is not damaged by rutting of soil due to wet conditions normally associated with autumn in this area.

(d) How would the use be conducted?

The refuge staff annually evaluates the grassland units to determine the biological need for management and the means (e.g., prescribed fire, mowing). Local individuals will be notified if and when units are available for haying via news releases and contact with previous individuals who have hayed. In accordance with 5 RM 17 of the Refuge Manual, units will be awarded through a competitive bid system. Each haying unit is treated as a separate bid and potential permittees are allowed to bid on as many units as they choose. There is a minimum bid of \$50.00 per bidder to ensure that the administrative costs of conducting the bidding process are covered. After the bidding deadline, bids are opened and the unit is awarded to the highest bidder. The successful bidders will supply all necessary equipment to harvest and remove the hay.

Over the past 3 years, cooperators have cut hay on 301 acres and paid a total of \$2,005 to do so. This is an average of \$6.66/acre to cut hay on the refuge. Refuge grasslands do not contain ideal hay species and often contain a large amount of broad-leaf forbs which make poor quality hay. Regardless of quality, cooperators are required to cut the entire unit that they bid on. This results in approximately 10 percent of each hay unit on average cut but not of high enough quality to bale for hay. This adds up to a total of approximately 30 acres of grassland cut by cooperators and not used as hay over the last 3 years. The custom rate for brush hogging in this area is approximately \$50.00/acre. It would have cost the refuge approximately \$1,500 to cut this same 30 acres. Adding this cost into the cost/acre increases the total to \$11.65/acre as a rental rate to cut hay on the refuge over the past 3 years.

The average cost for renting an acre of hayland in western New York is generally between \$25 and \$100/acre (Cornell Cooperative Extension, pers. comm.). This cost assumes a higher quality of hay than what is cut on the refuge and it also assumes multiple cuttings (usually three) of hay each year. Our cooperators are only able to get one cutting of generally poor quality hay off the refuge. Renting hayland similar to what is available on the refuge will likely cost farmers approximately \$15/acre (Genesee County Soil and Water Conservation District, pers. comm.), however, a haying program with restrictions similar to our haying program is unusual on private land and therefore makes identification of comparable costs difficult. Using the best information available, the fees estimated through the current bidding system for haying privileges on the refuge appear to be commensurate with what is available on private property in the area.

(e) Why is this use being proposed?

The refuge was established to provide habitat for migratory birds. Currently, the refuge supports healthy populations of several grassland nesting birds, including Savannah sparrow, bobolink, and eastern meadowlark and smaller populations of sedge wren, Henslow's sparrow, grasshopper sparrow, and upland sandpiper. Additionally several duck species including mallard, black duck, gadwall, northern shoveler, blue-winged teal, green-winged teal, American widgeon, and northern pintail use refuge grasslands for nesting. During migration and winter several other species use refuge grasslands as resting and feeding areas.

As these grasslands succeed into shrublands and then forestlands the amount of available habitat for grassland nesting species declines. Haying is beneficial in maintaining refuge grasslands in their intended state. Without periodic treatment by mowing, burning, or chemicals, refuge grasslands quickly revert to brush and forests. Haying can be used in lieu of refuge staff treating the grasslands, thus saving the refuge thousands of dollars while still accomplishing mission related goals. The hay crop has value to the farmer as forage for his livestock or as a cash crop.

Historically most of the Northeast was forested, except for a period following European settlement when much of the region was cleared for agriculture and subsequently grasslands and fields became abundant. In pre-settlement times, permanent, large openings were uncommon. Scattered openings occurred along

large river floodplains, around beaver flowages, in coastal heathlands, and in other areas of regular disturbance. Large grasslands are now in decline and the region has reforested closer to pre-settlement proportions.

Populations of grassland birds are declining as grassland habitats and other agricultural conditions diminish. Norment (2002) notes that despite the relatively recent (last 200 years) rise and fall of grassland habitats and associated birds in New England, the region may still be important for these species given their continental decline and habitat loss in the core of their ranges in the Midwest.

AVAILABILITY OF RESOURCES:

During calendar year 2009 there were two Special Use Permits issued for haying refuge lands. Time spent reviewing, issuing, and overseeing permit holders will be minimal for refuge staff, and therefore resources are available under current staffing and budgets. Overall, it has cost the refuge approximately \$40 per acre to treat grasslands via mowing; the annual grassland management program can easily save thousands of dollars by not having to mow the acres that can be hayed.

Annual costs of haying:

Identifier	Cost
Surveys, data analysis, recommendations, reporting	\$1,000
Permitee compliance	\$250
Permitting, news release, general information	\$250
Total Annual Cost	\$1,500

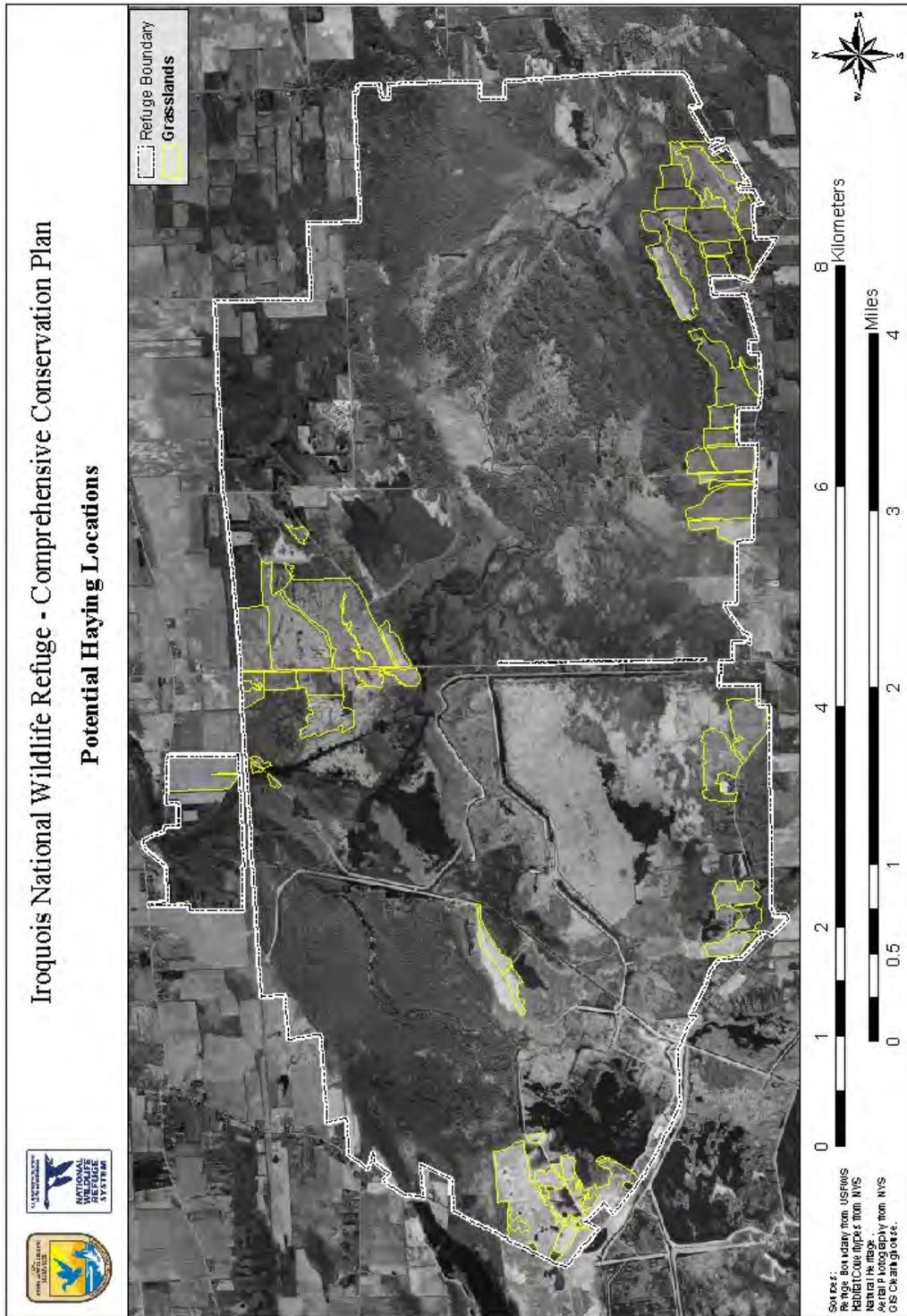
ANTICIPATED IMPACT OF THE USE:

