

Shawangunk Grasslands
National Wildlife Refuge
and
Great Thicket
National Wildlife Refuge
Housatonic Unit
Big Game Hunting Plan - Draft
May 2022



NATIONAL
WILDLIFE
REFUGE SYSTEM

Appendix A - Shawangunk Grasslands NWR
Compatibility Determination
Appendix B - Great Thicket NWR Compatibility Determination
Appendix C - Environmental Assessment

**Shawangunk Grasslands National Wildlife Refuge and
Great Thicket National Wildlife Refuge – Housatonic Unit
Big Game Hunting Plan**

May 2022

U.S. Fish and Wildlife Service

**Shawangunk Grasslands National Wildlife Refuge
902 Hoagerburgh Road
Wallkill, NY 12589**

Submitted By:
Project Leader

Signature

Date

Concurrence:
Refuge Supervisor

Signature

Date

Approved:
Regional Chief
National Wildlife Refuge System

Signature

Date

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Shawangunk Grasslands National Wildlife Refuge and Great Thicket National Wildlife Refuge-Housatonic Unit Big Game Hunting Plan

I. Introduction

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

Shawangunk Grasslands National Wildlife Refuge (NWR, refuge) was established in 1999 pursuant to the Federal Property and Administrative Services Act of 1949 and the Transfer of Certain Real Property for Wildlife Conservation Purposes Act of 1948. The primary purpose of the refuge is to provide "...particular value in carrying out the National Migratory Bird Management program" (16 U.S.C. 667b, An Act Authorizing the Transfer of Certain Real Property for Wildlife). The refuge, located in Ulster County, New York, also has particular importance for wintering raptors and breeding or migrating grassland birds.

Great Thicket NWR was established in 2016 to help stem the decline of shrubland-dependent wildlife species. The establishing authorities for Great Thicket NWR include the Endangered Species Act of 1973 (16 U.S.C. 1534), as amended, and Fish and Wildlife Act of 1956 (16 U.S.C. 742a-742j), as amended. The primary purpose of Great Thicket NWR, located in Dutchess County, New York, is to strategically acquire and improve habitat to help achieve overlapping habitat and population goals for declining shrubland wildlife species. Shawangunk Grasslands NWR, part of the Lenape NWR Complex, and Great Thicket NWR-Housatonic Unit is currently managed by the staff of the Lenape NWR Complex. Other refuges in the Lenape Complex include: Cherry Valley, Great Swamp, and Wallkill River NWRs. The Refuge Complex headquarters is located at 1547 Route 565, Sussex, New Jersey.

The mission of the Refuge System, as outlined by the NWRSA, as 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.

Refuge lands that are posted along the boundaries are of sufficient size and/or distance from safety zones such as roads and occupied buildings, do not risk damage to sensitive habitats or species, and that have safe public access points would be opened to hunting. Hunting restrictions (archery-only, limited number of permits, etc.) may be put in place on a parcel-by-parcel basis as needed to protect refuge habitats and wildlife populations.

The Service proposes to expand hunting opportunities at Shawangunk Grasslands NWR and open hunting opportunities at Great Thicket NWR-Housatonic Unit to better align with New York State programs. In summary, we propose the following changes:

1. Species change: At Shawangunk Grasslands NWR, archery-only black bear and wild turkey hunting would be added to align with the State. At Great Thicket NWR-Housatonic Unit, archery-only white-tailed deer, black bear, and wild turkey hunting would be opened for the first time.
2. Huntable acreage: At Shawangunk Grasslands NWR, 134 acres are currently open to white-tailed deer hunting. Under the proposed plan, those acres would remain open, and an additional 31 acres (Long Lane Tract) would be made available, for a total of 165 acres. At Great Thicket NWR-Housatonic Unit, 144 acres would be opened to hunting for

the first time under Service management. Once refuge lands are open to hunting, refuge staff will monitor hunt-related impacts to these lands and reserves the right to close properties or impose restrictions if needed.

II. Statement of Objectives

The objectives of a white-tailed deer, black bear, and wild turkey hunting program on Shawangunk Grasslands NWR and Great Thicket NWR-Housatonic Unit are:

- To protect and enhance habitats for Federal trust species of management concern, with a special emphasis on migratory birds and species listed under the Endangered Species Act (ESA);
- To create opportunities for hunting while promoting activities that complement the purposes of the refuge and other protected lands in the region;
- To provide quality hunting opportunities for the public, especially youth and persons who qualify for State disabled hunting permits on refuge lands consistent with State regulations;
- To 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
- To foster good relationships with adjacent landowners and other partners to protect and enhance the health and integrity of the grassland ecosystem and other grasslands habitats within the refuge acquisition boundary.

III. Description of Hunting Program

A. Areas to be Opened to Hunting

At Shawangunk Grasslands NWR, the 165-acre hunting area (current 134 acres and proposed 31-acre tract) is comprised of forest/shrub edge habitat, with the potential for hunters to retrieve game from grassland habitat. See the attached map.

The Great Thicket NWR-Housatonic Unit parcel opened for hunting under this plan is the Housatonic Unit, which totals 144 acres. The hunting program at Great Thicket NWR-Housatonic Unit is designed to provide public hunting opportunities that support refuge objectives and fulfill service directives to expand access to hunting where possible.

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

Archery-only hunting would be permitted for white-tailed deer, black bear, and wild turkey (fall and spring turkey hunting seasons) on designated areas of Shawangunk Grasslands NWR and Great Thicket NWR-Housatonic Unit. Hunting would be conducted in accordance

with the New York State seasons and regulations except that the use of dogs for hunting will not be allowed on either refuge.

Hunting seasons are set annually by the New York State Department of Environmental Conservation (NYSDEC) and usually occur from October through December, and spring turkey hunts in April or May. Refuge hunting would occur during State seasons but may include additional restrictions on season dates and times. Sunday hunting will be allowed on both refuges. For white-tailed deer, black bear, and fall turkey hunting, hunters may access the refuge 2 hours before sunrise and must leave no later than 2 hours after sunset as defined in State regulations; for spring turkey hunting, hunters may access the refuge 2 hours before sunrise and must leave by 2:00 p.m. Legal shooting hours are in accordance with State regulations. Scouting is permitted 2 weeks prior to season openings. Only portable tree stands may be used and must be removed after the season ends. All stands must have the hunter's RecAccess identification number (RAID) displayed on the stand.

C. Hunter Permit Requirements

At Shawangunk Grasslands NWR, 20 archery-only combination white-tailed deer/black bear/wild fall turkey permits and 20 archery-only spring turkey permits would be distributed by a lottery system each year. Permits are limited to one archery-only combination deer/bear/turkey permit per person in the fall and one archery-only spring turkey permit per person in the spring, are valid for the New York license year, and are not transferrable.

At Great Thicket NWR-Housatonic Unit, 10 archery-only combination white-tailed deer/black bear/wild turkey permits would be distributed by a lottery system each year. Permits are limited to one archery-only combination deer/bear/turkey permit per person, are valid for the New York license year (September 1 through August 31 each year) and are not transferrable.

Permits are free for youth hunters who are 16 years of age and under at both refuges.

Refuge-specific hunting regulations and current maps are available to download and/or print from the permit website (in the case of Shawangunk Grasslands NWR) and will be available on a permit website for the Great Thicket NWR-Housatonic Unit pending approval of the hunt plan for the refuge. Hunters are required to acknowledge that they have reviewed the refuge regulations prior to purchasing a permit.

D. Consultation and Coordination with the State

The refuge consulted with the NYSDEC, New York Tribal Nations, and local public and adjacent landowners extensively while writing their 2012 Shawangunk Grasslands NWR hunting plan. The State supported the plan, which included new opportunities for deer hunting at Shawangunk Grasslands NWR. The Service's Regional Hunting/Fishing Chief reached out to consult with the State of New York on August 26th, 2021 on proposed alignments. New York State fully supports the refuge more closely aligning with their State hunting program.

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 the refuges in the enforcement of its laws and regulations. The following methods would be used to control and enforce hunting regulations:

- Refuge boundaries will be clearly posted;
- Dogs will not be allowed on the refuge for hunting;
- 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 unstaffed Shawangunk Grasslands NWR and Great Thicket NWR-Housatonic Unit information kiosks and on the refuge websites and social media pages.

F. Funding and Staffing Requirements

Annual hunt administration costs for Shawangunk Grasslands NWR and Great Thicket NWR-Housatonic Unit, including salaries for personnel, creation and distribution of hunting information, permit system administration, signage, and other miscellaneous expenses total approximately \$32,000.

Table 1. Shawangunk Grasslands and Great Thicket-Housatonic Unit NWRs Funding and Staffing Requirements

Identifier	Cost
Staff administration of the Hunt Program (Administrative Assistant, Refuge Specialist, Refuge Manager)	\$25,000
Maintain roads, parking lots, trails*	\$2,000
News releases, fact sheets, reports for Hunt Program	\$2,000
Create and maintain signage – hunt parking lot signs, boundary signs	\$3,000
Total Annual Cost	\$32,000

* 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.

Funding for the hunt programs at Great Thicket NWR-Housatonic Unit and Shawangunk Grasslands NWR is not specifically allocated but would be allocated from each station's refuge hunt permit fees and/or refuge base funds on an annual basis. It is anticipated that funding would continue to be sufficient to continue the hunting programs at both Great

Thicket NWR-Housatonic Unit and Shawangunk Grasslands NWRs in the future.

IV. Conduct of the Hunting Program

A. Hunter Permit Application, Selection, and/or Registration Procedures (if applicable)

At Shawangunk Grasslands NWR, 20 archery-only combination white-tailed deer/black bear/fall wild turkey permits and 20 archery-only spring wild turkey permits would be distributed by a lottery system each year. The lottery application would be available online at: <https://shawangunk.recaccess.com/> each year from August 15 to August 28. Hunters would be charged a non-refundable application fee of \$5.00 to enter the refuge hunt lottery; entering the lottery does not guarantee an applicant will receive a permit. If a lottery applicant is selected as a winner, hunters may purchase their refuge hunt permit for an additional \$25.00 (for a total of \$30.00, \$5.00 lottery fee and \$25.00 permit fee). Lottery winners who hold an Access, senior, or other qualifying free-access pass can purchase their refuge hunt permit at a discounted amount, an additional \$17.50 (for a total of \$22.50, \$5 lottery fee and \$17.50 permit fee).

At Great Thicket NWR-Housatonic Unit, 10 archery-only combination white-tailed deer/black bear/wild turkey permits would be distributed by a lottery system each year. The lottery application would be available online on a yet-to-be created Recaccess refuge hunt permit website each year from August 15 to August 28. Hunters would be charged a non-refundable application fee of \$5.00 to enter the refuge hunt lottery; entering the lottery does not guarantee an applicant will receive a permit. If a lottery applicant is selected as a winner, hunters may purchase their refuge hunt permit for an additional \$25.00 (for a total of \$30.00, \$5.00 lottery fee and \$25.00 permit fee). Lottery winners who hold an access or senior pass can purchase their refuge hunt permit at a discounted amount, for an additional \$17.50 (for a total of \$22.50, \$5.00 lottery fee and \$17.50 permit fee).

Hunters may apply for and be awarded a permit at either or both refuges. Permits are free for youth hunters who are 16 years of age and under at both refuges.

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. The refuge-specific regulations that pertain to hunting on Shawangunk Grasslands NWR and Great Thicket NWR-Housatonic Unit as of the date of this plan are listed here. These regulations and procedures may be modified as conditions change or if refuge expansion continues/occurs.

- 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.
- Permits are not transferrable and are not valid until signed.

- Firearms hunting would not be permitted.
- Hunters may access the refuge 2 hours before sunrise and must leave no later than 2 hours after sunset.
- 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

The refuge conducts its hunting program within the framework of State and Federal regulations. Hunting at the refuge is at least as restrictive as the State of New York and, in some cases, more restrictive. Additionally, the refuge coordinates with the State as needed to maintain regulations and programs that are consistent with the State’s management programs. Relevant refuge-specific regulations are annually listed in 50 CFR 32.51, and summarized above in Section IV, subsection B.

D. Other Refuge Rules and Regulations for Hunting

- Dogs will not be allowed on the refuge for hunting.
- Hunters may retrieve game from the grassland unit.
- Only portable tree stands may be used. Screw-in steps are not permitted. All stands must be removed no later than March 31.

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 would be available at refuge kiosks or on the refuge’s website and social media accounts.

