



U.S. Fish and Wildlife Service

Silvio O. Conte
National Fish and Wildlife Refuge
New Hampshire and Vermont
Recreational Hunting and Fishing Plan
August 2021



Nulhegan River – Tom LaPointe/USFWS

Appendix A – Hunting Compatibility Determination
Appendix B – Fishing Compatibility Determination
Appendix C – Environmental Assessment
Appendix D – Intra-Service Section 7 Evaluation
Appendix E – Finding of No Significant Impact

**Silvio O. Conte National Fish and Wildlife Refuge
Recreational Hunting and Fishing Plan
for New Hampshire and Vermont**

August 2021

U.S. Fish and Wildlife Service

**Silvio O. Conte National Fish and Wildlife Refuge
5396 VT Route 105
Brunswick, VT 05905**

Submitted By:

Project Leader

Signature

Date

Concurrence:

Refuge Supervisor

Signature

Date

Approved:

Regional Chief
National Wildlife Refuge System

Signature

Date

Table of Contents

| | |
|---|-----------|
| I. INTRODUCTION | 1 |
| II. STATEMENT OF OBJECTIVES..... | 3 |
| III. DESCRIPTION OF HUNTING AND FISHING PROGRAM..... | 3 |
| A. Areas to be Opened to Hunting or Fishing | 3 |
| B. Species to be Taken, Periods, and Access..... | 4 |
| C. Permit Requirements..... | 6 |
| D. Consultation and Coordination with the State | 6 |
| E. Law Enforcement..... | 6 |
| F. Funding and Staffing Requirements..... | 6 |
| IV. CONDUCT OF THE HUNTING AND FISHING PROGRAM | 7 |
| A. Application, Selection and Registration Procedures | 7 |
| B. Refuge-Specific Hunting and Fishing Regulations | 7 |
| C. Other Relevant Rules and Regulations | 8 |
| V. PUBLIC ENGAGEMENT | 9 |
| A. Outreach for Announcing and Publicizing the Hunting and Fishing Program..... | 9 |
| B. Anticipated Public Reaction to the Hunting and Fishing Program | 9 |
| C. How Users Will Be Informed of Relevant Rules and Regulations | 9 |
| VI. COMPATIBILITY DETERMINATIONS | 10 |
| VII. REFERENCES | 10 |

List of Tables

| | |
|--|---|
| Table 1. Silvio O. Conte Divisions and Units Open to Hunting | 3 |
| Table 2. Anticipated Costs for Administration..... | 5 |

List of Figures

| | |
|--|----|
| Figure 1. Map of the Conte Refuge Divisions and Units within Vermont and New Hampshire.. | 11 |
| Figure 2. Map of the Blueberry Swamp..... | 12 |
| Figure 3. Map of the Fairgrounds Unit | 13 |
| Figure 4. Map of the Pondicherry Division..... | 14 |
| Figure 5. Map of the Saddle Island Unit..... | 15 |
| Figure 6. Map of the Mascoma Easement..... | 16 |
| Figure 7. Map of the Nulhegan Basin Division..... | 17 |
| Figure 8. Map of the Putney Mountain Unit | 18 |

Appendices

| | |
|---|-----|
| Appendix A. Hunting Compatibility Determination | A-1 |
| Appendix B. Fishing Compatibility Determination..... | B-1 |
| Appendix C. Environmental Assessment..... | C-1 |
| Appendix D. Intra-Service Section 7 Evaluation | D-1 |
| Appendix E. Finding of No Significant Impact..... | E-1 |

Silvio O. Conte National Fish and Wildlife Refuge Recreational Hunting and Fishing 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, FWS) policy, 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.

Silvio O. Conte National Fish and Wildlife Refuge (Silvio O. Conte NFWR, Conte Refuge, refuge) was established pursuant of the Silvio O. Conte National Fish and Wildlife Refuge Act (Public Law 102-212). Additional lands were acquired under the Migratory Bird Conservation Act of 1929 (16 U.S.C. 715-715r, 45 Stat. 1222), as amended, and the Land and Water Conservation Fund Act of 1965 (Public Law 88-578).