Grasslands must periodically be rejuvenated to maintain their optimum vigor. Haying will be conducted after the nesting season and very little impact to populations is expected. Haying is useful in controlling woody vegetation and broad-leaf forbs, thus maintaining the grassland habitat. Haying of refuge grasslands will have short-term disturbance from equipment during the haying operations. It is plausible that late- or re-nesting birds may be injured or killed from haying equipment. However, this impact is mitigated by the delaying of haying operations until July 15 or later. Some species may be displaced after mowing while others will colonize recently mowed fields. Species such as bobolink, red-winged black bird, eastern meadowlark, and Henslow's sparrow abandon fields mowed during breeding season (Sample and Mossman, 1997). Sample and Mossman, 1997, also reported that many grassland bird species do well in habitats that are mowed either annually or every few years during the late summer or fall time frame. Hekert et al.1996, found that it was important to rotate or change management of a given tract in order to keep residual material available for species that require it. In the Midwest, sedge wrens did not use hay fields after mowing, but preferred un-mowed fields that were dense and lush (Skinner 1975, Sample 1989, Frawley and Best 1991). Disturbance via vehicles used for auto tour routes or road traffic is much more documented than disturbance due to machinery for management purposes. Several articles stated that vehicles can cause disturbance to vegetation cover and height, reduce diversity, change community compositions, compact soils, and reduce avian diversity.

PUBLIC REVIEW AND COMMENT:

As part of the CCP process for Iroquois Refuge, this compatibility determination underwent a comment period of 30 days concurrent with the release of our draft CCP.

- Horn, D. J., and R. R. Koford. 2000. Relation of grassland bird abundance to mowing of Conservation Reserve Program fields in North Dakota. *Wildlife Society Bulletin* 28:653-659.
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- Robbins, C. S., D. Bystrak, and P. H. Geissler. 1986. *The Breeding Bird Survey: its first fifteen years, 1965-1979.* U.S. Fish and Wildlife Service Resource Publication 157.
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- Skinner, R. M. 1975. Grassland use patterns and prairie bird populations in Missouri. Pages 171-180 *in* M. K. Wali, editor. *Prairie: a multiple view.* University of North Dakota Press, Grand Forks, North Dakota.



Finding of Appropriateness of a Refuge Use (603 FW 1, Exhibit 1)

Refuge Name: Iroquois National Wildlife Refuge

Use: Commercial Forest Management

This exhibit is not required for wildlife-dependent recreational uses, forms of take regulated by the state, or uses already described in a refuge CCP or step-down management plan approved after October 9, 1997.

Decision criteria:	YES	NO
(a) Do we have jurisdiction over the use?	X	
(b) Does the use comply with applicable laws and regulations (Federal, State, Tribal, and local)?	X	
(c) Is the use consistent with applicable Executive orders and Department and Service policies?	X	
(d) Is the use consistent with public safety?	X	
(e) Is the use consistent with goals and objectives in an approved management plan or other document?	X	
(f) Has an earlier documented analysis not denied the use or is this the first time the use has been proposed?	X	
(g) Is the use manageable within available budget and staff?	X	
(h) Will this be manageable in the future within existing resources?	X	
(i) Does the use contribute to the public's understanding and appreciation of the refuge's natural or cultural resources, or is the use beneficial to the refuge's natural or cultural resources?	X	
(j) Can the use be accommodated without impairing existing wildlife-dependent recreational uses or reducing the potential to provide quality (see section 1.6D. for description), compatible, wildlife-dependent recreation into the future?	X	

Where we do not have jurisdiction over the use ("no" to (a)), there is no need to evaluate it further as we cannot control the use. Uses that are illegal, inconsistent with existing policy, or unsafe ("no" to (b), (c), or (d)) may not be found appropriate. If the answer is "no" to any of the other questions above, we will generally not allow the use.

If indicated, the refuge manager has consulted with State fish and wildlife agencies. Yes ___ No ___

When the refuge manager finds the use appropriate based on sound professional judgment, the refuge manager must justify the use in writing on an attached sheet and obtain the refuge supervisor's concurrence.

Based on an overall assessment of these factors, my summary conclusion is that the proposed use is:

Not Appropriate ___ Appropriate X

Refuge Manager: *Sharon M. [Signature]*

Date: 8/29/2011

If found to be Not Appropriate, the refuge supervisor does not need to sign concurrence if the use is a new use. If an existing use is found Not Appropriate outside the CCP process, the refuge supervisor must sign concurrence. If found to be Appropriate, the refuge supervisor must sign concurrence:

Refuge Supervisor: *J.R. [Signature]*

Date: 9-1-11

A compatibility determination is required before the use may be allowed.

Justification for a Finding of Appropriateness of a Refuge Use

Refuge Name: Iroquois National Wildlife Refuge

Use: Commercial Forest Management

Narrative

The primary objective of forest management will be to enhance and maintain habitat for our priority resources of concern and associated communities over the long-term. Upland forest habitat on the refuge now lacks the optimal structure, composition, and patch size those species require. Forest management can improve and accelerate the development of appropriate structures and forest composition. Without active management, the development of appropriate habitat may take longer or fail to happen at all, depending on site characteristics, prior management history, and the frequency of natural disturbances. Forest management can also create and maintain the appropriate forest structure and age or size class distribution on the landscape into the future, so that adequate habitat is always available for species of concern. Because the refuge lacks the funding, personnel, or equipment to carry out forest management safely, commercial timber harvest and silvicultural treatments are the only reasonable alternative for accomplishing this work.

COMPATIBILITY DETERMINATION

USE: Commercial Forest Management

REFUGE NAME: Iroquois National Wildlife Refuge

DATE ESTABLISHED: May 19, 1958

ESTABLISHING AUTHORITY: Migratory Bird Conservation Act (16 U.S.C. 715d)

PURPOSE(S) FOR WHICH ESTABLISHED:

. . .for use as an inviolate sanctuary, or for any other management purpose, for migratory birds...
16 U.S.C. § 715d (Migratory Bird Conservation Act)

MISSION OF THE NATIONAL WILDLIFE REFUGE SYSTEM:

To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

DESCRIPTION OF USE:

(a) What is the use? Is the use a priority public use?

The use is commercial forest management. The use is not a priority public use of the National Wildlife Refuge System, under the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd-668ee), as amended by the Improvement Act of 1997.

Commercial forest management will be performed for the primary purpose of improving wildlife habitat and ensuring that Iroquois Refuge has a diversity of forest habitat types, age classes, and canopy stratifications. The specific types of harvest that will be performed include improvement cuts (thinnings, release cuttings), regeneration cuts (seed tree, selection, shelterwood, and clear cuts) and salvage cuts performed as a result of storm, insect or disease damage, or outbreaks. Commercial harvesting is preferred over using refuge resources to harvest timber because the refuge does not own the equipment necessary to perform the tasks properly without causing significant negative impacts to the sites. Additionally, the refuge does not have the manpower to either run equipment or remove trees using chainsaws.

(b) Where would the use be conducted?

Commercial forest management will only occur in the refuge's upland forests and conifer plantations excluding forested islands that are completely surrounded by marsh and/or open water, the Oak Orchard National Natural Landmark and the Milford Posson Research Natural Area (Attachment 1). The refuge's wetland forests are rarely dry enough, outside of the breeding season of forest dwelling species, for any commercial forest management to take place. Any commercial harvesting that takes place on the refuge must follow the best forest and wildlife management practices recommended by the State of New York (New York State DEC. 2007. New York State Forestry Best Management Practices for Water Quality, BMP Field Guide).