B. Anticipated Public Reaction to the Hunting Program

White-tailed deer hunting has been allowed on Shawangunk Grasslands NWR since 2006, and little negative public reaction is expected for the expansion of wild turkey or white-tailed deer hunting. Black bear hunting may draw some criticism from the public. Some individuals may have concern with wild turkey hunting in areas near the grasslands, due to one of the main user groups at the refuge being those who enjoy bird-watching. Great Thicket NWR-Housatonic Unit would be opened to hunting for the first time as a unit of the NWRS, but archery deer hunting was previously allowed on the property; therefore, we do not anticipate

significant public concern given the property's history and the small size of this parcel.

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

General information regarding hunting and other wildlife-dependent public uses can be obtained at refuge kiosks. Dates, forms, hunting unit directions, maps, applications, and permit requirements about the hunt would also be available at the refuge website: https://www.fws.gov/refuge/shawangunk_grasslands/ and at the refuge hunt permit website <https://shawangunk.recaccess.com/>. A refuge hunt permit website will be made for Great Thicket NWR-Housatonic Unit for information regarding hunting and permit applications should the hunt plan be approved.

Refuge complex headquarters are located at:
1547 Route 565
Sussex, New Jersey 07461

VI. Compatibility Determination

Hunting and all associated program activities proposed in this plan are compatible with the purposes of the refuge. See attached Hunting Compatibility Determinations.

COMPATIBILITY DETERMINATION

USE: Hunting

REFUGE NAME: Shawangunk Grasslands National Wildlife Refuge

DATE ESTABLISHED: July 27, 1999

ESTABLISHING and ACQUISITION AUTHORITY(IES):

Shawangunk Grasslands National Wildlife Refuge (NWR, refuge) was established pursuant to the Federal Property and Administrative Services Act of 1949 and the Transfer of Certain Real Property for Wildlife Conservation Purposes Act of 1948.

REFUGE PURPOSE(S):

The primary purpose of the refuge is to provide "...particular value in carrying out the National Migratory Bird Management Program" (16 U.S.C. 667b, An Act Authorizing the Transfer of Certain Real Property for Wildlife). The refuge also has particular importance for wintering raptors and breeding or migrating grassland birds.

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 archery-only hunting of black bear, white-tailed deer, and wild turkey on Shawangunk Grasslands NWR. Hunting was identified as one of six priority public uses of the Refuge System by the National Wildlife Refuge System Administration Act (NWRSA) 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?

Hunting at Shawangunk Grasslands NWR, located in Ulster County, New York, is conducted in the forest/shrub edge habitat that surrounds part of the main grassland habitat. Hunters are only allowed to hunt from the forest/shrub edge habitat, but they are allowed into the grassland habitat to retrieve harvested game and 165 acres of habitat would be open to hunting on the refuge with 433 acres remaining closed to hunting (see attached map).

(c) When would the use be conducted?

Hunting would occur in accordance with the season dates specified by the New York State Department of Environmental Conservation (NYSDEC), usually October through December, and spring turkey hunts in April or May. Hunters may access the refuge 2 hours before sunrise and must leave no later than 2 hours after sunset. Legal shooting hours are in accordance with State regulations. Scouting is permitted 2 weeks prior to season openings.

(d) How would the use be conducted?

Hunting seasons would be set annually by the NYSDEC as stipulated within the New York Hunting and Trapping Guide and will be reiterated in the refuge’s annual hunt brochure. The hunting brochure may contain additional restrictions. All hunting would be conducted within the framework of State and Federal regulations.

At Shawangunk Grasslands NWR, 20 archery-only combination permits (covers white-tailed deer/black bear/spring and fall wild turkey) would be distributed by a lottery system each year. The permit is valid for the New York license year (September 1 through August 31 each year) and is not transferrable.

A lottery application process will be used to manage hunter numbers on the refuge. The lottery process will allow the refuge to ensure safe, high quality hunts that are compatible with the purposes of the refuge. The lottery application will be available online at: <https://shawangunk.recaccess.com/> each year. Hunters would be charged a non-refundable application fee of \$5.00 to enter the refuge hunt lottery; entering the lottery does not guarantee an applicant will receive a permit. If a lottery applicant is selected as a winner, hunters may purchase their refuge hunt permit for an additional \$25.00 (for a total of \$30.00, \$5.00 lottery fee and \$25.00 permit fee). Lottery winners who hold an access or senior pass can purchase their refuge hunt permit at a discounted amount, an additional \$17.50 (for a total of \$22.50, \$5.00 lottery fee and \$17.50 permit fee). A youth hunt permit will be available for free for youth hunters 16 years of age and under.

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.

The Service will allow hunters access to all huntable portions of the refuge. The intention is to provide safe, quality hunting opportunities that consider the welfare of the refuge wildlife resources and other refuge visitors. Hunter parking lots and access points will be delineated on the annual refuge hunt maps.

The refuge hunt program will be reviewed annually to ensure management goals are achieved and that the program is providing a safe and high quality hunting experience for all participants.

(e) Why is the use being proposed?

Hunting is a healthy, traditional recreational use of renewable natural resources deeply rooted in America’s heritage, and it can be an important wildlife management tool.

Furthermore, Department of the Interior Secretarial Order 3356 directs the Service to enhance and expand public access to lands and waters on NWRs for hunting, fishing, recreational

shooting, and other forms of outdoor recreation. The proposed action would promote one of the priority public uses of the Refuge System and providing opportunities for visitors to hunt would promote stewardship of our natural resources and increase public appreciation and support for the refuge.

The Shawangunk Grasslands NWR Feasibility Study and Environmental Assessment (FSEA) identified the need to provide opportunities for priority wildlife-dependent recreation, including hunting. The FSEA also established the following goals:

- Protect and enhance habitats for Federal trust species of management concern, with special emphasis on migratory birds and species listed under the Endangered Species Act (ESA).
- Create opportunities for hunting, fishing, wildlife observation and photography, and environmental education and interpretation, while promoting activities that complement the purposes of the refuge and other protected lands in the region.
- Allowing the harvest of white-tailed deer, black bear, and wild turkey through a regulated hunting program can assist the refuge in achieving these goals. Specifically, the objectives of the hunting program at Shawangunk Grasslands NWR are to:
 - Provide quality hunting opportunities for the public, especially youth, veterans, and persons who qualify for State disabled hunting permits on refuge lands consistent with State regulations (through specialized mentored hunting opportunities);
 - 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 by coordinating with adjacent landowners and other partners to protect and enhance the health and integrity of grasslands habitats within the refuge acquisition boundary.

AVAILABILITY OF RESOURCES:

Shawangunk Grasslands NWR is managed as part of the Lenape NWR Complex. Other refuges in the Lenape Complex include: Cherry Valley, Great Swamp, and Wallkill River NWRs. The Refuge Complex headquarters is located at 1547 Route 565, Sussex, New Jersey.

Annual hunt administration costs for Shawangunk Grasslands NWR, including salaries for personnel, creation and distribution of hunting information, permit system administration, signage, and other miscellaneous expenses totals approximately \$20,000.

Table A-1. Shawangunk Grasslands NWR Funding and Staffing Requirements

Identifier	Cost
Staff administration of the Hunt Program (Administrative Assistant, Refuge Specialist, Refuge Manager)	\$16,625
Maintain roads, parking lots, trails*	\$1,250
News releases, fact sheets, reports for Hunt Program	\$1,250
Create and maintain signage – hunt parking lot signs, boundary signs	\$1,875
Total Annual Cost	\$20,000

** 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.*

Funding for the hunt programs is not specifically allocated but will be taken from station base funds and refuge hunt permit fees on an annual basis. It is anticipated that funding would continue to be sufficient to continue the hunting program at Shawangunk Grasslands NWR in the future.

ANTICIPATED IMPACTS OF THE USE:

White-Tailed Deer

White-tailed deer hunting is managed on a Statewide basis in accordance with approved New York State management plans. Impacts from white-tailed deer 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 to or maintaining 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, Kilpatrick and LaBonte 2007).

Hunting is the most feasible management tool available to control deer populations on the refuge. The refuge falls within State Wildlife Management Unit (WMU) 3J. In 2020, a total of 1,974 deer were harvested in WMU 3J, with an average of 2.8 deer harvested per square mile (NYSDEC 2020). This total reflects an increase from 2019, when approximately 1,693 deer were harvested in WMU 3J (NYSDEC 2019). Anticipating that the refuge hunt will not result in more than 20 additional hunters in WMU 3J, the refuge’s hunt program would only account for a small fraction of the total number of deer harvested in the WMU and, therefore, not result in negative impacts to local or regional white-tailed deer populations.

Black Bear

Black bear hunting is managed on a Statewide basis in accordance with approved New York State management plans. Impacts from black bear hunting may include temporary disturbance of wildlife or visitors, changes in wildlife behavior, and changes in wildlife populations. Bear hunting can also help maintain bear populations within the target densities set by the State. Increasing human development and the coincidental increase of the bear populations has resulted in an increase in human-bear conflicts throughout New York. Hunting is the most feasible management tool available to control bear populations on the refuge. The bear density in WMU

3J was above the State's target density at the time of their 2014 Black Bear Management Plan. This WMU is included in the area where the State identified a need to reduce black bear populations (NYSDEC 2014).

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 on the refuge. In 2020, a total of 31 black bears were harvested in WMU 3J (NYSDEC 2020). This is an increase from 2019, when a total of 19 black bears were harvested in WMU 3J (NYSDEC 2019). Black bear hunting would be a new game species open for hunting at Shawangunk Grasslands NWR, and no more than 20 hunters (although the expected number is less) would be participating in bear hunting on the refuge. Considering the high bear densities in WMU 3J (NYSDEC2020) in which the refuge resides, this opportunity is not anticipated to result in negative impacts to local or regional black bear populations.

Wild Turkey

Wild turkey hunting is managed on a Statewide basis in accordance with approved New York State management plans. Impacts from wild turkey hunting may include temporary disturbance of wildlife or visitors, changes in wildlife behavior, and changes in wildlife populations. NYSDEC estimates the State's wild turkey population at approximately 160,000 to 180,000 birds. Both the Statewide population and Statewide harvest for wild turkeys has been declining since around 2009 (NYSDEC 2019). In 2015, the State implemented new regulations for fall turkey hunting to minimize impacts on Statewide and regional populations. Turkey hunting would be a new game species open to hunting at Shawangunk Grasslands NWR, and no more than 20 hunters for both the spring and fall seasons (though the expected number is less) would be participating in turkey hunting on the refuge. Considering the limited number of hunters taking part in the hunt on the refuge, this opportunity is not anticipated to result in negative impacts to local or regional turkey populations.

Non-target species

Hunting can affect both target and non-target species. These impacts include direct mortality of individuals, changes in wildlife behavior, changes in wildlife population structure, dynamics, and distribution patterns, and disturbance from noise and hunters walking on- and off-trail (Cole and Knight 1990, Cole 1990). However, under the anticipated levels of use these impacts are expected to be minimal. Hunters tend not to disperse very far from parking areas and roads, which leaves large areas of refuge land undisturbed. While resident and non-game wildlife in areas newly opened to hunters and hunting may be negatively impacted by disturbance, that impact would likely be negligible.

Common bird species found on the refuge include the bobolink, Eastern meadowlark, loggerhead shrike, common nighthawk, sharp-shinned hawk, Cooper's hawk, red-shouldered hawk, red-headed woodpecker, wood thrush, and yellow-bellied sapsucker. The refuge has not completed an inventory of reptiles or amphibians on the refuge, but the wood turtle and spotted turtle have been observed at Shawangunk Grasslands NWR. Mammals that may be on or around the refuge include the coyote, fox, Eastern cottontail rabbit, mice, voles, and shrews. We do not anticipate hunting will have a significant negative effect on any of these populations on the refuge.

Habitat and Vegetation

Dominant habitat types on the refuge include open fields, grasslands, freshwater wetlands, shrublands, and hardwood forest.

Common plant species on the refuge include Kentucky bluegrass (*Poa pratensis*), bedstraw (*Galium sp.*), beard-tongue (*Penstemon digitalis*), slender mountain mint (*Pycnanthemum tenuifolium*), goldenrod (*Solidago spp.*), aster (*Aster spp.*), common milkweed (*Asclepias syriaca*), purple loosestrife (*Lythrum salicaria*), reed canary-grass (*Phalaris arundinacea*), and common reed (*Phragmites australis*). Common tree species on the refuge include red oak (*Quercus rubra*), white oak (*Q. alba*), pin oak, black oak (*Q. velutina*), red maple (*Acer rubrum*), sugar maple (*Acer saccharum*), shagbark hickory (*Carya ovata*), American beech (*Fagus grandifolia*), tulip tree (*Liriodendron tulipifera*), white ash (*Fraxinus americana*), American elm (*Ulmus americana*), and Eastern red cedar (*Juniperus virginiana*).

Hunters traverse a variety of habitats within 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 expected due to the anticipated low levels of use for hunting.

