



U.S. Fish and Wildlife Service

Wallkill River National Wildlife Refuge *Hunting Plan* *August 2021*



Deer at Wallkill River NWR - Karen VanDyk, USFWS

Appendix A – Compatibility Determination

Appendix B – Categorical Exclusion

Appendix C – Intra-Service Section 7 Evaluation

**Walkill River National Wildlife Refuge
Hunting Plan**

August 2021

U.S. Fish and Wildlife Service

**Walkill River National Wildlife Refuge
1547 Route 565
Sussex, New Jersey 07461**

Submitted By:
Project Leader

Signature

Date

Concurrence:
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Signature

Date

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WALLKILL RIVER NATIONAL WILDLIFE REFUGE HUNTING PLAN

I. Introduction

National wildlife refuges are guided by the mission and goals of the National Wildlife Refuge System (Refuge System), refuge-specific objectives and purposes, U.S. Fish and Wildlife Service (USFWS, Service) policy, and laws and international treaties. Relevant guidance includes the National Wildlife Refuge System Administration Act of 1966 (NWRSA), as amended by the Refuge System Improvement Act of 1997, Refuge Recreation Act of 1962, and selected portions of the Code of Federal Regulations and Fish and Wildlife Service Manual.

Wallkill River National Wildlife Refuge (NWR, refuge) was established in 1990 by Congress “to preserve and enhance 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 and to provide opportunities for compatible scientific research, environmental education, and fish and wildlife oriented recreation.” The refuge is located approximately 60 miles northwest of New York City in northeastern Sussex County, New Jersey and southern Orange County, New York. The refuge protects wetland and upland habitats supporting migratory birds, State and federally listed species, and regionally significant wildlife and plant communities in the Wallkill River watershed. These habitats include a rich matrix of riverine habitats, ponds, emergent marshes, fens, scrub-shrub wetlands, wooded swamps, mixed hardwood upland forests, grasslands and farmlands. Wallkill River NWR is managed as part of the Lenape NWR Complex. Other refuges in the Lenape Complex include: Cherry Valley NWR, Great Swamp NWR, and Shawangunk Grasslands NWR. The Refuge Complex headquarters is located in Sussex, New Jersey.

The mission of the Refuge System, as outlined by the NWRSA and amended by the Refuge System Improvement Act (16 U.S.C. 668dd et seq.), 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.”

The NWRSA mandates the Secretary of the Interior in administering the Refuge System to (16 U.S.C. 668dd(a)(4):

- Provide for the conservation of fish, wildlife, and plants, and their habitats within the Refuge System;
- Ensure that the biological integrity, diversity, and environmental health of the Refuge System are maintained for the benefit of present and future generations of Americans;
- Ensure that the mission of the Refuge System described at 16 U.S.C. 668dd(a)(2) and the purposes of each refuge are carried out;

- Ensure effective coordination, interaction, and cooperation with owners of land adjoining refuges and the fish and wildlife agency of the States in which the units of the Refuge System are located;
- Assist in the maintenance of adequate water quantity and water quality to fulfill the mission of the Refuge System and the purposes of each refuge;
- Recognize compatible wildlife-dependent recreational uses as the priority general public uses of the Refuge System through which the American public can develop an appreciation for fish and wildlife;
- Ensure that opportunities are provided within the Refuge System for compatible wildlife-dependent recreational uses; and
- Monitor the status and trends of fish, wildlife, and plants in each refuge.

Therefore, it is a priority of the Service to provide for wildlife-dependent recreation opportunities, including hunting and fishing, when those opportunities are compatible with the purposes for which the refuge was established and the mission of the Refuge System.

II. Statement of Objectives

The Wallkill River NWR Comprehensive Conservation Plan (CCP, 2009) identified the need to provide opportunities for priority wildlife-dependent recreation, including hunting. The objectives of the hunting program on Wallkill River NWR are to:

- Provide quality hunting opportunities for the public, especially youth and disabled persons who qualify for the State disability hunting permits, on refuge lands consistent with State regulations;
- Utilize hunting as a refuge management tool to enhance biological diversity and habitat quality through management of game populations, especially white-tailed deer, consistent with State regulations; and.
- Foster good neighbor relations through game management to limit crop and other damages.

In summary, Wallkill River NWR will better align with New Jersey and New York State programs on methods of take, days of the week, and hunter orange requirements. There would be no changes to the species open for hunting on the refuge. To reduce barriers to participation in the hunting program, the refuge will eliminate individual hunting permits for game species and offer one annual refuge hunt permit, which will be valid for the calendar year and include all refuge game seasons. The fee for the proposed annual refuge hunt permit will decrease from \$100 (current all game combination permit fee) to \$30 (reflects the current fee for an “a la carte” game permit). The use of non-toxic ammunition proposed for upland game hunting opportunities will be required upon implementation of this plan in 2021. The refuge staff will provide

information to assist in a valuable transition period that benefits fish, wildlife, and people. We will continue to encourage use of non-toxic ammunition for other hunts and will educate hunters and anglers about lead and its impacts.

The updated hunting program would further align the refuge with the Department of the Interior's Secretarial Order 3356, which directs the Service to enhance and expand public access to lands and waters on national wildlife refuges for hunting, fishing, recreational shooting, and other forms of outdoor recreation. By promoting one of the priority public uses of the Refuge System, we would also promote the stewardship of our natural resources and increase the public's appreciation and support for the refuge.

III. Description of Hunting Program

A. Areas Open to Hunting

The Wallkill River NWR hunting program is designed to provide compatible public hunting opportunities that support refuge objectives while minimizing conflicts with non-hunting user groups. The hunt area is comprised of riparian corridors, old fields, scrub-shrub meadows, forests, and wetlands.

Deer, bear, turkey, upland and small game, and migratory bird hunting would be permitted on all refuge units except for the Liberty Marsh complex (335 acres) and the Owens Station Crossing Facility (188 acres). The hunt area at 119 Owens Station Road (117 acres) would open for persons who qualify under the state disability hunting permits, only and the Kenely/Simpson tract (200 acres) would open for mentored hunting programs only.

Nationwide, there is concern about the bioavailability of spent lead ammunition (bullets) and sinkers on the environment, endangered and threatened species, birds (especially raptors), mammals, and other fish and wildlife susceptible to biomagnification. Lead shot and bullet fragments found in animal carcasses and gut piles are the most likely source of lead exposure (Kelly et al. 2011). Many hunters do not realize that the carcass or gut pile they leave in the field usually contains lead bullet fragments. Research continues on the effects of lead ammunition and the fragments it can deposit in killed game. Avian predators and scavengers can be susceptible to lead poisoning when they ingest lead fragments or pellets in the tissues of animals killed or wounded by lead ammunition. Lead poison may weaken raptors and increase mortality rate by leaving them unable to hunt or more susceptible to vehicles or power line accidents (Kramer and Redig 1997). In a study of bald eagles and golden eagles admitted to the Raptor Rehabilitation Program at the College of Veterinary Medicine of Washington State University from 1991 to 2008, it was found that 48 percent of bald eagles and 62 percent of golden eagles tested had blood lead levels considered toxic by current standards. Of the bald and golden eagles with toxic lead levels, 91 percent of bald eagles and 58 percent of golden eagles were admitted to the rehabilitation facility after the end of the general deer and elk hunting seasons in December (Stauber 2010). The required use of non-toxic ammunition is proposed for upland game hunting opportunities and will be required upon implementation of this plan in 2021. Furthermore, to move towards the reduction and future elimination of the threat from lead use on the refuge, we intend to implement a lead

fishing tackle restriction that will be proposed in the upcoming draft of the refuge's Fishing Plan and Fishing Compatibility Determination. During this transition periods, the refuge staff will provide information to assist in a valuable transition to non-toxic alternatives that benefit fish, wildlife, and people. We will continue to encourage use of non-toxic ammunition for other hunts along with fishing, and will educate hunters and anglers about lead and its impacts.