(c) When would the use be conducted?

Commercial forest management may occur at different times of the year and at different locations depending on individual site characteristics, stand conditions, and other resource concerns. All

commercial forest management will occur at times designed to minimize unwanted impacts on resources, e.g., erosion, soil compaction, or the disturbance of wildlife, while maximizing the desired silvicultural results, such as seed germination and natural tree regeneration. To achieve specific silvicultural goals, most of the harvesting will occur in late summer through winter, as appropriate. A comprehensive forest inventory will evaluate forest habitat and wildlife species of concern and determine the best timing and method before harvesting. We will not harvest timber during the primary breeding and nesting season for forest dwelling migratory birds, and for bald eagles if nests are within or directly adjacent to the harvest area.

(d) How would the use be conducted?

Although the refuge completed a forest management plan in 1990 and has descriptions of each compartment's vegetation type, we will need additional details regarding the refuge forests before implementation of a forest management program. A comprehensive forest inventory will help design appropriate silvicultural prescriptions to meet the objectives of our CCP and Habitat Management Plan (HMP). Variables to be inventoried include, but are not limited to, basal area, trees per acres, age, species composition, canopy closure, understory composition, and volume of forest product in the whole stand.

Before any harvest occurs, stands to be harvested in that particular year will be delineated so that local timber harvesting companies can visit the harvest sites prior to bidding. A news release on the proposed harvest will be issued to local papers and packets of materials related to the harvest will be mailed to known timber harvesters. Companies may perform their own inventories and subsequently submit sealed bids for the forest products expected to be harvested when harvest includes complete removal. In the case of selection harvests, individual trees will be marked for harvesting and inventory information will be specified to interested bidders.

A Special Use Permit will be issued to the chosen contractor. The inventory data will be provided in the Special Use Permit along with a statement of work including all of the particulars and stipulations which must be adhered to (Attachment 2). Selected timber harvesters must provide proof of insurance prior to issuance of a Special Use Permit. The refuge manager may also select individual harvesters based on an evaluation of their equipment, availability, and past performance. Commercial timber harvest on the refuge may yield products including, pulpwood, firewood, saw timber, veneer, biomass, or chips. After the harvest, the contractor must supply the refuge with all reports obtained from the mill documenting all products removed from the refuge.

(e) Why is the use being proposed?

The primary objective of commercial forest management will be to enhance and maintain habitat for our species of concern and associated habitat communities (see table below). Forest management can improve and accelerate the development of appropriate structures and forest composition. Without active management, the development of appropriate habitat may take longer or fail to happen at all, depending on site characteristics, prior management history, and the frequency of natural disturbances. Forest management can also create and maintain the appropriate forest structure and age or size class distribution on the landscape into the future, so that adequate habitat is always available for species of concern. Because the refuge lacks the funding, personnel, or equipment to carry out forest management safely and efficiently, commercial forest management and silvicultural treatments are the only reasonable alternative for accomplishing the work.

Priority Resources of Concern, Habitat Structure, and Other Benefiting Species for Forest Habitats on Iroquois Refuge

Habitat Type	Focal Species	Habitat Structure	Other Benefiting Species
Forested Wetlands	Wood duck	Nest cavities in mature, living (sometimes dead) trees, greater than 18 inches d.b.h. within 1.2 miles of water; broken limbs for perching.	Prothonotary warbler, Baltimore oriole, rusty blackbird, northern flicker, bats, river otter
	Cerulean warbler	More often in riparian or bottomland hardwood forest but also on dry slopes and ridgetops. Requires large tracts of mature forest (> 500 acres) with sparse understories and closed or semi closed canopies; stays in the canopy (DeGraaf and Yamasaki 2001, Rosenberg et al. 2000).	
Upland Forest	Wood thrush	Nests in interior and edge of mature, deciduous or mixed forests, particularly damp woodlands near swamps or water. Primary habitat features include trees taller than 53 feet, a shrub-sub canopy layer, shade, moist soil, and leaf litter (DeGraaf and Yamasaki 2001).	Rose-breasted grosbeak, scarlet tanager
	Black-billed cuckoo	Young deciduous and mixed forest or shrubland with a dense understory of shrubs and vines. May be susceptible to habitat fragmentation and avoid forest patches less than 10 acres (DeGraaf and Yamasaki 2001, Hughes 2001).	
	Cerulean warbler	More often in riparian or bottomland hardwood forest but also on dry slopes and ridge tops. Requires large tracts of mature forest (> 500 acres) with sparse understories and closed or semi closed canopies; stays in the canopy (DeGraaf and Yamasaki 2001, Rosenberg et al. 2000).	
	American woodcock	During the breeding season woodcock use several habitat conditions in close proximity to one another: forest openings, 0.5 acre or more in size, as singing grounds; shrubby areas, particularly alders and dense young hardwoods on moist soils as feeding/daytime cover; young to mid-aged forest (15-30 years old) as brood and nesting habitat; and clearings of 2-3 acres as roost sites during migration (Keppie and Whiting 1994, Sepik et al. 1981).	
Early Successional Forest and Shrublands	Field sparrow	Breeds in old fields in early stages of succession with scattered woody vegetation such as lightly overgrown pastures, abandoned hayfields, power line corridors, woodland edges (DeGraaf and Yamasaki 2001).	Brown thrasher, song sparrow, willow flycatcher, black-billed cuckoo, American woodcock
	Blue-winged warbler	A mix of vegetation including dense herbaceous growth, shrubs, and young forest (<20 feet tall); often near wetland edges or damp areas but also in dry uplands (Gill et al. 2001).	

	Golden-winged warbler	Patches of herbs, shrubs, and scattered trees, plus a forested edge; shrubby fields as well as in marshes and bogs with a forest edge (Confer 1992). Most golden-wing territories have less than 60 percent herbaceous growth and less than 10 percent forest cover. Most territories include patches of shrub that are over 10 feet (3 meters) tall and un-mowed or un-grazed herbaceous growth (Cornell Lab Golden-winged Atlas Project).	
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Rationale

Although once dominated by a mix of oak-hickory, northern hardwood, and hemlock-northern hardwood forests, the upland areas around the refuge are now dominated by agricultural land interspersed with wetlands and remnant forest stands. Thus, the refuge offers some of the best remaining blocks of both upland and wetland forest in this region. Currently, the mature forest habitats on the refuge are not actively managed. Although in small patch sizes, the upland forests are relatively intact with a diversity of canopy tree species and some mid-story and understory plant associates and light impact from invasive species. These forests support Bird Conservation Region (BCR) 13 priority bird species including wood thrush and cerulean warbler (highest), and black-billed cuckoo (high). These three species are also birds of management concern for the Service in the northeast region and are noted as species of greatest conservation need in the New York Wildlife Action Plan.

Over 4,800 acres of the refuge is covered by forest (44 percent). The refuge forests can be generally categorized as upland (1,520 acres), wetland (3,297 acres) and conifer plantation (202 acres). Species composition of the upland forests vary across the refuge with mixed hardwood stands predominated by elm, maple, aspen, and upland species such as oak and beech. Most conifers occur in plantations and include white pine, white spruce, Norway spruce, Scotch pine, red pine and Douglas fir. Several eastern hemlock stands are found in small pockets. The majority of the wetland forested stands are mature and under- to well-stocked. Most of these forested stands are palustrine and are inaccessible to forest management equipment due to the excessively wet soils.

Within the present day landscape of the Ontario Lake Plain, large pockets of forested habitat are rare. Landuse or landcover data for northwestern New York were developed by the USGS as part of the Geographic Information Retrieval Analysis System (GIRAS) during the 1970's. Of the entire area displayed (1,469,706 acres), 1.6 percent of the land cover (23,709 acres) is forested wetlands and 6 percent (8,417 acres) is upland forest. Sizes of these forested areas vary, but the largest pocket of forested wetlands, 20 percent of the total forested wetland cover, is within the refuge boundary.