Threatened and Endangered Species

Hunting is not likely to adversely affect endangered or threatened species or their habitats on the refuge. Fall and winter represent periods of low or no activity for bog turtles, minimizing the likelihood that they would be encountered by hunters. Secondly, bog turtles are most often found in boggy, open habitats where there is little cover for wild game and which are difficult for people to walk through. Thus, it is likely that few hunters will venture into bog turtle habitat. Potential disturbances would 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 archery hunting of no more than 20 hunters would impact bog turtles.

Indiana bats and Northern long-eared bats may be found within the refuge (during maternity season only). These species hibernate in caves and mines from October through April (the majority of the hunting season) and would not be impacted by hunting. They are unlikely to be disturbed by hunter activity during the archery deer season, as they are nocturnal species. Potential disturbances would likely not rise to the level of take. Furthermore, there is no likelihood there would be disturbance to bats from hunting when bats are not active. There is no hunting near any cave or mine where bats could hibernate (hibernaculum), and hunting programs would not result in any tree cutting or other habitat alteration. Due to their periods of inactivity, it is unlikely that archery hunting of no more than 20 hunters would impact these bat species.

Visitor Uses and Experiences

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 closed to hunting to ensure visitor safety. Signage would go up at refuge kiosks and information would 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.

PUBLIC REVIEW AND COMMENT:

This Compatibility Determination (CD) is part of the Shawangunk Grasslands NWR Hunting Plan and the accompanying Environmental Assessment for National Environmental Policy Act compliance. The plan was coordinated with all interested and/or affected parties, including State partners. The public will be notified of the availability of the Hunting Plan and accompanying CDs with no less than a 60-day review and comment period. We will inform the public through local venues, the refuge website, and social media.

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 purposes and the Refuge System mission, hunting can occur at Shawangunk Grasslands 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, quality hunting experience for participants. This hunting program will be monitored and potentially modified or eliminated if any of the program's components are found not compatible.

The following stipulations are necessary to ensure compatibility:

- 20 archery-only combination white-tailed deer/black bear/fall wild turkey permits, and 20 archery-only spring wild turkey permits, would be distributed by a lottery system each year.

JUSTIFICATION:

Hunting is a priority wildlife-dependent use for the Refuge System through which the public can develop an appreciation for fish and wildlife. Service policy is to provide expanded opportunities for wildlife-dependent uses when compatible and consistent with sound fish and wildlife management and ensure that they receive enhanced attention during planning and management.

Hunting satisfies a recreational need, but hunting on NWRs can be an important, proactive management action that can prevent overpopulation and the deterioration of habitat. Disturbance to other species would occur, but this disturbance is generally short-term. Suitable habitat exists on refuge lands to support hunting as proposed.

Additionally, hunting provides wildlife-dependent recreation to the public in a region where these opportunities are limited by private land ownership and development. The vast majority of private lands are posted as “No Trespassing” and this limits hunting opportunities for hunters without the agreement of private landowners. The refuge provides a low-cost, safe, and enjoyable option.

This activity would not conflict with any of the other priority public uses or adversely affect biological resources. Therefore, through this planning process, we have determined that hunting on Shawangunk Grasslands NWR, in accordance with the stipulations provided above, is a compatible use that will not materially interfere with, or detract from, the fulfillment of the Refuge System mission or the purpose(s) of the refuge.

SIGNATURE:

Refuge Manager

(Signature)

(Date)

CONCURRENCE:

Regional Chief

(Signature)

(Date)

MANDATORY 15 YEAR RE-EVALUATION DATE:

(Date)

LITERATURE CITED:

- Augustine, D.J. and P.A. Jordan. 1998. Predictors of white-tailed deer grazing intensity in fragmented deciduous forests. *Journal of Wildlife Management* 62:1076-1085.
- Cole, D.N. 1990. Ecological impacts of wilderness recreation and their management. In J.C. Hendee, G.H. Stankey, and R.C. Lucas (Eds.), *Wilderness Management* (pp. 425-466). Golden, CO: North American Press.
- Cole, D.N. and Knight, R.L. 1990. Impacts of recreation on biodiversity in wilderness. *Natural Resources and Environmental Issues*, 0, 33-40.
- DeCalesta, D.S. 1994. Effect of white-tailed deer on songbirds within managed forests in Pennsylvania. *J. Wildl. Manage.* 58(4):711-718.
- DeNicola, A. and S.R. Williams. 2008. Sharpshooting suburban white-tailed deer reduces deer - vehicle collisions. *J. Human-Wildlife Conflicts* 2(1):28-33
- Kilpatrick, H.J. and A.M. LaBonte. 2007. *Managing Urban Deer in Connecticut: A guide for residents and communities*, 2nd ed. Connecticut Department of Environmental Protection, Bureau of Natural Resources - Wildlife Division. 34 pp.
- New York State Department of Environmental Conservation. 2014. *Black Bear Management Plan for New York State 2014-2024*. Prepared by Patricia Riexinger et. al. 41 pp.
- New York State Department of Environmental Conservation. 2019. *Black Bear Harvest Summary 2019*. 18 pp.
- New York State Department of Environmental Conservation. 2020. *Black Bear Harvest Summary 2020*. 17 pp.
- New York State Department of Environmental Conservation. 2019. *White-tailed Deer Harvest Summary 2019*. 49 pp.
- New York State Department of Environmental Conservation. 2020. *White-tailed Deer Harvest Summary 2020*. 45 pp.
- Tilghman, N.G. 1989. Impacts of white-tailed deer on forest regeneration in northwestern Pennsylvania. *J. Wildl. Manage.* 53(3):524-532.

COMPATIBILITY DETERMINATION

USE: Hunting

REFUGE NAME: Great Thicket National Wildlife Refuge-Housatonic Unit (NY)

DATE ESTABLISHED: January 18, 2017

ESTABLISHING and ACQUISITION AUTHORITIES:

Great Thicket National Wildlife Refuge (NWR, refuge) was established pursuant to the Endangered Species Act of 1973 (16 U.S.C. 1534), as amended, and the Fish and Wildlife Act of 1956 (16 U.S.C. 742a-742j), as amended.

REFUGE PURPOSE(S):

The primary purpose of Great Thicket NWR is to strategically acquire and improve habitat to help achieve overlapping habitat and population goals for declining shrubland wildlife species according to the Great Thicket NWR Land Protection Plan (LLP) (October 2016).

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 archery-only hunting of black bear, white-tailed deer, and wild turkey on designated tracts of Great Thicket NWR-Housatonic Unit. Hunting was identified as one of six priority public uses of the Refuge System by the National Wildlife Refuge System Administration Act (NWRSA) 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?

Hunting would be conducted at the Housatonic Unit of Great Thicket NWR. Located in Dutchess County, New York, this unit would provide 144 acres of grassland and forested habitat for archery-only big game hunting (see attached map).

(c) When would the use be conducted?

Hunting would occur during the seasons specified by the New York State Department of Environmental Conservation (NYSDEC), usually October through December, and spring turkey hunting in April or May. Hunters may access the refuge 2 hours before sunrise and must leave no

later than 2 hours after sunset. Legal shooting hours are in accordance with State regulations for each species. Scouting is permitted 2 weeks prior to season openings.

(d) How would the use be conducted?

Hunting seasons would align with State seasons and will be reiterated in the refuge's annual hunt brochure. The hunting brochure may contain additional restrictions. All hunting would be conducted within the framework of State and Federal regulations.

At Great Thicket NWR-Housatonic Unit, 10 archery-only combination permits (covers white-tailed deer/black bear/spring and fall wild turkey) would be distributed by a lottery system each year. The permit is valid for the New York license year and is not transferrable.

A lottery application process will be used to manage hunter numbers on the refuge. The lottery process will allow the refuge to ensure safe, high quality hunts that are compatible with the purposes of the refuge. The lottery application would be available online on a refuge hunt permit website (if the hunt plan is approved) each year. Hunters would be charged a non-refundable application fee of \$5.00 to enter the refuge hunt lottery; entering the lottery does not guarantee an applicant will receive a permit. If a lottery applicant is selected as a winner, hunters may purchase their refuge hunt permit for an additional \$25.00 (for a total of \$30.00, \$5.00 lottery fee and \$25.00 permit fee). Lottery winners who hold an access or senior pass can purchase their refuge hunt permit at a discounted amount, an additional \$17.50 (for a total of \$22.50, \$5.00 lottery fee and \$17.50 permit fee). A youth hunt permit will be available for free for youth hunters 16 years of age and under.

Refuge-specific hunting regulations and current hunt maps will be 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.

The Service will make an effort to allow hunters access to all huntable portions of the refuge. The intention is to provide safe, quality hunting opportunities that consider the welfare of the refuge wildlife resources and other refuge visitors. Hunter parking lots and access points will be delineated on the annual refuge hunt maps.

The refuge hunt program will be reviewed annually to ensure management goals are achieved and that the program is providing a safe and high quality hunting experience for all participants.

(e) Why is the use being proposed?

Hunting is a healthy, traditional recreational use of renewable natural resources deeply rooted in America's heritage, and it can be an important wildlife management tool.

Furthermore, Department of the Interior Secretarial Order 3356 directs the Service to enhance and expand public access to lands and waters on NWRs for hunting, fishing, recreational shooting, and other forms of outdoor recreation. The proposed action would promote one of the priority public uses of the Refuge System and providing opportunities for visitors to hunt would promote stewardship of our natural resources and increase public appreciation and support for the refuge.

AVAILABILITY OF RESOURCES:

Great Thicket NWR-Housatonic Unit is managed by the Lenape NWR Complex. The Refuge Complex headquarters is located at 1547 Route 565, Sussex, New Jersey.

Annual hunt administration costs for Great Thicket NWR-Housatonic Unit, including salaries for personnel, creation and distribution of hunting information, permit system administration, signage, and other miscellaneous expenses totals approximately \$12,000.

Table B-1. Great Thicket NWR-Housatonic Unit Funding and Staffing Requirements

Identifier	Cost
Staff administration of the Hunt Program (Administrative Assistant, Refuge Specialist, Refuge Manager)	\$9,375
Maintain roads, parking lots, trails*	\$750
News releases, fact sheets, reports for Hunt Program	\$750
Create and maintain signage – hunt parking lot signs, boundary signs	\$1,125
Total Annual Cost	\$12,000

** 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.*

Funding for the hunt programs is not specifically allocated but will be taken from station base funds and refuge hunt permit fees on an annual basis. It is anticipated that funding would continue to be sufficient to continue the hunting program at Shawangunk Grasslands NWR in the future.

ANTICIPATED IMPACTS OF THE USE:

White-Tailed Deer

White-tailed deer hunting is managed on a statewide basis in accordance with approved New York State management plans. Impacts from white-tailed deer 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 to or maintaining 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, Kilpatrick and LaBonte 2007).

Hunting is the most feasible management tool available to control deer populations on the refuge. The refuge falls within State Wildlife Management Unit (WMU) 3G. In 2020, a total of 1,673 deer were harvested in WMU 3G (NYDEC 2020). This total reflects an increase from 2019, when approximately 1,326 deer were harvested in WMU 3G (NYDEC 2019). Anticipating that the refuge hunt will not result in more than 10 additional hunters in WMU 3G, the refuge’s hunt program would only account for a small fraction of the total number of deer harvested in the WMU and, therefore, will not result in negative impacts to local or regional white-tailed deer populations. While this would be the first time that deer hunting would be occurring since the

refuge was established, the land was previously open to archery deer hunting when the property was managed by The Nature Conservancy (TNC).

Black Bear

Black bear hunting is managed on a statewide basis in accordance with approved New York State management plans. Impacts from black bear hunting may include temporary disturbance of wildlife or visitors, changes in wildlife behavior, and changes in wildlife populations. Bear hunting can also help maintain bear populations within the target densities set by the State. Increasing human development and the coincidental increase of the bear populations has resulted in an increase in human-bear conflicts throughout New York. Hunting is the most feasible management tool available to control bear populations on the refuge. Given the bear density in WMU 3G, the State identified it as an area to maintain a low population density in their 2014 Black Bear Management Plan (NYDEC 2014).

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 on the refuge. In 2020, a total of 14 black bears were harvested in WMU 3G (NYDEC 2020). This is a decrease from 2019, when a total of 22 black bears were harvested in WMU 3G (NYDEC 2019). Black bear hunting would be a new public use on Great Thicket NWR-Housatonic Unit, and no more than 10 hunters (though the expected number is 5 to 10) would be participating in bear hunting. Considering the high bear densities in the area of the refuge, this opportunity is not anticipated to result in negative impacts to local or regional black bear populations.