The primary purposes of the refuge are:

- To conserve, protect, and enhance the Connecticut River populations of Atlantic salmon, American shad, river herring, shortnose sturgeon, bald eagles, peregrine falcons, osprey, black ducks, and other native species of plants, fish and wildlife;
- To conserve, protect, and enhance the natural diversity and abundance of plant, fish, and wildlife species and the ecosystem upon which these species depend within the refuge;
- To protect species listed as endangered, threatened, or identified as candidates for listing pursuant to the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 et seq.);
- To restore and maintain the chemical, physical, and biological integrity of wetland and other waters within the refuge;
- To fulfill the international treaty obligations of the United States relating to fish, wildlife, and wetlands; and
- To provide opportunities for scientific research, environmental education, and fish and wildlife-oriented recreation and access to the extent compatible with the other purposes stated in this section.

The Conte Refuge was established in 1997 when the Connecticut River Watershed Council donated Third Island in Deerfield, New Hampshire to the Service. Named in honor of Silvio O. Conte, the late Congressman who represented Massachusetts's First Congressional District from 1959 until his death in 1991, Conte Refuge was established in the 7.2 million-acre Connecticut River Watershed in Connecticut, Massachusetts, New Hampshire, and Vermont to conserve native fish, plants, and wildlife. Since its establishment, refuge-owned lands have grown to 22

units and divisions totaling more than 39,287 acres. These lands encompass a variety of unique habitats including: Northern forest valuable as nesting habitat for migrant thrushes, warblers and other birds; rivers and streams used by mussels, shad, salmon, trout, herring and other migratory fishes; floodplains, forested swamps and peatlands which support a high diversity of rare plants and invertebrates; and an internationally important complex of high quality tidal fresh, brackish, and salt marshes.

Regulated sport hunting and fishing has been an important management tool and recreational activity at Silvio O. Conte NFWR for over a decade. Hunting and fishing pressure on the New Hampshire and Vermont divisions can be described as moderate to light with a limited number of hunters and anglers participating.

The New Hampshire portion of the refuge encompasses 9,917 acres and receives approximately 25,000 visitors each year. We estimate that hunters account for about 500 of the visits and anglers account for 400 visits annually. The Vermont portion of the refuge encompasses 26,887 acres and receives approximately 30,000 visitors each year. We estimate that hunters account for 1,000 of the visits and anglers account for 500 visits annually.

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 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).

The act further 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.

II. STATEMENT OF OBJECTIVES

Based on the mixture of habitat types and staff observations, the most popular hunting on the Conte NFWR is for white-tailed deer, snowshoe hare, American woodcock, and ruffed grouse. The refuge adopted State hunting regulations for the divisions/units in both states along with some additional refuge-specific regulations to minimize conflicts with other refuge objectives and visitor activities. The cold-water stream habitats provide excellent fishing opportunities for brook trout and is the most popular species for anglers. The refuge follows State fishing regulations for all areas open to anglers. The hunting and fishing programs will be reviewed annually.

The objectives of hunting and fishing programs on Silvio O. Conte NFWR are to:

- Provide the public with a high quality recreational experience on refuge lands and increase opportunities and access for hunters and anglers;
- Design a hunting and fishing program that is administratively efficient and manageable with existing staffing levels and that aligns with State regulations when possible;
- Implement a hunting and fishing program that is safe for all refuge users;
- Provide hunting and fishing opportunities for youth and those that need assistance; and
- Design a hunting and fishing program that aligns with refuge habitat management objectives.

III. DESCRIPTION OF HUNTING AND FISHING PROGRAM

A. Areas to be Opened to Hunting or Fishing

The five refuge units and divisions in New Hampshire and the two in Vermont have a diversity of habitat types from early to late successional forests, grasslands, wetlands, streams to open water. This matrix of lands, including some lands with high densities of target species, supports a wide variety of species. The hunting and fishing program on refuge lands in each State will be in accordance with Federal, State and refuge-specific regulations.

We are proposing all refuge lands that are found to be compatible with hunting and fishing be opened. See Table 1 below for the units and divisions that are open to hunting.