In the early 1800's, there were many attempts to drain the "Alabama Swamps," the historic local name for the area that is now the refuge and surrounding areas. These endeavors to develop the land for agriculture proved to be too expensive and were ultimately abandoned. However, most of the virgin timber was removed as a result of these drainage projects and the area has been cut over numerous times since then for saw timber, pulp, and firewood products.

During the 1960's and 1970's, logging was conducted on the refuge for both production of wood products and firewood. Pulpwood and saw log size cottonwood and soft maple (red and silver) were selectively cut on large acreages and clear cut on small acreages for hardwood pulp and pallet construction. Habitat degradation due to cutting outside specified areas and lack of staff time to monitor these areas brought an end to cutting activities in 1978. The timber harvesting practices of the past had also altered species composition, forest age class, and structure.

During the last 30 years, there has been no management within the forested areas on the refuge. This is a result of a weak local market for many forest products and lack of refuge staff. The refuge lacks the equipment and personnel to carry out timber harvesting. Therefore, commercial forest management is the most economical, safe method of achieving many of our proposed forest management objectives. Our approaches to silviculture will differ among different habitat types (upland forests and conifer plantations), but will stay within the inherent capability of those sites to grow certain species (e.g., soil properties, moisture regimes, elevation, aspect, etc). The use of accepted silvicultural practices will perpetuate quality wildlife habitats. Strategies for the different habitats are described in Attachment 3.

AVAILABILITY OF RESOURCES:

In the absence of a refuge forester, the refuge biologist and wildlife refuge specialist will coordinate and run the commercial forest management program at the refuge. The refuge may contract the services of a private consulting forester, use other Service personnel or consult our partners if needed. The sales of timber will fund the fees for consultation.

A portion of the funds generated by the sale of timber on the refuge will go into the revenue sharing fund. We will use another portion to continue the forest management program and such activities as additional stand inventories, timber marking, pre-commercial thinning, and related roadwork. When appropriate and applicable, we may include tasks such as road rehabilitation in the contract as products and include them as part of the bid. That will alleviate any additional management costs associated with this specific activity. However, it will not eliminate most of the preliminary preparation.

We expect all harvesting to be performed near, or from, existing roads. Because we will not construct any new facilities or improvements on refuge property for this use, we expect no significant construction costs associated with it. The refuge biologist and wildlife refuge specialist will assume management of contract development and administration, monitoring, and resource database.

We expect the estimate costs in the following table for the refuge to administer the proposed forest management practices each year. Timber sales revenues returned to the refuge should cover any additional costs.

Estimated annual cost of a forest management program:

Identifier	Cost
Forest inventory and monitoring*	\$5,000
Wildlife inventory and monitoring	\$2,500
Marking timber	\$2,500
Management administration**	\$2,500
Data entry and analysis	\$1,000
Total Annual Cost	\$13,500

*A complete forest inventory will be completed before any management takes place. Forest monitoring will take on a 5-year cycle as permanent vegetation plots are in place.

**The administration of a commercial forest management program will include preparation of information packets, preparation of permits, processing payments, layout of harvest areas, compliance checks and program evaluation.

ANTICIPATED IMPACTS OF USE:

In case of the unregulated harvest of timber, the following impacts could occur.

Soils: The maintenance of roads and landings and the operation of heavy equipment could compact soil, cause rutting, and result in increased erosion. To mitigate those potential impacts and minimize erosion from timber harvesting on the refuge, the refuge will follow the best management practices recommended by the State of New York (NYS DEC 2007). Harvesting will occur primarily in upland forests and conifer plantations, at seasons appropriate for minimizing the effects of compaction and erosion (Attachment 1).

Aquatic Resources: Unregulated timber harvest and use of heavy equipment near streams, rivers, or ponds can result in increased run-off, sedimentation, and reduced shading of streams, with concomitant increases in aquatic temperatures. Downed wood in streams may initially increase and then decrease to levels below that of streams in un-harvested areas. Those factors may have detrimental effects on stream organisms, including fish, invertebrates, and amphibians. Poorly planned timber harvests and road construction can alter surface and groundwater hydrology and water storage capability. The effects of multiple harvests in a watershed can accumulate over time. Maintaining forested buffers around streams and other aquatic resources of concern will minimize impacts on water resources and water quality. Road construction, skid trail planning, harvest operation, and stream crossings will follow best management practices advocated by the state of New York to minimize the alteration of hydrology and the impacts of siltation on water quality. Harvesting will use existing forest roads and no new roads will be constructed.

Wildlife and Vegetation:

The construction of roads, creation of landings, and operation of heavy equipment can result in localized impacts and the damage or destruction of understory vegetation, including rare plants. Those practices may also damage the litter layer, coarse woody debris, snags, or cavity trees important for wildlife. They may alter the moisture regimes in soil and on the forest floor in ways that affect plants and animals such as forest floor amphibians and small mammals. Whole tree harvesting can result in a reduction of downed wood in the forest system. Skidding operations may cause residual damage to trees in the stand. Residual stand damage may result in the introduction of insects or disease into an otherwise healthy stand. Harvesting may also leave the remaining trees more susceptible to wind throw, alter plant and animal communities, facilitate the spread of invasive plants, disturb wildlife temporarily, or displace it over the long term. We will mitigate most of those impacts by placing seasonal restrictions on harvesting to avoid disturbing wildlife or damaging trees or understory vegetation, the careful layout of skid trails, the use of mechanical harvesters, and pre-harvest surveys of resources of concern. We will require timber contractors to leave tops, branches, and other downed wood on site whenever possible.

Under refuge management, the average forest age/size class and canopy closure will increase over the long term, although different age classes will be present on the landscape. The non-native conifer component of refuge matrix forests will decrease as plantations are cut, but will be replaced by native eastern hemlock which will be planted whenever possible after plantations are harvested. Habitat connectivity will increase and the fragmentation of forest habitat will decrease.

Visitor Impacts:

Logging may disturb refuge visitors, cause safety issues, or detract from visitors' esthetic experience. We will temporarily close areas of the refuge undergoing active logging. Because the amount acres that will be harvested on a yearly basis will be a very small proportion of the refuge, impacts on the public should be minimal.

PUBLIC REVIEW AND COMMENT:

As part of the CCP process for the refuge, this compatibility determination underwent an extensive public review, including a comment period of 30 days following the release of the draft CCP for Iroquois Refuge.

DETERMINATION (check one below):

THIS USE IS COMPATIBLE

THIS USE IS NOT COMPATIBLE

STIPULATIONS NECESSARY TO ENSURE COMPATIBILITY:

Our management philosophy is to create a commercial forest management program that improves refuge wildlife habitats. To protect refuge resources of concern, we will follow the best management practices for harvests and wildlife habitat recommended by the State of New York (NYS DEC 2007). When the State recommends a range of best management strategies and buffer distances, we will implement the most conservative of those recommendations. The refuge may exceed state recommendations in some cases, for specific resource protection objectives.

Snags, live cavity trees, and large coarse woody debris will be retained, as appropriate, to refuge objectives. At the discretion of the refuge manager, the creation of snags, live cavity trees, or coarse woody debris, or the removal of individual trees or groups of trees may occur in any area of the refuge, for specific wildlife management or safety purposes.

We will review the forest management program annually in our Annual Habitat Work Plan to ensure that the program contributes to refuge objectives for wildlife and habitat. Before harvests, resource surveys will ensure that resources of concern have been identified and impacts minimized or eliminated. Harvesting will occur at times that are seasonally appropriate for the site and silvicultural objectives and likely to minimize impacts on wildlife: e.g., outside eagle or heron nesting seasons. We will discourage whole tree harvesting and encourage contractors to leave tops, branches, and other woody debris on site. No commercial harvesting will occur in forested wetlands delineated on Attachment 1.

We will use adaptive management in assessing and modifying silvicultural prescriptions to achieve wildlife habitat objectives. Management actions will ensure the future growth of the forest and sustainable productivity consistent with ecological conditions. Features in the implementation of the habitat management plan will ensure the application of new scientific, social, and economic information to improve silvicultural and management practices and enhance environmental and financial performance.