Wild Turkey

Wild turkey hunting is managed on a statewide basis in accordance with approved New York State management plans. Impacts from wild turkey hunting may include temporary disturbance of wildlife or visitors, changes in wildlife behavior, and changes in wildlife populations. NYDEC estimates the State's wild turkey population at approximately 160,000 to 180,000 birds. Both the statewide population and statewide harvest for wild turkeys has been declining since around 2009 (NYDEC 2019). In 2015, the State implemented new regulations for fall turkey hunting to minimize impacts on statewide and regional populations. Turkey hunting would be a new public use on Great Thicket NWR-Housatonic Unit and no more than 10 hunters (though the expected number is less) would be participating in both fall and spring turkey hunting on the refuge. Considering the limited number of hunters taking part in the hunt on the refuge, this opportunity is not anticipated to result in negative impacts to local or regional turkey populations.

Non-target Species

Hunting can affect both target and non-target species. These impacts include changes in wildlife behavior, changes in wildlife population structure, dynamics, and distribution patterns, and disturbance from noise and hunters walking on- and off-trail (Cole and Knight 1990, Cole 1990). However, under the anticipated levels of use these impacts are expected to be minimal. Hunters tend not to disperse very far from parking areas and roads, which leaves large areas of refuge land undisturbed. While resident and non-game wildlife in areas newly opened to hunters and hunting may be negatively impacted by disturbance, that impact would likely be negligible.

Common bird species found on the refuge include chestnut-sided warblers, white-eyed vireos, Louisiana water thrushes, woodland warblers, and prairie warblers. Mammals that may be on or

around the refuge include coyote, fox, New England and Eastern cottontail rabbit, mice, voles, and shrews.

Habitat and Vegetation

Dominant habitat types on the refuge include open fields, grasslands, freshwater wetlands, shrublands, and hardwood forest.

Plant species found on the refuge include green milkweed (*Asclepias viridis*), New England blazing star (*Liatris novae-angliae*), Virginia false gromwell (*Lithospermum virginianum*), Carolina whitlow grass (*Draba reptans*), mock-pennyroyal (*Hedeoma hispida*), Torrey's mountain mint (*Pycnanthemum torreyi*), yellow wild flax (*Linum sulcatum*), large twayblade (*Liparis liliifolia*), and side-oats grama (*Bouteloua curtipendula*).

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.

Threatened and Endangered Species

One federally endangered species, two federally threatened species and one species of special concern may be present on the refuge and could be impacted by recreational hunting. Protected species present on the refuge may include the Indiana bat (federally endangered), Northern long-eared bat (federally threatened), bog turtle (federally threatened) and the New England cottontail (species of concern). The New England cottontail is found in dense upland thickets and may occur on the refuge in areas open to hunting; however, rabbit hunting is not permitted on the refuge. The impacts to New England cottontails would be in the form of disturbance and flushing rabbits from cover by hunters traversing through habitat. It is expected that these impacts will be short-term and minimal due to low hunter numbers. Indiana bats and Northern long-eared bats may occur on the refuge in mature pine/hardwood forests and are most active at night, making them less susceptible to the impacts of refuge hunting activities. To date, no maternity roosts or hibernaculum have been detected on the refuge or adjacent lands.

Visitor Uses and Experiences

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 closed to hunting to ensure visitor safety. Signage would go up at refuge kiosks and information would 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.

PUBLIC REVIEW AND COMMENT:

This Compatibility Determination (CD) is part of the Shawangunk and Great Thicket-Housatonic Unit NWRs Hunting Plan and the accompanying Environmental Assessment for National Environmental Policy Act compliance. The plan was coordinated with all interested and/or affected parties, including State partners. The public will be notified of the availability of the Hunting Plan and accompanying CDs with no less than a 60-day review and comment period. We will inform the public through local venues, the refuge website, and social media.

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 the Refuge System mission, hunting can occur at Great Thicket NWR-Housatonic Unit 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, 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 following stipulations are necessary to ensure compatibility:

- 10 archery-only combination permits (covers white-tailed deer/black bear/spring and fall wild turkey) would be distributed by a lottery system each year. The permit is valid for the New York license year and is not transferrable.

JUSTIFICATION:

Hunting is a priority wildlife-dependent use for the Refuge System through which the public can develop an appreciation for fish and wildlife. Service policy is to provide expanded opportunities for wildlife-dependent uses when compatible and consistent with sound fish and wildlife management and ensure that they receive enhanced attention during planning and management.

Hunting satisfies a recreational need but hunting on NWRs can be an important, proactive management action that can prevent overpopulation and the deterioration of habitat. Disturbance to other species would occur, but this disturbance is generally short-term. Suitable habitat exists on refuge lands to support hunting as proposed.

Additionally, hunting provides wildlife-dependent recreation to the public in a region where these opportunities are limited by private land ownership and development. The vast majority of private lands are posted as "No Trespassing" and this limits hunting opportunities for hunters

without the agreement of private landowners. The refuge provides a low-cost, safe, and enjoyable option.

This activity would not conflict with any of the other priority public uses or adversely affect biological resources. Therefore, through this planning process, we have determined that hunting on Great Thicket NWR-Housatonic Unit, in accordance with the stipulations provided above, is a compatible use that will not materially interfere with, or detract from, the fulfillment of the Refuge System mission or the purpose(s) of the refuge.

SIGNATURE:

Refuge Manager

(Signature)

(Date)

CONCURRENCE:

Regional Chief

(Signature)

(Date)

MANDATORY 15 YEAR RE-EVALUATION DATE:

(Date)

LITERATURE CITED:

- Augustine, D.J. and P.A. Jordan. 1998. Predictors of white-tailed deer grazing intensity in fragmented deciduous forests. *Journal of Wildlife Management* 62:1076-1085.
- Cole, D.N. 1990. Ecological impacts of wilderness recreation and their management. In J.C. Hendee, G.H. Stankey, and R.C. Lucas (Eds.), *Wilderness Management* (pp. 425-466). Golden, CO: North American Press.
- Cole, D.N. and Knight, R.L. 1990. Impacts of recreation on biodiversity in wilderness. *Natural Resources and Environmental Issues*, 0, 33-40.
- DeCalesta, D.S. 1994. Effect of white-tailed deer on songbirds within managed forests in Pennsylvania. *J. Wildl. Manage.* 58(4):711-718.
- DeNicola, A. and S.R. Williams. 2008. Sharpshooting suburban white-tailed deer reduces deer - vehicle collisions. *J. Human-Wildlife Conflicts* 2(1):28-33
- Kilpatrick, H.J. and A.M. LaBonte. 2007. *Managing Urban Deer in Connecticut: A guide for residents and communities*, 2nd ed. Connecticut Department of Environmental Protection, Bureau of Natural Resources - Wildlife Division. 34 pp.
- New York State Department of Environmental Conservation. 2014. *Black Bear Management Plan for New York State 2014-2024*. Prepared by Patricia Riexinger et. al. 41 pp.
- New York State Department of Environmental Conservation. 2019. *Black Bear Harvest Summary 2019*. 18 pp.
- New York State Department of Environmental Conservation. 2020. *Black Bear Harvest Summary 2020*. 17 pp.
- New York State Department of Environmental Conservation. 2019. *White-tailed Deer Harvest Summary 2019*. 49 pp.
- New York State Department of Environmental Conservation. 2020. *White-tailed Deer Harvest Summary 2020*. 45 pp.
- Tilghman, N.G. 1989. Impacts of white-tailed deer on forest regeneration in northwestern Pennsylvania. *Journal of Wildlife Management* 53(3):524-532.

Environmental Assessment

Shawangunk Grasslands NWR and Great Thicket NWR-Housatonic Unit

This Environmental Assessment (EA) evaluates the effects associated with the proposed action and complies with the National Environmental Policy Act (NEPA) in accordance with Council on Environmental Quality regulations (40 CFR 1500-1509) and Department of the Interior (43 CFR 46; 516 DM 8) and U.S. Fish and Wildlife Service (550 FW 3) regulations and policies. NEPA requires examination of the effects of proposed actions on the natural and human environment. A list of laws and executive orders evaluated through this EA is included at the end of this document.

Proposed Action

The U.S. Fish and Wildlife Service (Service) is proposing to open or expand recreational hunting opportunities on Shawangunk Grasslands National Wildlife Refuge (NWR, refuge) and Great Thicket NWR-Housatonic Unit, in accordance with the Shawangunk Grasslands NWR Comprehensive Conservation Plan (2006) and the Great Thicket NWR Land Protection Plan (2016). Through this action, the refuges would:

- Continue existing archery-only hunting of white-tailed deer at Shawangunk Grasslands NWR;
- Open opportunities for archery-only black bear and wild turkey hunting at Shawangunk Grasslands NWR;
- Open 31 additional acres (Long Lane Tract) for archery-only hunting of white-tailed deer, black bear, and wild turkey at Shawangunk Grasslands NWR;
- Open opportunities for archery-only hunting of white-tailed deer, black bear, and wild turkey on 144 acres at the Great Thicket NWR-Housatonic Unit.

A proposed action may evolve during the NEPA process as we refine the proposal and gather additional feedback from the public, Tribes, and other agencies. Therefore, the final proposed action may be different from the original. The proposed action will be finalized at the conclusion of the public comment period for the EA.

Background

National wildlife refuges are guided by the mission and goals of the National Wildlife Refuge System (Refuge System), the purposes of an individual refuge, U.S. Fish and Wildlife Service (Service) policy, and laws and international treaties. Relevant guidance includes the National Wildlife Refuge System Administration Act (NWRSA) of 1966, as amended by the Refuge

System Improvement Act of 1997, Refuge Recreation Act of 1962, and selected portions of the Code of Federal Regulations (CFR) and Fish and Wildlife Service Manual.

Shawangunk Grasslands NWR was established pursuant to the Federal Property and Administrative Services Act of 1949 and the Transfer of Certain Real Property for Wildlife Conservation Purposes Act of 1948. The primary purpose of the refuge is to provide its “...particular value in carrying out the National Migratory Bird Management program” (16 U.S.C. 667b, An Act Authorizing the Transfer of Certain Real Property for Wildlife). The refuge also has particular importance for wintering raptors and breeding or migrating grassland birds.

Great Thicket NWR was established to help stem the decline of shrubland-dependent wildlife species. The establishing authorities for Great Thicket NWR include the Endangered Species Act of 1973 (16 U.S.C. 1534), as amended, and Fish and Wildlife Act of 1956 (16 U.S.C. 742a-742j), as amended. The primary purpose of Great Thicket NWR is to strategically acquire and improve habitat to help achieve overlapping habitat and population goals for declining shrubland wildlife species.

The mission of the Refuge System, as outlined by the NWRSA, as 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”

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

- 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.

Purpose and Need for the Action

Hunting is a healthy, traditional recreational use of renewable natural resources deeply rooted in America’s heritage, and it can be an important wildlife management tool. The NWRSA of 1966, the Refuge System Improvement Act of 1997, and Service policy permit hunting on a refuge as a priority wildlife-dependent recreational opportunity when it is compatible with the purposes for which the refuge was established and acquired.

Furthermore, Department of the Interior Secretarial Order 3356 directs the Service to enhance and expand public access to lands and waters on NWRs for hunting, fishing, recreational shooting, and other forms of outdoor recreation. The proposed action would promote one of the priority public uses of the Refuge System and providing opportunities for visitors to hunt would promote stewardship of our natural resources and increase public appreciation and support for the refuge.

The Shawangunk Grasslands NWR Feasibility Study and Environmental Assessment (FSEA) identified the need to provide opportunities for priority wildlife-dependent recreation, including hunting. The FSEA also established the following goals:

- Protect and enhance habitats for Federal trust species of management concern, with special emphasis on migratory birds and species listed under the Endangered Species Act (ESA).
- Create opportunities for hunting, fishing, wildlife observation and photography, and environmental education and interpretation, while promoting activities that complement the purposes of the refuge and other protected lands in the region.
- Allowing the harvest of white-tailed deer, black bear, and wild turkey through a regulated hunting program can assist the refuge in achieving these goals. Specifically, the objectives of the hunting program are to:
 - Provide quality hunting opportunities for the public, especially youth and persons who qualify for State disabled 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 by coordinating with adjacent landowners and other partners to protect and enhance the health and integrity of grasslands habitats within the refuge acquisition boundary.

In summary, the purpose of this proposed action is to provide increased access and opportunities for wildlife-dependent recreation, specifically hunting opportunities at Shawangunk Grasslands NWR and Great Thicket NWR-Housatonic Unit. To address the needs stated above, the proposed action would bring the refuge into compliance with orders, policy, and Federal law to “recognize compatible wildlife-dependent recreational uses as the priority general uses of the Refuge System” and “ensure that opportunities are provided within the Refuge System for compatible wildlife-dependent recreational uses.” 16 U.S.C. 668dd(a)(4)).