Table 1. Silvio O. Conte Division and Unit Acres Open to Hunting

| Division/Unit | Acres Open to Hunting |
|--------------------------|------------------------------|
| New Hampshire | |
| Blueberry Swamp Division | 1,166 |
| Fairgrounds Unit | 48 |
| Pondicherry Division | 6,471 |
| Saddle Island Unit | 1 |
| Mascoma Division | 2,231 |
| Total Acres (NH) | 9,917 |
| | |
| Vermont | |
| Nulhegan Basin Division | 26,602 |
| Putney Mountain Unit | 285 |
| Total Acres (VT) | 26,887 |
| TOTAL | 36,804 |

Recreational fishing would be conducted on and from the banks of all water bodies open to fishing within the boundaries of the Conte Refuge in New Hampshire and Vermont. See Table 2 below for the rivers, streams and ponds located within the refuge boundary that provide fishing opportunities:

Table 2. Rivers, Streams and Ponds by Division/Unit Open to Fishing

| Division/Unit | Areas Open to Fishing |
|--------------------------|--|
| New Hampshire | |
| Blueberry Swamp Division | East Branch of Simms Stream |
| Fairgrounds Unit | None |
| Pondicherry Division | John's River, Stanley Slide Brook, Ayling Brook, Cherry Pond, Little Cherry Pond, Hazen's Pond |
| Saddle Island | Connecticut River |
| Mascoma Division | Mascoma River and Clark Pond |
| | |
| Vermont | |
| | Black Branch, Logger Branch, North Branch, Nulhegan River, Tim Carrol Brook, Yellow Branch, Lewis Pond |
| Putney Mountain Unit | Beaver Ponds |

B. Species to be Taken, Periods, and Access

Vermont Species and Regulations

Big Game – Moose, white-tailed deer, black bear and turkey hunting would be permitted on Vermont units of the refuge.

Furbearers – Bobcat, coyote, red and gray fox, raccoon, skunk, muskrat, opossum, weasel and woodchuck (sometimes referred to as groundhog) hunting would be permitted on the Vermont units of the refuge.

Small Game – Eastern cottontail, snowshoe hare and gray squirrel hunting will be permitted on the Vermont units of the refuge.

Game Bird – Wilson’s snipe, coot, crow, pheasant, ruffed grouse, duck, light geese, dark geese, and woodcock hunting would be permitted on the Vermont units of the refuge.

Refuge lands would be open to hunting consistent with the State of New Hampshire and State of Vermont hunting seasons with some additional restrictions to protect wildlife and habitat, and to reduce potential public use conflicts. Access to refuge hunting land would be from public roads and adjoining public lands and water.

New Hampshire Species and Regulations

Approximately 9,917 acres would be open to hunting on New Hampshire refuge lands for the following species:

Big Game – Moose, white-tailed deer, black bear and turkey hunting would be permitted on the New Hampshire units of the refuge.

Furbearers – Red and gray fox, raccoon, coyote, skunk, muskrat, opossum, weasel, woodchuck, porcupine, fisher and mink hunting would be permitted on the New Hampshire units of the refuge.

Small Game – Eastern cottontail rabbit, snowshoe hare and gray squirrel hunting would be permitted on the New Hampshire units of the refuge.

Game Bird – Wilson’s snipe, coot, crow, pheasant, ruffed grouse, duck, light geese, dark geese, and woodcock hunting would be permitted on the New Hampshire units of the refuge.

Access to refuge hunting land would be from public roads and adjoining public lands and water.

Fishing

The Connecticut River Watershed supports a diversity of fishery resources. Cold, cool and warm water species are abundant throughout the watershed. The cold-water tributaries within the New Hampshire and Vermont portion of the refuge provide important habitat for brook trout, rainbow trout, and brown trout. Refuge ponds provide habitat for the usual warm water

fish species including pumpkinseed, yellow perch and pickerel.

Recreational fishing would be conducted under the State of New Hampshire's regulations for open water and ice fishing and State of Vermont regulations for inland fisheries with some additional restrictions to protect fish, wildlife, and habitat and to reduce potential public use conflicts. During the State fishing seasons, fishing may occur between 1 1/2-hour before sunrise to 1 1/2-hour after sunset.

