

Appendix B



USFWS

A view of the Wallkill River in early fall, as the trees are starting to change color.

Appropriate Use and Compatibility Determinations

- Introduction
- Findings of Appropriateness
- Compatibility Determinations
- Pre-Acquisition Compatibility Determinations

Appropriate Use and Compatibility Determinations

Introduction	B-1
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Findings of Appropriateness

Livestock Grazing	B-3
Dog Walking	B-5
Haying	B-7
Mosquito Control	B-13
Research Conducted by Non-Service Personnel	B-15
Motorized and Non-Motorized Boating	B-17

Compatibility Determinations

Public Hunting for Deer, Turkey and Woodcock	B-19
Public Hunting for Migratory Birds	B-25
Black Bear Hunting	B-31
Public Fishing	B-39
Wildlife Observation & Photography and Environmental Education & Interpretation	B-43
Cross-country Skiing and Snowshoeing	B-53
Livestock Grazing	B-59
Motorized and Non-Motorized Boating	B-65
Haying	B-69
Mosquito Management	B-77
Research Conducted by Non-Service Personnel	B-85
Furbearer Management	B-89
Dog Walking	B-95

Pre-Acquisition Compatibility Determinations

Public Hunting	B-101
Public Fishing	B-105
Wildlife Observation & Photography and Environmental Education & Interpretation	B-109

Introduction

❖ About the Appropriate Refuge Uses Policy

This policy describes the initial decision process the Refuge Manager follows when first considering whether or not to allow a proposed use on a refuge. The Refuge Manager must find a use is appropriate before undertaking a compatibility review of the use. This policy clarifies and expands on the compatibility policy (603 FW 2.10D(1)), which describes when Refuge Managers should deny a proposed use without determining compatibility. If we find a proposed use is not appropriate, we will not allow the use and will not prepare a compatibility determination.

By screening out proposed uses not appropriate to the refuge, the Refuge Manager avoids unnecessary compatibility reviews. By following the process for finding the appropriateness of a use, we strengthen and fulfill the Refuge System mission. Although a refuge use may be both appropriate and compatible, the Refuge Manager retains the authority to not allow the use or modify the use. For example, on some occasions, two appropriate and compatible uses may be in conflict with each other. In these situations, even though both uses are appropriate and compatible, the Refuge Manager may need to limit or entirely curtail one of the uses in order to provide the greatest benefit to refuge resources and the public. See the compatibility policy (603 FW 2.11G) for information concerning resolution of these conflicts.

For proposed uses not considered during the preparation of this CCP, we will apply the procedure contained in this policy and make an appropriateness finding without additional public review and comment. However, if we find a proposed use is appropriate, we must still determine that the use is compatible. The compatibility determination includes an opportunity for public involvement. See the planning policy (602 FW 1, 3, and 4) for detailed policy on refuge planning.

❖ About Compatibility Determinations

The Refuge Improvement Act and its regulations require an affirmative finding by the Refuge Manager of the compatibility of an activity before it is allowed on a national wildlife refuge. This finding is documented in a report called a “compatibility determination.” A compatible use is one “...that will not materially interfere with or detract from the fulfillment of the mission of the Refuge System or the purposes of the refuge” (Refuge Improvement Act). The Act defines six priority, wildlife-dependent uses that are to receive our enhanced consideration on refuges: hunting, fishing, wildlife observation and photography, and environmental education and interpretation. These priority uses may be authorized on a refuge when they are compatible and not inconsistent with public safety.

At the time the compatibility determination is made, the Refuge Manager will insert the required maximum 10-year re-evaluation date for uses other than wildlife-dependent recreational uses, or a 15-year maximum re-evaluation date for wildlife-dependent recreational uses. However, the Refuge Manager may re-evaluate the compatibility of a use at any time (602 FWS 2, Parts 2.11 and 2.12). For example, a decision may be revisited sooner than the mandatory date, or even before the CCP process is completed, if new information reveals unacceptable impacts or incompatibility with refuge purposes.

Moreover, not all uses that are determined compatible may be allowed. The Refuge Manager has the discretion to allow or deny any use based on other considerations such as public safety, policy, or available funding. Nevertheless, all uses that are allowed must be determined compatible. Except for consideration of consistency with state laws and regulations as provided for in subsection (m) of the Act, no other determinations or findings are required to be made by the refuge official under this Act or the Refuge Recreation Act for wildlife dependent recreation to occur.

Please note that archaeological and historic structure research the Service conducts itself does not need a compatibility determination. However, archaeological research by non FWS personnel on refuge property will need a compatibility determination. Such other projects require an Archaeological Resource Protection Act (ARPA) Permit application to the Regional Historic Preservation Officer and a Special Use Permit from the Refuge Manager. Compatibility can be determined at that time.

Finding of Appropriateness of a Refuge Use

Refuge Name: Wallkill River National Wildlife Refuge

Use: Livestock Grazing

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: _____

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: _____

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

Justification for a Finding of Appropriateness of a Refuge Use

Refuge Name: Wallkill River National Wildlife Refuge

Use: Livestock Grazing

Narrative

Grazing has been found to improve microtopography in bog turtle habitat. Bog turtle habitat is in an intermediate state of succession, and in some cases is threatened by invasive exotic plants (USFWS 2001). Unless natural processes (flooding by beaver, fire, grazing by wildlife, etc.) set succession back and exotic plants are controlled, the habitat may become less suitable, and eventually unsuitable, for bog turtles. Active management and maintenance, such as grazing, may be required at some sites to replace the natural processes that have been lost and to control exotic plants in order to restore or maintain habitat quality.

By controlling vegetation, grazing may also benefit grassland birds such as horned lark and vesper sparrow that prefer to nest in fields with short, sparse vegetation (Skinner et al. 1984, Herkert 1991, Herkert et al. 1993). Wakeley (1978), Baker and Brooks (1981), and Bechard (1982) demonstrated that tall, dense vegetation impedes the ability of several species of *Buteo* hawks to capture prey. Thus, grazing may also benefit wintering raptors by increasing availability of rodent prey.

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Finding of Appropriateness of a Refuge Use

Refuge Name: Wallkill River National Wildlife Refuge

Use: Dog Walking

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 _____

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Refuge Supervisor: _____ Date: _____

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

Justification for a Finding of Appropriateness of a Refuge Use

Refuge Name: Wallkill River National Wildlife Refuge

Use: Dog Walking

Narrative

The Appalachian Trail (AT) enters the refuge at the Liberty Loop Trail and follows the Liberty Loop Trail for about 2 miles. The AT then continues along Oil City Road to where it crosses the Wallkill River, continues on State Line Road, then onto Carnegie Street and reenters the forest.

Because the AT permits dog walking along most of its 2,100-mile route, through-hikers are permitted to walk their dogs on the part of the Liberty Loop Trail that coincides with the AT. However, local residents often park at the Liberty Loop Trail parking lot and walk their dogs along the entire Liberty Loop Trail, including the parts of the trail that are not open to dog walking. Having part of the trail open to dog walking and part of it closed to dog walking is confusing to the public and poses an enforcement issue for the refuge.

Finding of Appropriateness of a Refuge Use

Refuge Name: Wallkill River 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	

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Refuge Supervisor: _____ Date: _____

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

Justification for a Finding of Appropriateness of a Refuge Use

Refuge Name: Wallkill River National Wildlife Refuge

Use: Haying

Narrative

Grassland birds have declined more consistently and over a wider geographic area than any other group of North American birds over the last 30 years (Robbins et al. 1986, Askins 1993, Knopf 1995, Askins 1997, Sauer et al. 1997). As a result, most grassland birds appear on lists of rare and declining species (NYSDEC 1997, Pashley et al. 2000, U.S. NABCI Committee 2000, U.S. Fish and Wildlife Service 2002). Moreover, all of these species can be found at the refuge. However, without active management, refuge grasslands will soon become dominated by invasive species or dense shrubland (Mitchell and Shryer 2000). Without these high quality early and intermediate successional habitats, the refuge would no longer provide suitable habitat for grassland-dependent birds, wintering raptors or bog turtles.

Haying, combined with mowing, is a useful and effective grassland management technique (U.S. Fish and Wildlife Service 1982). Mitchell et al. (2000) state that haying and mowing are economic means of controlling the invasion of grasslands by forbs and woody plants. Further, haying is generally a more convenient technique to apply than prescribed fire or grazing. Herkert et al. (1993) recommend rotational haying and mowing as a grassland management alternative with subunits left idle. This strategy may provide a complex of grassland successional stages to meet the respective nesting requirements of a diverse species of grassland birds. More specifically, haying and mowing are recommended techniques for managing grasslands used by nesting northern harrier (Berkey et al. 1993, Dechant et al. 2001a), upland sandpiper (Kirsch and Higgins 1976, Dechant et al. 2001b), short-eared owl (Tate 1992, Dechant et al. 2001c), horned lark (Dinkins et al. 2001), grasshopper sparrow (Dechant et al. 2001d, Vickery 1996), Henslow's sparrow (Smith 1992, Herkert 2001), vesper sparrow (Camp and Best 1993, Dechant et al. 2001e), savannah sparrow (Swanson 2001), bobolink (Bollinger and Gavin 1992, Dechant et al. 2001f), and eastern meadowlark (Lanyon 1995, Hull 2000).

Bog turtle habitat is in an intermediate state of succession, and in some cases is threatened by invasive exotic plants (USFWS 2001). Unless natural processes (flooding by beaver, fire, grazing by wildlife, etc.) set succession back and exotic plants are controlled, the habitat may become less suitable, and eventually unsuitable, for bog turtles. Active management and maintenance, such as haying and mowing, may be required at some sites to replace the natural processes that have been lost and to control exotic plants in order to restore or maintain habitat quality.

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Finding of Appropriateness of a Refuge Use

Refuge Name: Wallkill River National Wildlife Refuge

Use: Mosquito Control

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: _____

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: _____

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

Justification for a Finding of Appropriateness of a Refuge Use

Refuge Name: Wallkill River National Wildlife Refuge

Use: Mosquito Control

Narrative

With the spread of West Nile virus and other mosquito-borne diseases across the country, national wildlife refuges may come under increasing pressure to work with other local and state agencies to manage mosquito populations. In addition to West Nile virus, there may be other human or wildlife health concerns from these mosquito populations.

On October 15, 2007 the Service published in the Federal Register its “Draft Mosquito and Mosquito-Borne Disease Management Policy Pursuant to the National Wildlife Refuge System Improvement Act of 1997.” Until the draft policy is final, we will follow the “Interim Guidance for Mosquito Management on National Wildlife Refuges,” prepared in spring 2005. This document provides refuges with interim guidance on addressing mosquito-associated health threats in a consistent manner. Like the draft policy, the guidance states that refuges will not conduct mosquito monitoring or control unless it is necessary and compatible to protect the health of a human, wildlife, or domestic animal population. If there is a declared health emergency, the Service will work with local and state mosquito managers to minimize any risks to human health.

Local mosquito control districts in the State of New Jersey want to fully implement mosquito control measures, including pesticide use, on refuge lands. The Service has been concerned with the direct and indirect impacts on other invertebrates that serve as a vital food source for birds, amphibians and reptiles. In an effort to work cooperatively with local officials and address their concerns, however, the refuge has issued a special use permit annually to the Sussex County Office of Mosquito Control to access the refuge to monitor larval and adult mosquitoes. The refuge, within the confines of policy and regulations, requires that any mosquito control have a basis in sound scientific methods. Dip counts and monitoring of populations are essential parts of any mosquito control program involving refuge lands. The refuge permits larvicides, but not adulticides.

The long-term solution to suppress mosquito populations at the refuge is to restore wetland hydrology in the habitats that produce the greatest abundance of mosquitoes. Fish play a major role in controlling mosquito populations, and the Service often restores wetlands in such a way that allows fish to feed on mosquito larvae, which then reduces mosquito populations.

Finding of Appropriateness of a Refuge Use

Refuge Name: Wallkill River National Wildlife Refuge

Use: Research Conducted by Non-Service Personnel

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: _____

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: _____

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

Justification for a Finding of Appropriateness of a Refuge Use

Refuge Name: Wallkill River National Wildlife Refuge

Use: Research Conducted by Non-Service Personnel

Narrative

The Service encourages and supports research and management studies on refuge lands that will improve and strengthen decisions on managing natural resources. The refuge manager encourages and seeks research that clearly relates to approved refuge objectives, improves habitat management, and promotes adaptive management. Priority research addresses information on better managing the Nation’s biological resources that generally are important to agencies of the Department of Interior; the National Wildlife Refuge System, and State Fish and Game Agencies that address important management issues, or demonstrate techniques for managing species or habitats.

Researchers will submit a final report to the refuge on completing their work. For long-term studies, we may also require interim progress reports. We expect researchers to publish in peer-reviewed publications. All reports, presentations, posters, articles or other publications will acknowledge the Refuge System and the Wallkill River refuge as partners in the research. All posters will adhere to Service graphics standards. We will insert this requirement to ensure that the research community, partners, and the public understand that the research could not have been conducted without the refuge having been established, its operational support, and that of the Refuge System.

Finding of Appropriateness of a Refuge Use

Refuge Name: Wallkill River National Wildlife Refuge

Use: Motorized and Non-Motorized Boating

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: _____

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: _____

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

Justification for a Finding of Appropriateness of a Refuge Use

Refuge Name: Wallkill River National Wildlife Refuge

Use: Motorized and Non-Motorized Boating

Narrative

Motorized and non-motorized boating will increase refuge visitors' opportunities for wildlife observation and wildlife photography. Non-motorized boating, more specifically, will provide a means for hunters and fisherman to reach designated areas during regulated seasons. Although motorized and non-motorized boating may not be a priority public use, they will facilitate participation in priority wildlife-dependent recreation including all six of the National Wildlife Refuge System's "big 6" activities.

Compatibility Determination

Use

Public Hunting for Deer, Turkey and Woodcock

Refuge Name

Wallkill River National Wildlife Refuge

Establishing and Acquisition Authority

Wallkill River National Wildlife Refuge was established on November 16, 1990 by authorizing legislation Public Law 101-593.

Refuge Purpose(s)

(1) to preserve and enhance the refuge lands and waters in a manner that will conserve the natural diversity of fish, wildlife, plants, and their habitats for present and future generations; (2) to conserve and enhance populations of fish, wildlife, and plants within the refuge, including populations of black ducks and other waterfowl, raptors, passerines, and marsh and water birds; (3) to protect and enhance the water quality of aquatic habitats within the refuge; (4) to fulfill international treaty obligations of the United States with respect to fish and wildlife and their habitats; and (5) to provide opportunities for compatible scientific research, environmental education, and fish- and wildlife-oriented recreation. 104 Stat. 2955, dated Nov. 16, 1990.

“...the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions...”16 U.S.C. 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986)

“for the development, advancement, management, conservation, and protection of fish and wildlife resources...” 16 U.S.C. 742f(a)(4) “for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude...” 16 U.S.C. 742f(b)(1) (Fish and Wildlife Act of 1956)

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

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System is “to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”

Description of Use

(a) What is the use? Is the use a priority public use? Primary Use: The primary use is public hunting for deer, turkey and woodcock. (Black bear hunting is covered in a separate compatibility determination.) Hunting is a priority 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 National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57).

Supporting Uses: Boating (motorized and non-motorized)

(b) Where would the use be conducted? Hunting for deer, turkey and woodcock occurs throughout the New Jersey portion of the refuge on Service-owned lands, except where identified as a threat to safety or wildlife management concerns (map B-1). In particular, hunting is not allowed in the 335-acre Liberty Marsh complex.

Annual hunt plans and updated maps would show what areas are closed in any particular year. Currently no hunting is allowed on Service-owned lands in the State of New York; however, with the acquisition of additional lands in that state, the refuge may consider opening those lands to hunting, based on regulatory requirements.

(c) When would the use be conducted? Hunting for deer, turkey and woodcock will be conducted during New Jersey State seasons for those species, in accordance with federal and state regulations, unless safety or overriding resource concerns would make hunting incompatible. In cooperation with the State of New Jersey, we may adjust hunt season dates and bag limits in the future as needed to achieve balanced wildlife population levels within habitat carrying capacities.

(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. No change from the existing hunt program for deer, turkey or woodcock is proposed. 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 within the limits of state law. We would restrict hunting if it becomes inconsistent with other, higher priority refuge programs or endangers refuge resources or public safety.

Boat access for hunting is available at a number of locations throughout the refuge. Game stocking and night hunting would be prohibited.

To minimize visitor conflicts, the refuge closes some trails to the public during the shotgun season for deer.

(e) Why is this use being proposed? Hunting is a priority public use defined by The National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997. If compatible, hunting is to receive enhanced consideration over other general public uses in refuge planning and management.

In northwestern New Jersey, where the refuge is located, hunting is an historic, traditional, sustainable activity.

A refuge hunt program also helps cull certain wildlife populations, such as whitetail deer. An overabundance of deer yields intensive browsing which has direct negative impacts to plant communities. In particular, the structural complexity of the forest understory and shrub-dominated areas is improved. Over-browsing also yields vegetation monotypes composed only of the plants that are unpalatable to deer. Over-browsing also causes indirect impacts to refuge fauna. The decrease of species and structural diversity in refuge plant communities yield degraded habitat for a wide diversity refuge wildlife. Further, providing an opportunity to hunt at the refuge promotes stewardship of our natural resources and increase public appreciation and support for the refuge.

Availability of Resources

The hunt program at Wallkill River refuge will require the following staff resources:

Biology (planning, monitoring, reporting) (.1875 FTE).....	\$9,000
Law Enforcement (.1875 FTE)	\$9,000
Maintenance (parking areas, signs) (.075 FTE).....	\$3,750
Administration (permits, public relations)	
- Administrator (.30 FTE)	\$9,000
- Refuge Manager (.0375 FTE)	\$3,000
Materials.....	<u>\$3,750</u>
TOTAL.....	\$37,500

Anticipated Impacts of the Use

Because the refuge has been open to hunting since 1993, and hunting occurred in the Wallkill area for decades 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 hunting pressure is moderate, occurs outside the breeding season, and specific refuge regulations prohibit the use of ATVs and permanent tree stands, which are most likely to damage vegetation. Hunting also helps to keep populations of browsing species such as deer within the carrying capacity of the habitat, thus reducing excessive damage to vegetation caused by over-browsing, and maintaining understory habitat for other species.

Our deer seasons generally consist of these dates: (based on 2006-07 New Jersey state seasons):

Deer:	
Fall Bow	Sept. 9 – Sept. 29
Permit Bow	Oct. 28 – Dec. 23 & Dec. 26 – Dec. 31
Permit Muzzleloader	Nov. 27, 28 & Dec. 11, 12, 16-23, 26-31 & Jan. 1-5
Six Day Firearm	Dec. 4 – 9
Permit Shotgun	Dec. 13-15 & Jan. 6 – 13
Winter Bow	Jan. 1 – 31

There are approximately 163 days open to deer hunting. The refuge issues between 400 and 580 permits each year to deer hunters. The average take of deer each year on the refuge is 70 animals. All deer hunters are required to check their animals at a state-administered check station. State biologists track deer harvests throughout New Jersey, and adjust season and bag limits accordingly. In general, the allowed take is two antlered deer per day with the potential for incentive deer based on hunter performance. The refuge is located in Deer Management Zone #2, where the total deer harvest for 2005–2006 was 2,446 animals. The refuge hunt constitutes a small percentage of the overall annual harvest, and therefore has little impact on local or regional deer populations.

There are approximately 41 days open to turkey hunting (35 in spring season and 6 in fall season) annually. The seasons are generally:

Spring Turkey	April 16 – May 25
Fall Turkey	Oct. 29 – Nov. 3

By the mid-1800s, turkeys had disappeared from New Jersey due to changing habitat and over-harvesting for food (http://www.nj.gov/dep/fgw/turkey_info.htm). Division biologists, in cooperation with the *NJ Chapter of the National Wild Turkey Federation*, reintroduced wild turkeys in 1977 by releasing 22 birds. In 1979, biologists and technicians began to live-trap and relocate birds to establish populations throughout the state. By 1981, the population was able to support a spring hunting season, and in December 1997, a limited fall season began. Wild turkeys now abound throughout the state, wherever there is suitable habitat. The estimated state population is between 20,000 and 23,000, with an annual harvest of more than 3,000 statewide. The refuge sells approximately 130 turkey permits per year, with an average of about 10 turkeys harvested per year, representing only 0.0005 percent of the total state population. The allowed take for this species follows New Jersey hunting regulations, which may change. However, for the 2007-08 season, the limit for turkey was one per day.

Woodcock season is generally Oct. 19 – Nov. 11, with approximately 24 days open annually to woodcock hunting. New Jersey has two woodcock hunting zones, north and south of Route 70, respectively. Of the 3,794 woodcock taken during the 2005–2006 hunt season, North Zone hunters took 65 percent (2,450), South Zone hunters took 19 percent (711), and hunters that pursued woodcock in both zones took 17 percent (632). No specific figures are available for how many woodcock were taken on the refuge. Fewer than 90 hunters participated each year in the refuge’s woodcock hunting seasons 2003-4 and 2006-7. The allowed take for this species follows New Jersey hunting regulations, which may change. However, for the 2007-2008 season, the limit for woodcock was three per day.

The impacts of allowing hunting may include disturbance of non-target species in the course of tracking prey, trampling of vegetation, possible creation of unauthorized trails by hunters, littering and possible vandalism and subsequent erosion. Shotgun noise from hunting could cause some wildlife disturbance as well. However, reduction in the size of the deer herd will benefit deer and other species of wildlife by reducing competition for food, and by increasing the health of the remaining deer herd. Many landowners suffer landscape damage due to deer on a regular basis; transmission of Lyme disease becomes a major issue with large numbers of deer; deer starvation is a possibility when deer numbers are high as food supplies dwindle in bad weather; and deer-vehicle collisions become more common and problematic when deer herds are over-populated. Overall, the refuge expects a beneficial impact to the plants and wildlife of the refuge resulting from control of the deer herd.