Alternatives

Alternative A – No Action Alternative (current Management)

The No Action Alternative would continue Shawangunk Grassland NWR’s current hunting program, which allows for archery-only white-tailed deer hunting on 134 acres of the refuge and no hunting at Great Thicket NWR-Housatonic Unit. No expansion or reduction of hunting access would occur, and the program would be conducted as it is currently.

Alternative B – Proposed Action Alternative (Expanded hunting opportunities)

The refuge has prepared a Big Game Hunting Plan, which is summarized in this document as the Proposed Action Alternative. Under the Proposed Action Alternative, we propose to expand hunting opportunities to refuge lands where these uses are found to be compatible. To ensure compatibility with refuge purposes and the mission of the Refuge System, hunting must be conducted in accordance with State and Federal regulations, as supplemented by refuge-specific regulations (50 CFR 32.51), and information sheets/brochures. Stipulations are further detailed in the Hunting Compatibility Determinations (Appendix A, Appendix B). Additional regulations and general procedures that pertain to hunting on the refuge can be found in Section IV Subsection B of the Hunting Plan.

Under the Proposed Action Alternative, Shawangunk Grasslands NWR would continue to administer the archery-only white-tailed deer hunt in accordance with State regulations. In addition, the refuge would open the 31-acre Long Lane Tract to hunting. With the newly opened Long Lane tract included, a 165-acre hunting area would be open for the first time to archery-only black bear and wild turkey hunting in addition to white-tailed deer.

The Great Thicket NWR-Housatonic Unit would be opened to hunting for the first time under the Proposed Action Alternative. This 144-acre unit would be opened to archery-only white-tailed deer, black bear, and wild turkey hunting in accordance with New York State regulations, with the exception that we do not allow dogs for hunting.

The refuge manager, upon annual review of the hunting program, however, may take the necessary steps to impose further restrictions, recommend that the refuge be closed to hunting, or further liberalize hunting regulations up to the limits of the State. We would restrict hunting if it

becomes inconsistent with other, higher priority refuge programs or endangers refuge resources or public safety.

Measures to Avoid Conflicts:

Specific regulations listed under the proposed action alternative were designed to prevent conflicts and negative impacts on refuge habitat and resources, while expanding hunting opportunities on the refuge. Careful oversight by refuge staff will help to mitigate impacts of implementing expanded hunting programs. The refuge manager reserves the right to close a unit to hunting or completely stop hunting should any adverse effects occur.

Hunting is a well-established activity at Shawangunk Grasslands NWR, though it is not yet established at the Great Thicket NWR-Housatonic Unit. Only minimal disturbance to most wildlife is expected since hunting occurs during the non-breeding season for birds, and most migratory species have already departed for the winter. Although refuge hunting occurs from October to December and April to May, the greatest numbers of hunters are anticipated in October, November, and December. At Shawangunk Grasslands NWR, 20 archery-only combination white-tailed deer/black bear/fall wild turkey permits, and 20 archery-only spring wild turkey permits would be distributed by a lottery system each year. At Great Thicket NWR-Housatonic Unit, 10 archery-only combination white-tailed deer/black bear/wild turkey permits would be distributed by a lottery system each year. Conflicts can arise between hunters, anglers, and other public users, but it is not a substantial issue at the current levels of use. Some visitors hiking the trails, birdwatchers, and photographers may be impacted by the presence of hunters, but public outreach and signs at trailheads are used to address possible conflicts. Overall, refuge hunting is expected to have a continued positive impact, by increasing community participation of distinct user groups at the refuge.

This alternative offers increased opportunities for public hunting and fulfills the Service's mandate under the NWR SAA. The Service has determined that the hunt plan is compatible with the purposes of Shawangunk Grasslands NWR and Great Thicket NWR-Housatonic Unit and the mission of the Refuge System.

Other Alternatives Considered but Eliminated From Further Analysis

In developing hunting plans for NWRs, we regularly receive comments and requests from some members of the public to eliminate hunting. An alternative that would close the refuges to all hunting was therefore considered but dismissed from detailed analysis. A "No Hunting Alternative" would not accomplish the purposes we seek to accomplish by the adoption of this hunting plan, as described in the "purpose and need" section of this EA. Closing the refuge to hunting would conflict with the Refuge System Improvement Act, which provides that hunting is an appropriate and priority use of the Refuge System, shall receive priority consideration in refuge planning and management, mandates that hunting opportunities should be facilitated when feasible, and directs the Service to administer the Refuge System so as to "provide increased opportunities for families to experience compatible wildlife-dependent recreation, particularly opportunities for parents and their children to safely engage in traditional outdoor activities, such as fishing and hunting." Furthermore, Department of the Interior Secretarial Order 3356, signed in 2017, directs the Service to enhance and expand public access to lands and waters on refuges for hunting, fishing, recreational shooting, and other forms of outdoor recreation. An alternative

that failed to provide any opportunity to participate in hunting activities, where such activities are compatible with the purposes of the Refuge System, would also fail to meet the goals of the Refuge System.

Refuge staff have worked closely with stakeholders and the NYSDEC to develop the current proposed hunting plan. There are no unresolved conflicts about the proposed action with respect to alternative uses of available resources. Additionally, the proposed action builds on a well-established existing hunting program, and includes the addition of areas developed, in part, from the planning process of the refuge's Comprehensive Conservation Plan (CCP). Therefore, the Service does not need to consider additional alternatives (43 CFR 46.310).

Affected Environment and Environmental Consequences

This section is organized by affected resource categories and for each affected resource discusses both (1) the existing environmental and socioeconomic baseline in the action area for each resource and (2) the direct, indirect, and cumulative effects and impacts of the proposed action and any alternatives on each resource. The effects and impacts of the proposed action considered here are changes to the human environment, whether adverse or beneficial, that are reasonably foreseeable and have a reasonably close causal relationship to the proposed action or alternatives. Cumulative impacts are defined as the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. This EA focuses on written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an "affected resource." Resources that would not be more than negligibly impacted by the action may be dismissed from further analyses. We predict the foreseeable impacts of implementing the hunting program in each of the alternatives, and when detailed information may be deficient or unavailable, we base our comparisons on professional judgment and experience. We usually identify potential impacts within a long-range timeframe (i.e., 15 years); beyond that timeframe, they become more speculative.

Please keep in mind the relatively small total land mass of the hunting area of the refuges in comparison with the entire Atlantic Flyway or the breeding ranges of the many birds and wildlife that use it. We recognize that the refuges are not isolated ecologically from the lands around them; however, we may have overstated positive or negative impacts in that larger geographic context. While turkey and bear hunting were not approved in Shawangunk Grasslands NWR's CCP of 2006, today these opportunities, along with others found in the refuge's hunt plan, conform to the CCP's larger vision and goal of providing high-quality, wildlife-dependent recreation opportunities for the American public. Hunting is also an appropriate use on all NWRs and has been found compatible.

Shawangunk Grasslands NWR consists of approximately 566 acres in Ulster County, New York (see map at Appendix B). The refuge is primarily grasslands habitat with a forested edge. Great Thicket NWR-Housatonic Unit consists of approximately 144 acres in Dutchess County, New York (see map at Appendix B). The refuge is primarily a mix of grasslands, shrubland, and forested habitat.

For more information regarding and the general characteristics of Shawangunk Grasslands NWR's environment, please see Chapter 3 of the refuge's 2006 CCP. For more information on the general characteristics of Great Thicket NWR, please see Chapter 3 of the refuge's 2016 Land Protection Plan.

White-Tailed Deer

Affected Resource Description

For more information on the environmental consequences of the proposed action on white-tailed deer at Shawangunk Grasslands NWR, see the 2012 Environmental Assessment for Deer Hunting Plan at Shawangunk Grasslands NWR in Ulster County, NY.

Shawangunk Grasslands NWR falls within State Wildlife Management Unit (WMU) 3J. In 2020, a total of 1,974 deer were harvested in WMU 3J, with an average of 2.8 deer harvested per square mile (NYDEC 2020). This total reflects an increase from 2019, when approximately 1,693 deer were harvested in WMU 3J (NYDEC 2019). Anticipating that the refuge hunt will not result in more than 20 additional hunters in WMU 3J, the refuge's hunt program will only slightly increase total harvest in the area and, therefore, would not result in negative impacts to local or regional white-tailed deer populations.

Great Thicket NWR-Housatonic Unit falls within State Wildlife Management Unit (WMU) 3G. In 2020, a total of 1,673 deer were harvested in WMU 3G (NYDEC 2020). This total reflects an increase from 2019, when approximately 1,326 deer were harvested in WMU 3G (NYDEC 2019). Anticipating that the refuge hunt will not result in more than 10 additional hunters in WMU 3G, the refuge's hunt program will only slightly increase total harvest in the area and, therefore, would not result in negative impacts to local or regional white-tailed deer populations.

Anticipated Impacts

Alternative A: No Action

We estimate approximately 10 hunters annually participate in the archery-only deer hunting opportunity on Shawangunk Grasslands NWR and harvest a total of less than 10 deer. Hunting is not currently open on Great Thicket NWR-Housatonic Unit and would remain closed under this No Action Alternative. The impacts under the No Action Alternative would likely result in a similar number of hunters and deer harvest of fewer than 10 deer at the Shawangunk Grasslands NWR.

Alternative B: Proposed Action

The impacts under the Proposed Action Alternative should result in the number of hunters and take of archery-only white-tailed deer of less than 20 at the Shawangunk Grasslands NWR and the number of hunters and take of archery-only white-tailed deer of less than 10 at the Great Thicket NWR-Housatonic Unit.

Refuges, including Shawangunk Grasslands and Great Thicket NWRs, conduct their refuge hunting program within the framework of State and Federal regulations. NYSDEC sets hunting frameworks based on species' populations and monitored harvests. The proposed refuge hunting regulations will be the same as, or more restrictive than, hunting regulations throughout the

State. By maintaining hunting regulations that are the same as or more restrictive than the State, the refuge can ensure that they are maintaining seasons that are supportive of management on a more regional basis. Such an approach also provides consistency with large-scale population status and objectives.

Wild Turkey

Affected Resource Description

Wild turkey hunting is managed on a statewide basis in accordance with approved New York State management plans. Impacts from wild turkey hunting may include temporary disturbance of wildlife or visitors, changes in wildlife behavior, and changes in wildlife populations. NYDEC estimates the State's wild turkey population at approximately 160,000 to 180,000 birds. Both the statewide population and statewide harvest for wild turkeys has been declining since around 2009 (NYSDEC 2019). In 2015, the State implemented new regulations for fall turkey hunting to minimize impacts on Statewide and regional populations.

Turkey hunting would be a new opportunity at both Shawangunk Grasslands NWR and Great Thicket NWR-Housatonic Unit and no more than 10 hunters would be participating in both spring and fall turkey hunting on the refuge annually. Considering the limited number of hunters taking part in the hunt on the refuge, this opportunity is not anticipated to result in negative impacts to local or regional turkey populations.

Anticipated Impacts

Alternative A: No Action

The impacts under the No Action Alternative would result in no hunting for wild turkey at Shawangunk Grasslands NWR and Great Thicket NWR-Housatonic Unit.

Alternative B: Proposed Action

The impacts under the Proposed Action Alternative should result in the number of hunters and harvest of wild turkey of less than 20 at the Shawangunk Grasslands NWR and less than 10 at the Great Thicket NWR-Housatonic Unit annually.

Black Bear

Affected Resource Description

Black bear hunting is managed on a statewide basis in accordance with approved New York State management plans. Impacts from black bear hunting may include temporary disturbance of wildlife or visitors, changes in wildlife behavior, and changes in wildlife populations. Bear hunting can also help maintain bear populations within the target densities set by the State. Increasing human development and the coincidental increase of bear populations has resulted in an increase in human-bear conflicts throughout New York. Hunting is the most feasible management tool available to control bear populations on the refuge. Given the bear densities in WMU 3G and 3J, the State identified both as areas to reduce to (WMU 3J) and maintain (WMU 3G) a low population density in their 2014 Black Bear Management Plan (NYDEC 2014).