B. Species to be Taken, Hunting Periods, Hunting Access

Hunting seasons will be set annually by the New Jersey Division of Fish and Wildlife (NJDFW) and the New York State Department of Environmental Conservation (NYSDEC). Refuge hunting will occur during State seasons but may include additional restrictions on season dates and times. The refuge will continue to recognize and allow youth hunting days established by both States.

All refuge areas except for the Liberty Marsh Complex (335 acres) and the Owens Station Crossing site (188 acres) would be accessible for hunting (see Figure 1. Wallkill River NWR Hunt Map). In addition to public trailhead parking areas, hunters may access the refuge from established hunt lots located throughout the refuge.

A specially designated area for disabled hunters exists at 119 Owen's Station Rd. Sussex, NJ. Only disabled hunters with a New Jersey permit to hunt or shoot from a stationary vehicle may access this area.

Big Game Hunting – We allow the hunting of white-tailed deer, black bear, and wild turkey on designated areas of the refuge in accordance with State seasons and regulations subject to the following condition: On refuge lands within New York, white-tailed deer hunting is permitted on Sundays. On refuge lands in New Jersey, white-tailed deer hunting is not permitted on Sundays.

Upland Game Hunting – We allow coyote, fox, crow, ruffed grouse, opossum, raccoon, pheasant, chukar, rabbit, hare, jackrabbit, squirrel, and woodchuck hunting on designated areas of the refuge in accordance with regulations and seasons set forth by the States of New Jersey and New York, subject to the following conditions:

- Night hunting is prohibited.
- Rifle hunting for woodchuck is prohibited (as per NJ Wildlife Management Area and State land regulations).
- Falconry is not a permitted method of take.
- We require the use of non-toxic ammunition for hunting upland game.
- On refuge tracts located in New York, we allow hunting for quail, bobcat, mink, skunk, and weasel in addition to the species listed above.

Migratory Bird Hunting – We allow migratory bird hunting on designated areas of the refuge in accordance with State seasons and regulations.

C. Hunter Permit Requirements

Hunters must obtain an annual Wallkill River NWR hunting permit in addition to all applicable State licenses/permits prior to hunting or scouting. The refuge hunting permit would cost \$30 (\$25 refuge fee, \$5 processing fee), would be valid from January 1 through December 31, and include all huntable game for both New Jersey and New York refuge lands. This is a decrease in cost compared to the current fee program where permits are sold individually for \$30 each (\$5 for bear) or purchased as a combination permit (all game except bear) for \$100. Youth hunting permits would remain free of charge. Permit fees help to defray costs of administering the hunt program, including permit oversight, website maintenance, and hunt brochure/map updates. Fees also go towards maintaining and improving public use areas on the refuge, including hunter parking lots and associated signage. Additionally, the number of permits issued by the refuge help to monitor hunter use and access. Permits also ensure hunters acknowledge the refuge rules and regulations prior to engaging in the season's activities.

D. Consultation and Coordination with the State

The refuge consulted with the State of New Jersey extensively while writing their 2014 hunting plan. The State supported the 2014 plan, which included new opportunities for bear and small game hunting. The Service's Regional Hunting/Fishing Chief reached out to consult with the States of New Jersey and New York in September 2019 on proposed alignments. Both States fully supported the refuge aligning with their respective States hunting programs.

In January 2021, the refuge engaged with the State of New Jersey to discuss our intent to require the use of non-toxic ammunition for hunting upland game species on the refuge. The State was supportive of the addition of this requirement. Refuge staff will continue to communicate with State partners regarding the proposed changes for the hunting plan.

E. Law Enforcement

The enforcement of violations normally associated with the management of a NWR is the responsibility of commissioned Federal Wildlife Officers (FWOs). Other officers, Special Agents, State Conservation Officers, and local police officers often assist Wallkill River NWR in the enforcement of its laws and regulations. The following methods will be used to control and enforce hunting regulations:

- Refuge boundaries will be clearly posted;
- The refuge will provide a brochure that shows hunt areas;

- Law enforcement officers will randomly check hunters for compliance with Federal and State laws, as well as refuge-specific hunting regulations; and
- Information will be made available at the Wallkill River NWR visitor center and on the refuge website.

F. Funding and Staffing Requirements

Costs associated with administering the hunt program will be approximately \$25,000 annually (Table 1). This amount is based on salaries for personnel, creation and distribution of hunting information, permit system administration, signage, and other miscellaneous expenses.

Table 1. Funding and Staffing Requirements

Identifier	Cost
Staff (Admin Assistant, Refuge Specialist, Maintenance, Refuge Manager)	\$17,000
Maintain roads, parking lots, trails*	\$1,000
News releases, fact sheets, reports for Hunt Program	\$1,000
Maintain signage – hunt lot signs, boundary signs	\$1,000
Law Enforcement	\$5,000
Total Annual Cost	\$25,000

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

IV. Conduct of the Hunting Program

A. Hunter Permit Application, Selection, and/or Registration Procedures

Hunters must obtain an annual Wallkill River NWR hunting permit prior to hunting or scouting. Permits are valid from January 1 to December 31 and can be purchased online at: <https://wallkillriver.recaccess.com> at any time. New season permits will go on sale by January 1 of the new calendar year.

With over 5,000 acres available for hunting, the refuge aims to manage for about 15-20 acres of land per hunter per day afield. The refuge has never observed over 250 hunters afield in a day, and permit sales have remained below that threshold for any given game species in the past.

Refuge-specific hunting regulations and current hunt maps are available to download and/or print from the permit website above. Hunters are required to acknowledge that they have reviewed the refuge regulations prior to purchasing a permit.

B. Refuge-Specific Hunting Regulations

To ensure compatibility with refuge purposes and the mission of the Refuge System, hunting must be conducted in accordance with State, Federal, and refuge-specific regulations and information sheets/brochures. The required use of non-toxic ammunition is proposed for upland game hunting opportunities and will be required upon implementation of this plan in 2021. We will continue to encourage use of non-toxic ammunition for other refuge hunts, and will educate hunters and anglers about lead and impacts. Stipulations are detailed in the Hunting Compatibility Determination (Appendix A). The following hunting procedures apply at Wallkill River NWR:

- We require the use of non-toxic ammunition while hunting upland game.
- Hunters must obtain a refuge hunting permit. We require hunters to possess a signed refuge hunting permit at all times while scouting and hunting on the refuge.
- Hunters may enter the refuge 2 hours before legal shooting time in the morning and must leave no later than 2 hours after legal shooting time in the evening. Night hunting is prohibited.
- We prohibit organized deer drives. We define a “deer drive” as an organized or planned effort to pursue, drive, chase, or otherwise frighten deer into moving in the direction of any person(s) who is part of the organized or planned hunt and known to be waiting for the deer.