Public Review and Comment

This draft compatibility determination will be made available for public review and comment for 30 days as an appendix to the draft Comprehensive Conservation Plan for Wallkill River National Wildlife Refuge.

Determination

_____ Use is not compatible

 X Use is compatible, with the following stipulations

Stipulations Necessary to Ensure Compatibility

Seasons and bag limits for deer, turkey and woodcock will be managed in accordance with Federal and State regulations.

The refuge's hunt program would be reviewed annually to ensure management goals are being achieved and to affirm that the hunt program is providing a safe, high quality hunting experience for participants. Hunt season dates, bag limits and/or number of hunters per day would be adjusted as needed to achieve balanced wildlife population levels within carrying capacities.

The hunt programs for migratory birds, turkey, deer, woodcock and resident geese can cause some soil compaction. With hunter density estimated to be an average of one hunter per 1,000 acres throughout the hunting season, impacts will be minimal. Refuge regulations would not permit the use of ATVs on the refuge. Vehicles would be confined to existing roads and parking lots.

To mitigate user conflicts that arise when we close the refuge to other public use during shotgun season for deer, we would issue news releases and post information at the Visitor Center and trail kiosks to notify visitors of closings. During the hunt season, we would make every attempt to provide a law enforcement presence to insure safety and compliance.

Justification

Hunting is a priority public use defined by The National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997. If compatible, hunting is to receive our enhanced consideration over other general public uses in refuge planning and management.

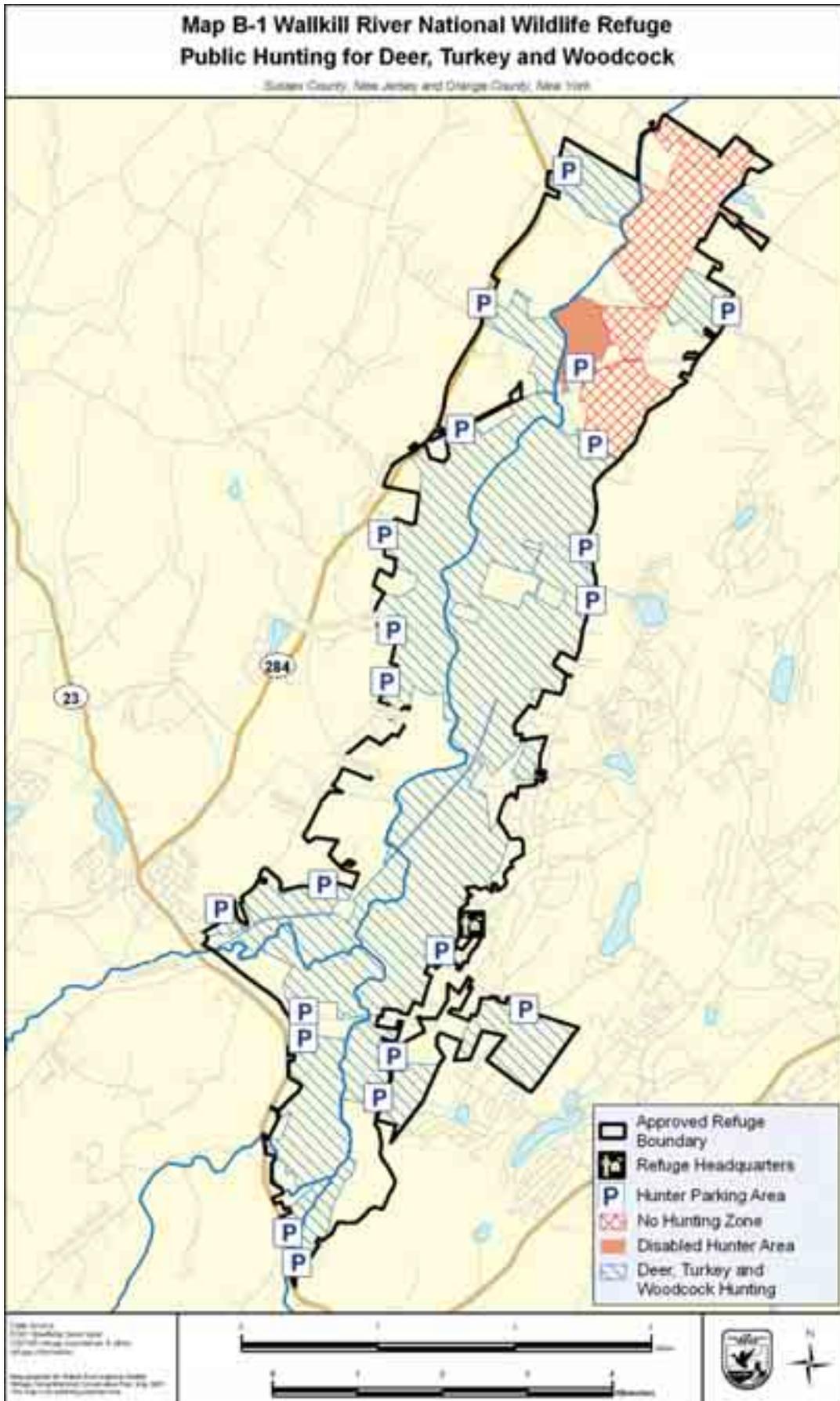
Hunting for deer, turkey and/or woodcock will not materially interfere with or detract from the mission of the Refuge System nor will it diminish the purposes for which the refuge was established. It will not cause an undue administrative burden. Annual adjustments can be made in the hunting program to ensure its continued compatibility.

Project Leader _____
(Signature) (Date)

Concurrence

Regional Chief _____
(Signature) (Date)

Mandatory 15-year re-evaluation date _____
(Date)



Compatibility Determination

Use

Public Hunting for Migratory Birds

Refuge Name

Wallkill River National Wildlife Refuge

Establishing and Acquisition Authority

Wallkill River National Wildlife Refuge was established on November 16, 1990 by authorizing legislation Public Law 101-593.

Refuge Purpose(s)

(1) to preserve and enhance the refuge lands and waters in a manner that will conserve the natural diversity of fish, wildlife, plants, and their habitats for present and future generations; (2) to conserve and enhance populations of fish, wildlife, and plants within the refuge, including populations of black ducks and other waterfowl, raptors, passerines, and marsh and water birds; (3) to protect and enhance the water quality of aquatic habitats within the refuge; (4) to fulfill international treaty obligations of the United States with respect to fish and wildlife and their habitats; and (5) to provide opportunities for compatible scientific research, environmental education, and fish and wildlife-oriented recreation. 104 Stat. 2955, dated Nov. 16, 1990.

“the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions....”16 U.S.C. 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986)

“for the development, advancement, management, conservation, and protection of fish and wildlife resources....” 16 U.S.C. 742f(a)(4) “for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude....” 16 U.S.C. 742f(b)(1) (Fish and Wildlife Act of 1956)

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

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System is “to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”

Description of Use

(a) What is the use? Is the use a priority public use? *Primary Use:* The primary use is public hunting for migratory birds. Hunting is a priority 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 National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57).

Supporting Uses: Boating (motorized and non-motorized)

(b) Where would the use be conducted? Hunting for migratory birds occurs on refuge-owned lands in the State of New Jersey, except where identified as a threat to safety or wildlife management concerns (map B-1). In particular, hunting is not allowed in the 335-acre Liberty Marsh complex. Annual hunt plans and updated maps would show what areas are closed in any particular year. Currently no hunting for migratory birds is allowed on refuge-owned lands in the State of New York; however, with the acquisition of additional lands in that state, the refuge may consider opening those lands to hunting, based on regulatory requirements.

(c) When would the use be conducted? Hunting will be conducted during New Jersey State seasons for migratory game birds (including waterfowl) and resident geese, in accordance with federal and state regulations, unless safety or overriding resource concerns would make hunting incompatible. In cooperation with the State of New Jersey, we may adjust hunt season dates and bag limits in the future as needed to achieve balanced wildlife population levels within habitat carrying capacities.

(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. No change from the existing hunt program for migratory birds is proposed. 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 within the limits of state law. We would restrict hunting if it becomes inconsistent with other, higher priority refuge programs or endangers refuge resources or public safety.

Boat access for waterfowl hunting is available at a number of locations throughout the refuge. Game stocking and night hunting would be prohibited.

(e) Why is this use being proposed? Hunting is a priority public use defined by The National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997. If compatible, hunting for migratory birds is to receive our enhanced consideration over other general public uses in refuge planning and management.

In northwestern New Jersey, where the refuge is located, hunting for migratory birds is an historic, traditional, sustainable activity.

A refuge migratory bird hunt program also helps cull certain wildlife populations, such as Canada geese. An overabundance of geese yields intensive browsing which reduces the availability of important food resources for other waterfowl species. Because geese tend to browse on the tender shoots of new plant growth, over-browsing also has direct negative impacts on plant communities and on the re-vegetation of newly planted or bare soils. Over-browsing also causes indirect impacts to refuge fauna. The decrease of species and structural diversity in refuge plant communities yield degraded habitat for a wide diversity refuge wildlife. Further, an abundance of geese often results in the excessive addition of fecal material into nearby ponds and lakes, reducing water quality and raising the potential for disease transmission to other wildlife species. Lastly, providing an opportunity to hunt at the refuge promotes stewardship of our natural resources and increase public appreciation and support for the refuge.

Migratory game bird hunting helps us achieve refuge purposes and management goals and objectives, as outlined in this draft CCP/EA.

Availability of Resources

The hunt program at Wallkill River refuge will require the following staff resources:

Biology (planning, monitoring, reporting) (.0625 FTE).....	\$3,000
Law Enforcement (.0625 FTE)	\$3,000
Maintenance (parking areas, signs) (.025 FTE).....	\$1,250
Administration (permits, public relations)	
- Administrator (.10 FTE)	\$3,000
- Refuge Manager (.0125 FTE)	\$1,000
Materials.....	\$1,250
TOTAL.....	\$12,500

Anticipated Impacts of the Use

Waterfowl species known to breed on the refuge include American black duck, wood duck, hooded merganser, common merganser, mallard, and Canada goose. Many additional species, such as scaup, American widgeon, northern pintail, bufflehead, green-winged teal, ring-necked duck, blue-winged teal and snow goose frequent the refuge during migration. The primary waterfowl species taken by hunters are Canada goose, mallard, American black duck, green-winged teal, wood duck, and hooded merganser.

Our migratory bird permit consists of these species and seasons:

Sept. Canada Goose	Sept. 1 – Sept. 30
Rails and Gallinule	Sept. 1 – Nov. 8
Snipe	Sept. 16 – Dec. 30
Regular Waterfowl	Oct. 14 – Nov. 4, 14 – Dec. 30
Winter Canada Goose	Jan. 22 – Feb. 15

There are approximately 75 days open to goose hunting and 60 days open to duck hunting each year. The refuge issues between 100 and 200 permits each year to waterfowl hunters. The allowed take for these species follows New Jersey hunting regulations, which change every year. However, daily bag limits for the 2007-2008 season are as follows: Canada geese, 15 per day for the September season, 3 per day for the regular season, 5 per day for the special winter season; ducks, 6 per day to include no more than 1 pintail, 1 black duck, 2 wood ducks, 2 redheads, 2 canvasbacks, 4 mallards (not more than 2 hens), 2 scaup and 4 scoters. In addition, 5 mergansers (though no more than 2 hooded mergansers) per day may be taken.

Because the refuge has been open to hunting since 1993, and hunting occurred in the Wallkill area for many decades 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 hunting pressure is moderate and occurs outside the breeding season. Hunting for migratory birds also helps to keep populations of browsing species within the carrying capacity of the habitat, thus reducing excessive damage to vegetation caused by over-browsing, and maintaining understory habitat for other species.

The impacts of allowing hunting may include disturbance of non-target species in the course of tracking prey, trampling of vegetation, possible creation of unauthorized trails by hunters, littering and possible vandalism and subsequent erosion. Shotgun noise from hunting could cause some wildlife disturbance as well.

Public Review and Comment

This draft compatibility determination will be made available for public review and comment for 30 days as an appendix to the draft Comprehensive Conservation Plan for Wallkill River National Wildlife Refuge.

Determination

Use is not compatible

Use is compatible, with the following stipulations

Stipulations Necessary to Ensure Compatibility

A. Migratory Game Birds. This includes the take of ducks, geese, mergansers, rails, gallinules, coots, woodcock, and snipe. The take of all other migratory birds will be prohibited.

We manage migratory birds on a flyway basis, and establish refuge hunting regulations in each state based on flyway data. Atlantic Flyway and State of New Jersey regulations apply to the migratory bird hunting program at the refuge. Hunting would reduce the number of birds in the flyway, within allowable limits, as determined by federal and state agencies. Hunting and the associated hunter activity would likely cause the direct disturbance of

non-target birds, but only for the short-term. Those temporary impacts are mitigated by the presence of adjacent refuge habitats where hunting does not occur, and where birds can feed and rest undisturbed.

It is Service policy to open no more than 40 percent of a refuge to migratory bird hunting when that refuge is an “inviolate sanctuary.” This refuge is not considered an inviolate sanctuary, but Service Regional Directors retain the authority to institute this policy on all refuges within their responsibility and Region 5 policy is to do so. An exception might be to open more than 40 percent of the refuge to resident Canada goose hunting.

The use of retrieving and/or pointing dogs for migratory game bird hunting will be permitted; however, the dogs must be under the hunter’s control at all times, and groups of three or more dogs in the field per hunting party will be prohibited. Each hunter will be limited to 25 non-toxic shells and must use a dog, motorless boat, or waders to quickly retrieve downed waterfowl. Permanent and pit blinds will not be allowed. Temporary blinds and boats must be removed at the end of each hunting day.

Justification

Hunting is a priority public use defined by The National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997. If compatible, hunting is to receive our enhanced consideration over other general public uses in refuge planning and management.

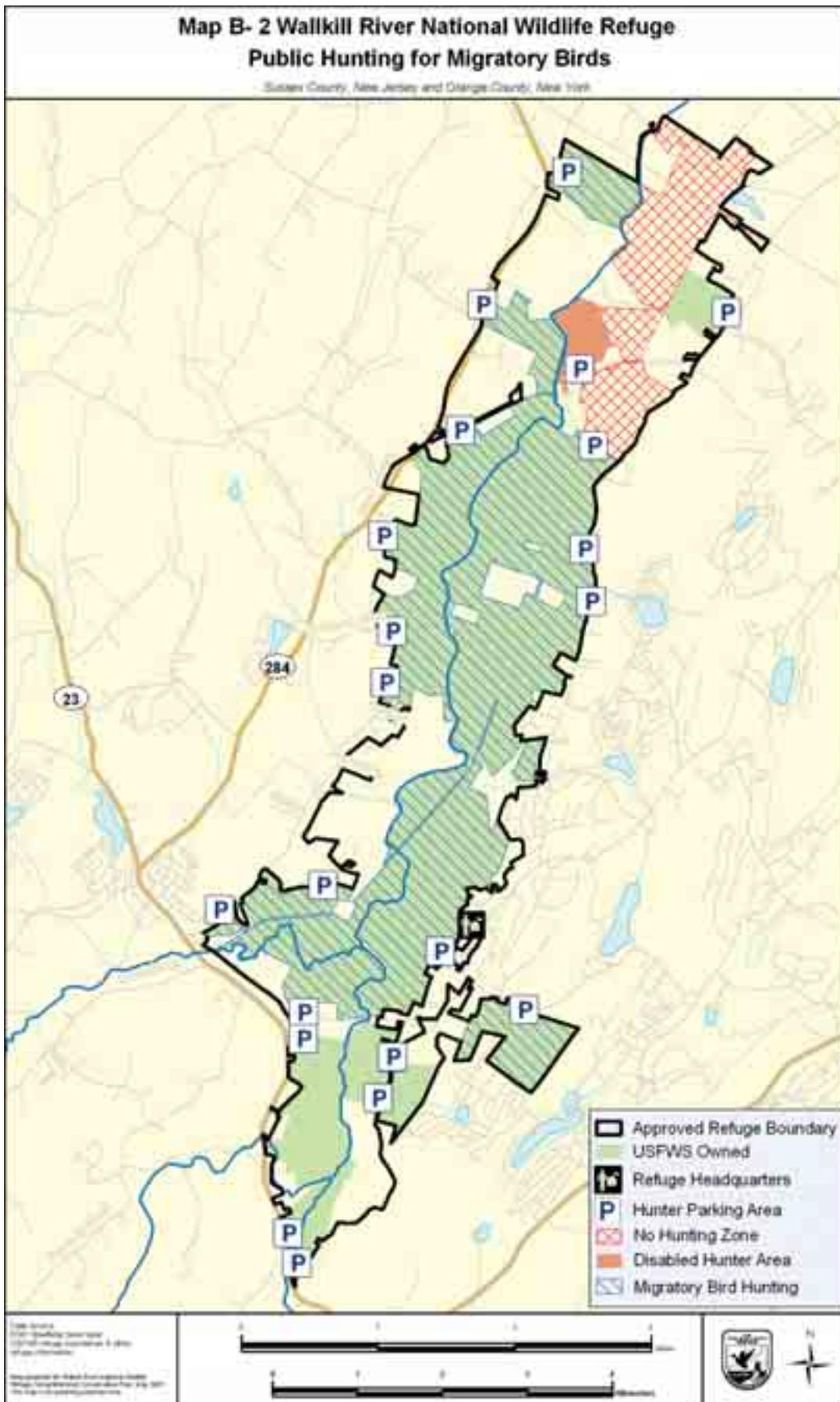
Migratory bird hunting will not materially interfere with or detract from the mission of the Refuge System nor will it diminish the purposes for which the refuge was established. It will not cause an undue administrative burden. Annual adjustments can be made in the hunting program to ensure its continued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

Project Leader _____ (Signature) _____ (Date)

Concurrence

Regional Chief _____ (Signature) _____ (Date)

Mandatory 15-year re-evaluation date _____ (Date)



Compatibility Determination

Use

Black Bear Hunting

Refuge Name

Wallkill River National Wildlife Refuge

Establishing and Acquisition Authority

Wallkill River National Wildlife Refuge was established on November 16, 1990, by authorizing legislation Public Law 101-593.

Refuge Purpose(s)

(1) to preserve and enhance the refuge lands and waters in a manner that will conserve the natural diversity of fish, wildlife, plants, and their habitats for present and future generations; (2) to conserve and enhance populations of fish, wildlife, and plants within the refuge, including populations of black ducks and other waterfowl, raptors, passerines, and marsh and water birds; (3) to protect and enhance the water quality of aquatic habitats within the refuge; (4) to fulfill international treaty obligations of the United States with respect to fish and wildlife and their habitats; and (5) to provide opportunities for compatible scientific research, environmental education, and fish and wildlife-oriented recreation. 104 Stat. 2955, dated Nov. 16, 1990.

“the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions....” 16 U.S.C. 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986)

“for the development, advancement, management, conservation, and protection of fish and wildlife resources....” 16 U.S.C. 742f(a)(4); “for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude....” 16 U.S.C. 742f (b)(1) (Fish and Wildlife Act of 1956)

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

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System is “to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”

Description of Use

(a) What is the use? Is the use a priority public use? The use is black bear hunting. 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 National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57).

(b) Where would the use be conducted? In general, black bear hunting would be allowed throughout the New Jersey portion of the refuge on Service-owned lands, wherever the refuge currently allows deer hunting (see map B-2). As with deer hunting, no bear hunting would be allowed in the northeast section of the refuge, including Liberty Marsh and the area around the Appalachian Trail.

The refuge assesses its hunt program on an annual basis to determine which areas of the refuge will be open or closed to hunting. Annual hunt plans and updated maps will show what areas are closed each year.

(c) When would the use be conducted? Current Service policy requires that a refuge submit a new hunt package, consistent with 605 FW1, if a major change to the hunt program is proposed. A major change is defined for this purpose as a new hunting activity, adding a new species to the program, or opening a new area to hunting. In this case, the major change is adding a new species (bear) to the refuge's hunt program. Therefore, we plan to submit a new hunt package for the refuge as we go through the CCP/EA process. The hunt package will propose that bear hunting on the refuge would be conducted in accordance with New Jersey State seasons, unless safety or overriding resource concerns would make hunting incompatible. If the State of New Jersey were to discontinue bear hunting, the refuge would do the same.

(d) How would the use be conducted? Prospective hunters would apply to the refuge for a permit to hunt bear. The refuge would follow State regulations for all other aspects of the hunt (i.e., bag limits, shooting times). Consistent with State/Federal regulations, no baiting or pursuit dogs would be allowed on the refuge.

(e) Why is this use being proposed? Since 1953, the New Jersey Division of Fish and Wildlife (DFW) and the Fish and Game Council (Council) have managed black bear as a game animal. Game animal status protected bears from indiscriminate killing, which stabilized the population. Limited hunting was legal in 10 seasons from 1958-1970 and resulted in a harvest of 46 bears. Based upon data gathered through the regulated hunting seasons the bear population status was assessed and the Council closed the bear-hunting season in 1971 (Lund 1980). Since the 1980s the black bear population has increased and its range has expanded due to the protection afforded them by game animal status (NJDEP 2004).

Total bear population estimates for a 580-square-mile sample area in Northwest New Jersey was 1,490 bears, or 2.56 bears/sq. mi., at the start of the 2003 bear-hunting season. DFW biologists determined the 2005 population for the same 580 sq. mile to be 1,606 bears, or 2.76 bears per square mile.