Although neither the Shawangunk Grasslands NWR or the Great Thicket NWR-Housatonic Unit conduct formal surveys or research to quantify bear use of the refuge, bear and their signs (i.e., tracks, scat, etc.) are commonly observed on the refuges. In 2020, a total of 31 black bears were

harvested in WMU 3J (NYSDEC 2020). This is an increase from 2019, when a total of 19 black bears were harvested in WMU 3J (NYSDEC 2019). In 2020, a total of 14 black bears were harvested in WMU 3G (NYSDEC 2020). This is a decrease from 2019, when a total of 22 black bears were harvested in WMU 3G (NYSDEC 2019). Black bear hunting would be a new opportunity at both Shawangunk Grasslands NWR and Great Thicket NWR-Housatonic Unit. We anticipate fewer than 20 hunters would be likely to participate in bear hunting on Shawangunk Grasslands NWR and no more than 10 hunters on Great Thicket NWR-Housatonic Unit annually. Considering the high bear densities in the area of the refuge, the addition of this hunting opportunity would likely result in only a small increase in the number of bears harvested, and it is not anticipated to result in negative impacts to local or regional black bear populations.

Anticipated Impacts

Alternative A: No Action

The impacts under the No Action Alternative would result in no hunting for black bear at Shawangunk Grasslands NWR and Great Thicket NWR-Housatonic Unit.

Alternative B: Proposed Action

The impacts under the Proposed Action Alternative would likely result in the number of hunters and harvest of black bear of less than 20 at the Shawangunk Grasslands NWR and less than 10 at the Great Thicket NWR-Housatonic Unit.

Non-Target Wildlife and Aquatic Species

Affected Resource Description

At Shawangunk Grasslands, breeding, migrating, and wintering grassland-dependent birds are a primary management focus. Birds that can be found at Shawangunk Grasslands include the short-eared owl, Northern harrier, upland sandpiper, Henslow's sparrow, grasshopper sparrow vesper sparrow, horned lark, bobolink, Eastern meadowlark, loggerhead shrike, common nighthawk, sharp-shinned hawk, Cooper's hawk, red-shouldered hawk, peregrine falcon, red-headed woodpecker, wood thrush, and yellow-bellied sapsucker. The refuge has not completed an inventory of reptiles or amphibians on the refuge, but the wood turtle and spotted turtle have been observed at Shawangunk Grasslands NWR. Mammals that may be on or around the refuge include the coyote, fox, Eastern cottontail rabbit, mice, voles, and shrews.

Commonly observed birds at Great Thicket NWR-Housatonic Unit include the yellow-bellied sapsucker, Eastern bluebird, red-eyed vireo, house sparrow, turkey vulture, red-bellied woodpecker, ovenbird, wood thrush, downy woodpecker, and mourning dove. The refuge has not yet completed an inventory of mammals or reptiles, but species that are adapted to the grassland habitat at the refuge include white-footed and deer mice, red and grey fox, raccoon, opossum, striped skunk, Eastern hognose snake, Northern black racer, and the Blanding's turtle.

Anticipated Impacts

Alternative A: No Action

Under this alternative, the current hunt program would be maintained on Shawangunk Grasslands NWR. The hunt is currently limited to archery-only white-tailed deer hunting. This alternative currently results in some short-term but negligible negative impacts to small mammals, birds, and other wildlife due to disturbance in areas where human access for hunting

activities occurs. Hunting is not currently allowed at Great Thicket NWR-Housatonic Unit and therefore there currently are no impacts to non-target species. We anticipate impacts to non-target species at both refuges to remain similar under the No Action Alternative.

Alternative B: Proposed Action

Hunting can impact both target and non-target species. These impacts may include direct mortality of individuals, changes in wildlife behavior, changes in wildlife population structure, dynamics, and distribution patterns, and disturbance from noise and hunters walking on- and off-trail (Cole 1990, Cole and Knight 1990). However, under the anticipated levels of use these impacts would likely be minimal. While resident and non-game wildlife in areas newly opened to hunters and hunting may be negatively impacted by short-term disturbance, that impact is expected to be negligible on non-target species.

Threatened and Endangered Species, and Other Special Status Species

Affected Resource Description

No federally listed species have yet been documented on the Shawangunk Grasslands or Great Thicket-Housatonic Unit NWRs. However, a hibernaculum for the federally endangered Indiana bat is located 18 miles to the northeast of the Shawangunk Grasslands NWR. This species could potentially occur on the refuge; however, investigations have yet to confirm its presence. The federally threatened bog turtle and Northern long-eared bat may be present around the refuge. Rare or uncommon plants occurring at Shawangunk Grasslands NWR include Frank's sedge (*Carex frankii*), small-flowered agrimony (*Agrimonia parviflora*), purple milkweed (*Asclepias purpurascens*), small white aster (*Aster vimineus*), Bush's sedge (*Carex bushii*), coontail (*Ceratophyllum echinatum*), and watermeal (*Wolffia brazilinsis*).

In New York, northern monkshood was found in the Catskill Mountains and in Chenango County, about 100 kilometers northwest of the closest Catskill site. Despite suitable habitats within and to the south of the current range, there have been no records, even casual references, beyond these discreet areas. Monarch butterflies use the refuge grasslands during spring and fall migration as well as during the spring breeding season.

At the Great Thicket NWR-Housatonic Unit, the federally endangered Indiana bat, federally threatened bog turtle and Northern long-eared bat, and species of concern New England cottontail may be present around the refuge. Rare or uncommon plants occurring at Great Thicket NWR-Housatonic Unit include green milkweed (*Asclepias viridis*), New England blazing star (*Liatris novae-angliae*), Virginia false gromwell (*Lithospermum virginianum*), Carolina whitlow grass (*Draba reptans*), mock-pennyroyal (*Hedeoma hispida*), Torrey's mountain mint (*Pycnanthemum torreyi*), yellow wild flax (*Linum sulcatum*), large twayblade (*Liparis liliifolia*) and side-oats grama (*Bouteloua curtipendula*).

Anticipated Impacts

Alternative A: No Action

Permitted hunting for archery-only white-tailed deer would continue on Shawangunk NWR, according to Federal, State, and refuge regulations. All refuge hunting programs would continue to be conducted as they have been, with no expansion or reduction in species or areas hunted.

Hunting would remain closed on Great Thicket NWR-Housatonic Unit. No adverse impacts to threatened or endangered species are anticipated under the No Action Alternative.

Alternative B: Proposed Action

Opening Shawangunk Grasslands NWR to additional areas and species for hunting opportunities (black bear and spring and fall wild turkey), and opening Great Thicket NWR-Housatonic Unit to hunting for white-tailed deer, black bear, and spring and fall wild turkey, is not likely to adversely affect federally threatened or endangered species. No existing populations of threatened or endangered species have been documented on either refuge at this time. The federally endangered Indiana bat and the federally threatened bog turtle and Northern long-eared bat may be present around either refuge. Fall and winter are periods of low or no activity for bog turtles, minimizing the likelihood that they would be encountered by hunters. Secondly, bog turtles are most often found in boggy, open habitats where there is little cover for wild game and which are difficult for people to walk through. Thus, it is likely that few hunters will venture into bog turtle habitat. Potential disturbances would 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 archery hunting of no more than 20 hunters at Shawangunk Grasslands NWR or 10 hunters at Great Thicket NWR-Housatonic Unit would impact bog turtles.

Indiana bats and Northern long-eared bats may be found within the refuge (maternity season only). These species hibernate in caves and mines from October through April (the majority of the hunting season) and would not be impacted by hunting. They are unlikely to be disturbed by hunter activity during the hunting season, as they are nocturnal species. Potential disturbances would likely not rise to the level of take. Furthermore, there is no likelihood there would be disturbance to bats from hunting when bats are not active. There is no hunting near any cave or mine where bats could hibernate (hibernaculum), and hunting programs would not result in any tree cutting or other habitat alteration. Due to their periods of inactivity, it is unlikely that archery hunting of no more than 20 hunters at Shawangunk Grasslands NWR or 10 hunters at Great Thicket NWR-Housatonic Unit would impact these bat species.

Northern wild monkshood has not been found on or near the refuge. Therefore, the proposed acres addition for hunting will have no effect on the Northern wild monkshood.

Hunting is allowed from September to February, with white-tail deer, bear and turkey seasons. Hunting has not been shown to have negative impacts on monarch breeding or migration. When hunters are walking through habitat used by monarchs, primarily from September to mid-November and during the short spring turkey season, monarchs are passing through and plants have senesced. These impacts are considered insignificant and discountable. Therefore, the proposed acres addition for hunting is not likely to adversely affect monarch butterflies.

New England cottontail is found in dense upland thickets and may occur on the Great Thicket NWR-Housatonic Unit in areas open to hunting; however, rabbit hunting is not permitted on the refuge. The impacts to New England cottontail would be in the form of disturbance and flushing rabbits from cover by hunters traversing through habitat. It is expected that these impacts will be short-term and minimal due to low hunter numbers.

Habitat and Vegetation (including vegetation of special management concern)

Affected Resource Description

At Shawangunk Grasslands NWR, dominant habitat types include wetlands, grasslands, and upland forests and shrub lands. Common plant species found on the refuge include purple loosestrife (*Lythrum salicaria*), reed canary-grass (*Phalaris arundinacea*), common reed (*Phragmites australis*), little bluestem (*Schizachyrium scoparium*), big bluestem (*Andropogon gerardii*), Virginia wildrye (*Elymus virginicus* L.) Canada wildrye (*Elymus canadensis* L.), bedstraw (*Galium sp.*), beard-tongue (*Penstemon digitalis*), slender mountain mint (*Pycnanthemum tenuifolium*), goldenrod (*Solidago spp.*), aster (*Aster spp.*), common milkweed (*Asclepias syriaca*), red oak (*Quercus rubra*), white oak (*Q. alba*), pin oak, black oak (*Q. velutina*), red maple (*Acer rubrum*), sugar maple (*A. saccharum*), shagbark hickory (*Carya ovata*), American beech (*Fagus grandifolia*), and tulip tree (*Liriodendron tulipifera*).

At Great Thicket NWR-Housatonic Unit, a survey of plant species has yet to be conducted. The refuge consists primarily of shrublands, grasslands, woodlands, and freshwater wetlands. Specific habitat types known to occur in this area include limestone woodlands and red cedar barrens. Plants that are likely to occur on in these habitats include little bluestem (*Schizachyrium scoparium*), Northern white cedar (*Thuja occidentalis*), white pine (*Pinus strobus*), white spruce (*Picea glauca*), balsam fir (*Abies balsamea*), Eastern red cedar (*Juniperus virginiana*), *Vaccinium pallidum* (hillside blueberry), bristle-leaf sedge (*Carex eburnea*), thimbleweeds (*Anemone virginiana*), switch-grass (*Panicum virgatum*), Indian grass (*Sorghastrum nutans*), Pennsylvania sedge (*Carex pensylvanica*), whorled milkweed (*Asclepias verticillata*), and creeping muhly (*Muhlenbergia sobolifera*). Rare plants known to occur on the refuge include green milkweed (*Asclepias viridiflora*), New England blazing star (*Liatris novae-angliae*), Virginia false gromwell (*Onosmodium virginianum*), Carolina whitlow grass (*Draba reptans*), Torrey's mountain mint (*Pycnanthemum torreyi* Benth), yellow wild flax (*Linum bienne*), large twayblade (*Liparis liliifolia*), and side-oats grama (*Bouteloua curtipendula*).

Invasive Species

Purple loosestrife is the most abundant invasive species on the refuge. Although typically found in emergent marshes, that species has become co-dominant in refuge grassland and wet meadow habitats. The disturbance resulting from runway removal, specifically the seeding of large areas with warm-season grass seed, may have significantly reduced the prevalence of this species across the refuge. However, it is always likely to be a component of the grassland habitat. Phragmites (common reed or *Phragmites australis*) has also become established in wet pockets along the fringe of the grasslands, though efforts are ongoing to eliminate it.

A root-mining weevil (*Hylobius transversovittatus*) has been released as a biological control agent of purple loosestrife at the refuge. Although the weevil population has increased annually, it has not had a profound effect. We are cooperating in a Cornell University study of the interaction of the weevils, loosestrife, and mowing at the refuge. Leaf beetles (*Galerucella sp.*) also have been released on the refuge. The leaf-feeding beetles do not appear to have established themselves at the release sites. A native flea beetle is also feeding heavily on purple loosestrife at the refuge and in surrounding areas.

Anticipated Impacts

Alternative A: No Action

Archery-only deer hunting would continue to occur in forest, shrub, and grassland habitats at Shawangunk Grasslands NWR. Hunters are able to walk off-trail and may traverse a larger area of the refuge than most visitors. As a result, hunting on the refuge may result in some minor and localized impacts to vegetation. Despite potential impacts, such as trampling or the creation of foot paths, hunting on the refuge has negligible impacts on refuge vegetation.