C. Permit Requirements

No refuge-specific permit is required.

D. Consultation and Coordination with the State

Silvio O. Conte NFWR will work with the NHFG and VTFW staff to ensure safe and enjoyable recreational hunting and fishing opportunities. The States were key partners and engaged throughout the Comprehensive Conservation Planning (CCP) process completed in 2016 which addressed hunting and fishing.

Refuge and Regional Office staff have continued to meet and discuss hunting and fishing opportunities on all refuge lands with State partners, most recently in 2020. Law enforcement officers from both agencies work together to conduct patrols, safeguard hunters and visitors, and protect both game and nongame species.

E. Law Enforcement

Enforcement of refuge violations is associated with the management of a NWR and is the responsibility of Refuge Law Enforcement Officers. Other Fish and Wildlife Officers include FWS Special Agents, NH Conservation Officers, and VT Game Wardens. Local police department officers occasionally assist Refuge Law Enforcement Officers.

F. Funding and Staffing Requirements

Annual hunt administration costs for Silvio O. Conte NFWR, including salary, equipment, law enforcement, maintenance of sites, and communication with the public is approximately \$45,000 annually, including an additional \$15,000 the first year for new infrastructure. Specific to the recreational fishing program, annual costs are anticipated to average \$8,000 per year (primarily for law enforcement).

Table 3. Anticipated Costs for Hunt Administration

| Identifier | Cost |
|------------------------------------|-----------------|
| Maintenance Workers | \$10,000 |
| Refuge Managers | \$10,000 |
| Visitor Services Manager | \$5,000 |
| Supplies/Brochures* | \$5,000 |
| Kiosks Signs* | \$10,000 |
| Trail/parking lot maintenance | \$5,000 |
| Total to implement (hunt) | \$45,000 |
| Supplies/Brochures | \$1,000 |
| Monitoring Resource Impacts | \$1,000 |
| Signage (Parking, etc.) | \$1,000 |
| Law Enforcement | \$5,000 |
| Total to implement (fish) | \$8,000 |
| TOTAL (hunting and fishing) | \$53,000 |
| *Not an annual cost | |

IV. CONDUCT OF THE HUNTING AND FISHING PROGRAM

Listed below are refuge-specific regulations that pertain to Silvio O. Conte NFWR as of the date of this plan. These regulations may be modified as conditions change or if refuge expansion continues or occurs.

A. Application, Selection and Registration Procedures

No special application or registration is needed for hunting or fishing.

B. Refuge-Specific Hunting and Fishing Regulations

To ensure compatibility with refuge purposes and the mission of the Refuge System, hunting and fishing must be conducted in accordance with State and Federal regulations, as supplemented by refuge-specific regulations (50 CFR Chapter 1, Subchapter C), and information sheets/brochures. Refuge-specific stipulations are also detailed in the Hunting Compatibility Determination (CD) (Appendix A).

- Excluding the Nulhegan Basin Divisions, refuge lands are closed to night hunting. Hunters are allowed on refuge lands from a ½-hour before sunrise and a ½-hour after sunset.
- We prohibit shooting from, over, or within 25 feet of the traveled portion of any road that is accessible to motor vehicles, with the exception of a permanently disabled hunter with the proper state and refuge issued special use permit.

- Tree stands, blinds and other hunting equipment must be removed from the refuge within 72 hours after the regulated hunting season has ended.
- We allow the use of dogs consistent with State regulations, except hunters using more than two dogs must possess a Special Use Permit (FWS Form 3-1383-G) issued by the refuge manager.
- At the Putney Mountain Unit, we allow the use of dogs only for hunting ruffed grouse.
- We will allow training of dogs as governed by State regulations, from August 1 through the last Saturday in September during daylight hours, if the trainer possesses a Special Use Permit (FWS Form 3-1383-G) issued by the refuge manager.
- Take of amphibians, reptiles and baitfish is prohibited.