C. Relevant State Regulations

Hunters are responsible for knowing and complying with all applicable New Jersey and/or New York regulations, including safety zones, and other State requirements.

D. Other Refuge Rules and Regulations for Hunting

- Hunters must carry their refuge hunting permit on their person at all times while hunting or scouting. Permits are not transferrable. Permits are not valid until signed.
- Parking permits (included with hunting permit) must be clearly visible on vehicle dashboard. Overnight parking is prohibited. Blocking gates or roadways with vehicles is prohibited.
- Scouting is permitted 2 weeks prior to any season opening. Firearms and archery equipment are prohibited while scouting. Hunter orange must be worn if scouting is conducted during any firearms season.
- Only portable tree stands may be used. Screw-in steps are prohibited. All stands must be removed by the end of the season.

- The use of falcons is prohibited.

V. Public Engagement

A. Outreach for Announcing and Publicizing the Hunting Program

The refuge maintains a mailing list of local newspapers, radio, and websites for news release purposes. Special announcements and articles may be released in conjunction with hunting seasons. Additionally, information about the hunt will be available at Wallkill River NWR headquarters or on the refuge's website and social media accounts.

B. Anticipated Public Reaction to the Hunting Program

Hunting has been allowed on Wallkill River NWR for more than 25 years and little negative public reaction has occurred for deer, turkey, migratory bird, or small game hunting. Public comments received while writing the 2009 CCP indicated that bear hunting could draw some criticism from the public. However, since allowing bear hunting in 2014 and having bear season open in conjunction with the NJDFW annually, the refuge has not received any negative feedback from the public. The Hunting Plan and Compatibility Determination (CD) were coordinated with all interested and/or affected parties, including States' staff. The public was notified of the availability of the Hunting Plan and accompanying CD with a 90-day review and comment period, from April 7 to July 6, 2021. We informed the public through local venues, the refuge website, and social media. No comments were received, and no substantive changes made between draft and final versions.

C. How Hunters Will Be Informed of Relevant Rules and Regulations

Refuge-specific hunting regulations and current hunt maps are available to download or print from the permit website at any time. Hunters are required to acknowledge that they have reviewed the refuge regulations prior to purchasing a permit. Requiring hunters to obtain a permit each year helps to ensure refuge rules and regulations are reviewed and abided by.

General information regarding hunting and other wildlife-dependent public uses can be obtained at Wallkill River NWR headquarters or by calling (973) 702-7266. Dates, forms, hunting unit directions, maps, applications, and permit requirements about the hunt will also be available at the refuge website: www.fws.gov/refuge/Wallkill_River.

Refuge headquarters are located at:

1547 Route 565
Sussex, New Jersey 07461

IV. Compatibility Determination

Hunting and all associated program activities proposed in this plan are compatible with the purposes of the refuge. See attached Hunting Compatibility Determination (Appendix A). The

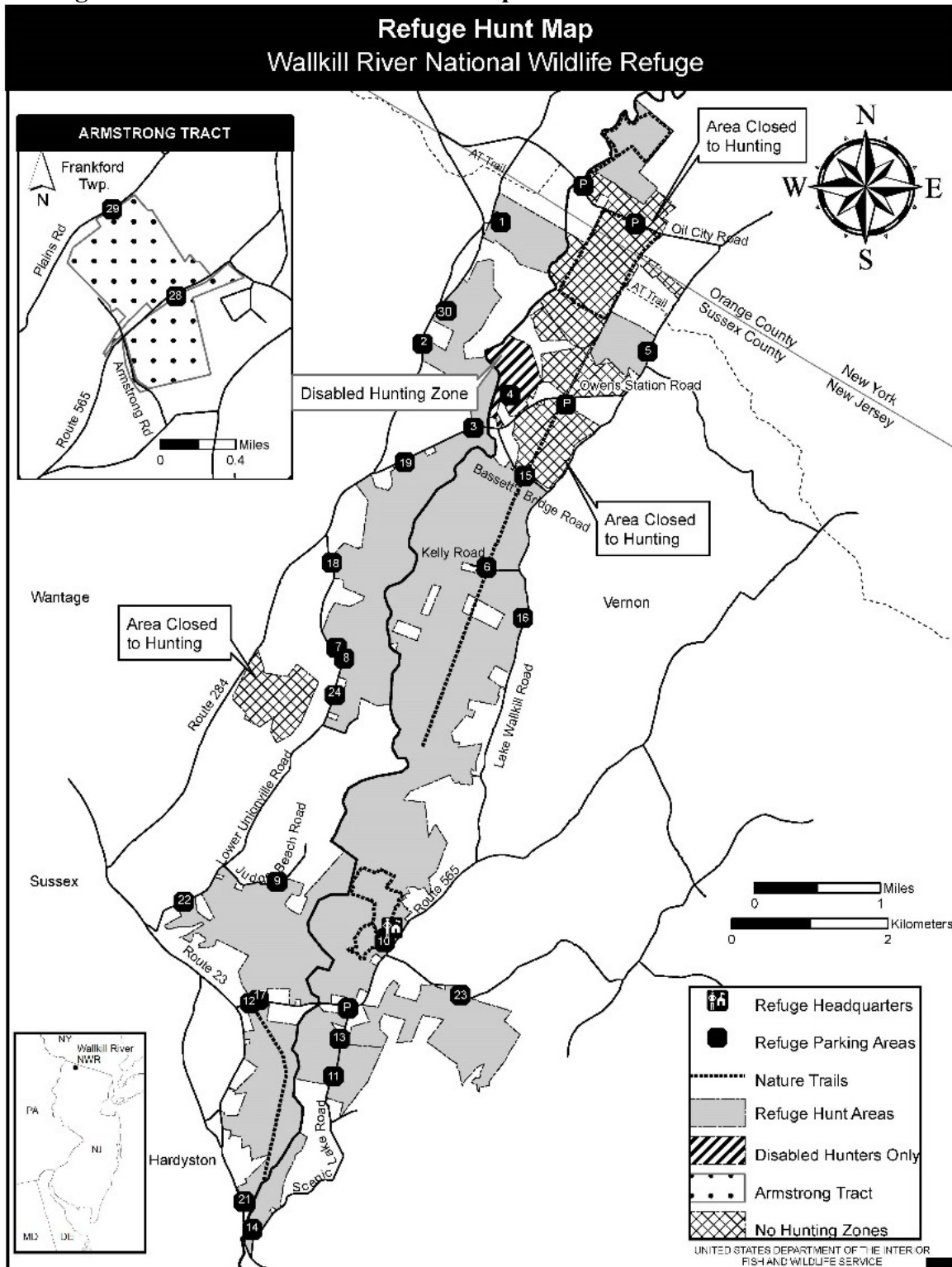
proposed phase out of lead tackle for fishing will be incorporated in the refuges' upcoming Fishing Plan and Compatibility Determination.

References

U.S. Fish and Wildlife Service. 2009. Wallkill River National Wildlife Refuge Comprehensive Conservation Plan. Prepared by Edward Henry, Sussex, NJ, 358 pp.

U.S. Fish and Wildlife Service. 2014. Wallkill River National Wildlife Refuge Hunt Plan. Prepared by Marilyn Kitchell, Sussex, NJ.