Black bears in New Jersey have adapted to live near people and human development, taking advantage of human-derived food sources and protected habitats. Increasing human development and the coincident increase of the bear population has resulted in an increase in bear-human conflicts. The expanding human habitat/bear habitat interface provides potential for conflict because individual black bears searching for food are encountering humans throughout their home ranges. Further complicating this issue is recent evidence that the home range of a female black bear in prime New Jersey habitat (which encompasses the Wallkill River refuge) has decreased in size from an average of 6.5 square miles documented in the early 1990s, to the current average of 2 square miles (NJDEP 2004). Cooperative studies conducted between the New Jersey Division of Fisheries and Wildlife (NJDFW), Rutgers University, and East Stroudsburg University is ongoing. Stomach content analysis of female bears indicates that most bears are obtaining forage from human-derived food sources regardless of whether the individual has been classified as a nuisance bear or not. NJDFW research has demonstrated that older females in the 5-10 year old class are consistently producing litter sizes of 2.7 cubs. Studies have also indicated that bears are beginning to reproduce as early as three years of age. Incidents involving bear damage to property and livestock remain high in frequency and severity. The New Jersey DFW Wildlife Control Unit (WCU) received 1,096 complaint calls in 2001 and 1,412 complaint calls in 2002 and 1,308 complaint calls in 2003. These complaints range from raids on garbage bins and birdfeeders to bears attacking humans, entering homes, killing livestock and pets or destroying beehives and agricultural crops. Damage estimates are in excess of \$100,000 annually (NJDEP 2004). In addition, the immigration of New Jersey bears into neighboring Pennsylvania and New York has affected those states. The Pennsylvania Game Commission has opened extended hunting seasons in the wildlife management units that have the highest bear densities and where conflicts have significantly increased. Two of those management units, which abut northwestern New Jersey, accounted for 17 percent of Pennsylvania's total statewide harvest in 2005 (Penn GC Digest 2006-07.)

The State of New Jersey 1997 Black Bear Management Plan (McConnell et al. 1997) recognized that the cultural carrying capacity had been reached in northern New Jersey and the bear population was large enough to sustain a limited, regulated hunting season. In 2000, the New Jersey Council amended the Game Code to include a three-segment black bear hunting season. The purpose of the hunting season was to reduce the bear population (to 350 bears or 1 bear per 2.5 square miles) in order to reduce the associated bear/human conflicts, including property damage caused by bears.

Availability of Resources

We will open the same number of acres to bear hunting as we do for deer hunting. Opening the refuge to bear hunting will be a minimal additional cost to the refuge above what it costs to manage the deer hunt, turkey and migratory bird hunts. The following costs will be required to administer and manage the bear hunt at Wallkill River refuge.

Biologist Review (2-3 days)	\$700
1-2 days of law enforcement personnel	\$500
Dispensing Information during year	\$200
Hunter brochure (design, printing)	\$100
Permits/regulations/forms	\$1,600
TOTAL.....	\$3,100

The refuge charges \$20 to apply for a permit to help defray the cost of administering hunting on the refuge. The refuge sells an average of 900 permits annually, which means an average revenue stream of about \$15,000, factoring in discounts for senior citizens and under-16 age group. Averages of 700-800 hunters have hunted the refuge over the past three years. Although the refuge would issue separate permits for hunting deer and bear, hunters would not be charged for both.

Anticipated Impacts of the Use

The black bear population is an important component of the diversity of wildlife within the refuge.

We believe that a controlled bear hunt is an important management tool that will help maintain the biological and cultural carrying capacity of the black bear population in and around the Wallkill River refuge. Analysis of the results of the 2003 NJDFW controlled hunt shows that the harvest goals were met and that results can be accurately predicted by the NJDFW.

In 2003, New Jersey held its first black bear hunt in more than 30 years. Seven thousand hunting permits were issued, and 328 bear were harvested during a one-week season. In 2005, the state held a second bear hunt during which 280 bears were harvested, with about 4,000 permits issued. Based on such a success rate (4.7 percent and 7 percent), the refuge, which anticipates issuing about 100 permits, would yield a harvest of 4 to 7 bears. The refuge offers good, but not prime, bear habitat, so it is possible these numbers are slightly higher than actual figures. In addition, much of the refuge is difficult to access, and the challenge of animal removal could reduce interest, areas hunted and success rates.

At most, the refuge could provide habitat for about 20 to 22 bears (8 square miles with 2.6 bears per square mile). The state, whose guidance the refuge uses in all its hunt programs, aims for a 20 percent reduction in the population with a hunt. Expectations from the refuge should match these expectations. With the state estimating a bear population of 900 individuals, we expect the proposed hunt and projected success rate to have no major impact on the local, regional, or state population. With typical bear reproduction rate, this level of hunting would not affect the long-term populations either. The result would be a stable population of bears on the refuge. With stable replacement rates in the surrounding areas, we do not expect impacts on a larger scale either.

Factors influencing population size include reproductive potential and food availability. Bears usually breed every two years. Age at first breeding is usually 4 years, and the average litter size is 2.5 (Hellgren and Vaughan 1989a, Elowe and Dodge 1989, and Eiler et al. 1989). Bunnell and Tait (1981) identified that black bear populations exhibiting these characteristics could withstand an annual mortality rate of approximately 20 percent. Black bears are polygamous; adult male bears tend to have larger home ranges than females, and they tend to overlap the home ranges of the maximum number of breeding females (Rogers 1987). Thus, a reduction in number of males would not adversely affect the reproductive potential of the population. Black bear reproduction and population growth is also strongly associated with nutritional status. Samson and Huot

(1995) found that bears in poor condition, as measured by body weight, did not produce young during that year. Elowe and Dodge (1989) and Eiler et al. (1989) found a strong correlation between size of fall mast crop and reproduction. During years of mast failure females either did not breed or resorbed young. Conversely, bears with sufficient food availability and high nutritional status would be expected to have a higher reproductive potential.

Another factor that influences black bear population size is social interactions—territoriality and dispersal of sub-adults. There is conflicting information as to whether or not black bears are territorial (Bunnell and Tait 1981). Elowe and Dodge (1989) found no evidence of territoriality by black bears. However, a number of researchers have found home ranges of black bears to have very little overlap, which would suggest territorial behavior. Young and Ruff (1982) and Rogers (1987) found females to be territorial but not males. Adult bears, especially males, tend to regulate population density by either preying upon younger bears or forcing them to disperse (Bunnell and Tait 1981, Young and Ruff 1982, Lecount 1982).

Hunting technique influences the sex ratio of bear harvest; a greater number of males are taken when bait or hounds are used (Litvaitis and Kane, 1994). The larger home ranges of adult males make them more vulnerable to hunting. Dispersing sub-adult males are generally much more vulnerable to different mortality factors than are resident adults. Hunting season dates can also be used to influence harvest sex ratios because pregnant females den earlier in the fall than males or non-pregnant females (Hellgren and Vaughan 1989b, Schooley et al. 1994). Bear managers therefore have established harvest regulations that often protect females and allow for greater harvest of males.

Public Review and Comment

This draft compatibility determination will be made available for public review and comment for 30 days as an appendix to the draft CCP/EA for Walkkill River National Wildlife Refuge.

Determination

Use is not compatible

Use is compatible, with the following stipulations

Stipulations Necessary to Ensure Compatibility

The following stipulations are required to ensure compatibility:

- Baiting is prohibited.
- Pursuit hounds are prohibited.
- The hunt program will be managed in accordance with State and Federal regulations.
- Each hunter will be issued the list of refuge regulations.
- The hunt program will be reviewed annually to ensure the impacts on the population are sustainable.
- Refuge hunt areas will be buffered to protect neighbors and visitors.
- News releases will be issued, the website updated, and signs posted to inform the public about the bear hunt before and during the event.
- Hunters must possess and carry all required valid State licenses, State and refuge permits.

- Hunters may use only shotguns, 20-gauge or larger, loaded with slugs only. Buckshot may not be used.
- Hunters must wear 400 square inches (2600 square centimeters) of solid-colored, hunter orange clothing or material in a visible manner.
- Hunters may not possess loaded firearms within 50ft (15m) of a refuge road, including roads closed to vehicles.
- Hunters may not shoot onto or across refuge roads, including roads closed to vehicles.

Justification

The National Wildlife Refuge System Improvement Act of 1997 (P.L. 105-57) identifies six priority wildlife-dependent public uses of national wildlife refuges: environmental education, interpretation, hunting, fishing, wildlife observation and wildlife photography. Where these uses are determined to be compatible, they are to receive enhanced consideration over other uses in planning and management. The black bear hunt will provide a compatible wildlife-dependent recreational opportunity. Opening the Wallkill River refuge to black bear hunting 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.

Project Leader _____ (Signature) _____ (Date)

Concurrence

Regional Chief _____ (Signature) _____ (Date)

Mandatory 15-year re-evaluation date _____ (Date)

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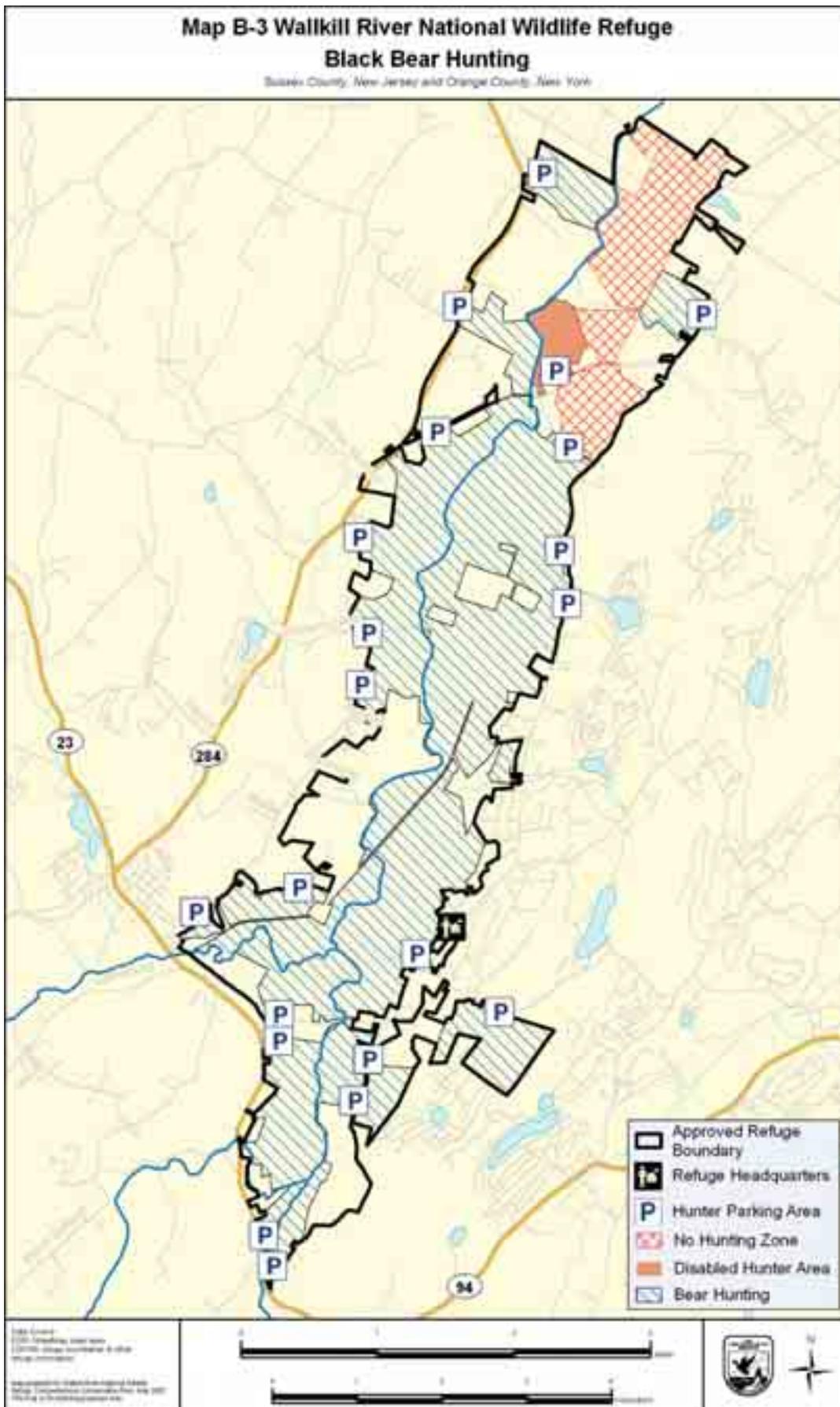
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Compatibility Determination

Use

Public Fishing

Refuge Name

Wallkill River National Wildlife Refuge

Establishing and Acquisition Authority

Wallkill River National Wildlife Refuge was established on November 16, 1990, by authorizing legislation Public Law 101-593.

Refuge Purpose(s)

(1) to preserve and enhance the refuge lands and waters in a manner that will conserve the natural diversity of fish, wildlife, plants, and their habitats for present and future generations; (2) to conserve and enhance populations of fish, wildlife, and plants within the refuge, including populations of black ducks and other waterfowl, raptors, passerines, and marsh and water birds; (3) to protect and enhance the water quality of aquatic habitats within the refuge; (4) to fulfill international treaty obligations of the United States with respect to fish and wildlife and their habitats; and (5) to provide opportunities for compatible scientific research, environmental education, and fish and wildlife-oriented recreation. 104 Stat. 2955, dated Nov. 16, 1990.

“the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions....” 16 U.S.C. 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986)

“for the development, advancement, management, conservation, and protection of fish and wildlife resources....” 16 U.S.C. 742f(a)(4) “for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude....” 16 U.S.C. 742f (b)(1) (Fish and Wildlife Act of 1956)

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

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System is “to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”

Description of Proposed Use

(a) What is the use? Is the use a priority public use? The use is Public Fishing. Fishing 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 National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57).

Supporting Uses: Boating (motorized and non-motorized)

(b) Where would the use be conducted? The use would be conducted at all refuge bodies of water that are open to fishing, including ponds and rivers. There are fishing access points at the Wood Duck Nature Trail, Dagmar Dale Nature Trail, Bassett’s Bridge and Oil City Road and on Route 565. Alternative B of the CCP proposes additional fishing access points at Scenic Lakes Road (County Route 565) and along Lake Wallkill Road (see map B-3). Fishing will also be allowed at Stanley’s pond, located behind (west) of the refuge quarters at 285 Lake Wallkill Road.

(c) When would the use be conducted? The use would be conducted during the hours and in the seasons specified in the fishing regulations of the States of New Jersey and New York.

(d) How would the use be conducted? Public fishing would be conducted according to New York or New Jersey State regulations, depending on where the use is occurring. Fishing would be permitted by rod and reel or hook and line, and bow, per State regulations, on the Wallkill River and other water bodies open to public fishing. Public access to fishing is provided on the refuge at designated fishing access points. Fishing can occur from a boat on the river and along the riverbank where the Service owns the land. Non-motorized boats and motorized boats can be used, but the refuge’s launch access sites do not provide trailer access for boats. A refuge permit would not be required, but any applicable State fishing license would be needed. Unauthorized introductions of both non-native and native fish can disrupt aquatic ecosystems and destroy natural fisheries. No fish of any species may be introduced onto the refuge without appropriate state and refuge permits. That includes baitfish and eggs.

(e) Why is this use being proposed? The use is being proposed by the refuge to accommodate one of the priority public uses of the Refuge System. Providing opportunities for visitors to fish will promote stewardship of our natural resources and increase public appreciation and support for the refuge.

Availability of Resources

Staff time: 10 hours of LE staff = \$225

Fishing Day event: 160 hours of staff time at \$22 per hour = \$3,520

Anticipated Impacts of the Use

Fishing will cause disturbance to wildlife that use the ponds, the river, etc, including waterfowl and shorebirds. Discarded fishing line and other fishing litter can entangle migratory birds or mammals and cause injury and death (Gregory 1991). In addition, litter affects the visual experience of refuge visitors (Marion and Lime 1986). Law enforcement issues related to fishing include illegal taking of fish, littering, trespassing and fires.

The refuge believes that with the proper management, fishing will not result in any short- or long-term impacts that will adversely affect the purpose of the refuge or the mission of the National Wildlife Refuge System.

Public Review and Comment

This draft compatibility determination will be made available for public review and comment for 30 days as an appendix to the draft CCP/EA for Wallkill River National Wildlife Refuge.

Determination

Use is not compatible

Use is compatible, with the following stipulations

Stipulations Necessary to Ensure Compatibility

Anglers must comply with all State and refuge regulations. We will not allow the taking of reptiles and amphibians from the refuge. Bait trapping, stocking and fishing competitions would not be permitted. A law enforcement presence would be required to prevent illegal taking of fish, littering, trespassing and fires. Lead sinkers would be prohibited in order to prevent lead poisoning to waterfowl and wading birds that use the pond.

Justification

The National Wildlife Refuge System Improvement Act of 1997 identifies fishing as a priority public use. Priority public uses are to receive enhanced consideration when developing goals and objectives for refuges if they are determined to be compatible. This use can be conducted without inhibiting the Service’s ability to sustain and enhance habitats for grassland-dependent migratory birds, wintering raptors or bog turtles on the refuge. Further, providing fishing opportunities will promote public appreciation and support for the refuge. Public fishing 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.

Project Leader _____ (Signature) _____ (Date)

Concurrence

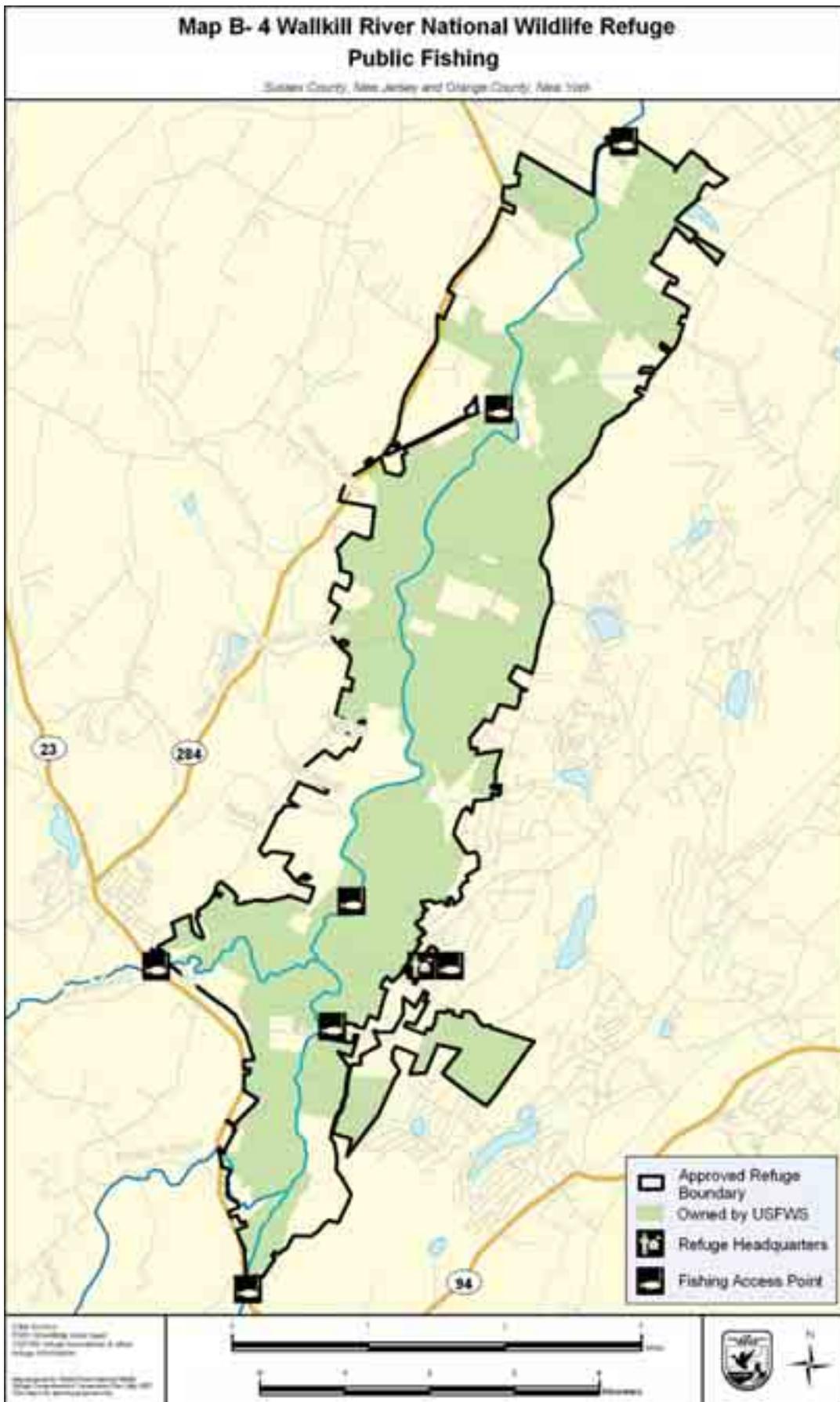
Regional Chief _____ (Signature) _____ (Date)

Mandatory 15-year re-evaluation date _____ (Date)

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Compatibility Determination

Use

Wildlife Observation & Photography and Environmental Education & Interpretation

Refuge Name

Wallkill River National Wildlife Refuge

Establishing and Acquisition Authority

Wallkill River National Wildlife Refuge was established on November 16, 1990, by authorizing legislation Public Law 101-593.

Refuge Purposes

(1) to preserve and enhance the refuge lands and waters in a manner that will conserve the natural diversity of fish, wildlife, plants, and their habitats for present and future generations; (2) to conserve and enhance populations of fish, wildlife, and plants within the refuge, including populations of black ducks and other waterfowl, raptors, passerines, and marsh and water birds; (3) to protect and enhance the water quality of aquatic habitats within the refuge; (4) to fulfill international treaty obligations of the United States with respect to fish and wildlife and their habitats; and (5) to provide opportunities for compatible scientific research, environmental education, and fish and wildlife-oriented recreation. 104 Stat. 2955, dated Nov. 16, 1990.