C. Other Relevant Rules and Regulations

Hunting

Hunting has been permitted on Silvio O. Conte NFWR lands through pre-acquisition compatibility determinations for many years since most of the refuge land was known hunting grounds historically. All refuge lands will be open to hunting unless posted closed, and hunting will conform to State seasons and be in accordance with Federal, State, and refuge-specific regulations for archery, firearms, and muzzleloader. Hunt brochures and maps for all hunting opportunities will be updated regularly and made available to hunters on the refuge website.

Hunters will be able to access the refuge by public roads and by foot. Areas may be closed if there are unacceptable resource impacts such as soil erosion, repeated disturbance to susceptible wildlife, or unresolvable conflicts with other compatible priority public uses. The need for site closures will be considered by the refuge manager on a case-by-case basis. We will maintain a safe hunt by establishing safety/no hunt zones around refuge residences, buildings, and high-use public use trails as necessary.

Lead is a well known toxin to people and wildlife and even small amounts can have adverse health effects. Hunters are encouraged to use non-toxic ammunition.

Fishing

At the discretion of the refuge manager, some areas may be seasonally, temporarily or permanently closed to fishing if wildlife impacts, habitat impacts, or user conflicts are documented. Unauthorized introductions of both non-native and native fish can disrupt aquatic ecosystems and destroy natural fisheries. No fish of any species may be introduced onto the refuge without appropriate State and refuge permits. This includes unused bait fish and viable eggs.

Anglers may access refuge lands via public roads, bicycle or pedestrian access. Areas may be closed if there are unacceptable resource impacts such as soil erosion, repeated disturbance to

susceptible wildlife, or unresolvable conflicts with other compatible priority public uses. The need for site closures will be considered by the refuge manager on a case-by-case basis.

Hunting and fishing programs will be reviewed annually or as needed to assess its effectiveness and to ensure wildlife populations and habitat quality are managed appropriately.

V. PUBLIC ENGAGEMENT

A. Outreach for Announcing and Publicizing the Hunting and Fishing Program

The refuge maintains a mailing list of local newspapers, radio, television stations, and websites for news release purposes. Special announcements and articles may be released in conjunction with hunting seasons. In addition, information about hunting and fishing will be available at refuge office and on the refuge website.

B. Anticipated Public Reaction to the Hunting and Fishing Program

While there are members of the public that do not support hunting and fishing on refuges, we are supported by many people who are eager to engage in these long-standing conservation traditions. Hunting and fishing are important economic and recreational uses of natural resources and can be important wildlife management tools.

On April 12, 2021, we distributed a press release to news organizations and alerted the public about the availability of the draft Recreational Hunting and Fishing Plan, with the Compatibility Determinations (CD) and Environmental Assessment (EA). The plan was sent directly to local town representatives and partners. No public meetings were held due to restrictions on public gatherings due to COVID-19. The refuge manager did answer questions about the hunt plan by phone throughout the comment period. The public comment period ended on July 6, 2021, a total of 86 days. A total of 711 individuals and organizations offered input to the refuge. A summary of substantive comments received, and our responses, can be found in Appendix E (Finding of No Significant Impact).

No public use conflicts are expected to occur on the refuge during the hunting seasons. The refuge has managed hunting for over a decade with little to no conflict among refuge user groups. Overall, impacts to visitor services and recreation opportunities are considered short-term, minor and local. Conflicts and negative interactions among hunters are possible if they compete for hunting areas. The refuge reserves the right to implement new regulations, close areas to hunting, or revoke current and future access to the refuge from hunters.

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

Directions and maps are available on the station website at: https://www.fws.gov/Refuge/silvio_o_conte/ and at the refuge office. General information regarding hunting and other public uses can be obtained by calling 802-962-5240 or at the Nulhegan Basin Division office at 5396 VT Route 105, Brunswick, VT 05905.

VI. COMPATIBILITY DETERMINATIONS

Hunting, fishing and all associated program activities proposed in this plan are compatible with the purposes of the refuge. See Appendix A and B for included CDs.

VII. REFERENCES

New Hampshire Hunting Seasons & Regulations- 2020.

<https://www.wildlife.state.nh.us/hunting/index.html>

Vermont Hunting Seasons & Regulations- 2020.