Alternative B: Proposed Action

With the expansion of hunting on Shawangunk Grasslands NWR and the opening of hunting at Great Thicket NWR-Housatonic Unit, the impacts to habitat and vegetation may slightly increase. At Shawangunk Grasslands NWR, hunters will have access to 31 additional acres. At Great Thicket NWR, hunters will have access to 144 acres for the first time. Compared to other visitors, hunters are more likely to walk off-trail and traverse more remote areas of the refuge. Hunting may result in the trampling of some vegetation, the creation of footpaths, or slight erosion. Based on the anticipated levels of use, hunting is not likely to result in significant impacts to habitat or vegetation on either refuge. Hunting comprises only a small fraction of either refuges' visitation and is not expected to cause measurable impacts to habitat or vegetation on either refuge.

Visitor Use and Experience

Affected Resource Description

Shawangunk Grasslands NWR is open to five of the six priority public uses of the Refuge System. The uses open on the refuge include hunting, fishing, wildlife observation, photography, and interpretation. In 2017, Shawangunk Grasslands NWR had 19,930 recreational visits. Of those visits, only 100 were for hunting in 2017. Visitation data is not yet available for Great Thicket NWR's newly opened Housatonic Unit. In 2020, there were 556,897 hunting license holders in New York. That number represents a decline from the previous year, when there were 564,612 hunting license holders in the State (NYSDEC 2020).

Anticipated Impacts

Alternative A: No Action

Lands now open to archery-only white-tailed deer hunting at Shawangunk Grasslands NWR follow NYSDEC seasons with some refuge-specific restrictions. Hunting, especially for species like deer, is a traditional activity during the fall in New York. As such, few conflicts among user groups have been documented between hunters and other visitors. Refuge staff conduct outreach and clearly post trail signs and boundary signs to maintain safety zones on the refuge.

Alternative B: Proposed Action

The number of hunters and amount of time spent hunting is expected to double at Shawangunk Grasslands NWR and hunters will be present for the first time since the establishment of the Great Thicket NWR-Housatonic Unit, though the land was previously open to archery deer hunting when the property was managed by TNC. Increased hunter presence and use is not expected to result in a significant number of conflicts between hunters and other user groups; increased outreach to both user groups by refuge staff is anticipated to minimize the number of conflicts. If conflicts are larger in scope or number than originally anticipated, refuge staff will take appropriate mitigation efforts.

Cultural Resources

Affected Resource Description

The area surrounding Shawangunk Grasslands NWR was first populated by the Munsee branch of the Lenape (Delaware) people. The Waronawanka (Waranawankong), known to history as the Esopus Indians, were the Munsee tribe present in the region of the refuges. For the Great Thicket NWR-Housatonic Unit, the upper Housatonic River and its tributaries played a prominent role in the growth and development of the valley land around them. The earliest settlers, the Native Americans, arrived in the area some 10,000 years ago. They settled along the river's banks, farmed the river's nutrient-rich floodplains and fished the river. The Mohicans were the local tribe when the English arrived in the 1720s and 1730s.

Dutch settlers began farming the floodplain of Rondout Creek near what is now Kingston in the mid-1600s. Through the next three centuries, land use changed drastically through the Wallkill and Shawangunk Kill valleys with the development of permanent nucleated settlement, agriculture, industry, mining, transportation, and the damming of the Hudson and its tributaries.

By the late 1800s, Galeville had acquired several mills and factories as a result of waterpower. Sheep raising and wool manufacturing became important during the early decades of the 19th century (Maymon et al. 2002), and the 1868 to 1872 construction of the Wallkill Valley Railroad spurred the livestock and dairy industries. The townships of Shawangunk and Gardiner became a center for dairy farming, a way of life that remained dominant well into the second half of the 20th century.

Meanwhile, population and commerce gravitated to locations along the rail corridor. The automobile played a vital role in development patterns, stimulating the construction of hard-surfaced roads in the valley. With vastly enhanced mobility, commercial growth became concentrated in regional population centers such as New Paltz and Walden and especially Newburgh, Kingston, Poughkeepsie and Middletown, while many of the smaller hamlets lost most if not all of their places of business. The recent past of the refuge has included a history as a farm field, use as an airport, and a role as a training location for U.S. Marshals.

The expansion of the hunt program at Shawangunk Grasslands NWR and the opening of the hunt program at Great Thicket NWR-Housatonic Unit will not result in any ground disturbance; hunters will utilize existing roads and parking lots for access.

Anticipated Impacts

Alternative A: No Action

It is Service policy to preserve the cultural, historic, and archaeological resources in the public trust, and avoid any adverse effects wherever possible. Section 106 of the National Historic Preservation Act of 1966, as amended, requires the Service to evaluate the effects of any of its actions on cultural resources such as historic, architectural and archeological properties.

Continuing the current hunting program on the Shawangunk NWR and remaining closed to hunting on Great Thicket NWR-Housatonic Unit would not result in adverse impacts to cultural resources on the refuge.

Alternative B: Proposed Action

The Proposed Action would not likely affect any cultural resources found on the refuge. Although hunters may be able to access parts of the refuges that are closed to non-hunters, this access alone is not expected to increase vandalism or disturbance to cultural resources by individuals while they are hunting, nor is it likely that hunters will be more likely to engage in vandalism or disturbance than any other refuge visitor. Under this alternative, hunting, regardless of the method or species targeted, will not pose a threat to cultural resources. There are no historic buildings or other obvious cultural resources on the refuge that would be readily susceptible to impacts from hunting.

Refuge Management and Operations

Affected Resource Description

Shawangunk Grasslands NWR is administered as part of the Lenape NWR Complex which includes four refuges in New Jersey, New York, and Pennsylvania and also manages the Great Thicket NWR- Housatonic Unit. Complex staff consists of a Refuge Manager, Deputy Refuge Manager, Visitor Services Manager, Wildlife Biologist, Contaminants Biologist, two Wildlife Refuge Specialists, Engineering Equipment Operator, Maintenance Mechanic, Administrative Support Assistant, and an Administrative Officer. The refuge also has numerous volunteers.

Infrastructure at Shawangunk Grasslands NWR consists of an overlook observation platform, maintenance storage facility, paved and gravel roads, trails, observation blinds, kiosks, interpretive signs, restrooms, and ample parking. Infrastructure at Great Thicket NWR- Housatonic Unit consists of paved and gravel roads, trails, interpretive signs, and ample parking.

The Service defines facilities as “real property that serves a particular function(s) such as buildings, roads, utilities, water control structures, raceways, etc.” Under the proposed action, naturally surfaced roads/real property exist in the hunt area; however, the use of vehicles on refuge roads will be prohibited, so no impact to refuge property is anticipated. The facilities most utilized by hunters are roads, parking lots, and trails. Access to hunting areas will be on foot to minimize soil erosion and potential negative impacts. The use of all-terrain vehicles will be prohibited.

Anticipated Impacts

Alternative A: No Action

Hunters currently use refuge infrastructure, such as parking areas and refuge trails, to gain access to refuge lands. The impacts to refuge infrastructure are short-term and negligible. Annual operating costs to administer the refuge’s current hunting programs, including infrastructure, signs, and staff time, are approximately \$20,000 at Shawangunk Grasslands NWR.

Alternative B: Proposed Action

For the proposed action, hunters would continue to use existing refuge infrastructure (parking areas, trails) to access hunting areas at Shawangunk Grasslands NWR. It is anticipated that there will be approximately 10 additional hunters per year at Shawangunk Grasslands NWR and 10 new hunters at Great Thicket NWR-Housatonic Unit. While increased hunter use is anticipated, impacts to local public roads and refuge parking lots are expected to be negligible. Opening the 31-acre Long Lane Tract of the Shawangunk Grasslands NWR and the 144-acre Great Thicket

NWR to additional and/or new hunting opportunities should not have any measurable impacts to refuge management and operations. Additional operating costs are expected to be minimal, for expanding refuge hunting opportunities at Shawangunk Grasslands NWR and are estimated at Great Thicket NWR-Housatonic Unit to be roughly in-line with hunting costs across other refuges. The estimated costs to implement the proposed action remains unchanged at approximately \$20,000 at Shawangunk Grasslands NWR, and to open and administer the hunt program Great Thicket NWR-Housatonic Unit at approximately \$12,000 for a total of \$32,000 annually. A detailed cost breakdown for both refuges can be found in the Shawangunk Grasslands and Great Thicket NWR-Housatonic Unit Hunt Plan.

Socioeconomics - Local and Regional Economies

Affected Resource Description

Shawangunk Grasslands NWR is located in Ulster County, New York. In 2019, the population of Ulster County was estimated at 177,573 people. The median household income in Ulster County was \$63,348 in 2018. The largest industries in Ulster County are health care and social services, retail trade, and educational services.

The Great Thicket NWR-Housatonic Unit is located in Dutchess County, New York. In 2019, the population in Dutchess County was estimated at 294,218 people. The median household income in Dutchess County was \$80,277 in 2018. The largest industries in Dutchess County are health care and social services, retail trade, and educational services.

In 2011, hunters in New York spent \$1.6 billion on expenses related to hunting. These expenses primarily include equipment, lodging, transportation, and other trip-related expenses. While this amount is fractional within the economy in New York State, it does represent a small positive economic benefit of hunting.

Anticipated Impacts

Alternative A: No Action

Many refuge hunters at the Shawangunk Grasslands NWR are from the local towns of Wallkill and Galeville, but others travel from around the State. Both groups contribute to the local economy through the purchase of hunting licenses, gas, food, hunting-related equipment and clothing, boating gear, equipment repair services, lodging, and other expenditures. The current hunting program has a minor, long-term beneficial impact to the local economy.

Alternative B: Proposed Action

While hunting visitation may increase due to increased opportunities, hunting only accounts for a fraction of the expenditures related to both refuges. Expanding hunting programs on Shawangunk Grasslands NWR and opening hunting at Great Thicket NWR-Housatonic Unit will likely assist the local economy by attracting additional refuge visitors to the area, but the additional economic impact is expected to be negligible with the proposed action as compared to current management.

Environmental Justice

Affected Resource Description

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires all Federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high or adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities.

The demographic indicators provided in the Environmental Protection Agency's Environmental Justice screening tool include: People of Color Population, Low-income Population, Linguistically Isolated, Less than a High School Education, Under the Age of 5, and Over the Age of 64.

In the area around Shawangunk Grasslands NWR, the people of color population, low-income population, demographic with less than a high school education, and population of people under the age of 5 is below the 25th percentile nationally. The population of linguistically isolated people is between the 25th and 50th percentiles nationally. The population of people over the age of 64 near Shawangunk Grasslands NWR is above the 50th percentile nationally.

In the area around the Great Thicket NWR-Housatonic Unit, the population of people under the age of 5 is below the 25th percentile nationally. The population percentage of people of color is between the 25th and 50th percentiles nationally. The low-income population, those with less than a high school education, linguistically isolated population, and population of people over the age of 64 are all above the 50th percentiles nationally.

Anticipated Impacts

No Action Alternative

The current hunting programs at Shawangunk Grasslands NWR do not cause issues with environmental justice as they take place on the refuges and provide a local and affordable recreational opportunity that also provides local food sources. The programs also provide a minor contribution to the local economy. The majority of refuge visitors are not residents of the local area; therefore, many visitors spend money on gasoline, equipment, food, and lodging in the area surrounding the refuge. While positive, the contributions to the local economy can be considered negligible.

Proposed Action Alternative

Hunting visitation may increase slightly with the increased opportunities at Shawangunk Grasslands NWR and the opening of opportunities at Great Thicket NWR-Housatonic Unit. The additional economic impact will be negligible, but additional areas open may reduce hunting pressures slightly. The Service has not identified any potential adverse environmental or human health impacts from this proposed action. Minority or low-income communities would not be disproportionately affected by any impacts from this proposed action or any of the alternatives.

Monitoring

Many game species populations are monitored by the New York State Department of Environmental Conservation (NYSDEC) through field surveys and game harvest reports, which

provide an additional means for monitoring populations. The State has determined that populations of game species are at levels acceptable to support hunting and these assessments are reviewed and adjusted periodically.

We will continue to base the annual level of harvest on the observed population size (through incidental observations) and habitat conditions. If the results of monitoring programs (either through incidental observations by refuge staff/volunteers/visitors or State-provided harvesting trends) indicate that resident fish and wildlife populations are unable to withstand any of the proposed harvest management strategies, the regulations would be made more restrictive or seasons would be closed until the population can withstand the harvest pressure. The refuge will be adaptive towards harvest management under the hunt program to ensure species and habitat health. Refuge-specific hunting regulations may be altered to achieve species-specific harvest objectives in the future.

Summary of Analysis

Alternative A – No Action Alternative (Current Management)

As described above, there would be no additional costs to the refuge under this alternative. There would be no change to the current public use and wildlife management programs on the refuge. The refuge would not increase its impact on the economy and would not provide new hunting and access opportunities. This alternative has the least impacts of physical and biological resources. In addition, this alternative would not meet mandates under the NWRSA and Secretarial Order 3356.