“...the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions...” 16 U.S.C. 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986)

“for the development, advancement, management, conservation, and protection of fish and wildlife resources...” 16 U.S.C. 742f(a)(4); “for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude...” 16 U.S.C. 742f (b)(1) (Fish and Wildlife Act of 1956)

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

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System is “to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”

Description of Use

(a) What is the use? Is the use a priority public use? Primary Use: The uses are wildlife observation and photography, environmental education and interpretation. These uses are priority uses 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 National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57).

Supporting Uses: Boating (motorized and non-motorized), cross-country skiing, and snowshoeing.

(b) Where would these uses be conducted? These uses will be allowed in all Service-owned areas open to the public, including the Wallkill River (by boat), kiosks and displays, nature trails (Dagmar Dale, Wood Duck, and Liberty Loop nature trails), river access areas (Oil City Road, Bassett’s Bridge, Route 565, southern edge of the refuge), and any additional lands opened to the public through this CCP or other appropriate regulatory documents.

(c) When would the uses be conducted? The uses would be conducted year-round during the hours when the refuge is open to the public, which is one hour before official sunrise to one hour after official sunset.

(d) How would the uses be conducted? Currently the refuge is open to the public for wildlife observation, photography, environmental education and interpretation. The refuge has facilities for environmental education at its headquarters area. An environmental education program will utilize partnership efforts with organizations such as New Jersey Audubon Society and the Wallkill Watershed Management Group. The refuge will focus on “teach the teachers” programs. On a limited basis, the refuge offers interpretive programs.

Wildlife observation and photography occur on individual or group bases on refuge lands open to the public. We allow cross-country skiing and snow shoeing to facilitate these uses. No jogging, horseback riding, bicycling, or motorized vehicles are allowed.

The Draft Comprehensive Conservation Plan and Environmental Assessment (draft CCP/EA) for Wallkill River National Wildlife Refuge proposes to expand or enhance these four public uses using a variety of strategies including, but not limited to

A. Wildlife Observation and Photography

- Increase access to refuge lands by
 - ♦ opening additional refuge lands to the public, including instituting a special-use permit system (fee) for access to all Service-owned lands (unless specified in the special use permit or on signs) on Sundays from September through March.
 - ♦ working with abutting landowners to gain access to private lands adjacent to the refuge.
 - ♦ extend existing refuge trails.
 - ♦ create new refuge trails.
- Construct additional boardwalks, barrier-free canoe/kayak access points, photography blinds.

B. Interpretation

- Increase involvement with local youth groups.
- Develop new interpretive materials, including animal and plant checklists, trail guides, self-guided trail pamphlets, roadside/parking lot displays.
- Hire a Visitor Services Professional.
- Sponsor a speaker series at the refuge for the public to learn about wildlife and nature.
- Develop a Wallkill River canoe trail, install signs, and prepare trail brochure.
- Conduct guided walks on refuge trails and former Lehigh and New England railroad bed south of Kelly Road.

C. Environmental Education

- Expand partnerships with organizations such as New Jersey Audubon Society and New Jersey Fish and Wildlife to offer joint environmental education programs for students and teachers.

- Expand the refuge internship program,
- Provide at least one “Teach the Teacher” workshop each year.
- If complete funding for Owens Station is secured, use that facility as a fully functioning environmental education facility and develop curriculum-based programs.

Implementation of the above strategies will depend on the refuge’s staff and funding levels.

(e) Why is this use being proposed? The Refuge System Improvement Act defines wildlife observation and photography, and environmental education and interpretation as priority public uses that, if compatible, are to receive our enhanced consideration over other general public uses. Authorizing these uses will produce better-informed public advocates for Service programs.

These uses will provide opportunities for visitors to observe and learn about wildlife and wild lands at their own pace in an unstructured environment, and observe wildlife in their natural habitats firsthand. They will provide visitors with compatible educational and recreational opportunities to enjoy refuge resources and gain better understanding and appreciation of fish and wildlife, wild lands ecology, the relationships of plant and animal populations in an ecosystem, and wildlife management. They will enhance public understanding of natural resource management programs and ecological concepts, enable the public to better understand the problems facing our wildlife and wild lands resources, help them realize what effect the public has on wildlife resources, learn about the Service role in conservation, and better understand the biological facts upon which we base Service management programs.

Professional and amateur photographers alike will gain opportunities to photograph wildlife in its natural habitat. Those opportunities obviously will increase the publicity and advocacy of Service programs. These uses will provide wholesome, safe, outdoor recreation in a scenic setting, and entice those who come strictly for recreational enjoyment to participate in the educational facets of our public use program and become advocates for the refuge and the Service.

Through this compatibility determination and the draft CCP/EA, we will be expanding access to all Service-owned lands within the refuge boundary (except for the impoundments and those areas noted on special use permits or refuge signs) for the purposes of wildlife photography and observation. This use is being expanded mainly due to requests from the public to have access to more of the refuge. This expanded use is being planned to coincide mainly with hunting seasons on the refuge, but is limited to Sundays, when there is no hunting allowed in New Jersey.

Availability of Resources

Environmental education and interpretation and wildlife observation and photography occur through the use of existing staff, resources, and facilities. Existing resources for environmental education and interpretation include staff, interpretive kiosks and displays, environmental education programs carried out through extensive help of volunteers, displays, and trails. Existing resources for wildlife observation and photography include trails, an observation blind, and an observation platform.

Cost Breakdown

The following list estimates the required costs for the refuge to administer and manage its programs for wildlife observation and photography, environmental education and interpretation. They do not include the costs of new construction, kiosks, and signs. Appendix E presents those costs in a Refuge Operating and Needs data list.

Routine maintenance:	\$17,000 annually; that is the expected cost to maintain the refuge public use facilities including parking areas and restroom maintenance and garbage removal.
Supplies and materials:	\$11,000; that includes interpretative and refuge brochures, wood chips to cover trails, and the maintenance of erosion control structures.

Monitoring:	\$3,500 annually, to be carried out in cooperation with state and local partners.
Law Enforcement:	\$6,000 annually, for a refuge officer.
Administration	\$2,000 annually to offer and process permits.
Total:	\$39,500

Anticipated Impacts of the Use

On-site activities by teachers and students using trails and environmental education sites may impose low-level impacts such as trampling of vegetation, removing vegetation, littering and temporary disturbance to wildlife. In the event of persistent disturbance to habitat or wildlife, the activity will be restricted or discontinued.

Placement of kiosks may affect small areas of vegetation. Kiosks will be placed where minimal disturbance will occur.

Providing additional interpretive and educational brochures as well as increasing involvement with local groups in the area may result in increased knowledge of the refuge and its resources. This awareness and knowledge may improve the willingness of the public to support refuge programs, resources, and compliance with regulations.

We predict that the impacts of wildlife observation and photography uses will be minimal. Possible impacts include disturbing wildlife, removing or trampling of plants, littering, vandalism and entrance into closed areas. There will be some removal of vegetation to place the observation platforms and photography blinds. In the event of persistent disturbance to habitat or wildlife, the activity will be restricted or discontinued. Little energy will be expended by wildlife leaving areas of disturbance.

Alternative B in the draft CCP/EA proposes to expand wildlife observation and photography opportunities by opening all Service-owned lands at the refuge to the public, with the exception of the impoundments and any areas noted on the special use permit and by refuge signs. The additional use will only occur on Sundays from September to March. Since this use will occur only during the late fall, winter and early spring months, we expect impacts to be minimal because most of the refuge's wildlife are not present or are hibernating at this time of year and many wildlife habitats are dormant. To reduce any impacts and ensure visitor safety, the area inside the impoundments will remain closed. Open access on Sunday will end by March 31 of each year, which will prevent disturbance to nesting birds. Currently, the refuge issues about 700 hunt permits each year, with each hunter visiting about 15 times. We anticipate issuing no more than 500 permits for wildlife observation and photography Sundays, which means no more than 500 people could visit the refuge on any given Sunday, although typical visitation would be much less. Current refuge visitation on Sundays, which does not require a fee or a permit, is 200 visitors or less. Also, the visitation would be spread around the 4,500 acres of refuge open to the public with each visit not lasting much more than 2 hours, based on typical fall—winter—early spring use. We anticipate most people visiting on a Sunday will spend 90 percent of their time on the old railroad bed that runs for 9 miles through the refuge or on the old roads and trails that run through the refuge. If Sunday visitation were shown to have impacts, the number of special use permits offered would be cut back or eliminated.

Skiing and snowshoeing 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). The responses of wildlife to human activities include departure from the site (Owen 1973, Burger 1981, Kaiser and Fritzell 1984, Korschen et al 1985, Henson and Grant 1991, Kahl 1991, Klein 1993), the 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 an increase in energy expenditure (Morton et al. 1989, Belanger and Bedard 1990). McNeil 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 water birds at the J.N. “Ding” Darling refuge, Klein (1989) found resident water birds to be less sensitive to disturbance than migrants were; 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 might 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 studying water bird response to human disturbance found that, as the 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, would 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 increase 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 “wild land” 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-tail 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 was referenced 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 birds (Burger 1986), though exact measurements were not reported.
- Approach Angle: Visitors directly approaching birds on foot caused more disturbance than driving by in vehicles, stopping vehicles near the birds, or stopping vehicles and getting out without approaching them (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 anglers, 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).

Public Review and Comment

This draft compatibility determination will be made available for public review and comment for 30 days as an appendix to the draft CCP for Walkkill River National Wildlife Refuge.

Determination

_____ Use is not compatible

 X Use is compatible, with the following stipulations

Stipulations Necessary to Ensure Compatibility

- Activities will be held in areas where minimal impact will occur. Periodic evaluation of sites and programs will be conducted to assess if objectives are being met and to prevent site degradation. If evidence of unacceptable adverse impacts appears, the location(s) of activities will be rotated with secondary sites, curtailed or discontinued. Refuge regulations will be posted and enforced. Closed areas will be established, posted and enforced. The known presence of a threatened or endangered species will preclude the use of an area until the Refuge Manager determines otherwise.
- Special use permits will be issued to Sunday off-trail users and organizations conducting environmental education or interpretive and/or wildlife observation and photography tours or activities on the refuge. A fee may be charged for the special use permit. The areas used by permit will be closely monitored to evaluate the impacts on the resource. If adverse impacts appear, the activity will be moved to secondary locations, curtailed, or discontinued. Specific conditions may apply, depending on the activity requested, and will be addressed through the special use permit.
- Guidelines to ensure the safety of all participants will be issued in writing to the special permit holder for the activities and will be reviewed before the activity begins.

- Commercial photography is subject to a special use permit and commercial photographers will be charged a fee. The fee is dependent on size, scope and impact of the proposed activity.
- All photographers must follow refuge regulations. Photographers in closed areas must follow the conditions outlined in the special use permit, which normally include notification of refuge personnel each time any activities occur in closed areas. Use of a closed area should be restricted to inside blinds to reduce disturbance to wildlife. No baits or scents may be used. At the end of each session, the blind must be removed. All litter will be removed daily.
- Law enforcement patrol of public use areas should continue to minimize the above-mentioned types of violations.
- Cross-country skiing and snow shoeing trails must be monitored to make sure that conditions do not pose adverse effects to wildlife populations and their habitats, especially threatened or endangered species. If such species were found utilizing habitat near trails, the trails would be closed or rerouted to ensure habitat protection.
- Potential conflicts with other public uses such as hunting, interpretation, etc. will be minimized by using trailhead signs and other media to inform the visitors about current public use activities.

Justification

Environmental education and interpretation activities generally support refuge purposes and impacts can largely be minimized (Goff et al., 1988). The minor resource impacts attributed to these activities are generally outweighed by the benefits gained by educating present and future generations about refuge resources. Environmental education is a public use management tool used to develop a resource protection ethic within society. While it targets school age children, it is not limited to this group. This tool allows us to educate refuge visitors about endangered and threatened species management, wildlife management and ecological principles and communities. A secondary benefit of environmental education is that it instills an ‘ownership’ or ‘stewardship’ ethic in visitors and most likely reduces vandalism, littering and poaching; it also strengthens Service visibility in the local community. Environmental education (outdoor classroom) is listed in the Refuge Manual (U.S. Fish and Wildlife Service, 1985) as the highest priority visitor use throughout the National Wildlife Refuge System.

The majority of visitors to the refuge are there to view the wildlife and upland, wetland, and grassland habitat areas. Some visit to develop an understanding of natural or cultural history. This visitation is in accordance with a wildlife-oriented activity and is an acceptable secondary use. There will be some visitor impacts from this activity, such as trampling vegetation (Kuss and Hall, 1991) and disturbance to wildlife near trails (Klein, 1989 and Burger, 1981), but the knowledge, appreciation and understanding of management gained by visitors will provide support for the Service. The long-term benefits gained through wildlife observation and photography activities outweigh the impacts listed above.

Environmental education and interpretation and wildlife observation and photography 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.

Project Leader _____
(Signature) (Date)

Concurrence

Regional Chief _____
(Signature) (Date)

Mandatory 15-year re-evaluation date _____
(Date)

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Compatibility Determination

Use: Cross-country Skiing and Snowshoeing

Refuge Name: Wallkill River National Wildlife Refuge

Establishing and Acquisition Authority: Wallkill River National Wildlife Refuge was established on November 16, 1990, by authorizing legislation Public Law 101-593.

Refuge Purpose(s):

(1) to preserve and enhance the refuge lands and waters in a manner that will conserve the natural diversity of fish, wildlife, plants, and their habitats for present and future generations; (2) to conserve and enhance populations of fish, wildlife, and plants within the refuge, including populations of black ducks and other waterfowl, raptors, passerines, and marsh and water birds; (3) to protect and enhance the water quality of aquatic habitats within the refuge; (4) to fulfill international treaty obligations of the United States with respect to fish and wildlife and their habitats; and (5) to provide opportunities for compatible scientific research, environmental education, and fish and wildlife-oriented recreation. 104 Stat. 2955, dated Nov. 16, 1990

“the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions....”16 U.S.C. 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986)

“for the development, advancement, management, conservation, and protection of fish and wildlife resources....” 16 U.S.C. 742f(a)(4) “for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude....”16 U.S.C. 742f (b)(1) (Fish and Wildlife Act of 1956)

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

National Wildlife Refuge System Mission:

The mission of the National Wildlife Refuge System is “to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”

Description of Use:

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

The uses are cross-country skiing and snowshoeing. These are not priority public uses within the National Wildlife Refuge System.

(b) Where would the uses be conducted?

This use would be conducted on the Wood Duck Nature Trail (as extended by this CCP), Liberty Loop Nature Trail (as extended by this CCP) and Dagmar Dale Nature Trail.

(c) When would the uses be conducted?

The use would be allowed when adequate snow is present in the fall, winter and spring.

Uses may be restricted during the late fall and winter when the refuge has wildlife-dependent recreational activities, like deer hunting, in progress. This would help eliminate user conflicts and ensure visitor safety.

(d) How would the uses 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.

(e) Why is this use being proposed?

While skiing and snowshoeing may not be priority public uses, refuge staff believes that by allowing these activities the participants will be exposed to the refuge and the Refuge System. Often cross-country skiers on the refuge engage in some of the priority public uses such as wildlife observation and photography. This exposure may lead to a better understanding of the importance of the Refuge System to the American people. The aforementioned activities have occurred on the refuge for a number of years. The activities are managed in accordance with the Public Use Management Plan dated 2/20/90, and are currently covered by a compatibility determination signed 8/12/94, which found the activities to be compatible with the Refuge's mission.

Availability of Resources:

Cross-country skiing and/or snowshoeing do not require any additional staffing or funding resources.

Anticipated Impacts of the Use:

Cross-country skiing and snowshoeing 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). The responses of wildlife to human activities include departure from the site (Owen 1973, Burger 1981, Kaiser and Fritzell 1984, Korschen et al 1985, Henson and Grant 1991, Kahl 1991, Klein 1993), the 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 an 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 water birds at the J.N. "Ding" Darling refuge, Klein (1989) found resident water birds to be less sensitive to disturbance than migrants were; 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 might 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 studying water bird response to human disturbance found that as the intensity of the disturbance increased, the avoidance response by the birds increased, and found 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.

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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 increase 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 “wild land” 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.

Public Review and Comment:

This draft compatibility determination will be made available for public review and comment for 30 days as an Appendix to the draft CCP/EA for Wallkill River National Wildlife Refuge.

Determination (check one below):

Use is Not Compatible

Use is Compatible with Following Stipulations

Stipulations Necessary to Ensure Compatibility:

Although cross-country skiing and snowshoeing could potentially cause wildlife disturbances, these uses occur during a time of year when many species are either not present on the refuge or are not as active as other times of the year. The refuge will make every effort to minimize disturbance to wildlife that do use the refuge at this time of year. Trails will be monitored to make sure that conditions do not pose adverse effects to wildlife populations and their habitats, especially threatened or endangered species. If such species are found utilizing habitats near trails, the trails would be closed or rerouted to ensure habitat and wildlife protection.

Potential conflicts with other public uses such as hunting, interpretation, etc. will be minimized by using trailhead signs and other media to inform the visitors about current public use activities.

Justification: The Service and the National Wildlife Refuge System maintain goals of providing opportunities to view wildlife. Allowing the use of the trail system by persons engaged in skiing and snowshoeing enhances wildlife-viewing opportunities. These users may take the time to learn more about the refuge and become supporters of the National Wildlife Refuge System.

Cross-country skiing and snowshoeing would not materially interfere with or detract from the fulfillment of the National Wildlife Refuge System mission or the purposes of the refuge.

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 the historically low use, disturbance from skiers and snowshoers is not expected to increase greatly the disturbance to wildlife

Project Leader _____
(Signature) (Date)

Concurrence

Regional Chief _____
(Signature) (Date)

Mandatory 10- or 15-year re-evaluation date _____
(Date)

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Compatibility Determination

Use

Livestock Grazing

Refuge Name

Wallkill River National Wildlife Refuge

Establishing and Acquisition Authority

Wallkill River National Wildlife Refuge was established on November 16, 1990, by authorizing legislation Public Law 101-593.

Refuge Purpose(s)

(1) to preserve and enhance the refuge lands and waters in a manner that will conserve the natural diversity of fish, wildlife, plants, and their habitats for present and future generations; (2) to conserve and enhance populations of fish, wildlife, and plants within the refuge, including populations of black ducks and other waterfowl, raptors, passerines, and marsh and water birds; (3) to protect and enhance the water quality of aquatic habitats within the refuge; (4) to fulfill international treaty obligations of the United States with respect to fish and wildlife and their habitats; and (5) to provide opportunities for compatible scientific research, environmental education, and fish and wildlife-oriented recreation. [104 Stat. 2955, dated Nov. 16, 1990]

“the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions....” 16 U.S.C. 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986)

“for the development, advancement, management, conservation, and protection of fish and wildlife resources....” (16 U.S.C. 742f(a)(4)) “for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude....” 16 U.S.C. 742f (b)(1) (Fish and Wildlife Act of 1956)

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

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System is “to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”

Description of Use

(a) What is the use? Is the use a priority public use? The use is livestock grazing. Livestock grazing 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 National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57).

(b) Where would the use be conducted? The use would be conducted to manage grassland, wet meadow, and shrubland habitat types on the refuge. The refuge will write a habitat management plan that will state specifically where livestock grazing will be used to manage certain habitat types. The refuge will typically allow grazing on three to five sites, totaling of about 20 acres.

(c) When would the use be conducted? Typically in the growing season which is late March through early October.

(d) How would the use be conducted? Through cooperative agreements and special use permits, we will work with livestock owners to graze refuge lands for specific periods throughout the growing season. The program includes provisions for fencing the animals, maintenance of the fence and care of the animals by the permittee. The animals will be delivered and removed by the permittee.

(e) Why is this use being proposed? The use is being proposed to control vegetation, improve microtopography in bog turtle habitat, and maintain grasslands for grassland-dependent birds and wintering raptors.

Availability of Resources

A grazing program will create minor staff costs from biological monitoring, law enforcement, and administration. Additional equipment, such as temporary fencing, may be required from the Service. Cooperators may be required to provide, install, and remove temporary fencing and transport livestock. A permit fee may be required. Of the costs listed below, which reflect our current total operations costs associated with managing the refuge, approximately 5 percent would be dedicated to managing a grazing program.

Staff costs: 0.05 GS 11 FTE	\$3,000
Vehicle fuel: (\$3.00/gal) (1 gal/trip) (50 trips).....	\$150
Equipment, facility use/replacement: vehicles, mowers, hand tools, fencing	\$2,000
TOTAL.....	\$5,150

Anticipated Impacts of the Use

Grassland birds have declined more consistently and over a wider geographic area than any other group of North American birds over the last 30 years (Robbins et al. 1986, Askins 1993, Knopf 1995, Askins 1997, Sauer et al. 1997). As a result, most grassland birds appear on lists of rare and declining species (NYSDEC 1997, Pashley et al. 2000, U.S. NABCI Committee 2000, U.S. Fish and Wildlife Service 2002). Moreover, all of these species can be found at the refuge. Without active management, refuge grasslands will soon become dominated by purple loosestrife or dense shrub land (Mitchell and Shryer 2000). Consequently, the refuge would no longer provide suitable habitat for grassland-dependent birds.

With proper timing, stocking rate, and frequency, grazing can be used to achieve wildlife objectives (U.S. Fish and Wildlife Service 1982). Mitchell et al. (2000) describe several benefits of grazing for managing habitat for breeding grassland birds. These benefits include reduced thatch accumulation, increased structural complexity, and suppressed plant succession. Smith (1997), states that grazing is a cost-effective means of suppressing plant succession, which benefits grassland birds. Herkert et al. (1993) recommend rotational grazing as a means to provide a structural mosaic of grasslands to meet the respective nesting requirements of each grassland bird species.