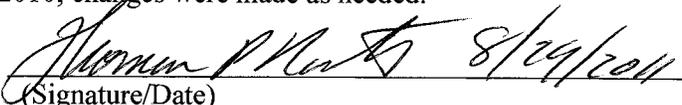
JUSTIFICATION:

We have determined this use to be compatible, provided the stipulations necessary to ensure its compatibility are implemented. The commercial forest management program will contribute to the following goals of the Refuge System's Strategic Plan: 1. Provide Healthy Fish, Wildlife and Plant Populations, 3. Maintain Productive Habitats, and 5. Provide Quality Environments. Therefore, it is the determination of the Service that commercial forest management, at the discretion of the refuge manager, is a compatible use of the refuge.

Commercial forest management will contribute to the purposes for which the refuge was established and the mission of the Refuge System and facilitate the ability of the refuge to meet its wildlife management objectives. The use will not pose significant adverse effects on refuge resources, interfere with the public use of the refuge, or cause an undue administrative burden. We may adjust the habitat management program on the refuge annually to insure its continued compatibility.

CONSULTATION WITH THE REFUGE SUPERVISOR:

The refuge supervisor was consulted on January 2010; changes were made as needed.

Signature: Refuge Manager:  8/29/2011
(Signature/Date)

Concurrence: Regional Chief:  9/1/2011
(Signature/Date)

Mandatory 10 - year Reevaluation Date: 9/1/2021

BIBLIOGRAPHY

New York State DEC. 2007. New York State Forestry Best Management Practices for Water Quality, BMP Field Guide.

NY State DEC Timber Harvesting Guidelines <http://www.dec.ny.gov/lands/5240.html>

Attachment 2

(for Commercial Forest Management Compatibility Determination)



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Iroquois National Wildlife Refuge
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**SPECIAL USE CONDITIONS
COMMERCIAL FOREST MANAGEMENT AGREEMENT
IROQUOIS NATIONAL WILDLIFE REFUGE
February 2010**

I. Property Location/Access/Boundaries

The Iroquois National Wildlife Refuge (Refuge), a unit of the National Wildlife Refuge System under the jurisdiction of the U.S. Department of the Interior, Fish and Wildlife Service, grants the permittee permission to enter refuge lands, together with workers and equipment upon terms and conditions of this Permit, to harvest forest products. Permittee agrees to cut and remove the forest products and to pay the refuge according to the terms and conditions in this agreement.

A. Unit Locations and Descriptions

Cutting Units subject to this permit are located on the Iroquois National Wildlife Refuge, within the Town of Alabama in Genesee County, NY and the Town of Shelby in Orleans County, NY. Maps and/or sketches and descriptions of each cutting unit are appended to the Special Use Permit.

B. Boundaries

The boundaries of each individual cutting unit have been marked with pink "Harvest Unit Boundary" flagging; corners of each unit are designated by three pink "Harvest Unit Boundary" flags tied to a tree.

C. Access

Access to each cutting unit will be by the most direct route across existing interior refuge roads. On Units where skid trails have been marked, permittees must use these trails. Permittees will be responsible for plowing and maintaining roads so they are passable by conventional four-wheel drive vehicle in winter (two-wheel drive in spring after snow and ice is gone) during the period of the harvest operation. Access routes must be approved by Refuge manager or designee, prior to commencing the harvest operation.

On roads/trails open to vehicles, the permittee must leave a travel lane suitable for passage by. Roads should be plowed in a manner so as not to leave large piles of snow or ice which may block or pose a hazard for vehicles.

If it is necessary to access harvest units through refuge gates, the permittee must provide a lock which will be placed in the chain by refuge personnel. When the permittee has completed the timber harvest, they will notify the refuge to secure the gate before their lock is removed. Refuge gates must remain closed at all times, but may be left un-locked when timber harvest operations are taking place. The exception to this will be the gate at the entrance to Feeder Road which is open during the hunting season.

All vehicles and equipment will be operated in a safe and careful manner. Refuge personnel and refuge visitors may also be using refuge roads and trails during the harvest operation.

II. Term

Permittee may begin harvesting only after issuance of the Special Use Permit, and meeting with the refuge manager and designated agent to discuss access routes, skid trail and yard locations. All required documentation must be submitted for review by the refuge manager prior to issuance of the Special Use Permit.

All harvesting must be completed by March 1, 2010, and all wood and equipment removed from the refuge by 4:00 p.m. on March 31, 2010, unless the Special Use Permit is terminated, as elsewhere provided in this document, or the Permit is extended at the agreement of both parties in writing. Any equipment left on refuge lands after March 31, 2010 will be considered abandoned property in accordance with 50 CFR and may be removed by the refuge at the owner's expense.

III. Description of Timber to be Cut and Removed

Permittees must cut all live woody vegetation with a diameter at breast height (dbh) over 2 inches within the designated blocks when the prescription is complete removal. During a selective harvest, permittees must cut all trees marked for removal.

The following **may not** be cut in complete removal areas: apple trees, oak trees, any trees with obvious wildlife value (such as dead stubs with woodpecker holes or cavities), and any trees which are marked with paint and/or “**Do Not Cut**” flagging. A buffer of trees will be maintained around marked trees to prevent damage during harvest operations. The buffer may be taken after the remainder of the block has been cut, and there is no chance of damage to marked trees.

IV. Status of Parties

A. Designated Agent

For the purpose of oversight of the permittee's compliance with the conditions of this Permit the refuge Wildlife Biologist and the Wildlife Refuge Specialist will be deemed the designated agents.

The designated agents will have the authority to review and approve forestry activities on refuge lands during the term of the Special Use Permit. The permittee agrees to consult with the designated agents and abide by their determinations and instructions during all stages of the harvest operation.

B. Permittee Responsibilities and Warranties

Permittee warrants and represents that he or she does have, and will employ and utilize the equipment and personnel necessary to perform the harvesting contemplated under this Permit in a timely manner. Permittee will be solely responsible for the acquisition, maintenance, replacement and repair of equipment, and for the selection, training, supervision, control, direction, compensation, work rules, discipline, and termination of his or her employees or subcontractors. Permittee warrants and

represents that all of his or her employees will perform in accordance with the requirements of these special conditions when assigned to the work to be performed hereunder. Permittee will equip and train his or her employees and subcontractors adequately to perform the required services in a safe, timely and lawful manner.

Permittee will conduct business in a manner to be at all times in full compliance with all requirements of Federal, State, and local law, including applicable common law, statutes and requirements, and including but not limited to the requirements of the Federal Fair Labor Standards Act, all federal and State labor and employment laws, federal immigration laws, the worker's compensation laws, federal and State equal employment laws, the Internal Revenue Code and State tax laws and regulations, the unemployment insurance laws, the federal Occupational Safety and Health act of 1970, as amended, and its regulations, state laws pertaining to occupational safety and health, New York Worker's Compensation Act and New York Employment Security Law, state laws and regulations pertaining to wood harvesting, and any other laws or governmental rules and regulations pertaining to the services to be provided hereunder.

V. Forestry Practices

The following are minimum forestry practices applicable to all forestry Special Use Permits. The permittees will, at their sole cost and expense, harvest wood products from the designated cutting areas, during the terms of the Special Use Permit, in accordance with the accepted principles of professional forestry, the NY State DEC Best Management Practices and the following conditions.

A. Scaling

All wood products harvested and removed from the refuge will be measured in standard cords, board feet, tons, or pounds in accordance with the Wood Measurement Rules.

All weights will be green or wet weights.

Scaling will be done only by State licensed scalers.

Payment for all forest products removed from the refuge will be made monthly by check or money order. All payments must be accompanied by a summary sheet, detailing amounts of each product for which payment is being made, legible scale slips, measurement tally sheets, or the like.

All payments will be based on the most current Schedule of stumpage prices.

The first payment will be due 30 calendar days from the date harvesting begins. Subsequent payments will be due each 30-calendar days thereafter.