Figure 1. Wallkill River NWR Hunt Map



COMPATIBILITY DETERMINATION

USE: Hunting

REFUGE NAME: Wallkill River National Wildlife Refuge

DATE ESTABLISHED: November 16, 1990

ESTABLISHING AND ACQUISITION AUTHORITIES:

Public Law 101-593, approved November 16, 1990 (104 Stat. 2955), authorized acquisition of 7,500 acres for Wallkill River National Wildlife Refuge (NWR, refuge) in New Jersey and New York.

We anticipate that the U.S. Fish and Wildlife Service (Service) will continue to acquire lands under the same authorities that have been used to acquire lands in the past. Based on the refuge purposes, lands could also be acquired under several other legislative authorities, including but not limited to:

- Emergency Wetlands Resources Act of 1986 [16 U.S.C. 3901(b)]
- Migratory Bird Conservation Act [16 U.S.C. 715d]
- Fish and Wildlife Act of 1956 [16 U.S.C. 742f(a)(4)]
- Refuge Recreation Act [16 U.S.C. 460K-1]
- Endangered Species Act [16 U.S.C. 1534]

REFUGE PURPOSES:

The purposes for Wallkill River NWR are:

- 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;
- 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;
- To protect and enhance the water quality of aquatic habitats within the refuge;
- To fulfill international treaty obligations of the United States with respect to fish and wildlife and their habitats; and

- To provide opportunities for compatible scientific research, environmental education, and fish and wildlife-oriented recreation (P.L.101-593, (104 Stat. 2955)).

NATIONAL WILDLIFE REFUGE SYSTEM MISSION:

The mission of the National Wildlife Refuge System (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” (Refuge System Improvement Act of 1997, Public Law 105-57).

DESCRIPTION OF USE:

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

The use is public hunting of migratory birds (waterfowl, woodcock, snipe, rails, gallinules), upland/small game (coyote, fox, crow, ruffed grouse, opossum, raccoon, pheasant, chukar, rabbit/hare/jackrabbit, squirrel, and woodchuck) and big game (deer, bear, wild turkey) in accordance with existing Federal, State, local, and refuge-specific regulations (50 CFR 32.49).

Hunting was identified as one of six priority public uses of the Refuge System by the Refuge System Administration Act of 1966, as amended by the Refuge System Improvement Act of 1997 (Public Law 105-57), when found to be compatible.

(b) Where would the use be conducted?

The Wallkill River NWR hunting program is designed to provide compatible public hunting opportunities that support refuge objectives, while minimizing conflicts with other user groups. The hunt area is comprised of riparian corridors, old fields, scrub-shrub meadows, forests, and wetlands. A permanent no-hunting area is maintained in the 335-acre Liberty Marsh complex and 118-acre Owen’s Station Crossing Recreational Area.

All refuge areas except for the Liberty Marsh Complex (335 acres) and the Owens Station Crossing Recreational Area (188 acres) would be open for public hunting. Designated areas for specialized user groups include the (1) Disabled Hunter Area at 119 Owen’s Station Rd and (2) Mentored Hunt Program Area at the Kenely tract. We will allow hunters access to all huntable portions of the refuge. Hunter parking lots and access points will be delineated on annual refuge hunt maps.

(c) When would the use be conducted?

Hunting seasons will be set annually by the New Jersey Division of Fish and Wildlife (NJDFW) and the New York State Department of Environmental Conservation (NYSDEC) as stipulated within their respective Hunting and Trapping Digests/guides, and will be reiterated in the refuge’s annual regulations which may contain further restrictions. Hunters may enter the refuge 2 hours before legal shooting time in the morning and must leave no later than 2 hours after legal shooting time in the evening. Night hunting is prohibited.

(d) How would the use be conducted?

Hunters must obtain an annual Wallkill River NWR hunting permit in addition to all applicable

State licenses/permits prior to hunting or scouting. The refuge hunting permit would cost \$30 (\$25 refuge fee, \$5 processing fee), would be valid from January 1 through December 31, and include all huntable game for both New Jersey and New York refuge tracts. Youth hunting permits would remain free of charge.

Refuge-specific hunting regulations and current hunt maps are available to download and/or print from the permit website. Hunters are required to acknowledge that they have reviewed the refuge regulations prior to purchasing a permit.

The refuge will adopt youth hunts as stipulated within the respective annual Hunting and Trapping Digests/guides. Accommodations will be made to provide opportunities for hunters with disabilities, who may hunt within a special hunting area (access for disabled hunters only) at 119 Owens Station Road in New Jersey.

We propose to prohibit the use of lead ammunition for upland game hunting on the refuge. It is well known that lead is a potent neurotoxin for wildlife. Prohibiting the use of lead ammunition at Wallkill NWR is consistent with the lead shot ban for waterfowl that inhabit the same pond, marsh and open water habitats where hunting may occur. This action is intended to reduce the unintentional introduction of a known neurotoxin into habitats used by diving ducks, loons, eagles, and other wildlife species sensitive to the effects of lead. The requirement for use of non-toxic ammunition will apply to all upland game hunting opportunities. We will continue to encourage use of non-toxic ammunition for other hunts and will educate hunters about lead and potential impacts.

Specific hunting regulations and procedures will be described in the annual refuge regulations (50 CFR 32.49 and 32.51) and refuge hunt information sheets. The refuge hunting program will be reviewed annually to ensure management goals are achieved and that the program is providing a safe, high-quality hunting experience for participants.

(e) Why is the use being proposed?

Hunting is a priority use identified by the Refuge Improvement Act of 1997. The Wallkill River NWR Comprehensive Conservation Plan (CCP) identified the need to provide opportunities for priority wildlife-dependent recreation, including hunting. The CCP also established (amongst other) the following goals:

- Protect and enhance habitats for federal trust species and other species of special management concern, with particular emphasis on migratory birds and bog turtles.
- Increase or improve opportunities for hunting, fishing, environmental education, interpretation, wildlife observation and wildlife photography.

The objectives of the hunting program on Wallkill River NWR are to:

- Provide quality hunting opportunities for the public, especially youth and disabled persons who qualify for state disability hunting permits, on refuge lands consistent with State regulations;

- Utilize hunting as a refuge management tool to enhance biological diversity and habitat quality through management of game populations, especially white-tailed deer, consistent with State regulations; and.
- Nurture good neighbor relations through game management to limit crop and other damages.

The updated hunting program would further align the refuge with the Department of the Interior’s Secretarial Order 3356, which directs the Service to enhance and expand public access to lands and waters on national wildlife refuges for hunting, fishing, recreational shooting, and other forms of outdoor recreation. By promoting one of the priority public uses of the Refuge System, we would also promote the stewardship of our natural resources and increase the public’s appreciation and support for the refuge.

AVAILABILITY OF RESOURCES:

Costs associated with administering the hunt program total approximately \$25,000. This amount is based on salaries for personnel, creation and distribution of hunting information, permit system administration, signage, and other miscellaneous expenses. Wallkill River NWR is managed as part of the Lenape National Wildlife Refuge Complex. Other refuges in the Lenape Complex include: Cherry Valley NWR, Great Swamp NWR, and Shawangunk Grasslands NWR. The Refuge Complex headquarters is located in Sussex, New Jersey.