Light to moderate grazing is beneficial to several grassland birds (Bollinger 1991, Jones and Vickery 1997), particularly those that prefer to nest in fields with short, sparse to intermediate height and density vegetation (Mitchell et al. 2000). These species include upland sandpiper, grasshopper sparrow, savannah sparrow, eastern meadowlark, and bobolink (Herkert et al. 1993). Kirsch and Higgins (1976) indicate that periodic light grazing may be desirable for the long-term maintenance of suitable upland sandpiper habitat and for maintaining the best ecological condition of grasslands. Dechant et al. (2001a) recommend moderate rotational grazing as a means of providing optimal nesting habitat for upland sandpipers. Vickery (1996) states that light-to-moderate grazing is beneficial to grasshopper sparrows in the Northeast. Light to moderate grazing is recommended as a management technique for grasslands used by nesting short-eared owl (Dechant et al. 2001b) and bobolink (Dechant et al. 2001c). Swanson (2001) recommends light grazing as a technique to create medium height and density vegetation preferred by nesting savannah sparrows.

Intensive grazing may benefit grassland birds that nest in fields with the shortest, sparsest vegetation, including horned lark and vesper sparrow (Skinner et al. 1984, Herkert 1991, Herkert et al. 1993). Wakeley (1978), Baker and Brooks (1981), and Bechard (1982) demonstrated that tall, dense vegetation impedes the ability of several species of *Buteo* hawks to capture prey. Thus, higher stocking rates may also benefit wintering raptors by increasing availability of rodent prey.

Nest trampling, however, may be an important consideration when choosing grazing as a management tool for refuge grasslands. Smith (1992) mentions this potential threat to Henslow's sparrows breeding in areas grazed by cattle. Livestock trampling has damaged upland sandpiper nests (Ailes 1980).

Bog turtle habitat is in an intermediate state of succession, and in some cases is threatened by invasive exotic plants (USFWS 2001). Unless succession is set back by natural processes (flooding by beaver, fire, grazing by wildlife, etc.) and exotic plants are controlled, the habitat may become less suitable, and eventually unsuitable, for bog turtles. Active management and maintenance, such as grazing, may be required at some sites to replace the natural processes that have been lost and to control exotic plants in order to restore or maintain habitat quality. Goats, sheep and cattle have been found to eradicate invasive species effectively in bog turtle habitat (Tesauro 2001). When grazing in bog turtle habitat, cows in particular trample and compact several years' worth of litter, broke up rhizomes, and created perfect hollow-hummock topography. Often, the place to look for bog turtles in cow pastures is in cow footprints. Tesauro's article makes no mention of any negative impacts on bog turtles from grazing.

Public Review and Comment

This draft compatibility determination will be made available for public review and comment for 30 days as an appendix to the draft Comprehensive Conservation Plan for Wallkill River National Wildlife Refuge.

Determination

Use is not compatible

Use is compatible, with the following stipulations

Stipulations Necessary to Ensure Compatibility

To avoid overgrazing and excessive trampling, the refuge will attempt to use cattle on sites larger than one acre and goats and sheep on smaller sites. To reduce nest trampling, grazing activities will not be initiated in sensitive areas on the refuge until most grassland birds have fledged young.

Intensive grazing throughout the refuge would yield vegetation too denuded to provide habitat for grassland birds that nest in tall, dense vegetation, including northern harrier, short-eared owl (Duebbert and Lokemoen 1977), and Henslow's sparrow (Smith 1992). This grazing regime would also be detrimental to wintering short-eared owls and northern harriers at the refuge that rely on thick, herbaceous vegetation to roost (Kahl and Holcomb, U.S. Fish and Wildlife Service 2003, personal observation). High stocking rates would similarly affect grassland birds that nest in intermediate height and density vegetation, including upland sandpiper, grasshopper sparrow, savannah sparrow, eastern meadowlark, and bobolink. Grassland areas would be managed as a complex and grazed rotationally to provide heterogeneous grassland structure. This strategy would maximize the potential to provide habitat for the greatest diversity and abundance of grassland bird species.

Justification

Grazing will contribute to the purposes of the refuge by maintaining and enhancing the habitat for grassland-dependent migratory birds, wintering raptors and bog turtles. Livestock grazing also contributes to the mission of the Refuge System, by implementing 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 haying for grassland habitat management is a compatible use of the Wallkill River refuge.

Project Leader _____
(Signature) (Date)

Concurrence

Regional Chief _____
(Signature) (Date)

Mandatory 10-year re-evaluation date _____
(Date)

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Compatibility Determination

Use

Motorized and Non-Motorized Boating

Refuge Name

Wallkill River National Wildlife Refuge

Establishing and Acquisition Authority

Wallkill River National Wildlife Refuge was established on November 16, 1990, by authorizing legislation Public Law 101-593.

Refuge Purposes

(1) to preserve and enhance the refuge lands and waters in a manner that will conserve the natural diversity of fish, wildlife, plants, and their habitats for present and future generations; (2) to conserve and enhance populations of fish, wildlife, and plants within the refuge, including populations of black ducks and other waterfowl, raptors, passerines, and marsh and water birds; (3) to protect and enhance the water quality of aquatic habitats within the refuge; (4) to fulfill international treaty obligations of the United States with respect to fish and wildlife and their habitats; and (5) to provide opportunities for compatible scientific research, environmental education, and fish and wildlife-oriented recreation. 104 Stat. 2955, dated Nov. 16, 1990.

“the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions....” 16 U.S.C. 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986)

“for the development, advancement, management, conservation, and protection of fish and wildlife resources....” 16 U.S.C. 742f(a)(4) “for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude....” 16 U.S.C. 742f (b)(1) (Fish and Wildlife Act of 1956)

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

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System is “to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”

Description of Use

(a) What is the use? Is the use a priority public use? The uses are motorized and non-motorized boating. Motorized and non-motorized boating are 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 National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57). While these uses are not a priority public uses they facilitate participation in a variety of priority wildlife-dependent activities, including fishing, hunting, environmental education, interpretation, wildlife observation, and wildlife photography.

(b) Where would the use be conducted? Boat launch sites can be accessed on Route 565, Bassett’s Bridge and on Oil City Road. Alternative B of the draft Comprehensive Conservation Plan/Environmental Assessment (draft CCP/EA) proposes that we provide an additional boat launch site on Scenic Lakes Road (County Route 565).

Motorized and non-motorized boating would occur only along the Wallkill River and areas accessible from the river during flooded stages. Boating would not be permitted on refuge ponds or other bodies of water except for the purposes of game retrieval during hunt seasons (map B-4).

(c) When would the use be conducted? Motorized and non-motorized boating would be allowed year-round. As the refuge does not own the entire river, the refuge cannot limit boating activities on all portions of the river running through the refuge. The presence of endangered species could result in limitations on areas of the river or its tributaries owned by the refuge.

(d) How would the use be conducted? The refuge offers three boat access areas, Oil City Road, Bassett’s Bridge and Route 565. As stated above, we propose through the draft CCP/EA to add one additional boat access site on County Route 565. The refuge would offer parking at or near each of these three sites. Additional boat access points are available north and south of the refuge.

(e) Why is this use being proposed? These uses will increase refuge visitors’ opportunities for wildlife observation and wildlife photography. Non-motorized boating, more specifically, will provide a means for hunters and anglers to reach designated areas during regulated seasons. While motorized and non-motorized boating may not be a priority public use, they will facilitate participation in priority wildlife-dependent recreation including all six of the National Wildlife Refuge System’s “big 6” activities.

Availability of Resources

In addition to the physical infrastructure related to boating (see section (b)), staff resources are needed as follows:

Maintenance and seasonal demand of three boat launch sites	40 hours
Habitat maintenance along the river at boat launch sites	20 hours
Patrol to ensure regulatory compliance	20 hours
Administration of visitor use of boats and boat ramps on the refuge	<u>10 hours</u>
Total Hours (.04 FTE).....	90 hours

90 hours (.04FTE)	\$2,700
Materials and fuel associated with ramp maintenance	<u>\$250</u>
TOTAL.....	\$2,950

Anticipated Impacts of the Use

The use of motorized and non-motorized watercraft at Wallkill River refuge will be monitored to ensure the activity will not have an adverse impact on wildlife habitat, or the management of migratory birds and other wildlife species. There is potential for wildlife disturbance due to noise of boat motors, proximity of boats to wildlife, speed of boats, and time of operation. Maintenance activities on the river to improve navigability could disturb wildlife habitats and nursery habitats for fish. Litter from inappropriate use could impact the quality of the visitor experience and in some cases threaten wildlife and wildlife habitats. Bank erosion and vegetation damage are possible at boat launch sites.

Public Review and Comment

As part of the CCP process for the refuge, this compatibility determination will undergo extensive public review, including a comment period of 30 days following the release of the draft CCP/EA.

Determination

Use is not compatible

Use is compatible, with the following stipulations

Stipulations Necessary to Ensure Compatibility

The Code of Federal Regulations (CFR) allows refuge managers to authorize the use of watercraft in national wildlife refuges. The use of motorized watercraft could adversely affect waterfowl and resident wildlife if guidelines are not in place to ensure operation to minimize such impacts.

We have the responsibility of ensuring that all of the activities that take place within the refuge occur in a manner that is consistent with the purposes of the refuge. As such, we will review all of the areas of the rivers within and adjacent to the refuge and determine the maximum allowable speed. Although the river is small, curvy and can be clogged with navigational hazards, in no case will the speed limit exceed 25 miles per hour. We will review additional speed restrictions imposed by the towns that border or encompass the rivers and will respect any speed limits that are in place.

All of the provisions of 50 CFR §27.31 and 27.32 will be imposed as well. Included in this section is the requirement that “No operator or person in charge of any boat shall operate or knowingly permit any other person to operate a boat in a reckless manner, or in a manner so as to endanger or be likely to endanger any person, property or wildlife.”

Boaters will utilize only established trails and other areas open to the public and not venture into closed areas. All boats can only be launched from designated launch sites.

Justification

The National Wildlife Refuge System Improvement Act of 1997 (P.L. 105-57) identifies six legitimate and appropriate uses of wildlife refuges: environmental education and interpretation, hunting, fishing, and wildlife observation and photography. These priority public uses are dependent upon healthy wildlife populations. Where these uses are determined to be compatible, they are to receive enhanced consideration over other uses in planning and management. Boating is to be used only as a means to facilitate the priority public uses identified above.

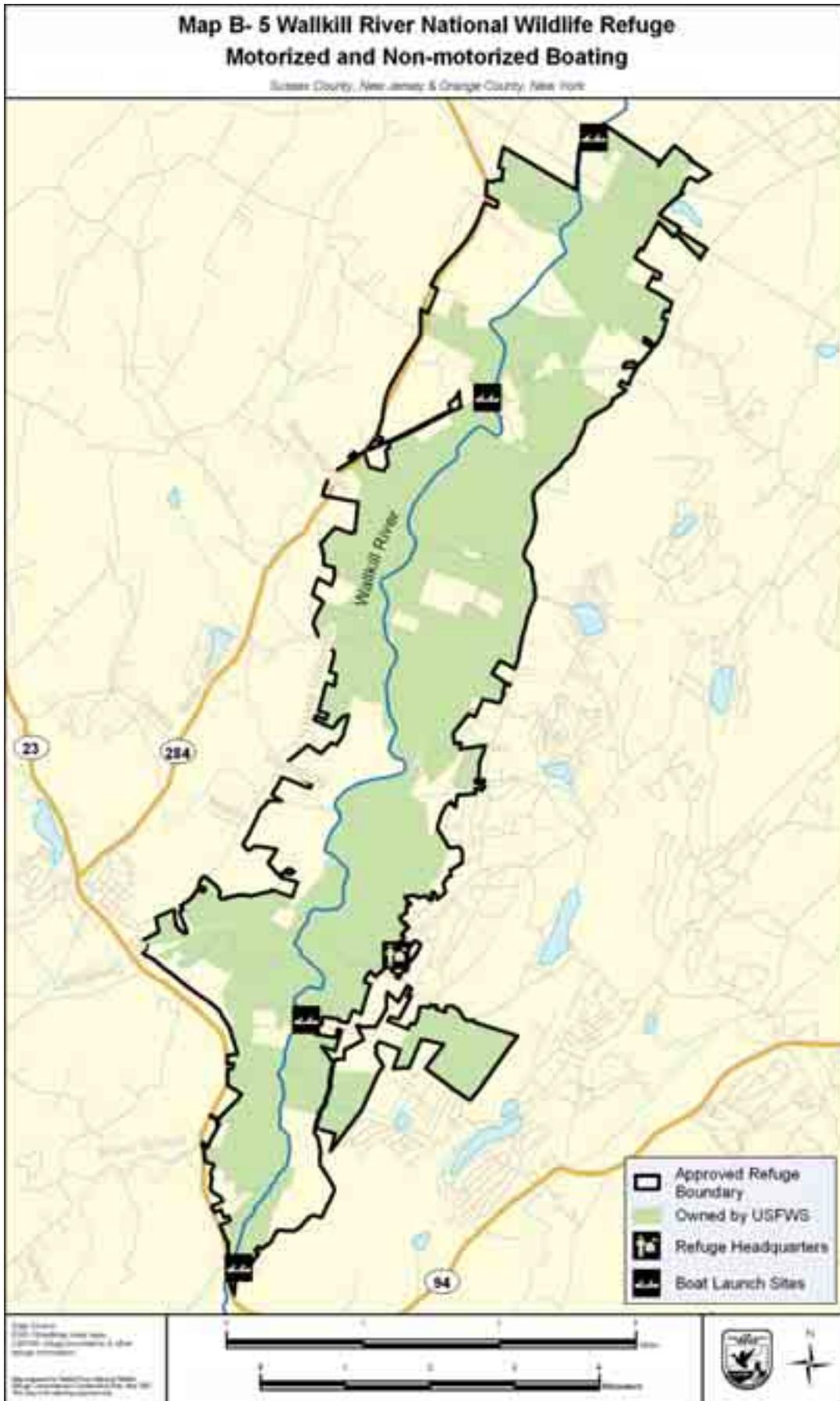
Boating will not materially interfere with or detract from the mission of the National Wildlife Refuge System or the purposes for which the refuge was established.

Project Leader _____ (Signature) _____ (Date)

Concurrence

Regional Chief _____ (Signature) _____ (Date)

Mandatory 10-year re-evaluation date _____ (Date)



Compatibility Determination

Use

Haying

Refuge Name

Wallkill River National Wildlife Refuge

Establishing and Acquisition Authority

Wallkill River National Wildlife Refuge was established on November 16, 1990, by authorizing legislation Public Law 101-593.

Refuge Purposes

(1) to preserve and enhance the refuge lands and waters in a manner that will conserve the natural diversity of fish, wildlife, plants, and their habitats for present and future generations; (2) to conserve and enhance populations of fish, wildlife, and plants within the refuge, including populations of black ducks and other waterfowl, raptors, passerines, and marsh and water birds; (3) to protect and enhance the water quality of aquatic habitats within the refuge; (4) to fulfill international treaty obligations of the United States with respect to fish and wildlife and their habitats; and (5) to provide opportunities for compatible scientific research, environmental education, and fish and wildlife-oriented recreation. 104 Stat. 2955, dated Nov. 16, 1990.

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

“the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions.... 16 U.S.C. 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986)

“for the development, advancement, management, conservation, and protection of fish and wildlife resources.... 16 U.S.C. 742f(a)(4); for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude.... 16 U.S.C. 742f(b)(1) (Fish and Wildlife Act of 1956).

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System is “to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”

Description of Use

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

The use is haying, for the purpose of grassland habitat management. The removal of baled grass from the refuge for use by private parties constitutes an economic use governed by 50 C.F.R §29.1. Pursuant to those regulations, we must determine, among other things, that the use be compatible with and contributes to the refuge purposes or the mission of the National Wildlife Refuge System. In this document, we make positive findings in both those regards. However, we note that, should the refuge elect to conduct mowing activities on its own or through a contractor, as opposed to private parties as contemplated in this document, such activities would constitute management actions for which no compatibility determination is required.

The National Wildlife Refuge System identifies hunting, fishing, wildlife observation and photography, and environmental education and interpretation as the six priority public uses. Therefore, haying for grassland habitat management is not a priority public use of the Refuge System under the National Wildlife Refuge System Administrative Act of 1966 (16 U.S.C. 668dd-668ee), as amended by the National Wildlife Refuge System Improvement Act of 1997.

Haying is the cutting and processing (typically baling) of grasses and forbs, with subsequent removal to an off-refuge location. Haying will be conducted by third parties on grasslands owned by the refuge. Haying of an area usually is conducted as a single event during any one year, but may be repeated periodically to: remove undesirable grasses and forbs; remove accumulated plant biomass; remove or reduce woody vegetation; or provide a desired vegetative condition. Haying is a technique that can be effective in maintaining and managing grasslands and open fields for a variety of nesting and migratory birds, and maintaining wetlands that serve as habitat for rare species, in accordance with refuge goals and objectives. As a result, this use contributes to the mission of the Wallkill River National Wildlife Refuge.

(b) Where would the use be conducted?

The use will be conducted to manage grassland, wet meadow, and shrub land habitat types on the refuge. Haying would be allowed in fields at the discretion of the refuge manager in the exercise of sound professional judgment. We will annually evaluate the condition of each field and determine whether mowing is necessary to meet habitat and wildlife objectives set forth in our Habitat Management Plan. The refuge will hay between 250 and 450 acres of grassland per year (see map 1). That represents approximately 5 percent to 8 percent of the refuge.

(c) When would the use be conducted?

Haying would be conducted after July 15 through October 31. That time-of-year restriction allows the young of grassland-nesting birds to mature to flight stage before haying starts.

(d) How would the use be conducted?

On an annual basis, individuals would be authorized to cut hay via Special Use Permit issued by the refuge manager. The terms of the permit will ensure compatibility through application and implementation of Service policy and refuge-specific stipulations.

Currently, refuge grasslands and open fields are mowed or hayed every 1 to 3 years, depending on weather and field conditions, local farmers' need for the hay, and refuge wildlife and habitat management goals. Its frequency and intensity would be determined by what is needed to suppress broadleaf and woody plant invasion and develop a mosaic of grassland vegetation in fields where open grassland is desired.

There is no selection process for haying permittees on the Wallkill River refuge, due to a general lack of interest by local farmers. In addition, due to the dryness of the grass, the hay harvested is of poor quality and has little or no market value. Instead, local farmers who ask to hay fields are issued a permit. The haying permittee is not required to pay for the permit; however, the refuge may request up to 5 bales of hay per year from the permittee for on-refuge use.

(e) Why is this use being proposed?

The U.S. Fish and Wildlife Service's preferred alternative in the refuge's Comprehensive Conservation Plan would permit haying as a technique to manage grasslands for grassland-dependent birds, wintering raptors and bog turtles. The use is a cost effective and biologically sound method of managing these early successional habitats.

Grassland birds have declined more consistently and over a wider geographic area than any other group of North American birds over the last 30 years (Robbins et al. 1986, Askins 1993, Knopf 1995, Askins 1997, Sauer et al. 1997). As a result, most grassland birds appear on lists of rare and declining species (NYSDEC 1997, Pashley et al. 2000, U.S. NABCI Committee 2000, U.S. Fish and Wildlife Service 2002). Moreover, all of those species can be found at the refuge.

However, without active management, refuge grasslands soon will become dominated by purple loosestrife or dense shrub land (Mitchell and Shryer 2000). Without these high quality early and intermediate successional habitats, the refuge would no longer provide suitable habitat for grassland-dependent birds, wintering raptors or bog turtles.

Haying combined with mowing is a useful and effective grassland management technique (U.S. Fish and Wildlife Service 1982). Mitchell et al. (2000) state that haying and mowing are economic means of controlling invasion of grasslands by forbs and woody plants. Further, haying is generally a more convenient technique to apply than prescribed fire or grazing. Herkert et al. (1993) recommend rotational haying and mowing as a grassland management alternative with subunits left idle. That strategy may provide a complex of grassland successional stages to meet the respective nesting requirements of a diversity of grassland bird species.

More specifically, haying and mowing are recommended techniques for managing grasslands used by nesting northern harrier (Berkey et al. 1993, Dechant et al. 2001a), upland sandpiper (Kirsch and Higgins 1976, Dechant et al. 2001b), short-eared owl (Tate 1992, Dechant et al. 2001c), horned lark (Dinkins et al. 2001), grasshopper sparrow (Dechant et al. 2001d, Vickery 1996), Henslow’s sparrow (Smith 1992, Herkert 2001), vesper sparrow (Camp and Best 1993, Dechant et al. 2001e), savannah sparrow (Swanson 2001), bobolink (Bollinger and Gavin 1992, Dechant et al. 2001e), and eastern meadowlark (Lanyon 1995, Hull 2000).

Bog turtle habitat is in an intermediate state of succession and, in some cases, is threatened by invasive exotic plants (USFWS 2001). Unless succession is set back by natural processes (e.g., flooding by beaver, fire, grazing by wildlife) and exotic plants are controlled, the habitat may become less suitable and, eventually, unsuitable for bog turtles. Active management and maintenance, such as haying and mowing, may be required at some sites to replace the natural processes that have been lost and to control exotic plants to restore or maintain habitat quality.

Availability of Resources

The refuge normally would have to mow all these fields using its own equipment and labor. The cost of this process would range between \$9,000 and \$15,000 per year. Because of the haying and mowing program, this work costs the refuge less than 30 percent of that cost.

A haying program will create minor staff costs for biological monitoring, law enforcement, and administration. No additional equipment, facilities, or improvements will be required from the Service. Cooperators will be required to use their own equipment. A permit fee may be required. The amount of this fee will be based on the level of demand from cooperators and the value of the hay.