B. Utilization Requirements

1. Harvesting will proceed in an orderly manner to ensure cutting of all trees designated for harvest. When harvest is to be completed by clear cutting, all trees greater than 2 inches d.b.h. must be cut, with the following exceptions:

A. Apples, oaks, wildlife trees (standing snags (dead or hollow live) 10 inches or greater d.b.h.), trees marked with “**Timber Harvest Boundary**” flagging, and trees marked with paint and/or “**Do Not Cut**” flagging may not be cut.

B. Any saplings (trees 4 inches d.b.h. or smaller) within 30 feet of a timber harvest boundary need not be cut unless otherwise directed by Refuge Biologist.

C. Any non-merchantable trees of any size within 30 feet of a wildlife tree (standing snags (dead or hollow live) 10 inches or greater d.b.h.) need not be cut unless otherwise directed by Refuge biologist.

2. During a selective harvest, permittees must cut all trees marked for removal and only those marked.

3. Stump heights shall not exceed six (6) inches, except where obvious obstacles, problems with terrain, swell of roots, or similar hindrances do not permit such a low cut. Snow shall be removed as necessary to comply with this requirement.

4. Outside of areas designated for clear cutting and log landings, insofar as ground conditions permit, trees shall not be skidded against residual trees or trees marked to be left uncut.

5. Travel and skidding across previously harvested areas will be kept to a minimum. Routes across these areas must be approved by the refuge's designated agent.

C. Condition of Roads and Facilities

Permittee agrees, at his or her expense, to construct roads and/or skidder trails in accordance with the appropriate rules of the State of New York Land Use Regulation Commission and/or Department of Environmental Conservation BMP, and any applicable municipal ordinances.

Harvesting activities may be restricted during wet conditions to avoid excessive damage to roads or clear-cut areas. Permittees will be notified in person or by phone when this determination is made.

Permittee agrees to maintain and leave existing interior refuge roads, fences, gates, signs, and any other government property or facilities in the same or better condition than when harvesting began. All damaged property or facilities must be repaired, replaced, or restored, at the permittee's expense, per the designated agent's specifications.

The size of landings shall not exceed that necessary for safe and efficient skidding and loading operations. Wherever possible, landings should be established within the harvest blocks. The designated agent must approve the location and size of all landings prior to the beginning of harvest operations.

It is the responsibility of the permittee to abide by weight restrictions which may be placed on certain local or State roadways.

D. Slash

Permittee is responsible for ensuring that no slash remains within twenty-five (25) feet of adjoining private property, national natural landmark or research natural area boundary lines, railroad rights-of-way, and electric power or telephone lines.

Slash and debris (tops, limbs, logs) resulting from the harvest operation may not be left in piles on the landings, or within the harvest blocks. This material should be skidded back onto the harvest unit and evenly distributed across the unit.

E. Litter/Pollution Avoidance

Permittee shall not discard or otherwise dispose of litter on refuge or private property, into waters of the refuge or State or on ice of such waters, or upon any adjacent highway or public way, and shall be

responsible for off-site disposal of garbage and refuse generated by forest operations in a lawful manner. Litter includes all waste materials, including bottles, cans, machine parts and equipment, tires, junk, paper, garbage and similar refuse. Waste of the primary processes of forest product harvesting, such as sawdust and slash are not considered litter.

Permittees shall not service skidders, trucks, or other equipment at locations where pollution of the waters of the refuge and/or State of New York is likely to occur. Any oil, grease, hydraulic fluid, or other materials that leak from the permittee's equipment must be immediately cleaned up using appropriate oil-absorbing pads or towels. Equipment should be maintained to the extent that there are no leaks of contaminants. Any leaks or spills must be reported to the refuge immediately.

F. Firearms and Alcoholic Beverages

The use or possession of all firearms, weapons, and alcoholic beverages on the refuge is prohibited at all times, except that the possession of firearms for hunting during an open season in an area open to hunting is permitted, subject to refuge regulations and State law.

G. Fire Suppression

Permittee shall comply with all forest fire suppression laws of the State of New York.

Each piece of equipment on the harvest site must be equipped with a 5 pound or larger type BC fire extinguisher.

H. General Compliance with Forestry, Land Use, and Environmental Laws

Permittee shall comply with all laws, ordinances, and regulations of the municipality where the harvest unit is located, the Towns of Alabama and Shelby, the State New York, and of the United States, relating to timber cutting; removal and disposal of slash, debris and litter; construction of roads, trails and landings; protection of streams, rivers and other waters of the refuge and State of New York; soil erosion; and all other laws regulations and ordinances pertaining to forest product harvest operations and their effect on the environment and land use, including but not limited to the applicable standards of the Land Use Regulation Commission and rules. Best management practices as published in NY State Department of Conservation Best Management Practices for Water Quality, BMP Field Guide (2007) and NY State DEC Timber Harvesting Guidelines (<http://www.dec.ny.gov/lands/5240.html>) will be implemented.

Permittee warrants that the refuge manager or his designee will be immediately notified on any occasion that a potential violation of the laws governing the harvest operation has occurred.

VI. Default/Enforcement of Obligations

Upon the occurrence of any event of default by Permittee, the refuge manager or his designee may, at any time thereafter, do any or all of the following:

- A. For good cause, to halt the Permittee's harvest operations and terminate the Special Use Permit, if in the opinion of the refuge manager or his designee, the Permittee is breaching the terms and conditions of the Permit.
- B. Enter into the harvest unit and take possession of all forest products remaining on the unit.
- C. Grant other permits to third parties to complete the harvesting specified in the Permit in the event of termination of the Permit or for unexcused harvesting stumpage by permittee.

- D. Take corrective action as the refuge manager or his designee deems necessary to abate erosion or damage to the harvest area, and to remove slash, litter and abandoned property of the Permittee, at the Permittee's cost.
- E. Enjoin any activity of the Permittee in default of the conditions of the Special Use Permit, and/or seek any other judicial or administrative remedy available to the refuge manager at law or in equity.

Permittees must contact the designated agent 14 days prior to the anticipated completion of harvest operations to arrange for an inspection. Upon the termination or completion of the Special Use Permit, the refuge's designated agent shall examine the harvest unit and access roads, gates, and other facilities, and report to the Permittee any failure on their part to comply with the conditions, terms, and specifications of the Special Use Permit Conditions.

VII. Insurance

Permittee shall provide and maintain, during the term of the harvest operation, insurance as follows:

- A. Worker's Compensation and Employer's Liability Insurance
 - 1. Permittee shall obtain and maintain during the term of the harvest operation, Worker's Compensation Insurance covering all its employees and any others performing work under this Special Use Permit, with coverage set forth in New York Statutes, and Employer's Liability Insurance covering all such persons; **or**
 - 2. The permittee shall supply a signed statement to the refuge manager that he or she is an independent contractor. As an independent contractor he will not hire any employees to assist in the wood harvesting without first providing the required certificate of insurance to the landowner. The refuge manager will obtain a declaration of independent status of the permittee from the Worker's Compensation Board.

- B. Public Liability and Property Damage Insurance

The Permittee shall take out and maintain during the term of the Special Use Permit, Public Liability and Property Damage Insurance to protect against claims for damages for bodily injury, including personal injury to or destruction of property which may arise from operations performed under this Special Use Permit. The minimum amounts of such insurance shall be as follows:

Bodily Injury Liability	\$100,000 each person \$500,000 each occurrence
Property Damage Liability	\$100,000 each occurrence

Permittees will be required to submit proof that they meet insurance requirements prior to issuance of the Special Use Permit.

VIII. Assignment

Permittee may not assign the Special Use Permit to another party.

IX. Modification of Agreement/Special Use Permit

The Special Use Permit and this listing of conditions may only be amended by a written statement which must be signed by the Permittee and the refuge manager or designated agent. Failure to comply with any conditions of the Special Use Permit may result in revocation of the permit and the loss of the privilege to engage in commercial forest management on the refuge in the future.