Table 1. Funding and Staffing Requirements

Identifier	Cost
Staff (Admin Assistant, Refuge Specialist, Maintenance, Refuge Manager)	\$17,000
Maintain roads, parking lots, trails*	\$1,000
News releases, fact sheets, reports for Hunt Program	\$1,000
Maintain signage – hunt lot signs, boundary signs	\$1,000
Law Enforcement	\$5,000
Total Annual Cost	\$25,000

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

ANTICIPATED IMPACTS OF THE USE:

We expect only minimal impacts from continuing to allow hunting on the refuge. A more detailed impact analysis is described in the Wallkill River NWR Hunt Plan and Environmental Assessment (2014).

Big and Upland Game Hunting

Big and upland game hunting is managed on a statewide basis in accordance with approved New York and New Jersey State management plans. Impacts from big and upland game hunting may include temporary disturbance of wildlife or visitors, changes in wildlife

behavior, and changes in wildlife populations. White-tailed deer hunting may have a small positive impact on refuge resources, as managing deer populations can prevent over-browsing, disease, and habitat damage. Deer densities are high in the area of the refuge and reducing densities of 12 to 15 deer per square mile would benefit natural resources and human health and safety (Tilghman 1989, DeCalesta 1994, DeNicola and Williams 2008, Kirkpatrick and LaBonte 2007). Hunting is the most feasible management tool available to control deer populations on the refuge. In New Jersey, the refuge falls within Deer Management Zone (DMZ) 2. Over the last 5 years, 3,445 deer permits were sold on average for DMZ 2 with an approximate harvest of 2,285 deer per year. Of this total, an average of 72 deer were reported as harvested on the refuge each year (NJDFW. Harvest Summary Table by Zone and Season, 2014-2020). In New York, the refuge falls within Wildlife Management Unit (WMU) 3M. In this area, evidence of over-browsing is evident and the deer herd is controlled through targeted hunting (Clarke 2012, unpublished data). In 2013, a total of 8,367 deer were harvested in WMU 3M, with an average of 11.2 deer harvested per-square-mile (NYSDEC 2013a). Anticipating that the refuge hunt will not result in more than 20 additional hunters in either DMZ 2 or WMU 3M, the refuge's hunt program will not result in negative impacts to white-tailed deer populations.

Bear hunting can also help maintain bear populations within the target densities set by New York and New Jersey. Increasing human development and the coincidental increase of the bear populations has resulted in an increase in human-bear conflicts in both New York and New Jersey. Hunting is the most feasible management tool available to control bear populations on the refuge. In the area of the refuge, bear density is approximately 1.6 bears per-square-mile, which is four times the recommended density for black bear populations.

Although the refuge does not conduct formal surveys or research to quantify bear use of the refuge, bear and their signs (i.e., tracks, scat, etc.) are commonly observed. Based on estimates found within the State's 2010 Black Bear Management Plan (New Jersey Department of Environmental Protection [NJDEP], 2010), the refuge could provide habitat for about 13 bears (8 square miles with 1.6 bears per-square-mile). Bear hunting on the refuge opened in 2016. The number of bear permits sold remain low. It is likely that refuge hunters purchase a bear permit just in case opportunity arises during other hunting pursuits such as deer and turkey. Approximately 60 bear permits are sold annually. We have only observed a total of 4 bears harvested from the refuge since opening in 2016.

The refuge has been open to turkey hunting since 1997, and over the last 7 years has averaged 83 permit sales per year. The New Jersey portion of the refuge falls within NJ Turkey Area 5. Over the last 5 years, an average of 151 turkeys were harvested in Turkey Area 5 annually, with an average of 61 birds harvested on the refuge. From 2013 to 2014, the permit quota for turkey hunting in Area 5 has been 325 permits per week; however, less than 150 individuals have expressed interest in hunting this area (NJDFW. Wild Turkey Harvests and Population Estimates, 1981-2020). The New York portion of the refuge is located in Orange County where, in 2013, 461 turkeys were harvested in the spring and 207 turkeys were harvested in the fall. A portion of the County's annual harvest would occur on the refuge; however, that amount is expected to be very low as minimal turkey habitat is found on New York tracts of the refuge. The refuge expects fewer than 5 turkeys will be harvested on New York tracts

annually. We do not estimate that turkey hunting on the refuge will detrimentally affect local or regional turkey populations.

Upland game and small game hunting will be managed by the respective State with annual bag limits to prevent negative impacts to local, State, or regional populations. Based on recent trends, we anticipate that perhaps 20 small game permits would be sold annually, resulting in the anticipated harvest of approximately 25 rabbits, 25 squirrels, and 10 woodchucks. Grouse are rarely seen on the refuge and we anticipate that few grouse hunters would seek the refuge as a hunting destination; few to none are likely to be harvested. Furbearer hunting on the refuge is likely to be limited to the incidental take of furbearer species encountered during outings for other game such as deer and turkey, and will likely be limited to single-digit harvest of raccoon, fox, coyote, and opossum. These harvest levels represent just a tiny fraction of the Statewide annual harvests and would have minimal impacts on populations.

Nationwide, there is concern about the bioavailability of spent lead ammunition (bullets) and sinkers on the environment, endangered and threatened species, birds (especially raptors), mammals, and other fish and wildlife susceptible to biomagnification. Lead shot and bullet fragments found in animal carcasses and gut piles are the most likely source of lead exposure (Kelly et al. 2011). Many hunters do not realize that the carcass or gut pile they leave in the field usually contains lead bullet fragments. Research continues on the effects of lead ammunition and the fragments it can deposit in killed game. Avian predators and scavengers can be susceptible to lead poisoning when they ingest lead fragments or pellets in the tissues of animals killed or wounded by lead ammunition. Lead poison may weaken raptors and increase mortality rate by leaving them unable to hunt or more susceptible to vehicles or power line accidents (Kramer and Redig 1997). In a study of bald eagles and golden eagles admitted to the Raptor Rehabilitation Program at the College of Veterinary Medicine of Washington State University from 1991 to 2008, it was found that 48 percent of bald eagles and 62 percent of golden eagles tested had blood lead levels considered toxic by current standards. Of the bald and golden eagles with toxic lead levels, 91 percent of bald eagles and 58 percent of golden eagles were admitted to the rehabilitation facility after the end of the general deer and elk hunting seasons in December (Stauber 2010). The negative impacts of lead on wildlife are documented and clear (Golden et al. 2016 and Grade et al. 2019). To move towards reduction and future elimination of this threat on the refuge, the requirement to use non-toxic ammunition is proposed for upland game hunting opportunities and will be required upon implementation of this plan in 2021. We will continue to encourage use of non-toxic ammunition for other hunts and will educate hunters about lead and potential impacts.

Migratory Bird Hunting

Migratory birds are managed on a flyway basis and hunting regulations are established in each State based on flyway data. Federal and State regulations apply in the refuge waterfowl hunt. Hunting waterfowl on the refuge would reduce the total numbers of birds in the flyway, but harvest would be within allowable limits as determined by the Service annually. Based on estimates from the USFWS Harvest Information Program (Klimstra et al. 2013), we anticipate that an annual average of 937 ducks, 893 geese, and 44 woodcock may be harvested from permit sales for New Jersey refuge lands. This represents 0.01 percent of the Statewide waterfowl harvest, 0.01 percent of the woodcock harvest, and 0.02 percent of the goose

harvest in 2012 (Klimstra et al. 2013). Based on New York estimates from the Harvest Information Program (Klimstra et al. 2013), we anticipate that an annual average of 40 ducks, 36 geese, and 1 to 2 woodcock may be harvested from permit sales for New York lands.