Staff costs	\$ 3,600	0.08 GS 11 FTE
Vehicle fuel	\$375	(\$3.00/gal) (2.5 gal/trip) (50 trips)
Equipment, facility use/replacement	\$ 500	vehicles, mowers, hand tools
TOTAL	\$4,475	

Anticipated Impacts of the Use

Haying will result in short-term disturbances and long-term benefits to both resident and migratory wildlife using the refuge. Short-term impacts will include the disturbance and displacement of some wildlife by equipment operation. Haying activities will also result in short-term loss of habitat for species using those areas for nesting, feeding, or resting. That will be partially mitigated by limiting all cutting and haying until after July 15, when most grassland nesting birds have fledged.

Other short-term impacts will be noise and exhaust fumes generated by the tractors and associated farm equipment; however, this is not a major impact. The resulting habitat will improve conditions for most of the species adversely affected by the short-term negative impacts.

We use haying to improve potential bog turtle habitats on the refuge, but do not hay in fields now being used by the refuge’s known bog turtles. Although we do not currently allow haying in the active bog turtle site, no haying would occur on an active bog turtle site until it has been confirmed that the bog turtles have left the area for the season.

A managed haying and mowing program would have positive impacts to the refuge's grassland habitat and wildlife. Haying suppresses the invasion of grasslands by perennial forbs and shrubs. Consequently, grass-dominated plant communities are maintained. Further, rotational haying will help to develop a mosaic of grassland vegetation. In conjunction with a native grassland restoration program, the refuge will have higher quality grassland habitats. Diverse, native-dominated grasslands provide habitat for a greater diversity and abundance of grassland birds, wintering raptors and bog turtles.

Public Review and Comment

We posted the updated permit information at local township buildings and placed a copy in the local newspaper. A notice and copy of the draft of this compatibility determination was placed on the bulletin board at the Walkkill River National Wildlife Refuge at 1547 County Route 565 for a period of 14 days. It was also posted on the website (www.fws.gov/northeast/walkkillriver) for the same period. The comment period ended on July 17, 2007.)

Determination (check one below)

Use is Not Compatible

Use is Compatible with the following stipulations

Stipulations Necessary to Ensure Compatibility

Haying and mowing (brush cutting) period is July 15—October 31.

Permittees haying/mowing more than one property must:

- 1) Finish one property before starting the next property.
- 2) Remove ALL farm vehicles/equipment and bales of hay before starting the next property.

Permittee must remove all bales of hay.

Permittees must remove ALL farm vehicles/equipment and bales of hay from the refuge no later than October 31 of each year.

Permittee is responsible for providing and maintaining their own equipment and the U.S. Government will not be liable for damage to any privately owned equipment. The U.S. Government will not provide any equipment for permittee use.

Permittee must ensure that all individuals assisting in the haying, baling, and transportation of hay from the refuge understand and comply with refuge regulations.

All farm vehicles and equipment used on the refuge will comply with OSHA required protective equipment including a roll over protection system identified in FWM Part 241, "Safety Operations," Chapter 2, "Motorized Vehicles and Equipment."

Permittee recognizes that heated equipment could ignite surrounding grasses and will take precautions to prevent wildfires. Refueling of vehicles will only occur in parking areas along public roads or in refuge parking lots.

Permittee will not bring firearms onto refuge property.

Permittee will immediately notify the refuge manager of any emergency incidents, property damage, personal injuries, or trespass by other individuals. Permittee will comply with all rules and regulations. Any questions or concerns must be discussed with the refuge manager before permittee takes any unauthorized action. Ignorance is not acceptable as an excuse for noncompliance.

Permittee will notify the refuge manager no later than 2 days after completing haying/mowing for the season. Permittee should also report opportunities to improve the cooperative mowing program and any concerns encountered during mowing operations.

Gate keys must also be returned within one week after project completion.

Permittee accepts all personal liability for any accidents resulting from permittee’s presence on the refuge. The U.S. Government will not be liable for any injury or loss to the permittee or any of the permittee’s assistants.

Permittee will comply with all state and local authorities

Haying or mowing should be avoided during the early nesting season to avoid destruction to the nests, eggs, and young of breeding grassland birds, including northern harrier (Berkey et al. 1993, Dechant et al. 2001a), upland sandpiper (Lokemoen and Beiser 1997, Dechant et al. 2001b), short-eared owl (Tate 1992), grasshopper sparrow (Dechant et al. 2001d, Vickery 1996), Henslow’s sparrow (Smith 1992, Herkert 2001), vesper sparrow (Bryan and Best 1994, Dechant et al. 2001e), savannah sparrow (Dale et al. 1997, Swanson 2001), bobolink (Bollinger and Gavin 1992, Dechant et al. 2001e), and eastern meadowlark (Granfors et al. 1996, Hull 2000).

Justification

Haying and mowing will contribute to the purposes of the refuge by maintaining and enhancing the habitat for grassland-dependent migratory birds, wintering raptors and bog turtles for which the refuge was established. Haying for grassland habitat management program also contributes to the mission of the National Wildlife Refuge System, by implementing 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. Based on the analysis above, and consistent with our governing regulations, we conclude that haying for grassland habitat management and to maintain certain early successional wetland habitats is a compatible use for the Wallkill River National Wildlife Refuge.

Project Leader _____ (Signature) _____ (Date)

Concurrence

Regional Chief _____ (Signature) _____ (Date)

Mandatory 10-year re-evaluation date _____ (Date)

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Compatibility Determination

Use

Mosquito Management

Refuge Name

Wallkill River National Wildlife Refuge

Establishing and Acquisition Authority

Wallkill River National Wildlife Refuge was established on November 16, 1990, by authorizing legislation Public Law 101-593.

Refuge Purposes

(1) to preserve and enhance the refuge lands and waters in a manner that will conserve the natural diversity of fish, wildlife, plants, and their habitats for present and future generations; (2) to conserve and enhance populations of fish, wildlife, and plants within the refuge, including populations of black ducks and other waterfowl, raptors, passerines, and marsh and water birds; (3) to protect and enhance the water quality of aquatic habitats within the refuge; (4) to fulfill international treaty obligations of the United States with respect to fish and wildlife and their habitats; and (5) to provide opportunities for compatible scientific research, environmental education, and fish and wildlife-oriented recreation. 104 Stat. 2955, dated Nov. 16, 1990.

“the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions....” 16 U.S.C. 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986)

“for the development, advancement, management, conservation, and protection of fish and wildlife resources....” 16 U.S.C. 742f (a)(4) “for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude....” 16 U.S.C. 742f (b)(1) (Fish and Wildlife Act of 1956)

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

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System is “to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”

Description of Use

(a) What is the use? Is the use a priority public use? The use is mosquito surveillance and, if warranted, larval mosquito management. Mosquito management is not a priority public use of the National Wildlife Refuge System as amended by the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd-668ee), as amended by the National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57).

(b) Where would the use be conducted? The use would occur in areas specified in a refuge-issued special use permit, as needed to protect human health and safety from mosquito-borne disease.

(c) When would the use be conducted? Mosquito control would occur only as needed, and on an irregular and short-term basis when it is necessary to protect the health and safety of humans, wildlife, or domestic animals.

Surveillance activities associated with this use would be conducted from April through October under the conditions of this compatibility determination, a Special Use Permit and the Interim Guidance for Mosquito Management on national wildlife refuges. Some mosquito control activities could occur throughout the mosquito/fly season.

(d) How would the use be conducted?

On October 15, 2007 the Service published in the Federal Register its “Draft Mosquito and Mosquito-Borne Disease Management Policy Pursuant to the National Wildlife Refuge System Improvement Act of 1997.” This draft policy describes the process we would follow to determine if and how to manage mosquito populations on lands administered within the Refuge System. Until the draft policy is finalized, we will follow the “Interim Guidance for Mosquito Management on National Wildlife Refuges,” prepared in spring 2005. This document provides refuges with interim guidance on addressing mosquito-associated health threats in a consistent manner. Like the draft policy, the guidance states that refuges will not conduct mosquito monitoring or control unless it is necessary and compatible to protect the health of a human, wildlife, or domestic animal population. If there is a declared health emergency, the Service will work with local and state mosquito managers to minimize any risks to human health.

In accordance with this interim guidance, the mosquito management on the refuge would be regulated by a special use permit issued to the Sussex County Mosquito Control Commission. We will allow pesticide treatments for mosquito population control on Refuge System lands only when local, current mosquito population monitoring data are collected and the data indicate that refuge-based mosquito populations are contributing to a human, wildlife, or domestic animal health threat. The refuge permits larvicides but not adulticides. The special use permit would stress avoidance and minimization of spraying on the refuge.

Mosquito control will be applied using hand and aerial dispersal. Except in cases of officially determined health emergencies, any method we use to manage mosquito populations within the refuge will conform to applicable Federal laws such as the Endangered Species Act. Habitat management and pesticide uses for mosquito control will consider the integrity of non-target populations and communities. They will also be consistent with integrated pest management strategies and with existing pest management policies of the Department of the Interior and the Service.

State/local public health or mosquito control agencies will conduct surveillance and will carry out methods including dip samples, light/CO₂ traps, and landing rates. *Bacillus thuringiensis* would be applied following the limitations included in the product EPA label, an annual Fish and Wildlife Service Pesticide Use Permit, and an annual refuge Special Use Permit.

The long-term solution for suppressing mosquito populations at the refuge is to restore the wetland hydrology in the habitats that produce the greatest abundance of mosquitoes. Fish play a major role in controlling mosquito populations, and the Service often restores wetlands in such a way that it allows fish to feed on mosquito larvae, which then reduces mosquito populations.

(e) Why is this use being proposed? In rare circumstances, mosquitoes can serve as disease vectors presenting a threat to human health. It is the policy of the National Wildlife Refuge System that we will allow native mosquito populations to function unimpeded unless one of the following circumstances apply:

- There is a need to manage a public or wildlife health threat from a specific mosquito-borne disease that mosquito and disease monitoring data have documented as enumerated in Service policy.
- There are tires, tanks, or other similar debris/containers that may serve as artificial breeding sites for native or non-native species of mosquitoes. We may remove these or treat them with pesticides.

- We are enhancing, restoring, or managing habitat for other wildlife species to achieve refuge purposes. This may be in the form of habitat restoration or water level manipulations where there is a definable benefit to other wildlife over not undertaking such actions. We prohibit habitat modifications or management actions designed specifically for mosquito control that affect other wildlife species or habitats and are detrimental to refuge purposes or System goals. These modifications or actions include, but are not limited to, inappropriate draining, maintaining high water levels that are inappropriate for wildlife, and the importing or enhancing of non-native predators.
- There is a need to manage a threat to public health and safety from extreme numbers of biting mosquitoes when advised to do so by the Centers for Disease Control and Prevention (CDC) and/or the Federal Emergency Management Agency (FEMA). Such mosquito control may be necessary following natural or human-caused disasters when biting mosquitoes may hamper recovery efforts.

Mosquito control has emerged as a human health issue intensified by the documented incidences of the West Nile virus and eastern equine encephalitis. Refuge wetlands are breeding grounds for mosquitoes and other insects, many of which provide a valuable food resource for migratory birds, and other wildlife. Local mosquito control districts in the State of New Jersey want to implement full mosquito control measures, including the use of pesticides on refuge lands. These lands historically received mosquito control before the refuge’s creation; however, the refuge’s mission and public views on chemical control of the environment have brought changes in public attitudes within the region. The Service has been concerned with the indirect impacts on other invertebrates, which serve as a vital food source for birds, amphibians and reptiles.

Availability of Resources

Any spraying would be conducted by the county or state. Refuge resources would be dedicated to monitoring, communication with the public, and preparing special use permits. No matter what decision is made relative to mosquito spraying, some refuge staff resources will be used to address the issue of spraying on the refuge.

Meetings and Consultations with County Mosquito Control Commission	10 hours
Special Use Permit Preparation	15 hours
Communications with the media	15 hours
Communications with elected officials	5 hours
Communications with local residents	10 hours
Monitoring of spraying activities	<u>25 hours</u>
Total Hours (.04 FTE).....	80 hours

TOTAL (80 hours (.04FTE) @ \$30/hour) \$2,400

Anticipated Impacts of the Use

Generally, refuges will not conduct or allow mosquito monitoring or control, but these activities may be allowed under special use permits. When necessary to protect the health of a human, wildlife, or domestic animal population, we will allow surveillance and if warranted reduction of mosquito populations on Refuge System lands using effective means that pose the lowest risk to wildlife and habitats.

Toxicity and Effects to Non-target Organisms:

From studies conducted in fresh water wetlands, the bacterium Bti is a microbial insecticide that, when ingested, is toxic to mosquitoes, black flies and several other members of the nematocera suborder in the order Diptera. The intact toxin is not active against vertebrates (Boisvert and Boisvert 2000). The greatest degrees of susceptibility are within a few families: the Culicidae (mosquitoes), the Simuliidae (black flies) and the Chironomidae (midges), with mosquitoes and black flies being the most susceptible (Boisvert and Boisvert 2000).

Bti is used widely because of its reportedly high specificity for target species and environmental safety (Ali 1981; Merritt et al. 1989). Laboratory and field studies have shown that Bti is toxic to some larval chironomids, but many factors, such as temperature, water depth, aquatic vegetation and suspended organic matter, may act to reduce its toxicity to chironomids in the environment (Charbonneau et al. 1993; Merritt et al. 1989).

Numerous studies have been conducted on the effects of Bti on fresh water, non-target organisms (anything other than mosquitoes or black flies). A recent comprehensive review of 75 of these studies (Boisvert and Boisvert 2000) found that 37 had documented that some non-target organisms can be affected to a certain extent after a Bti treatment. The other 38 studies show no effects to non-target organisms studied. Some members of the order Diptera, suborder nematocera, have been shown to be the most common species susceptible to Bti. The susceptibility of chironomid larvae to Bti could be between 15 to 75 times less than mosquito or black fly larvae, but the studies indicated that a high dosage of Bti would affect chironomid populations. Although many of the studies were done either at high dosage or under laboratory conditions, 9 of the 23 studies reporting an effect on chironomid populations were done using actual operating conditions (in the field at operational doses). Apart from Chironomidae, seven other dipteran families were affected by Bti. During many experiments or trials using higher dosages, some of these families show significant mortalities. All these families are dipteran, and may possess the capacity to capture, ingest and digest toxic crystals. In sufficient quantity, this can produce enough toxic proteins to induce cellular damage that could lead to death.

A long-term study on the effects of repeated Bti treatments on non-target organisms in freshwater wetlands was performed by Hershey et al. (1998) over 4 years in Minnesota. Bti was applied for 3 consecutive years using 6 applications each year between mid-April and mid-July at recommended label rates. Boisvert & Boisvert (2000) consider this frequency of applications as “intensive” and “higher than normal.” Highly significant reductions were observed in several insect groups in the second year and eventually the intensive treatments resulted in wetland communities that were depleted of most insects during the third year. Since Bti was likely to be directly toxic to only Nematocera diptera, the effects of Bti on other insect groups may have resulted in disruption of the invertebrate food web (Hershey et al. 1998). Because the application was repeated 6 times per season at 3 week or shorter intervals, non-target insects were much more likely to have been exposed to the direct or indirect effects of Bti. Boisvert & Boisvert (2000) believe that the recent study by Su and Mulla (1999) provides some explanation for these Hershey et al. (1998) results. Su and Mulla (1999) found that shortly after a single Bti treatment the growth of two species of green algae was inhibited for nearly three weeks. Considering the type of habitat treated and the frequency of Bti applications by Hershey et al. (1998), it is likely that primary production of algae was almost totally inhibited for three years resulting in the dramatic changes in diversity indices that they observed.

In fresh water wetlands, Bti is thought by many to be a selective mosquito control treatment. However, there may be some effects to chironomids under normal operating conditions. Repeating treatments at longer intervals may give the non-target community time to recover in case there are any effects (Mulla et al. 1979). In addition, chironomids were the most abundant group in the freshwater wetlands of that study (Hershey et al. 1998). Therefore, at the level of treatment proposed, adverse impacts to non-target organisms are expected to be negligible or nonexistent. However, Hershey’s study does demonstrate the need for long-term research to understand better the consequences of Bti application on the invertebrate food web.

Public Review and Comment

This draft compatibility determination will be made available for public review and comment for 30 days as an appendix to the draft CCP/EA for Wallkill River National Wildlife Refuge.

Determination

_____ Use is not compatible

 X Use is compatible, with the following stipulations

Stipulations Necessary to Ensure Compatibility

The refuge will abide by the following national guidance:

- Refuges will not conduct mosquito monitoring or control unless it is necessary and compatible to protect the health of a human, wildlife, or domestic animal population. If there is a declared health emergency, the Service will work with local and state mosquito managers to minimize any risks to human health
- Refuges may use compatible non-pesticide options to manage mosquito populations that represent persistent threats to health.
- Refuges will collaborate with Federal, State, or local public health authorities and vector control agencies to identify refuge-specific health threat categories. These categories will represent increasing levels of health risks, and will be based on monitoring data.
- Management decisions for mosquito control will be based on meeting or exceeding predetermined mosquito abundance or disease threshold levels that delimit threat categories.
- In the case of officially determined mosquito-borne disease emergencies, we will follow the guidelines described in this document. Monitoring data are still required to ensure that intervention measures are necessary.
- All pesticide treatments will follow Service and Department of the Interior pest management and pesticide policies. In an emergency, the pesticide approval process can be expedited.
- Refuges must comply with Federal statutes and Service policies by completing the appropriate documentation prior to mosquito management activities taking place.

When necessary to protect the health of a human, wildlife, or domestic animal population, we will allow surveillance of mosquito populations on Refuge System lands by public health personnel. Sites will be checked for the presence of larval or adult mosquitoes through use of standard dip samples, light/CO2 traps, searching for new larval habitat, or noting landing rates to obtain counts of mosquitoes, to obtain samples for viral analyses, and to identify species present.

Copies of monitoring data and lab results will be made available to the refuge manager on a weekly basis or as soon as they are available. Dip counts and enumeration of numbers by species will be required prior to each application of Bti.

The Refuge Manager will be contacted at least one day in advance of each application of Bti so that, at his or her discretion, the manager may accompany the applicators during work on the refuge or may delay application for the protection of refuge resources existent at any particular time. The Refuge Manager, in consultation with the public health authorities and Service personnel, may authorize application of Bti in instances where there are found West Nile Virus positive mosquitoes, eastern equine encephalitis positive mosquitoes, or West Nile Virus positive birds, all of which would indicate there is a potential risk to public health.

Application of Bti will be limited to a maximum of two times per month during the months of June, July, August, and September. Application of Bti will be by hand spraying a liquid formulation or hand dispersal of a granular formulation of Bti. Application will be performed by trained personnel, and will be in strict conformance with the product label.

Application of Bti will be limited to the areas shown on the Special Use Permit map.

The State/local public health officials will provide a written summary report of the season's work to the refuge manager by December 31 of each year. The report will include the results of all monitoring and surveillance data, as well as a table showing (for each application): the number of acres treated, the rate of active ingredient applied per acre (pounds or ITUs), the target species, and the results (percent effectiveness).

This compatibility determination may be rescinded at any time based on future Fish and Wildlife Service Policy determinations or upon review of scientific studies of the effects of Bti on the environment or non-target organisms.

Justification

Wallkill River National Wildlife Refuge is one unit in a system of national wildlife refuges. This system has rules and procedures; in this case, national policy is to allow mosquito control on refuge lands when a human, wildlife or domestic animal health concern can be directly linked to the refuge habitat. Allowing mosquito control to occur within the Wallkill River refuge will not materially interfere with or detract from the mission of the Refuge System or the purposes for which the refuge was established.

With the above stipulations, mosquito control 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.

Project Leader _____ (Signature) _____ (Date)

Concurrence

Regional Chief _____ (Signature) _____ (Date)

Mandatory 10-year re-evaluation date _____ (Date)

Literature Cited

Ali, A. 1981. *Bacillus thuringiensis* var., *israelensis* (ABG-6108) against chironomids and some non-market aquatic invertebrates. *Journal of Invertebrate Pathology* 38:264-272.

Boisvert, M. and J. Boisvert. 2000. Effects of *Bacillus thuringiensis* var. *israelensis* on target and non-market organisms: a review of laboratory and field experiments. *Biocontrol Science and Technology* 10:517-561.

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- Mulla, M.S., G. Majori, and A.A. Arata. 1979. *Impact of biological and chemical mosquito control agencts on non-target biota in aquatic ecosystems*. Residue Reviews 71:121-173.
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Compatibility Determination

Use

Research Conducted by Non-Service Personnel

Refuge Name

Wallkill River National Wildlife Refuge

Establishing and Acquisition Authority

Wallkill River National Wildlife Refuge was established on November 16, 1990, by authorizing legislation Public Law 101-593.

Refuge Purposes

(1) to preserve and enhance the refuge lands and waters in a manner that will conserve the natural diversity of fish, wildlife, plants, and their habitats for present and future generations; (2) to conserve and enhance populations of fish, wildlife, and plants within the refuge, including populations of black ducks and other waterfowl, raptors, passerines, and marsh and water birds; (3) to protect and enhance the water quality of aquatic habitats within the refuge; (4) to fulfill international treaty obligations of the United States with respect to fish and wildlife and their habitats; and (5) to provide opportunities for compatible scientific research, environmental education, and fish and wildlife-oriented recreation. 104 Stat. 2955, dated Nov. 16, 1990.

“the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions....” 16 U.S.C. 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986)

“for the development, advancement, management, conservation, and protection of fish and wildlife resources....” 16 U.S.C. 742f(a)(4) “for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude....” 16 U.S.C. 742f (b)(1) (Fish and Wildlife Act of 1956)

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

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System is “to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”

Description of Use

(a) What is the use? Is the use a priority public use? The use is research conducted by non-Service personnel. Research conducted by non-Service personnel 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 National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57).