Attachment 3

(for Commercial Forest Management Compatibility Determination)

Potential Strategies for Commercial Forest Management

Strategies for Northern Hardwood Habitat Type (including hemlock areas)

- Maintain natural community characteristics of northern hardwoods by single-tree or group selection cutting;
- The size of each management unit, its silvicultural prescription and rotation age will determine size of each treatment action and the cutting interval.
- Maintain nut producing oaks and beech.
- Retain snags, cavity trees (4 of each >15 inch dbh), and downed woody debris.

Without Hemlock:

- single tree selection to maintain mature forest (consistent with natural disturbance patterns) and maintain a >60 percent overstory canopy closure;
- group selection to maintain mature forest while encouraging mid-tolerant species and creating small patches of early successional (up to 2 acres);

With Hemlock:

- single tree and group selection to maintain mature forest (consistent with natural disturbance patterns) and regenerate hemlock (0.1 acre or less);
- retain individual trees and groups of hemlock within northern hardwoods to provide important food and cover.

Strategies for Oak-Hickory Habitat Type

- Maintain natural community characteristics of the oak-hickory forest by single-tree group selection or shelterwood cutting;
- The size of each management unit, its silvicultural prescription and rotation age will determine size of each treatment action and the cutting interval.
- Maintain nut producing oaks and beech.
- Retain snags, cavity trees (4 of each >15 inch dbh) and downed woody debris.
- To regenerate oaks, when overstory oaks are present, use shelterwood cutting where BA of 70 is left after cutting takes place; removing undesirable trees and low quality oaks first.

Strategies for Early Successional Areas

- In early successional areas (to be determined in HMP), use accepted silvicultural practices to create openings, understory development and early successional habitat for American woodcock, field sparrows, and golden-winged warblers.
- We will use group selection, clearcuts or patch cuts of up to 5 acres in size. We may also maintain some larger, roosting fields. Cutting cycles will be approximately 8 to 10 years on a 40-year rotation.

- We may permanently maintain some large openings (through grassland management), primarily by mowing and brush clearing using mechanized equipment for species like American woodcock, adjacent to early successional areas.
- We will perpetuate aspen-birch communities in early successional management areas, when possible.

Strategies for Conifer Plantations

Eliminate all conifer plantations by:

- clear cutting – removal of all trees in plantation;
- shelterwood cut – removing part of stand to allow natural regeneration and then coming back to remove the remaining stand at a later date and/or
- girdling - determine best girdling regime to reduce introduction of invasive species.

Regenerate to native forest communities by:

- natural regeneration and/or
- seedling planting.

Potential Strategies for Forested Wetland Management (Non-Commercial)

Strategies for Forested Wetlands (including Oak Orchard NNL and Milford Posson RNA)

- Improve habitat structure through stand improvement operations for focal species. We will favor mast producing species during stand improvements, although it is not our intent to eliminate all other hardwood types.
- No commercial harvesting will take place in forested wetlands.
- Regenerate this habitat type through accepted silvicultural practices. Methods will include using single tree or group selection and treatments timed to optimize the ability of the site to regenerate softwood.
- The size of each management unit, its silvicultural prescription and rotation age will determine the size of each treatment and the cutting interval.

COMPATIBILITY DETERMINATION

USE: Furbearer Management – Economic Use

REFUGE NAME: Iroquois National Wildlife Refuge

DATE ESTABLISHED: May 19, 1958

ESTABLISHING AUTHORITY: Migratory Bird Conservation Act (16 U.S.C. 715d)

PURPOSE(S) FOR WHICH ESTABLISHED:

...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds...
16 U.S.C. § 715d (Migratory Bird Conservation Act)

MISSION OF THE NATIONAL WILDLIFE REFUGE SYSTEM:

To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

DESCRIPTION OF USE:

(a) What is the use? Is the use a priority public use?

The use is furbearer management. Furbearer management through trapping is an existing economic use of the refuge's natural resources. Pursuant to refuge regulations at 50 C.F.R. 29.1, this is considered to have economic value because the fur can be sold and we must determine if furbearer removal by private parties is compatible with and contributes to the refuge purposes or the mission of the Refuge System. Trapping is used on the refuge to keep populations of furbearers in check protecting refuge structures (dikes and water control structures) and to decrease predation on nesting migratory birds. The trapping program is described in the Annual Trapping Plan. Over the last 10 seasons, an average of 23 marsh trapping permits and 24 upland trapping permits were issued. Reports indicate that every year some trappers who receive permits do not actually trap. The average actual number of trappers in the field each year is approximately 25 total for both marsh and upland trapping. Although a wildlife activity, it is not a priority public use.

(b) Where would the use be conducted?

Trapping will be permitted in most areas of the refuge. Occasionally, marsh trapping is not permitted in certain areas to allow muskrat populations to increase to help create more desirable wetland conditions. Additionally, marsh trapping in some wetlands is occasionally restricted to certain areas (e.g., along dikes) to lower muskrat populations in an attempt to reduce damage to refuge infrastructure. A description of authorized trapping areas is provided to trappers with their trapping permit. Occasionally, certain areas will be closed due to construction activities or biological need to allow furbearer populations (primarily muskrats) to increase.

To reduce potential conflict, trapping will not be permitted in the waterfowl hunt areas during the refuge's waterfowl season, designated nature trails, or administrative areas including the refuge office, refuge quarters, and Iroquois Job Corps Center.

(c) When would the use be conducted?

Trapping will be conducted under New York State regulations, typically in the fall and winter. This corresponds with the period when pelts of furbearers are prime and when the use will not affect nesting migratory birds. Trapping for upland species including raccoon, fox, skunk, opossum, coyote, and weasel is from late October through mid-February, trapping for muskrats and mink is from late-November through mid-February, and trapping for beavers is from mid-December through mid-January. These are general season periods and may change as New York State regulations change. Additionally, marsh trapping in areas where waterfowl hunting occurs does not open until after the refuge waterfowl hunting has completed.

(d) How would the use be conducted?

Trapping will be conducted via a permit that requires the trapper to follow State of New York regulations and refuge specific regulations. Interested individuals will be issued a refuge Special Use Permit and we will issue a maximum of 50 trapping permits for both upland and marsh trapping. Permits for marsh furbearers will cost \$50.00 and permits for upland furbearers will be free. Any furbearer species that can be legally harvested under New York State regulations can be trapped on the refuge unless special refuge regulations are in effect. The refuge manager reserves the authority to regulate the number of furbearers taken in any zone or throughout the season and to enact specific refuge trapping regulations.

Anyone issued a trapping permit is required to submit a monthly trapping report. The information on this report includes the number of days that the trapper trapped and the species and number of animals harvested, as well as any non-target animals that might have been caught. At the conclusion of the trapping season information from all trappers is collated and included in the refuge's Annual Trapping Program Report. If the trapper fails to return trapping reports, we will not issue them a permit for the next year.

Furbearer populations and/or habitat conditions will be assessed yearly so that recommendations for the next year's trapping regulations can be determined. This is especially critical for muskrat populations because of the damage they can cause to refuge infrastructure and their significance to marsh management. In some years the refuge may not allow trapping, if for example muskrat populations show a significant decrease.

Refuge specific regulations include, but are not limited to:

1. Permittee must personally tend his/her traps unless otherwise authorized by the refuge manager.
2. A maximum of 25 traps and stakes may be used by each permittee.
3. All traps must have a tag affixed that shows the permittee's name and address.
4. Permittee must submit a monthly report to the refuge even if no animals were taken that month. Failure to do so will result in loss of trapping privileges the following year.
5. All trap location markers (flagging, etc) must be removed within five (5) days of completion of trapping.
6. Dead muskrats found in the marsh should be promptly turned in to the refuge headquarters for analysis by the state for possible disease.
7. Un-motorized boats are permitted on Oak Orchard Creek only, between Knowlesville Road and Route 63.
8. No dogs are allowed.
9. Permit must be in trapper's possession.