Historically, the principal cause of lead poisoning in waterfowl was the collection of high densities of lead shot in wetland sediments associated with migratory bird hunting activities (Kendall et al. 1996). In 1991, as a result of high bird mortality, the Service instituted a nationwide ban on the use of lead shot for hunting waterfowl and coots (50 CFR 32.2(k)). The Service requires any new shot types for waterfowl and coot hunting to undergo rigorous testing in a three-tier approval process that involves an ecological risk assessment and an evaluation of the candidate shot's physical and chemical characteristics, short- and long-term impacts on reproduction in waterfowl, and potential toxic impacts on invertebrates (50 CFR 20.134). Because of this rigorous testing, the shot toxicity issue of the past is substantially less of an ecological concern. However, there remains a concern about the bioavailability of spent lead ammunition (bullets) and sinkers on the environment, endangered and threatened species, birds, mammals, and humans or other fish and wildlife susceptible to biomagnification

Hunting may result in disturbance to target and non-target birds, altering their regular behavior. This altered behavior may change foraging patterns (Skagen et al. 1991), increase distraction displays, or cause birds to leave or completely avoid the disturbed areas (Burger et al. 1995). Additionally, the higher level of vigilance required reduces the time available for foraging, which places increased stress on adults trying to find food and may affect their survival (Marcum 2005).

Habitat and Vegetation

Hunters traverse large areas of the refuge landscape and walk off-trail in areas not used by other visitors. This has the potential to result in impacts to refuge habitats and vegetation. Foot traffic can affect habitats by creating new pathways, trampling vegetation, and causing minor erosion. Only minor impacts to habitat and vegetation are anticipated.

Visitor Use and Experience

Hunting may result in conflicts between user groups on the refuge, especially in shared spaces like trails and parking areas. For the duration of the hunt period, trails and public use areas will be surrounded by safety zones to ensure visitor safety. Signage will go up at refuge kiosks and information will be placed on the refuge website to inform the public of the hunt. If unforeseen conflicts arise, the refuge manager may either further restrict hunting or limit other public uses during the hunting season to ensure public safety and provide a climate for productive coexistence of visitor uses.

Other Impacts

Deer, bear, small/upland game, migratory game bird, and turkey hunting opportunities exist within the refuge's hunting program. The refuge proposed minor changes to come into greater alignment with NJDFW and NYSDEC hunting programs to (1) increase continuity between State and refuge regulations, (2) support meeting the State's management goals, (3) continue to achieve refuge management goals through hunting.

In summary, Wallkill River NWR will better align with New Jersey and New York State programs on methods of take, days of the week, and hunter orange requirements. The required use of non-toxic ammunition for upland game hunting opportunities will be required upon implementation of this plan in 2021. There would be no changes to the species open for hunting on the refuge. To reduce barriers to the hunting program, the refuge will lower the number and cost of refuge permits required to participate in the refuge hunt.

Because of the regulatory process for harvest management in place within the Service, hunting seasons have been set largely outside of the breeding seasons of resident and migratory wildlife. Individual refuge hunt programs have the ability to adopt refuge-specific regulations to changing local conditions. The refuge hunt program is designed to be sustainable, given relatively stable conditions, particularly because of close coordination with NJDFW and NYSDEC. The proportion of the refuge's harvest of these species is negligible when compared to local, regional, and statewide populations and harvest. With these factors, we anticipate no significant impacts from hunting on resident wildlife, migratory birds and non-hunted wildlife on the refuge.

PUBLIC REVIEW AND COMMENT:

This Compatibility Determination (CD) is part of the Wallkill River NWR Hunting Plan and the accompanying NEPA compliance, and was coordinated with all interested and/or affected parties, including States' staff. The public was notified of the availability of the Hunting Plan and accompanying CD with a 90-day review and comment period, from April 7 to July 6, 2021. We informed the public through local venues, the refuge website, and social media. No comments were received, and no substantive changes made between draft and final versions.

DETERMINATION (CHECK ONE BELOW):

Use is not compatible

Use is compatible, with the following stipulations

STIPULATIONS NECESSARY TO ENSURE COMPATIBILITY:

To ensure compatibility with refuge purpose(s) and Refuge System mission, hunting can occur at Wallkill River NWR in accordance with State and Federal regulations, and special refuge-specific restrictions to ensure that wildlife and habitat management goals are achieved, and that the program is providing a safe, high-quality hunting experience for participants. This hunting program will be monitored and potentially modified or eliminated if any the program's components are found not compatible. The negative impacts of lead on wildlife are documented and clear (Golden et al. 2016 and Grade et al. 2019). To move towards reduction and future elimination of this threat on the refuge, the requirement to use non-toxic ammunition is proposed for upland game hunting opportunities and will be required upon implementation of this plan in 2021. We will continue to encourage use of non-toxic ammunition for other hunts and will educate hunters about lead and potential impacts.

The following stipulations are necessary to ensure compatibility:

LITERATURE CITED:

- Environmental Assessment of 2014 Hunt Plan for Wallkill River NWR, Compatibility Determination, Refuge Specific Regulations, Intra-Service Section 7 Evaluation.
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- New Jersey Division of Fish and Wildlife. [Harvest Summary Table by Zone and Season, 2014-2020](http://www.njfishandwildlife.com/deer.htm). Accessed on 1 January 2021 <http://www.njfishandwildlife.com/deer.htm>

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- New York State Department of Environmental Conservation. 2013b. New York State Black Bear Harvest Summary 2013. Retrieved 6 May 2014. http://www.dec.ny.gov/docs/wildlife_pdf/bb13summary.pdf.
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- New York State Department of Environmental Conservation. 2014b. Fall Turkey Take by County. Retrieved 6 May 2014. <http://www.dec.ny.gov/outdoor/30412.html>.
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- U.S. Fish and Wildlife Service. 2009. Wallkill River National Wildlife Refuge Comprehensive Conservation Plan. Prepared by Edward Henry, Sussex, NJ. 358 pp.

NOTE TO FILE

**U.S. FISH AND WILDLIFE SERVICE
ENVIRONMENTAL ACTION STATEMENT FOR
CATEGORICAL EXCLUSION**

The Service is further aligning hunting opportunities with the states of New Jersey and New York for species currently open to hunting on 5,000 acres of the Wallkill River National Wildlife Refuge in accordance with the refuge's Hunting Plan.

The Service has fully satisfied the other requirements for expanding these opportunities on the refuge, including:

determining that the opportunities are compatible with the purposes for which the refuge was established and the mission of the National Wildlife Refuge System (see attached);

ensuring the opportunities are consistent with existing State, local, and refuge-specific regulations (50 CFR 32.49 and 32.51);

*Use of signs and brochures may supplement the refuge-specific regulations

complying with the National Environmental Policy Act (see attached);

complying with the Endangered Species Act section 7 evaluation (see attached);

OR N/A because there are no candidate, threatened or endangered species present;

complying with the National Historic Preservation Act section 106
consultation (see attached);

OR N/A because there are no cultural or historic resources present;

The Service is, therefore, waiving the requirement to prepare an opening package in compliance with Service policy (605 FW 2.9A).