(b) Where would the use be conducted? The location of the research will vary depending on the individual research project that is being conducted. The entire refuge is open and available for scientific research. An individual research project is usually limited to a particular habitat type, plant or wildlife species. On occasion research projects will encompass an assemblage of habitat types, plants or wildlife, or may span more than one refuge or include lands outside the refuge. The research location will be limited to those areas of the refuge that are necessary to conduct the research project.

(c) When would the use be conducted? The timing of the research will depend entirely on the individual research project’s approved design. Scientific research would be allowed to occur on the refuge throughout the year. An individual research project could be short-term in design, requiring one or two visits over the course of a few days. Other research projects could be multiple year studies that require daily visits to the study site. The timing of each individual research project will be limited to the minimum required to complete the project. If a research project occurs during the refuge hunting season, special precautions will be required and enforced to ensure the researchers’ health and safety.

(d) How would the use be conducted? The methods of the research will depend entirely on the individual research project that is conducted. The methods of each research project will be reviewed and scrutinized before it will be allowed to occur on the refuge. No research project will be allowed if it does not have an approved scientific method, if it negatively affects endangered species, migratory birds, grassland birds or wintering raptors, or if it compromises public health and safety.

(e) Why is this use being proposed? Research by non-Service personnel is conducted by colleges, universities, Federal, State, and local agencies, non-governmental organizations, and qualified members of the public to further the understanding of the natural environment and to improve the management of the refuge’s natural resources. Much of the information generated by the research is applicable to management on and near the refuge.

The Service will encourage and support research and management studies on refuge lands that will improve and strengthen natural resource management decisions. The refuge manager will encourage and seek research relative to approved refuge objectives that clearly improves land management and promotes adaptive management. Priority research addresses information that will manage the Nation’s biological resources better and are generally considered important to agencies of the Department of Interior, the U.S. Fish and Wildlife Service, the National Wildlife Refuge System, and state Fish and Game agencies, and that address important management issues or demonstrate techniques for managing species or habitats.

The refuge will also consider research for other purposes that may not be directly related to refuge-specific objectives, but contribute to the broader enhancement, protection, use, preservation and management of native populations of fish, wildlife and plants, and their natural diversity within the region or flyway. These proposals must comply with the Service’s compatibility policy.

The refuge will maintain a list of research needs that will be provided to prospective researchers or organizations upon request. Refuge support of research directly related to refuge objectives may take the form of funding, in-kind services such as housing or use of other facilities, direct staff assistance with the project in the form of data collection, provision of historical records, conducting management treatments, or other assistance as appropriate.

Availability of Resources

The bulk of the cost for research is incurred in staff time to review research proposals, coordinate with researchers and write Special Use Permits. In some cases, a research project may only require one day of staff time to write a Special Use Permit. In other cases, a research project may take an accumulation of weeks, as the refuge biologist must coordinate with students and advisors and accompany researchers on site visits. The refuge biologist spends an average of seven weeks a year working full time on research projects conducted by outside researchers and providing the support they need to conduct their work on a national wildlife refuge. At an hourly wage of approximately \$25 (for a GS 9/11), this adds up to about \$7,000 annually for resources spent on outside research. In addition, the Refuge Manager must meet with perspective researchers, coordinate research efforts and deal with any administrative requirements.

Biologist staff time to oversee non-USFWS research (.13 FTE).....	\$7,000
Refuge Manager time (.02 FTE).....	\$1,500
Fuel and equipment to visit/monitor research efforts (20 trips).....	\$400
Total.....	\$8,900

Anticipated Impacts of the Use

The Service encourages approved research to further the understanding of the natural resources. Research by other than Service personnel adds greatly to the information base for refuge managers to make proper decisions. Disturbance to wildlife and vegetation by researchers could occur through observation, mist-netting, banding, and accessing the study area by foot or vehicle. It is possible that direct mortality could result as a by-product of research activities. Mist-netting, for example, can cause stress, especially when birds are captured, banded and weighed. There have been occasional mortalities to these birds, namely when predators such as raccoons and cats reach the netted birds before researchers do.

Minimal impact will occur when research projects that are previously approved are carried out according to the stipulations stated in the Special Use Permit issued for each project. Overall, however, allowing well designed and properly reviewed research to be conducted by non-Service personnel is likely to have very little impact on refuge wildlife populations. If the research project is conducted with professionalism and integrity, potential adverse impacts are likely to be outweighed by the knowledge gained about an entire species, habitat or public use.

Public Review and Comment

As part of the CCP process for the Wallkill River National Wildlife Refuge, this compatibility determination will undergo extensive public review, including a comment period of 30 days following the release of the draft CCP/EA.

Determination

_____ Use is not compatible

 X Use is compatible, with the following stipulations

Stipulations Necessary to Ensure Compatibility

All researchers will be required to submit a detailed research proposal following Service Policy (FWS Refuge Manual Chapter 4 Section 6). The refuge must be given at least 45 days to review proposals before initiation of research. If collection of wildlife is involved, the refuge must be given 60 days to review the proposal. Proposals will be prioritized and approved based on need, benefit, compatibility, and funding required.

Special Use Permits (SUP) will be issued for all research conducted by non-Service personnel. The SUP will list all conditions that are necessary to ensure compatibility. The Special Use Permits will also identify a schedule for annual progress reports and the submittal of a final report or scientific paper. The Regional refuge biologists, other Service Divisions, and State agencies will be asked to review and comment on proposals.

All researchers will be required to obtain appropriate State and Federal permits.

Any research project may be terminated at any time for non-compliance with the SUP conditions, or modified, redesigned, relocated or terminated upon determination by the Refuge Manager that the project is causing unanticipated adverse impacts to wildlife, wildlife habitat, approved priority public uses, or other refuge management activities.

Justification

The Service encourages approved research to further understanding of refuge natural resources. Research by non-Service personnel adds greatly to the information base for refuge managers to make proper decisions. Research conducted by non-Service personnel 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.

Project Leader _____
(Signature) (Date)

Concurrence

Regional Chief _____
(Signature) (Date)

Mandatory 10-year re-evaluation date _____
(Date)

Compatibility Determination

Use

Furbearer Management

Refuge Name

Wallkill River National Wildlife Refuge

Establishing and Acquisition Authority

Wallkill River National Wildlife Refuge was established on November 16, 1990, by authorizing legislation Public Law 101-593.

Refuge Purposes

(1) to preserve and enhance the refuge lands and waters in a manner that will conserve the natural diversity of fish, wildlife, plants, and their habitats for present and future generations; (2) to conserve and enhance populations of fish, wildlife, and plants within the refuge, including populations of black ducks and other waterfowl, raptors, passerines, and marsh and water birds; (3) to protect and enhance the water quality of aquatic habitats within the refuge; (4) to fulfill international treaty obligations of the United States with respect to fish and wildlife and their habitats; and (5) to provide opportunities for compatible scientific research, environmental education, and fish and wildlife-oriented recreation. 104 Stat. 2955, dated Nov. 16, 1990.

“the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions....” 16 U.S.C. 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986)

“for the development, advancement, management, conservation, and protection of fish and wildlife resources....” 16 U.S.C. 742f(a)(4) “for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude....” 16 U.S.C. 742f(b)(1) (Fish and Wildlife Act of 1956)

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

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System is “to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”

Description of Use

(a) What is the use? Is the use a priority public use? The use is furbearer management. Furbearer management 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 National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57).

(b) Where would the use be conducted? Furbearer management through trapping is an allowable practice in New York and New Jersey, and would be conducted in locations where it would accomplish refuge goals and objectives. Refuge law enforcement would ensure that trappers on the refuge comply with state and refuge regulations and that the data submitted to the refuge is accurate. Designating management zones and limiting the number of trappers in each zone may help prevent conflicts between trappers. In addition, designating trapping zones would allow the refuge to either concentrate or reduce trapping in areas where management intervention is desirable. Designating locations where specific trappers are permitted on the refuge will

facilitate the enforcement of refuge and state regulations. That zoning may also provide better quality trapping experiences by preventing overlap with other trappers. However, if necessary, trapping may be concentrated or zoning eliminated to meet our goals for protecting refuge resources.

(c) When would the use be conducted? Furbearer management would be conducted in accordance with the New York and New Jersey state seasons. New York furbearer management seasons run generally from October through February, while New Jersey furbearer management seasons generally run from November through March.

The refuge may also conduct furbearer management when there is a nuisance complaint by a private landowner due to beaver activity.

(d) How would the use be conducted? Refuge-owned lands in New York and New Jersey will be open to furbearer management for the following species: beaver, muskrat, fox, coyote, coydog and woodchuck.

Furbearer management on refuge-owned lands would be conducted according to New York and New Jersey state regulations and specific refuge regulations. The refuge would allow furbearer management during state seasons under state limits for the targeted species. The refuge manager reserves the authority to regulate the numbers of target species taken in any one location.

We would manage the furbearer management program through the Special Use Permit (SUP) process and, if needed, will work with the affected states to have special furbearer management regulations. Administering the program under an annual SUP will allow the refuge manager to have a ready list of contacts for requests for specific management needs to accomplish refuge objectives.

We will require a harvest report from each trapper following the close of trapping season. The report will include data about the trapping effort, the time span of trapping by species, the number of target and non-target species harvested, the refuge areas trapped, and remarks on observations of wildlife or other noteworthy ecological information. Those data can provide a basis for catch-per-unit and population trend analyses. If the required information from a trapper is lacking for the previous year, we would not issue a SUP to that trapper for the next year.

The refuge may conduct a lottery system to determine who will obtain a special use permit for trapping. Furbearer management is a refuge management economic activity. The refuge will determine on an annual basis whether furbearer management is necessary to support its goals and objectives.

(e) Why is this use being proposed? This use is being proposed in part to eliminate or reduce damage to refuge resources caused by overabundant species such as muskrats and beavers. Muskrats feed primarily on aquatic plants. In marsh environments, their feeding and lodge construction can aid wetland managers in obtaining desired amounts of open water and vegetation. In some portions of their range, however, muskrats can become excessively abundant and actually destroy the aquatic vegetation upon which they and other wildlife are dependent (MDC 2004). Damage from beaver induced flooding is also a problem on the refuge as well as on some adjacent private lands. A furbearer management program would be used as a tool to maintain habitat and keep the predator-to-prey balance.

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, experienced group of trappers, the Service can use their skills and local knowledge to perform or assist in valuable management or research functions. Trappers who participate in the refuge program would provide assistance with the implementation of structured management objectives, such as the alleviation or reduction of wildlife damage conflicts, negative interactions among species, 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 they can continue trapping. Accordingly, they are valuable assets for the refuge manager in providing on-site reports concerning the fundamental status of habitat, wildlife, and refuge conditions.

As a management tool, trapping also embodies wise use principles of conservation and public utilization of a renewable natural resource. Furbearers are considered a renewable natural resource with cultural and economic values (Andelt et al 1999, Boggess et al. 1990 Northeast Furbearer Resources Technical Committee 1996, Payne 1980). Several human dimension studies have documented trapper profiles, cultural aspects of trapping, and the socioeconomic role of trapping in the United States (Andelt et al. 1999, Boggess et al. 1990, Daigle et al. 1998, Gentile 1987). A regulated trapping program on the refuge could also foster the appreciation of wildlife and nature, wildlife observation, environmental education, a greater understanding of ecological relationships, stewardship of natural resources, and inter-generational passage of the methodologies of renewable resource use. Trapping is an activity in which family members and friends often participate and share joint experiences that broaden appreciation of natural resources and ecological awareness (Daigle et al. 1998).

Availability of Resources

The financial resources necessary to provide and administer this use at its current level are now available, and we expect them to be available the future. A wildlife biologist would be required to evaluate furbearer activity and potential and current impacts on refuge resources. The biologist would also evaluate trapper data and compile trapping reports. An administrative assistant would process SUPs and enter trapping data into a database. A refuge law enforcement officer would be required to check refuge trappers and ensure compliance with state and refuge regulations.

We estimate below the annual costs associated with administering the furbearer management program on the refuge.

Refuge Biologist (GS 11) (recommendations, surveys, data analysis)—1 week/yr = \$2,000
Law Enforcement Officer (GS 9) (trapper compliance)—12 days = \$3,000
Administrative Assistant (GS 5) (office administration, permit issuance)—1 week/yr = \$900
Total = \$5,900

Anticipated Impacts of the Use

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

Indirect impacts may include displacing migratory birds during the pair bonding/nesting season or the destruction of nests by trampling. Direct impacts may include the catch of target and non-target species that are predators on migratory birds or nests, or the removal of species that induce habitat change (e.g., beavers).

Due to the temporal separation of trapping activities and breeding wildlife using the refuge, indirect impacts on those resources by trappers would be negligible. Trappers using the refuge in early March may disturb individual early nesting waterfowl on occasion, and cause their temporary displacement from specific, limited areas. Those impacts are occasional, temporary, and isolated to small geographic areas.

When considering impacts on refuge purposes, the impacts of the furbearer management program obviously include those on the furbearer populations themselves. Trapping harvests and removes individuals of the species. Yet state natural resources agencies indicate that, with exceptions, furbearer populations are stable or increasing. The anticipated direct impacts of trapping on wildlife would be a reduction of furbearer population in those areas where surplus furbearers exist. The removal of excess furbearers from those areas would 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.

Non-target species could be taken through this trapping program. Traps will be set specifically around areas of targeted species activity to reduce the risk of taking species other than targeted species. The experience of the trappers and the selection of the appropriate trap size will reduce non-target captures (Northeast Furbearer Resources Technical Committee 1996, Bogges et. al 1990).

A national program operated under the guidance of the Fur Resources Technical Subcommittee of the International Association of Fish and Wildlife Agencies (IAFWA 1998) systematically improves the welfare of animals in trapping through trap testing and the development of “Best Management Practices (BMPs) for Trapping Furbearers in the United States.” The refuge would cooperate with and contribute to the development and implementation of those BMPs by practicing an integrated, comprehensive approach to furbearer management, wherever and whenever possible.

Public Review and Comment

This draft compatibility determination will be made available for public review and comment for 30 days as an appendix to the draft CCP/EA for Walkkill River National Wildlife Refuge.

Determination

_____ Use is not compatible

 X Use is compatible, with the following stipulations

Stipulations Necessary to Ensure Compatibility

We will provide any necessary guidance to trappers on proper trapping techniques to avoid incidental take as much as possible.

Adequate controls exist in the form of state laws to safeguard refuge furbearer populations. To ensure a safe, humane, and sound trapping program, the following special permit conditions will be required:

- Permittees must comply with all conditions outlined on the reverse side of the standard Fish and Wildlife Service Trapping Permit, Exhibit 1 in Chapter 7, Section 15 of the Refuge Manual (U.S. Fish and Wildlife Service 1985).
- Permittees must comply with all applicable State regulations. Trapping units will conform to State borders.
- Permittees must trap only their own units. One helper is allowed. The helper must also be listed on the permit and have all applicable State licenses. The helper may trap the unit without the permittee only if prior approval is granted to the permittee by the Refuge Manager.
- Fur animals authorized to be taken on the refuge may be taken only with traps permitted under state regulations. Traps shall be set where traps or trapped furbearers are not visible from public highways, overlooks, or other visitor facilities.
- Permittees must visit and inspect each of the traps in their trap line at least once every 24 hours. Traps may not be checked between one hour after sunset and one-half hour before sunrise of the following day.
- Permittees may cut small trees or brush on the refuge for use only as trap stakes. Cutting is prohibited along public roads and trails or near visitor facilities.

- Permittees must release non-target species that are uninjured immediately and report the species and number to the Refuge Manager or designee within 24 hours. Permittees must turn over to the Refuge Manager or designee within 24 hours non-target species injured or killed through trapping activities.
- Use of boats within refuge impoundments is prohibited.
- Ingress to and egress from assigned trapping units assigned shall be only by routes of travel approved by the Refuge Manager. Vehicle access will not be allowed on the sod farm south of Oil City Road.
- Permittees shall, no later than 10 days after the last day of the refuge trapping season, submit to the Refuge Manager a trapping report card on which the number of each species of animals taken on the refuge is correctly stated. Refuge staff will provide each permittee a blank report card for this purpose.
- Failure by permittees or helpers to comply with any of the above provisions or the violation of any refuge regulations, or state laws or regulations applicable to trapping on the refuge, shall render him or her subject to prosecution under said laws and regulations, shall be cause for the revocation of this permit and for refusal of a trapping permit during the next year.
- This permit may be terminated at any time by agreement between the issuing officer and the permittee; it may be revoked by the issuing officer for any violation of refuge or state laws or regulations applicable to trapping on the refuge or any conditions of the trapping permit; this permit may be revoked by the issuing officer for non-use.
- The Fish and Wildlife Service assumes no responsibility in case of theft of equipment or of trapped animals.

Justification

Furbearer management through trapping on the refuge is a useful tool in maintaining balance between furbearers and habitat. High populations of predators can decrease the nesting success of ground-nesting migratory birds, thus compromising one purpose of the refuge. Furbearer populations, with local exceptions, are stable or increasing on refuge lands. The furbearer management program on the refuge does not have any appreciable negative impacts on furbearer populations.

Furbearer management contributes to the purposes of the refuge and the mission of the Refuge System by maintaining the vigor and health of furbearer populations and safeguarding the refuge infrastructure critical to habitat for numerous species of fish and wildlife.

Project Leader _____ (Signature) _____ (Date)

Concurrence

Regional Chief _____ (Signature) _____ (Date)

Mandatory 10-year re-evaluation date _____ (Date)

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Compatibility Determination

Use

Dog Walking

Refuge Name

Wallkill River National Wildlife Refuge

Establishing and Acquisition Authority

Wallkill River National Wildlife Refuge was established on November 16, 1990, by authorizing legislation Public Law 101-593.

Refuge Purposes

(1) to preserve and enhance the refuge lands and waters in a manner that will conserve the natural diversity of fish, wildlife, plants, and their habitats for present and future generations; (2) to conserve and enhance populations of fish, wildlife, and plants within the refuge, including populations of black ducks and other waterfowl, raptors, passerines, and marsh and water birds; (3) to protect and enhance the water quality of aquatic habitats within the refuge; (4) to fulfill international treaty obligations of the United States with respect to fish and wildlife and their habitats; and (5) to provide opportunities for compatible scientific research, environmental education, and fish and wildlife-oriented recreation. 104 Stat. 2955, dated Nov. 16, 1990

“the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions....” 16 U.S.C. 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986)

“for the development, advancement, management, conservation, and protection of fish and wildlife resources....” 16 U.S.C. 742f(a)(4) “for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude....” 16 U.S.C. 742f(b)(1) (Fish and Wildlife Act of 1956)

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

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System is “to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”

Description of Use

(a) What is the use? Is the use a priority public use? The use is dog walking. Dog walking is not a priority public use of National Wildlife Refuge System under the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd-668ee), as amended by the National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57).

(b) Where would the use be conducted? Dog walking would be permitted on the Liberty Loop Trail only. The 2.5-mile Liberty Loop Trail coincides with 1.5 miles of the Appalachian Trail (AT). Dog walking has always been permitted on the AT, but previously has not been permitted on the rest of the Liberty Loop Trail.

(c) When would the use be conducted? Dog walking would be allowed throughout the entire year.

(d) How would the use be conducted? Dog walkers would be allowed to walk their dogs only when the dog is attached to a 6-foot lead and the dog walker is in direct control of the lead. All dog walkers with properly leashed dogs are restricted to the Liberty Loop Trail at all times.

(e) Why is this use being proposed? The portion of the AT that runs through the refuge is made possible by a 15-foot-wide easement held by the State of New York. The easement, to be used as a recreational trail, enters the refuge at the Liberty Loop Trail and follows that trail for approximately 2 miles (see map B-5). The easement then continues along Oil City Road to where it crosses the Wallkill River. The easement continues on State Line Road and then onto Carnegie Street and reenters the forest. The State of New York allows the Appalachian Trail Club to use the easement as part of the 2,100-mile AT. Dogs are required to be leashed on more than 40 percent of the AT, including over 500 miles of the trail on land administered by the National Park Service.

By allowing dog walking on the entire Liberty Loop Trail, instead of just on the AT portion of the trail, the refuge would eliminate the public safety concern over forcing local residents to walk their dogs along Oil City Road to get to the part of the trail where dog walking is permitted. Permitting dog walking along the entire trail would also eliminate confusion over which parts of the trail are open or closed to dog walking, and would allow local residents with dogs to walk the entire loop trail instead of forcing them turn around after walking only two-thirds of it.

Availability of Resources

Except for changing signs explaining the new regulations, no additional costs would be involved.

Anticipated Impacts of the Use

The presence of dogs may flush incubating birds from nests (Yalden and Yalden 1990), disrupt breeding displays (Baydack 1986), disrupt foraging activity in shorebirds (Hoopes 1993), and disturb roosting activity in ducks (Keller 1991). Many of these authors indicated that people with dogs on a leash, and loose dogs provoked the most pronounced disturbance reactions from their study animals. However, the greatest stress reaction results from unanticipated disturbance. Animals show greater flight response to humans moving unpredictably than to humans following a distinct path (Gabrielsen and Smith 1995). Restricting dog walking to the established trail, would reduce the potential disturbance of wildlife.

Despite thousands of years of domestication, dogs still maintain instincts to hunt and chase. Given the appropriate stimulus, those instincts can be triggered. Dogs that are unleashed or not under the control of their owners may disturb or potentially threaten the lives of some wildlife. In effect, off-leash dogs increase the radius of human recreational influence or disturbance beyond what it would be in the absence of a dog. Dog-walkers would be required to maintain control of their animal while on the refuge, thereby reducing the potential and severity of these impacts to wildlife. Educational materials and signs would be available on the trail to encourage responsible outdoor recreation ethics.

The role of dogs in wildlife diseases is poorly understood. However, dogs host endo- and ecto-parasites and can contract diseases from, or transmit diseases to, wild animals. In addition, dog waste is known to transmit diseases that may threaten the health of some wildlife and other domesticated animals. Domestic dogs can potentially introduce various diseases and transport parasites into wildlife habitats (Sime 1999).