10. Incidental take of non-target species needs to be reported to the refuge manager within one (1) day of capture.
11. Traps are required to be a minimum of 10 feet from the edge of public trails, service roads, top edge of dikes, or any cut path (i.e., paths to waterfowl hunt stands, etc.) where people may be walking or staff may be driving.
12. No water sets are permitted by upland trappers.
13. All trappers during any firearms deer seasons must wear in a conspicuous manner on head, chest, and back a minimum of 400 square inches of solid-colored hunter orange clothing or material and must be visible for 360 degrees.

(e) Why is this use being proposed?

Furbearer management will be conducted first and foremost as a tool to maintain habitat and keep the predator prey balance. The implementation of a regulated furbearer management program on the refuge also affords a potential mechanism to collect survey and monitoring information, or contribute to research on furbearer (and other wildlife) occurrence, activity, movement, population status, and ecology. By maintaining a trained and experienced group of trappers, the Service can utilize their skills and local knowledge to perform or assist with valuable management or research functions. Trappers that participate in the refuge program will provide assistance with the implementation of structured management objectives, such as alleviation or reduction of wildlife damage conflicts, negative species interactions, and habitat modifications. Refuge trappers typically have a stake in proper habitat and wildlife conservation, and protection of the ecological integrity of the refuge so that their activity can continue. Accordingly, they are valuable assets to the refuge manager in terms of providing on-site reports concerning the fundamental status of habitat, wildlife, and refuge conditions.

Removal of harvestable furbearers will have a beneficial effect by protecting refuge infrastructure such as dikes and water control structures from damage, thus ensuring management capabilities over wetlands. It will also help the refuge to achieve the objectives outlined in the Annual Habitat Work Plan. Decreasing predators will decrease the potential for predation on nesting migratory birds. In addition, reducing predator densities can reduce the spread of some density dependent diseases such as distemper, parvo, and rabies.

Furbearer management is not a priority public use; however it facilitates priority public uses on the refuge as well as contributing to the purpose of the refuge by regulating the populations of species to ensure quality habitat conditions and maintain mission critical infrastructure.

AVAILABILITY OF RESOURCES:

During calendar years 2008 and 2009, there were 28 (17 upland and 11 marsh) and 25 (14 upland and 11 marsh) trapping permits issued, respectively. Time spent reviewing, issuing, and overseeing permit holders will be minimal for refuge staff, and therefore resources are available under current staffing and budgets. Additionally, maintaining adequate levels of furbearers on an annual basis will help ensure major failures in refuge infrastructure do not occur, thus reducing large expenditures of funds to repair infrastructure.

The following breakdown shows the estimated funds needed to administer the program.

Annual costs of furbearer management:

Identifier	Cost
Trail/road maintenance*	\$720
Surveys, data analysis, recommendations, reporting	\$1,580
Trapper compliance	\$1,000
Permitting, news release, fact sheets	\$1,000
Total Annual Cost	\$4,300

** Refuge trails and roads are maintained for a variety of activities. Costs shown are a percentage of total costs for trail/road maintenance on the refuge and are reflective of the percentage of trail/road use for this activity. Volunteers account for some maintenance hours and help to reduce overall cost of the program.*

ANTICIPATED IMPACTS OF USE:

The impacts of furbearer management on the purposes of the refuge and the mission of the Refuge System can be either direct or indirect, and may have negative, neutral or positive impacts on refuge resources.

Wetlands and wetland plants: Removing plant-eating species, such as beaver and muskrat, can have a positive and negative impact on refuge resources. These species dig bank dens into refuge dikes and embankments. These dens and holes must be filled to prevent the compromise of the dikes. The costs to repair the damage to these structures can be reduced by managing beaver and muskrat populations at levels through a furbearer management program.

Muskrats can enhance habitats in many ways. The house and dens that muskrats build are from aquatic vegetation. This removal creates openings for fish, waterfowl and other migratory birds. These benefits minimize the need to commit refuge resources to achieve quality habitat conditions. However, over population of muskrats can devoid a marsh of needed perennial vegetation, like cattail, if populations are left unchecked.

Furbearers: Impacts to furbearers from a furbearer management program are obvious. Trapping will remove individuals. The anticipated direct impacts of trapping on furbearers will be a reduction of the furbearer populations in those areas with harvestable furbearers. Their removal will maintain furbearer populations at levels compatible with the habitat and with refuge objectives, minimize furbearer damage to facilities and wildlife habitat, minimize competition with or interaction among wildlife populations and species that conflict with refuge objectives, and minimize threats of disease to wildlife and humans.

Migratory birds: Indirect impacts may include displacing migratory birds from their resting areas on the refuge during migration. Migratory birds will not be impacted during the pair bonding/nesting season because trapping will not occur during this time period. Reductions in the populations of nest predators, such as raccoon, have positive impacts on nesting birds. The degree to which predator management benefits migratory bird production can vary widely depending on the timing of the removal of predators, the size of the habitat block, habitat isolation, and adjacent land use.

Several studies have examined the effects of recreationists on birds using shallow-water habitats adjacent to trails and roads through wildlife refuges and coastal habitats in the eastern United States (Burger 1981; Burger 1986; Klein 1993; Burger et al. 1995; Klein et al. 1995; Rodgers & Smith 1995, 1997; Burger &

Gochfeld 1998). Overall, the existing research clearly demonstrates that disturbance from recreation activities always have at least temporary effects on the behavior and movement of birds within a habitat or localized area (Burger 1981, 1986; Klein 1993; Burger et al. 1995; Klein et al. 1995; Rodgers & Smith 1997; Burger & Gochfeld 1998). The findings that were reported in these studies are summarized as follows in terms of visitor activity and avian response to disturbance.

Presence: Birds avoided places where people were present and when visitor activity was high (Burger 1981; Klein et al. 1995; Burger & Gochfeld 1998).

Distance: Disturbance increased with decreased distance between visitors and birds (Burger 1986), though exact measurements were not reported.

Approach Angle: Visitors directly approaching birds on foot caused more disturbance than visitors driving by in vehicles, stopping vehicles near birds, and stopping vehicles and getting out without approaching birds (Klein 1993). Direct approaches may also cause greater disturbance than tangential approaches to birds (Burger & Gochfeld 1981; Burger et al. 1995; Knight & Cole 1995a; Rodgers & Smith 1995, 1997).

Type and Speed of Activity: Joggers and landscapers caused birds to flush more than fishermen, clammers, sunbathers, and some pedestrians, possibly because the former groups move quickly (joggers) or create more noise (landscapers). The latter groups tend to move more slowly or stay in one place for longer periods, and thus birds likely perceive these activities as less threatening (Burger 1981, 1986; Burger et al. 1995; Knight and Cole 1995a). Alternatively, birds may tolerate passing by with unabated speed whereas if the activity stops or slacks birds may flush (Burger et al. 1995).

Noise: Noise caused by visitors resulted in increased levels of disturbance (Burger 1986; Klein 1993; Burger & Gochfeld 1998), though noise was not correlated with visitor group size (Burger & Gochfeld 1998).

In determining compatibility, the cumulative effects of all public uses are considered. Due to the limitations put on these activities, as well as the season of use, disturbance from trappers is not expected to significantly increase the disturbance to wildlife. Trappers are afield during a period of the year when nearly all wildlife breeding activity has ceased. Additionally, much of the marsh trapping activity occurs when refuge wetlands are iced over and very little wildlife are using the area.

PUBLIC REVIEW AND COMMENT:

As part of the CCP process for Iroquois Refuge, this compatibility determination underwent a comment period of 30 days concurrent with the release of our draft CCP for Iroquois Refuge.

DETERMINATION (check one below):

THIS USE IS COMPATIBLE

THIS USE IS NOT COMPATIBLE

STIPULATIONS NECESSARY TO ENSURE COMPATIBILITY:

- New York State trapping seasons, methods, and other regulations are strictly adhered to.

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- Belanger, L. and J. Bedard. 1990. Energetic cost of man-induced disturbance to staging snow geese. *J. Wildl. Manage.* 54:36.
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