Signature _____

Date: _____

Title _____

CATEGORICAL EXCLUSION CHECKLIST FOR NEPA COMPLIANCE

Proposed Action

The Service is proposing to make minor modifications to existing hunting regulations to align more closely with New Jersey and New York hunting regulations. Modifications include aligning with the states on hunting days of the week, method of take including weaponry and use of dogs, and blaze orange requirements. The use of non-toxic ammunition is proposed for upland game hunting opportunities and will be required upon implementation of the hunt plan in 2021. The refuge staff will provide information to assist in a valuable transition period that benefits fish, wildlife, and people. We will continue to encourage use of non-toxic ammunition for other hunts and will educate hunters about lead and impacts. There would be no changes to the species open for hunting on the refuge. To eliminate barriers to the hunting program, the refuge will reduce the number and cost of refuge permits required to participate in the refuge hunt.

This proposed action is covered by the following categorical exclusion: 516 DM 8.5 B (7)

An action by the Service that only results in “minor changes in the amounts or types of public use on Service or State managed lands, in accordance with existing regulations, management plans, and procedures” is categorically excluded from further NEPA analyses, because it has been determined to be a class of action which does not individually or cumulatively have a significant effect on the human environment (516 DM 8.5 B (7)).

The refuge is currently open on approximately 5,000 acres to hunting of migratory birds (waterfowl, woodcock, snipe, rails, gallinules), upland/small game (squirrels, grouse, rabbits, pheasant, quail, woodchuck, crow, fox, raccoon, opossum, skunk, weasel, coyote, bobcat) and big game (deer, bear, wild turkey) (50 CFR 32.49). This action will only result in a minor change, because the affected environment, species hunted, and all potential impacts were previously contemplated and approved within the Wallkill River Hunting Package with Environmental Assessment and Compatibility Determination (2014).

Extraordinary Circumstances (43 CFR 46.215)

Could This Proposed Action (*check (x) yes or no for each item below*):

Yes No

- | | | |
|--------------------------|---|--|
| <input type="checkbox"/> | x | 1. Have significant adverse effects on public health or safety? |
| <input type="checkbox"/> | x | 2. Have adverse effects on such unique geographic characteristics as historic or cultural resources, park, recreation or refuge lands, wilderness areas, wild or scenic rivers, sole or principal drinking water aquifers, prime farmlands, wetlands, floodplains, or ecologically significant or critical areas, including those listed on the Department's National Register of Natural Landmarks? |
| <input type="checkbox"/> | x | 3. Have highly controversial environmental effects? |
| <input type="checkbox"/> | x | 4. Have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks? |
| <input type="checkbox"/> | x | 5. Establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects? |

- x 6. Have adverse effects on properties listed or eligible for listing on the National Register of Historic Places?
- x 7. Have adverse effects on species listed or proposed to be listed on the List of Endangered or Threatened Species, or have adverse effects on designated Critical Habitat for these species?
- x 8. Have material adverse effects on resources requiring compliance with Executive Order 11988 (Floodplain Management), Executive Order 11990 (Protection of Wetlands), or the Fish and Wildlife Coordination Act?
- x 9. Threaten to violate a Federal, State, local or tribal law or requirement imposed for the protection of the environment?
- x 10. Have a disproportionately high and adverse effect on low income or minority populations (EO 12898).
- x 11. Limit access to and ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites (EO 13007).
- x 12. Contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act and EO 13112).

(If any of the above exceptions receive a “Yes” check (✓) , an EA/EIS must be prepared.)

Within the spirit and intent of the Council of Environmental Quality's regulations for implementing the National Environmental Policy Act (NEPA) and other statutes, orders, and policies that protect fish and wildlife resources, I have established the following administrative record and have determined:

- The proposed action is covered by a categorical exclusion as provided by 43 CFR §46.210 or 516 DM 8.5. No further NEPA documentation will therefore be made.**
- An Extraordinary Circumstance could exist for the proposed action and, so an EA/EIS must be prepared.**

Service signature approval:

Signature _____

Date: _____

Title _____

INTRA-SERVICE SECTION 7 BIOLOGICAL EVALUATION FORM

Project Name:	Wallkill River National Wildlife Refuge Hunting Plan	Originating Person:	Wilson Darbin
Townships:	Sussex	Telephone Number:	413.253.8200
County:	Sussex County	Email Address:	Wilson_Darbin@fws.gov
Date:	8/13/2021		

I. Region: R5

II. Service Activity (Program): National Wildlife Refuge System

III. Pertinent Species and Habitat:

A. Listed species and/or their critical habitat within the action area:

Bog turtle (*Clemmys muhlenbergii*) - federally threatened
Indiana bat (*Myotis sodalis*) – federally endangered
Northern long-eared bat (*Myotis septentrionalis*) – federally threatened
There is no designated Critical Habitat on Wallkill River NWR.

B. Proposed species and/or proposed critical habitat within the action area:
none

C. Candidate species within the action area:
Monarch (*Danaus plexippus plexippus*)

IV. Geographic area or station name and action: Hunting Plan for Wallkill River National Wildlife Refuge

V. Location (attach map):

A. Ecoregion Number and Name:
59, Central Appalachian Forest

B. County and State: Sussex, New Jersey and Orange, New York

C. Section, township, and range (or latitude and longitude): Varies

D. Distance (miles) and direction to nearest town: Varies

E. Species/habitat occurrence: Wallkill River NWR uses IPaC to identify threatened and endangered species, including for purposes of this Biological Evaluation. This is done because the IPaC database is the better of the Service’s databases for the refuge and may contain the best available information on species

presence. Nevertheless, in order to ensure a thorough review, this Biological Evaluation considers all threatened and endangered species identified by both the IPaC and ECOS databases. Note, however, that these databases are updated regularly, approximately every 90 days, and, thus, it is possible that the specific threatened and endangered species identified as present on or near the refuge may change between the finalization of this Biological Evaluation and its publication and/or between finalization and the reading this document.

Staff present on the refuge and conducting this evaluation may have the best available information about the presence of fish and wildlife species. Thus, where species are identified by either database, but the refuge has information that the species is not actually present within the “action area,” we have explained that as the basis for our determination that any hunting and fishing activities will have no effect on the species.

VI. Description of proposed action (attach additional pages as needed):

The Service is proposing to make minor modifications to existing hunting regulations to align more closely with New Jersey and New York hunting regulations. Modifications include aligning with the states on method of take including weaponry and use of dogs. The use of non-toxic ammunition is proposed for upland game hunting opportunities and will be required upon implementation of the hunt plan in 2021. The refuge staff will provide information to assist in a valuable transition period that benefits fish, wildlife, and people. We will continue to encourage use of non-toxic ammunition for other hunts and will educate hunters about lead and impacts. There would be no changes to the species open for hunting on the refuge. To eliminate barriers to the hunting program, the refuge will reduce the number and cost of refuge permits required to participate in the refuge hunt. The refuge is currently open on approximately 5,000 acres to hunting of migratory birds (waterfowl, woodcock, snipe, rails, gallinules), upland/small game (squirrels, grouse, rabbits, pheasant, quail, woodchuck, crow, fox, raccoon, opossum, skunk, weasel, coyote, bobcat) and big game (deer, bear, wild turkey) (50 CFR 32.49).