Public Review and Comment

This draft compatibility determination will be made available for public review and comment for 30 days as an appendix to the draft Comprehensive Conservation Plan for Wallkill River National Wildlife Refuge.

Determination

_____ Use is not compatible

X Use is compatible, with the following stipulations

Stipulations Necessary to Ensure Compatibility

- Only leashed dogs will be allowed on the refuge. The leash will be no more than six feet long.
- Dog walkers must pick up after their dog(s) and remove the feces from the refuge.
- Agency and public awareness would be increased through interpretive/educational materials about responsible pet ownership in the context of wildlife disturbance during all outdoor recreational pursuits. Information would also address the potential role of domestic dogs in disease transmission to wildlife and vice versa in educational materials; information should include endo- and ecto-parasites.
- Refuge staff and volunteers would monitor uses to ensure compatibility, refine user estimates, and evaluate compliance. Potential conflicts between user groups would also be evaluated.

Justification

Leashed dogs will be under the direct control of their owner at all times while on the refuge. As a result, this use is expected to result in only minor impacts to wildlife and wildlife habitat. The impacts would be limited to the Liberty Loop Trail only. Limiting leashed dog walking to the Liberty Loop Trail would not materially interfere with or detract from the mission of the National Wildlife Refuge System or the purposes for which the refuge was established.

Project Leader _____ (Signature) _____ (Date)

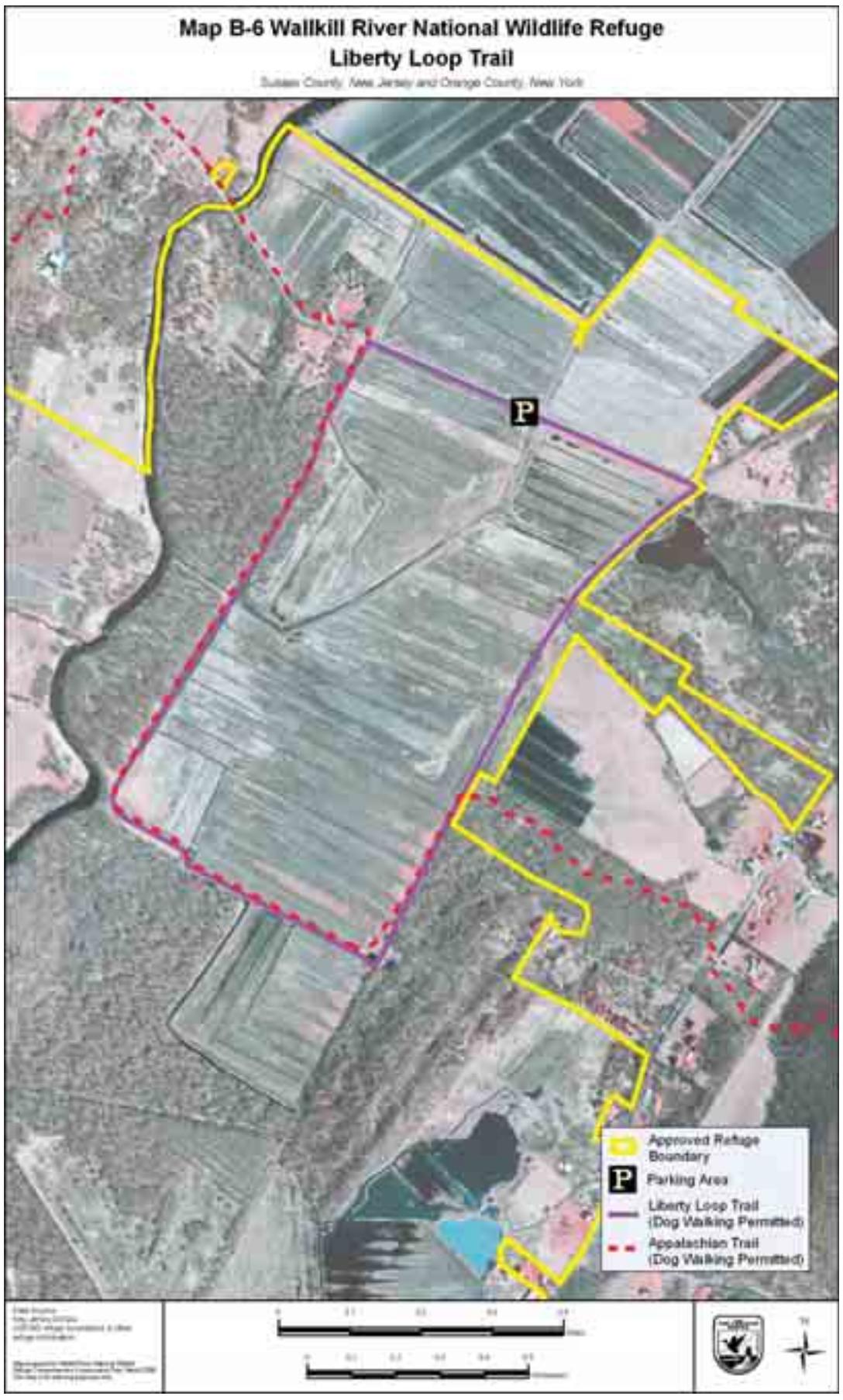
Concurrence

Regional Chief _____ (Signature) _____ (Date)

Mandatory 10-year re-evaluation date _____ (Date)

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Pre-Acquisition Compatibility Determination

Use

Public Hunting

Refuge Name

Wallkill River National Wildlife Refuge

Establishing and Acquisition Authority

Wallkill River National Wildlife Refuge was established on November 16, 1990, by authorizing legislation Public Law 101-593.

Refuge Purpose(s)

(1) to preserve and enhance the refuge lands and waters in a manner that will conserve the natural diversity of fish, wildlife, plants, and their habitats for present and future generations; (2) to conserve and enhance populations of fish, wildlife, and plants within the refuge, including populations of black ducks and other waterfowl, raptors, passerines, and marsh and water birds; (3) to protect and enhance the water quality of aquatic habitats within the refuge; (4) to fulfill international treaty obligations of the United States with respect to fish and wildlife and their habitats; and (5) to provide opportunities for compatible scientific research, environmental education, and fish and wildlife-oriented recreation. 104 Stat. 2955, dated Nov. 16, 1990.

“the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions....” 16 U.S.C. 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986)

“for the development, advancement, management, conservation, and protection of fish and wildlife resources....” 16 U.S.C. 742f(a)(4) “for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude....” 16 U.S.C. 742f(b)(1) (Fish and Wildlife Act of 1956)

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

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System is “to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”

Description of Use

(a) What is the use? Is the use a priority public use? The use is public hunting. It 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 National Wildlife Refuge System Improvement Act of 1997.

(b) Where would the use be conducted? Hunting would be conducted on the parcels identified for potential acquisition in alternative B (the Service-preferred alternative) of the Draft Comprehensive Conservation Plan and Environmental Assessment (draft CCP/EA) for the Wallkill River National Wildlife Refuge wherever it is allowed at the time of acquisition. Alternative B identifies new areas where the Service would seek to acquire land from willing sellers. The parcels identified in Alternative B have probably been open to the public historically for wildlife-dependent public uses, including hunting. Hunters have likely been allowed access across each of the properties to hunt. We will continue to allow hunters access across the properties once we have acquired them.

(c) When would the use be conducted? Hunting would be conducted in accordance with state regulations and seasons, and in accordance with the existing refuge Hunt Plan.

(d) How would the use be conducted? Refuge staff would expand the current hunting program on the refuge to include the newly acquired areas. Before we allow hunting under this compatibility determination, we will post the properties acquired. We will post them regardless of their potential for wildlife-dependent public uses.

(e) Why is this use being proposed? Hunting is a priority public use defined by The National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997. If compatible, hunting is to receive our enhanced consideration over other general public uses in refuge planning and management.

Availability of Resources

An updated Visitor Services Plan would identify any financial expenditure for the improvement of public use opportunities.

Anticipated Impacts of the Use

The impacts of allowing hunting may include disturbance of non-target species in the course of tracking prey, trampling of vegetation, possible creation of unauthorized trails by hunters, littering and possible vandalism and subsequent erosion. Firearm noise from hunting could cause some wildlife disturbance as well.

Many landowners suffer landscape damage due to deer on a regular basis, transmission of Lyme disease becomes a major issue with large numbers of deer, deer starvation is a possibility when deer numbers are high as food supplies dwindle in bad weather and deer-vehicle collisions become more common and problematic. Heavily browsed vegetation leaves less food and cover habitat for Neotropical migratory birds, a Service trust resource. Controlled deer hunting keeps the deer population within the land's carrying capacity.

Hunting provides food and recreation. Hunters who come from outside the local area also contribute to the local economy by staying at local hotels and eating in local restaurants. Providing waterfowl and deer hunting opportunities help preserve the cultural heritage of the Wallkill area, where people have hunted for generations.

Public Review and Comment

This draft compatibility determination will be made available for public review and comment for 30 days as an appendix to the draft Comprehensive Conservation Plan for Wallkill River National Wildlife Refuge.

Determination

Use is not compatible

Use is compatible, with the following stipulations

Stipulations Necessary to Ensure Compatibility

The hunt program would be managed in accordance with federal and state regulations. The deer hunt would be reviewed annually to ensure deer management goals are achieved. Additionally, both the deer and waterfowl hunts would be reviewed annually to ensure the program is providing a safe, high quality hunting experience for participants. Hunt season dates, bag limits and/or number of hunters per day would be adjusted as needed to achieve balanced wildlife population levels within carrying capacities.

To mitigate user conflicts that arise when we close the refuge to other public use during shotgun season for deer, we would issue news releases and post information at the Visitor Center to notify visitors of closings.

To minimize disturbance to migratory birds in the fall, we would conduct the shotgun hunt for deer and the waterfowl hunt after most birds have migrated (i.e., after November). A later hunt would also limit conflict with other recreational users, such as kayakers. During the hunt season, we would provide a law enforcement presence to insure safety and compliance.

Justification

Hunting is a priority wildlife-dependent use for the National Wildlife Refuge System through which the public can develop an appreciation for fish and wildlife (Executive Order No. 12996, March 25, 1996, and the National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997).

Service policy is to provide expanded opportunities for these priority uses when they are compatible and consistent with sound fish and wildlife management, and ensure that they receive our enhanced consideration in refuge planning and management. Allowing hunting on the parcels identified for acquisition in Alternative B (the service-preferred alternative) of the draft CCP/EA for the Wallkill River National Wildlife Refuge will not materially interfere with or detract from the mission of the Refuge System or the purposes for which the refuge was established.

Project Leader _____
(Signature) (Date)

Concurrence

Regional Chief _____
(Signature) (Date)

Mandatory 15-year re-evaluation date _____
(Date)

Pre-Acquisition Compatibility Determination

Use

Public Fishing

Refuge Name

Wallkill River National Wildlife Refuge

Establishing and Acquisition Authority

Wallkill River National Wildlife Refuge was established on November 16, 1990, by authorizing legislation Public Law 101-593.

Refuge Purpose(s)

(1) to preserve and enhance the refuge lands and waters in a manner that will conserve the natural diversity of fish, wildlife, plants, and their habitats for present and future generations; (2) to conserve and enhance populations of fish, wildlife, and plants within the refuge, including populations of black ducks and other waterfowl, raptors, passerines, and marsh and water birds; (3) to protect and enhance the water quality of aquatic habitats within the refuge; (4) to fulfill international treaty obligations of the United States with respect to fish and wildlife and their habitats; and (5) to provide opportunities for compatible scientific research, environmental education, and fish and wildlife-oriented recreation. 104 Stat. 2955, dated Nov. 16, 1990.

“the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions....”16 U.S.C. 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986)

“for the development, advancement, management, conservation, and protection of fish and wildlife resources....” 16 U.S.C. 742f(a)(4) “for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude....” 16 U.S.C. 742f(b)(1) (Fish and Wildlife Act of 1956)

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

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System is “to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”

Description of Proposed Use

(a) What is the use? Is the use a priority public use? This pre-acquisition compatibility determination considers public fishing. It 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 National Wildlife Refuge System Improvement Act of 1997.

(b) Where would the use be conducted? Public fishing would be conducted on the parcels identified for potential acquisition in alternative B (the Service-preferred alternative) of the Draft Comprehensive Conservation Plan and Environmental Assessment (draft CCP/EA) for the Wallkill River National Wildlife Refuge. Alternative B identifies areas where the Service seeks to acquire land from willing sellers. Historically, anglers have been allowed access to the properties to fish. We will continue to allow anglers access to the properties once we have acquired them.

(c) When would the use be conducted? Public fishing would be conducted in accordance with state regulations and seasons.

(d) How would the use be conducted? We would allow public fishing on the parcels identified in alternative B (the service-preferred alternative) of the draft CCP/EA for the Wallkill River National Wildlife Refuge wherever it is allowed at the time of acquisition. Alternative B identifies areas where the Service would seek to acquire land from willing sellers. Refuge staff would expand our public fishing program to include newly acquired areas. Before we could allow public fishing under this compatibility determination, we would post the properties we acquire, regardless of their potential for wildlife-dependent public uses.

(e) Why is this use being proposed? The National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997, identifies fishing as a priority public use. If compatible, it is to receive our enhanced consideration over other general public uses.

Availability of Resources

An updated Visitor Services Plan would identify any financial expenditure for the improvement of public use opportunities.

Anticipated Impacts of the Use

Fishing will cause disturbance to wildlife that use the ponds, the river, etc, including waterfowl and shorebirds. Discarded fishing line and other fishing litter can entangle migratory birds and mammals and cause injury and death (Gregory 1991). In addition, litter affects the visual experience of refuge visitors (Marion and Lime 1986). Law enforcement issues related to fishing include the illegal taking of fish, littering, trespassing and fires.

The refuge believes that with the proper management, fishing will not result in any short- or long-term impacts that will adversely affect the purpose of the refuge or the mission of the National Wildlife Refuge System.

Public Review and Comment

This draft compatibility determination will be made available for public review and comment for 30 days as an appendix to the draft CCP/EA for Wallkill River National Wildlife Refuge.

Determination

Use is not compatible

Use is compatible, with the following stipulations

Stipulations Necessary to Ensure Compatibility

Anglers must comply with all State and refuge regulations. We will not allow the taking of reptiles and amphibians from the refuge. Bait trapping, stocking and fishing competitions would not be permitted. A law enforcement presence would be required to prevent illegal taking of fish, littering, trespassing and fires. No lead sinkers will be permitted to prevent lead poisoning to waterfowl and wading birds that use the pond.

Justification

Fishing is a priority wildlife-dependent use for the Refuge System through which the public can develop an appreciation for fish and wildlife (Executive Order No. 12996, March 25, 1996, and The National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997).

Service policy is to provide expanded opportunities for those uses when they are compatible and consistent with sound fish and wildlife management, and ensure that they receive our enhanced attention in refuge planning and management. Allowing public fishing on the parcels identified for acquisition in alternative B (the service-

preferred alternative) of the draft CCP/EA for the Wallkill River National Wildlife Refuge will not materially interfere with or detract from the mission of the Refuge System or the purposes for which the refuge was established.

Project Leader _____ (Signature) _____ (Date)

Concurrence

Regional Chief _____ (Signature) _____ (Date)

Mandatory 15-year re-evaluation date _____ (Date)

Pre-Acquisition Compatibility Determination

Use

Wildlife Observation & Photography and Environmental Education & Interpretation

Refuge Name

Wallkill River National Wildlife Refuge

Establishing and Acquisition Authority

Wallkill River National Wildlife Refuge was established on November 16, 1990, by authorizing legislation Public Law 101-593.

Refuge Purposes

(1) to preserve and enhance the refuge lands and waters in a manner that will conserve the natural diversity of fish, wildlife, plants, and their habitats for present and future generations; (2) to conserve and enhance populations of fish, wildlife, and plants within the refuge, including populations of black ducks and other waterfowl, raptors, passerines, and marsh and water birds; (3) to protect and enhance the water quality of aquatic habitats within the refuge; (4) to fulfill international treaty obligations of the United States with respect to fish and wildlife and their habitats; and (5) to provide opportunities for compatible scientific research, environmental education, and fish and wildlife-oriented recreation. 104 Stat. 2955, dated Nov. 16, 1990.

“the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions....” 16 U.S.C. 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986)

“for the development, advancement, management, conservation, and protection of fish and wildlife resources....” 16 U.S.C. 742f(a)(4) “for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude...” 16 U.S.C. 742f(b)(1) (Fish and Wildlife Act of 1956)

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

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System is “to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”

Description of Use

(a) What is the use? Is the use a priority public use? The uses this pre-acquisition compatibility determination considers are wildlife observation and photography, and environmental education and interpretation. Wildlife observation and photography, and 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), as amended by the National Wildlife Refuge System Improvement Act of 1997.

(b) Where would the uses be conducted? We would allow wildlife observation and photography, and environmental education and interpretation on the parcels identified in alternative B (the service-preferred alternative) of the Draft Comprehensive Conservation Plan and Environmental Assessment (draft CCP/EA) for the Wallkill River National Wildlife Refuge wherever it is allowed at the time of acquisition. Alternative B identifies areas where the Service would seek to acquire land from willing sellers. The parcels identified have been open historically to the public. Although we are not aware of any formal environmental education and interpretation activities on this land, the four priority public uses under consideration are in keeping with the landowner’s policy of allowing public access.

(c) When would the use be conducted? We would conduct them on the refuge daily, year-round, from an hour before sunrise to an hour after sunset, unless a conflict with a management activity or an extenuating circumstance necessitates deviating from those procedures. Examples are closures for snow and ice storms or other events affecting human safety, or for nesting season and other sensitive times of the year.

(d) How would the use be conducted? Refuge staff would expand the current refuge wildlife observation, photography, and environmental education and interpretation programs to include the newly acquired areas. Interpretive signs would be installed along the refuge trail systems offering opportunities for environmental interpretation. For a complete list of all current activities associated with wildlife observation, wildlife photography, environmental education and interpretation, see alternative B of the draft CCP/EA.

(e) Why is this use being proposed? Before we could allow the interim uses under this compatibility determination, we will post the properties acquired. Regardless of their potential for wildlife-dependent public use, we would post them.

Availability of Resources

An updated Visitor Services Plan will identify any financial expenditure for the improvement of public use opportunities.

Anticipated Impacts of the Use

Wildlife observation and photography and environmental education and interpretation can produce positive or negative impacts on the wildlife resource. A positive effect of public involvement in these priority public uses will be better public appreciation and more complete understanding of the wildlife and habitats of the New Jersey and New York ecosystems. That can translate into more widespread, stronger support for the refuge, the Refuge System and the Service.

Direct Effects

Direct impacts are those that have an immediate effect on wildlife. We expect them to include the disturbance of wildlife by the presence of humans, which typically results in a temporary displacement. Some species will avoid areas people frequent, such as the developed trails and buildings on the refuge, while others seem unaffected or even drawn to human presence. Overall, direct effects should be insignificant, because most of the refuge will experience minimal public use.

Indirect Effects

When people move from one area to another, they can be vectors for the seeds or other propagules of invasive plants. Once established, invasive plants can out-compete native plants, thereby altering habitats and indirectly impacting wildlife. The threat of invasive plants establishing themselves will always be an issue requiring annual monitoring and, when necessary, treatment. Refuge staff will work at eradicating the invasive plants and educating refuge visitors.

Cumulative Effects

Our observations and knowledge of the areas involved show no evidence that, cumulatively, the proposed wildlife-dependent uses will have an unacceptable effect on the wildlife resources of the refuge. The former landowners have allowed the public to engage in these wildlife-dependent uses for many years without discernible negative effects. Although we do not expect a substantial increase in the impacts of public use in the near-term, it will be important for refuge staff to monitor public use and respond, if necessary, to conserve the high-quality wildlife resources of the refuge.

We expect no additional effects from wildlife observation and photography or environmental education or interpretation. Refuge staff will cooperate with volunteers in monitoring and evaluating the effects of public use to discern and respond to unacceptable impacts on wildlife or habitats.

Public Review and Comment

This draft compatibility determination will be made available for public review and comment for 30 days as an appendix to the draft Comprehensive Conservation Plan for Walkkill River National Wildlife Refuge.

Determination

_____ Use is not compatible

 X Use is compatible, with the following stipulations

Stipulations Necessary to Ensure Compatibility

We would monitor areas of public use at various times of the year to assess wildlife disturbance. Refuge publications and flyers would include information about proper wild lands etiquette and the effects of human impacts on habitat and wildlife resources. Periodic law enforcement would ensure compliance with regulations and area closures, and would discourage vandalism.

To limit wildlife disturbance caused by human intrusion, we may limit access on some trails during the fall migration to protect feeding and resting habitat for migratory birds. At that time, we may offer only guided tours, or we may close trails for certain periods. At all other times of the year, trails would be open to visitors during normal refuge hours.

We would ensure resource protection and visitor safety by providing full-time or seasonal law enforcement personnel to patrol areas and educate people about appropriate activities on refuge lands and lands we plan to acquire.

Justification

Wildlife observation and photography, and environmental education and interpretation are priority wildlife-dependent uses of the Refuge System through which the public can develop an appreciation for fish and wildlife (Executive Order No. 12996, March 25, 1996, and the National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997).

Service policy is to provide expanded opportunities for these uses when they are compatible and consistent with sound fish and wildlife management, and ensure that they receive our enhanced consideration in refuge planning and management. Allowing them on the parcels alternative B (the service-preferred alternative) of the draft CCP/EA identifies for acquisition will not materially interfere with or detract from the mission of the Refuge System or the purposes for which the refuge was established.

Project Leader _____ (Signature) _____ (Date)

Concurrence

Regional Chief _____ (Signature) _____ (Date)

Mandatory 15-year re-evaluation date _____ (Date)