Alternative B – Proposed Action Alternative (Expanded hunting opportunities)

As described above, this alternative is the Service's proposed action because it offers the best opportunity for public hunting that would result in minimal impacts on physical and biological resources, while meeting the Service's mandates under the NWRSA and Secretarial Order 3356. The Service believes that, although the proposed action would be additive to existing hunting programs at Shawangunk Grasslands NWR and the creation of a new hunting program at Great Thicket NWR-Housatonic Unit, it will not have any significant direct or indirect impacts on local or regional wildlife populations, and will not significantly add to any cumulative effects. This alternative best meets the purpose and need stated earlier.

List of Sources, Agencies and Persons Consulted

New York State Department of Environmental Conservation Bureau of Wildlife
Town of Shawangunk, NY

List of Preparers

Jared Green, Wildlife Refuge Specialist, Lenape NWRC
Michael Horne, Project Leader, Lenape NWRC
Laura Howard, Visitor Services Assistant, Regional Office
Wilson Darbin, Visitor Services Assistant, Regional Office
Tom Bonetti, Hunting and Fishing Coordinator, Regional Office
Laura Kelly, Intern, Regional Office (Cover Graphics)

State Coordination

National wildlife refuges, including Shawangunk Grasslands and Great Thicket-Housatonic Unit NWRs, conduct hunting and fishing programs within the framework of State and Federal regulations. The refuges have moved forward with developing this hunting plan based upon coordination with the NYSDEC beginning on August 26, 2021.

Tribal Consultation

The refuges consulted with nine Haudenosaunee Tribes (the Cayuga Nation, Oneida Indian Nation, Oneida Nation of Wisconsin, Onondaga Nation, St. Regis Mohawk Tribe, Seneca-Cayuga Tribe of Oklahoma, Seneca Nation of Indians, Tonawanda Seneca Nation, and Tuscarora Nation) and two Algonkian Tribes (the Shinnecock Indian Nation and The Stockbridge Munsee Band of the Mohican Nation)

Public Outreach

The public will be notified of the availability of the Shawangunk Grasslands and Great Thicket-Housatonic Unit NWRs Hunting Plan, EA, and CDs for review and will include no less than a 60-day comment period. We will inform the public through local venues, refuge websites, and social media. Comments received from the public will be considered, and modifications may be incorporated into the final plan and decision documents.

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- U.S. Department of the Interior, U.S. Fish and Wildlife Service, and U.S. Department of Commerce, U.S. Census Bureau. 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation.

OTHER APPLICABLE STATUTES, EXECUTIVE ORDERS AND REGULATIONS

Cultural Resources

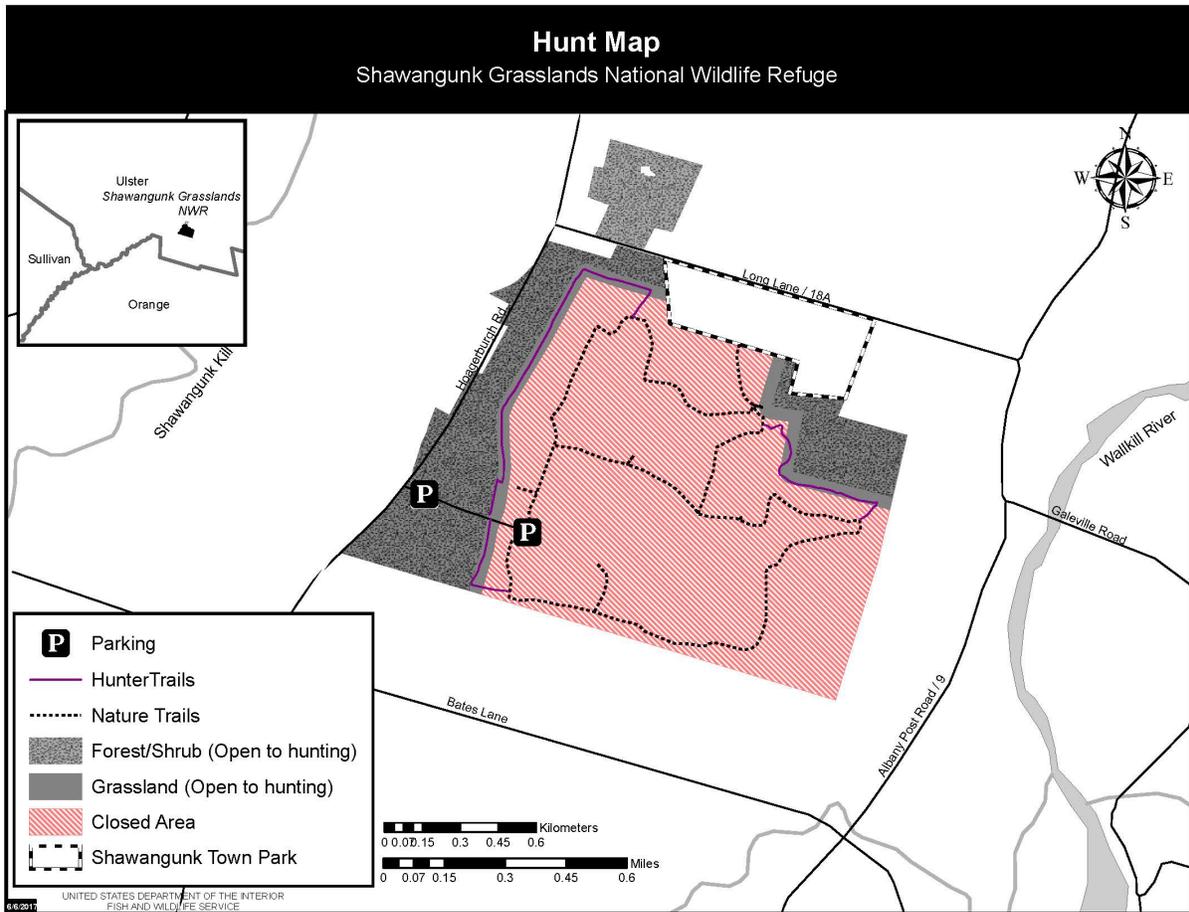
American Indian Religious Freedom Act, as amended, 42 U.S.C. 1996 - 1996a; 43 CFR Part 7
Antiquities Act of 1906, 16 U.S.C. 431-433; 43 CFR Part 3
Archaeological Resources Protection Act of 1979, 16 U.S.C. 470aa-470mm; 18 CFR Part 1312;
32 CFR Part 229; 36 CFR Part 296; 43 CFR Part 7
National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470-470x-6; 36 CFR Parts
60, 63, 78, 79, 800, 801, and 810
Paleontological Resources Protection Act, 16 U.S.C. 470aaa-470aaa-11
Native American Graves Protection and Repatriation Act, 25 U.S.C. 3001-3013; 43 CFR Part 10
Executive Order 11593 – Protection and Enhancement of the Cultural Environment, 36 Fed. Reg.
8921 (1971)

Fish and Wildlife

Bald and Golden Eagle Protection Act, as amended, 16 U.S.C. 668-668c, 50 CFR 22
Endangered Species Act of 1973, as amended, 16 U.S.C. 1531-1544; 36 CFR Part 13; 50 CFR
Parts 10, 17, 23, 81, 217, 222, 225, 402, 450
Fish and Wildlife Act of 1956, 16 U.S.C. 742a-m
Lacey Act, as amended, 16 U.S.C. 3371 et seq.; 15 CFR Parts 10, 11, 12, 14, 300, and 904
Migratory Bird Treaty Act, as amended, 16 U.S.C. 703-712; 50 CFR Parts 10, 12, 20, and 21
Executive Order 13186 – Responsibilities of Federal Agencies to Protect Migratory Birds, 66
Fed. Reg. 3853 (2001)

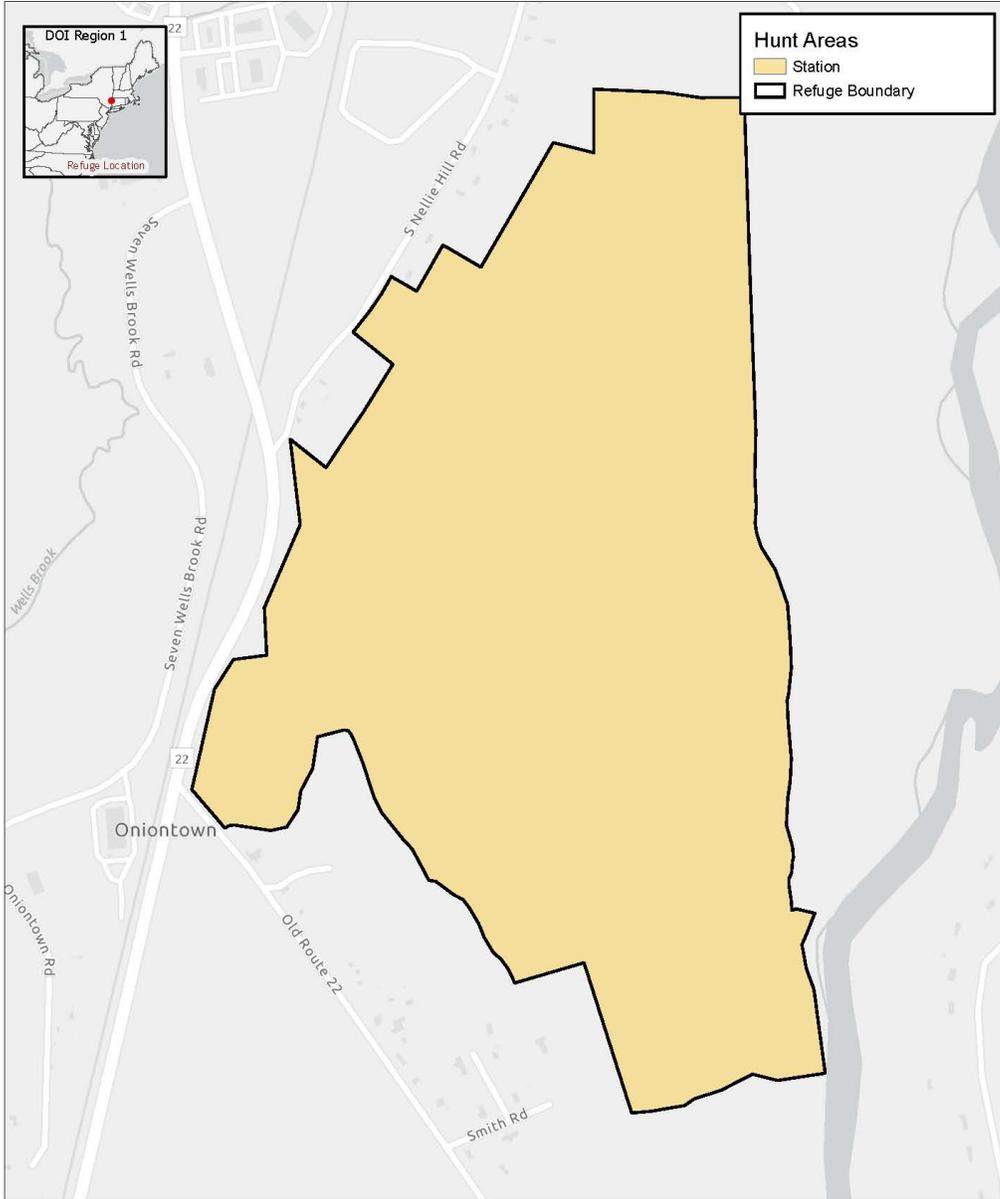
Natural Resources

Clean Air Act, as amended, 42 U.S.C. 7401-7671q; 40 CFR Parts 23, 50, 51, 52, 58, 60, 61, 82,
and 93; 48 CFR Part 23
Wilderness Act, 16 U.S.C. 1131 et seq.
Wild and Scenic Rivers Act, 16 U.S.C. 1271 et seq.
Executive Order 13112 – Invasive Species, 64 Fed. Reg. 6183 (1999)

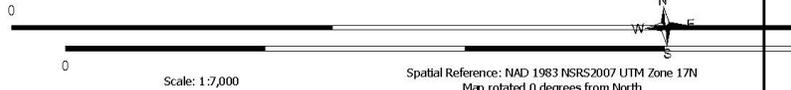




GREAT THICKET NATIONAL WILDLIFE REFUGE



Produced by the Division of Hunting and Sport Fishing
Hadley, Massachusetts
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Basemap:ESRI Open Street Map



Spatial Reference: NAD 1983 NSRS2007 UTM Zone 17N
Map rotated 0 degrees from North