VII. Determination of effects:

A. Explanation of effects of the action on species and critical habitats in items III.A, B, and C (attach additional pages as needed):

Bog turtle – Bog turtles can be found throughout the valley in remnant open, wet bogs where hunting activities typically do not occur. Fall and winter represent periods of low or no activity for bog turtles, minimizing the likelihood that they would be encountered by hunters. Thus, it is likely that few hunters will venture into bog turtle habitat. The greatest threats to bog turtles are the loss, degradation, and fragmentation of its habitat from wetland alteration, development, pollution, invasive species, and natural vegetational succession. The few potential disturbances of hunting, such as foot traffic of hunters or gun noise, would be a temporary inconvenience and likely not rise to the level of take. Because hunters would likely not hunt in their habitat and bog turtles are inactive during the hunting seasons, it is unlikely that lead ammunition would

affect bog turtles. The small, semi-aquatic species consumes a varied diet including insects, snails, worms, seeds, and carrion. These eating behaviors likely preclude lead impacts, as the soils on the refuge do not have high concentrations of lead, and unlikely to have increases based on the amount of hunting allowed and the fact that all or most hunting is on other portions of the refuge.

Indiana bat – The last time Indiana bats were documented on the refuge was the summer of 2010.

Northern long-eared bat – Northern long-eared bats (NLEB) were last documented on the refuge in summer 2013.

These species hibernate in caves and mines from October through April (the majority of the hunting season) and would not be impacted by hunting during this time. They are unlikely to be disturbed by hunter activity, as they are nocturnal species and hunting is restricted to daylight hours. Potential disturbances from expanded hunting, such as an increase in gun noise or additional portable tree stands, would likely not rise to the level of take. Hunters are allowed to use tree stands on the refuge, which could potentially affect Indiana bat and/or NLEB. This disturbance is expected to be minimal due to the temporary nature of the tree blind. Additionally, it is unlikely that a hunter would select a tree suitable for Indiana bat or NLEB because the species prefers snags or dying trees. This would be unsafe for the hunter and therefore, unlikely to adversely impact Indiana bat or NLEB.

Monarch - The monarch butterfly caterpillars are likely to be present at Wallkill River NWR during the spring and summer months on milkweed plants. Caterpillars and their milkweed host plants could be trampled by hunters while walking off-trail; however, the likelihood of this occurring is largely discountable because the density of hunters across the Refuge will remain low. Adult monarch butterflies are not vulnerable to trampling and are not expected to be affected.

Tree climbing and placing portable tree stands, or noise from firearms, could flush roosting bats from the trees, but it is more likely that the bats would remain in the tree than be flushed, and instances of flushing would not result in bat mortality. There is no hunting near any cave or mine where bats could hibernate (i.e., hibernaculum), and hunting programs would not result in any tree cutting or other habitat alteration. The Service anticipates no adverse effects to Indiana bats or NLEB from hunting activities.

Lead can be used on the refuge for big game hunting as detailed in the Hunting Plan. The amount of lead introduced to the environment as a result of big game hunting activities will be negligible, given the amount of hunter participation on the refuge and restriction on lead ammunition for all upland game and migratory game bird hunting. Lead shot and bullet fragments found in animal carcasses and gut piles are the most likely source of lead exposure. Many hunters do not realize that the carcass or gut pile they leave in the field usually

contains lead bullet fragments. Research continues on the effects of lead ammunition and the fragments it can deposit in killed game. Avian predators and scavengers can be susceptible to lead poisoning when they ingest lead fragments or pellets in the tissues of animals killed or wounded by lead ammunition. Lead poison may weaken raptors and increase mortality rate by leaving them unable to hunt, or more susceptible to vehicles or power line accidents. The bioaccumulation of lead is a potential concern, but it does not present a significant issue for hunting on this refuge as the refuge strongly encourages use of non-toxic alternatives and will educate hunters, anglers and the public to the potential adverse impacts of lead. Some hunters will choose non-lead methods of take such as archery. Moreover, the scarce amount of lead introduced on this refuge is not likely to adversely affect the listed species because those species will not be present or active in the refuge hunting areas during the hunting seasons and hours. Furthermore, these species are not scavengers, and therefore will not be impacted by lead fragments in gut piles left after hunting seasons.

As the foraging ecology of the bats (i.e., eating flying insects) is known, the only way the species would be exposed to lead from hunting is through bioaccumulation from herbivorous insects. Such prey (and only some of their prey are herbivorous) could eat plants that have taken up lead from the soil, but it is unlikely because plants only uptake lead when it is in soil in highly concentrated levels and the proposed hunting expansions would not introduce enough lead for that possibility. Current and proposed levels of hunting, along with non-lead alternative education, would not result in lead levels toxic to any threatened or endangered species that occur on the refuge.

B. Explanation of actions to be implemented to reduce adverse effects:

The Service anticipates that the hunt program will not likely adversely affect these species. Rather, we expect to see a positive habitat response by reducing the deer herd. Overbrowsing by deer decreases native vegetation cover and often allows invasive plants to take hold, potentially degrading the habitat of the species above. Deer also browse on plants of conservation concern including swamp pink and northeastern bulrush.

The refuge-specific regulations detailed in the Hunting Plan are measures that will reduce or avoid conflicts. Detailing refuge and State law enforcement officers enforce hunting and fishing regulations. Providing hunting and fishing information through various forums will ensure the public is aware of applicable laws and policies. To minimize conflict, refuge-specific hunt regulations and hunt unit maps (brochures) will be made available to hunters at kiosks, refuge website, and at the refuge office.

VIII. Effect determination and response requested: [* optional]

A. Listed species/proposed critical habitat:

Determination

no effect
(species: _____)

is not likely to adversely affect
(species: Bog turtle; Indiana bat; Northern long-eared bat_)

is likely to adversely affect
(species: _____)

is likely to jeopardize/adverse modification of critical habitat
(species: _____)

Response requested

___*Concurrence

X Concurrence

___ Informal conference

___ Conference

B. Proposed species/proposed critical habitat:

Determination

no effect
(species: _____)

is not likely to adversely affect
(species: _____)

is likely to adversely affect
(species: _____)

is likely to jeopardize/adverse modification of critical habitat
(species: _____)

Response requested

___*Concurrence

___ Concurrence

___ Informal conference

___ Conference

C. Candidate species

Determination

no effect
(species: _____ Monarch _____)

is likely to jeopardize
(species: _____)

Response requested

X *Concurrence

___ Conference

Michael Horne

Michael Horne
Refuge Manager

8/13/2021

Date

Walkkill River National Wildlife Refuge

IX. Reviewing ESO Evaluation:

A. Concurrence X Non-concurrence

B. Formal consultation required No

C. Conference required No

D. Remarks (attach additional pages as needed):

Endangered Species Biologist (Reviewer),
New Jersey Field Office

Date

ARIEL POIRIER Digitally signed by ARIEL POIRIER
Date: 2021.08.13 12:33:42 -04'00'

Assistant Supervisor, New Jersey Field Office

_____ Date

RONALD POPOWSKI Digitally signed by RONALD POPOWSKI
Date: 2021.08.13 12:39:50 -04'00'

Refuge Hunt Map

Walkkill River National Wildlife Refuge