<https://vtfishandwildlife.com/hunt/hunting-regulations>

U.S. Fish and Wildlife Service. 2017. Waterfowl: Population Status, 2017. USFWS, Laurel, MD. 74pp.

Figure 1. Map of Silvio O. Conte NFWR Divisions and Units within New Hampshire and Vermont

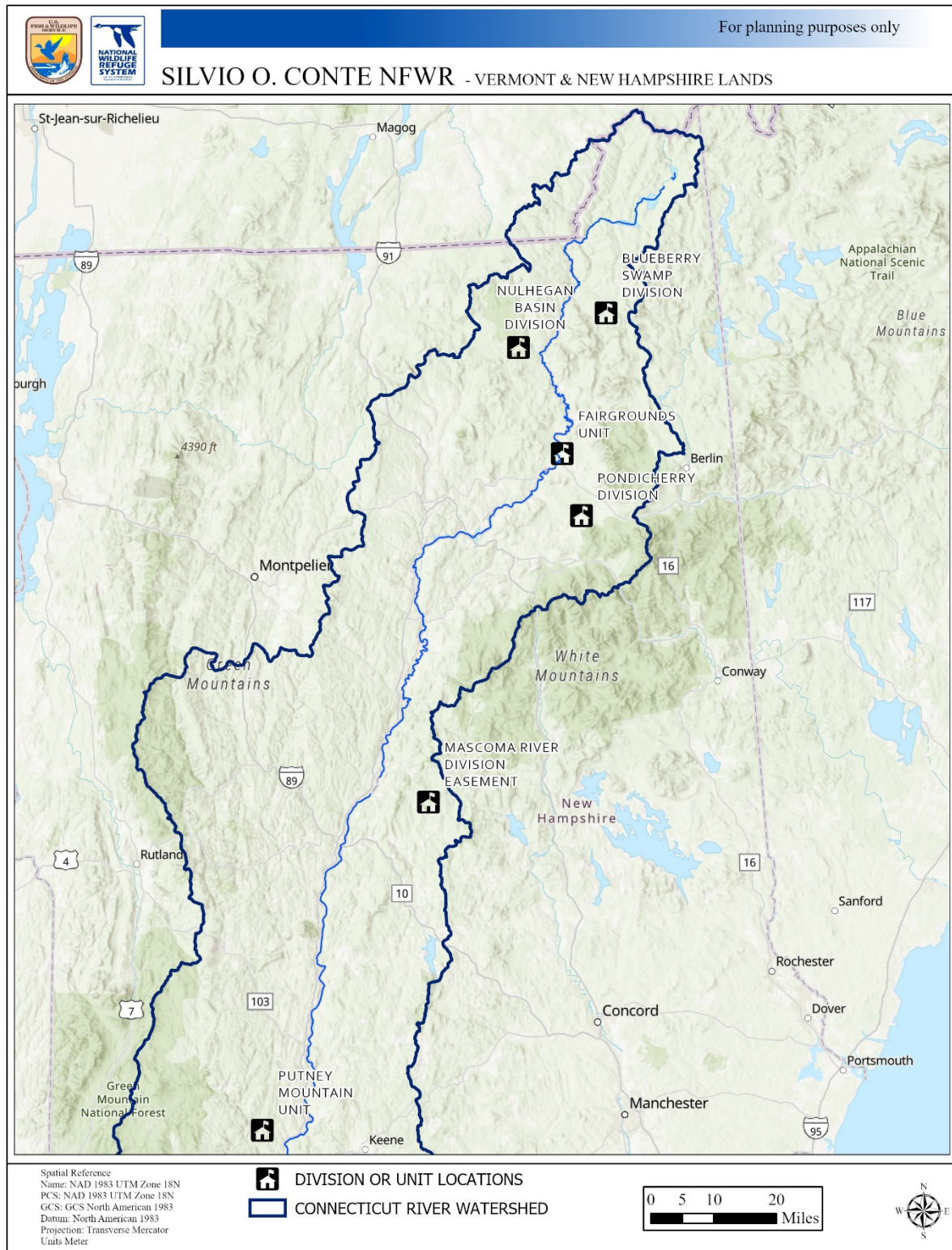


Figure 2. Map of the Blueberry Swamp Division of Silvio O. Conte NFWR

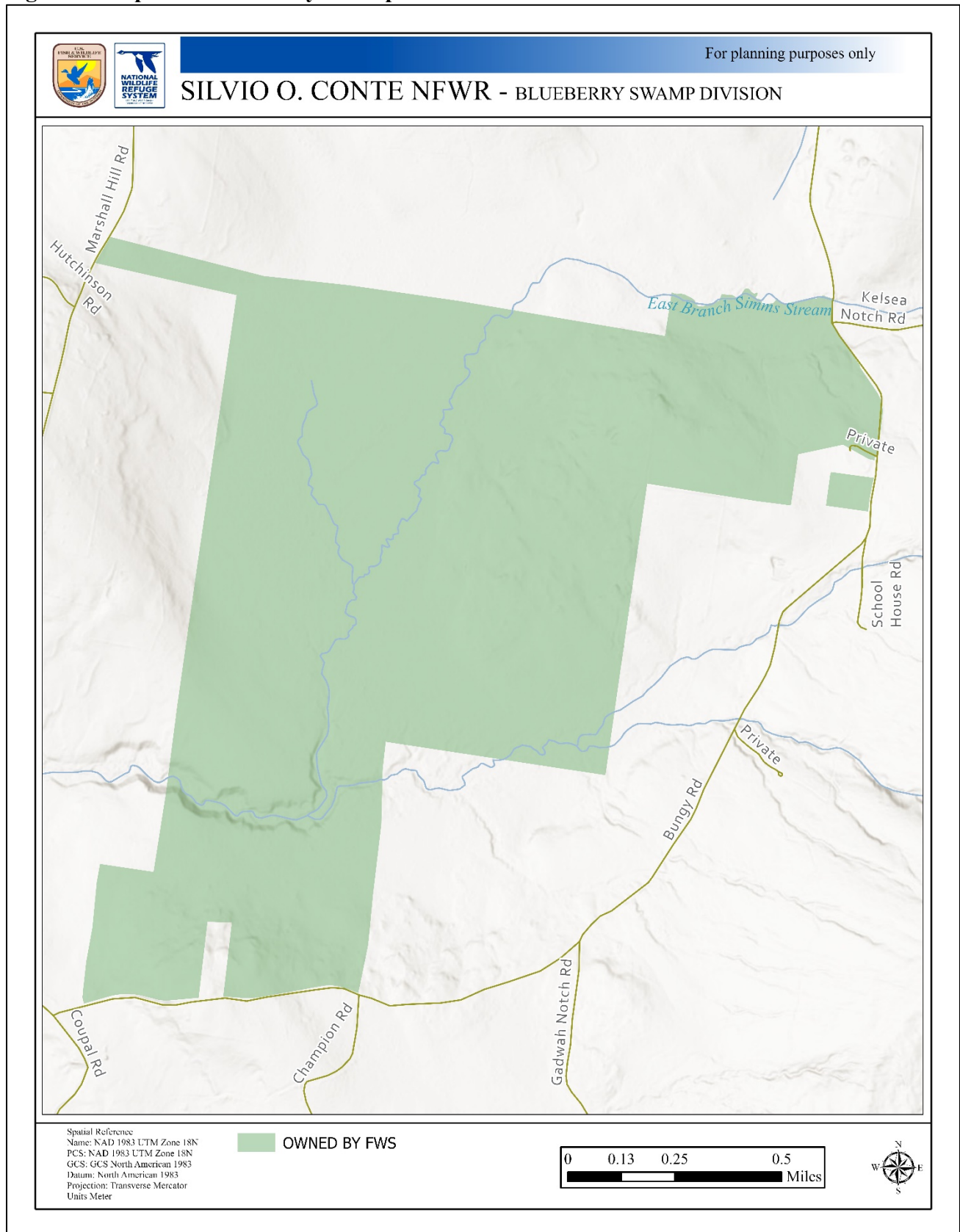


Figure 3. Map of the Fairgrounds Unit of Silvio O. Conte NFWR

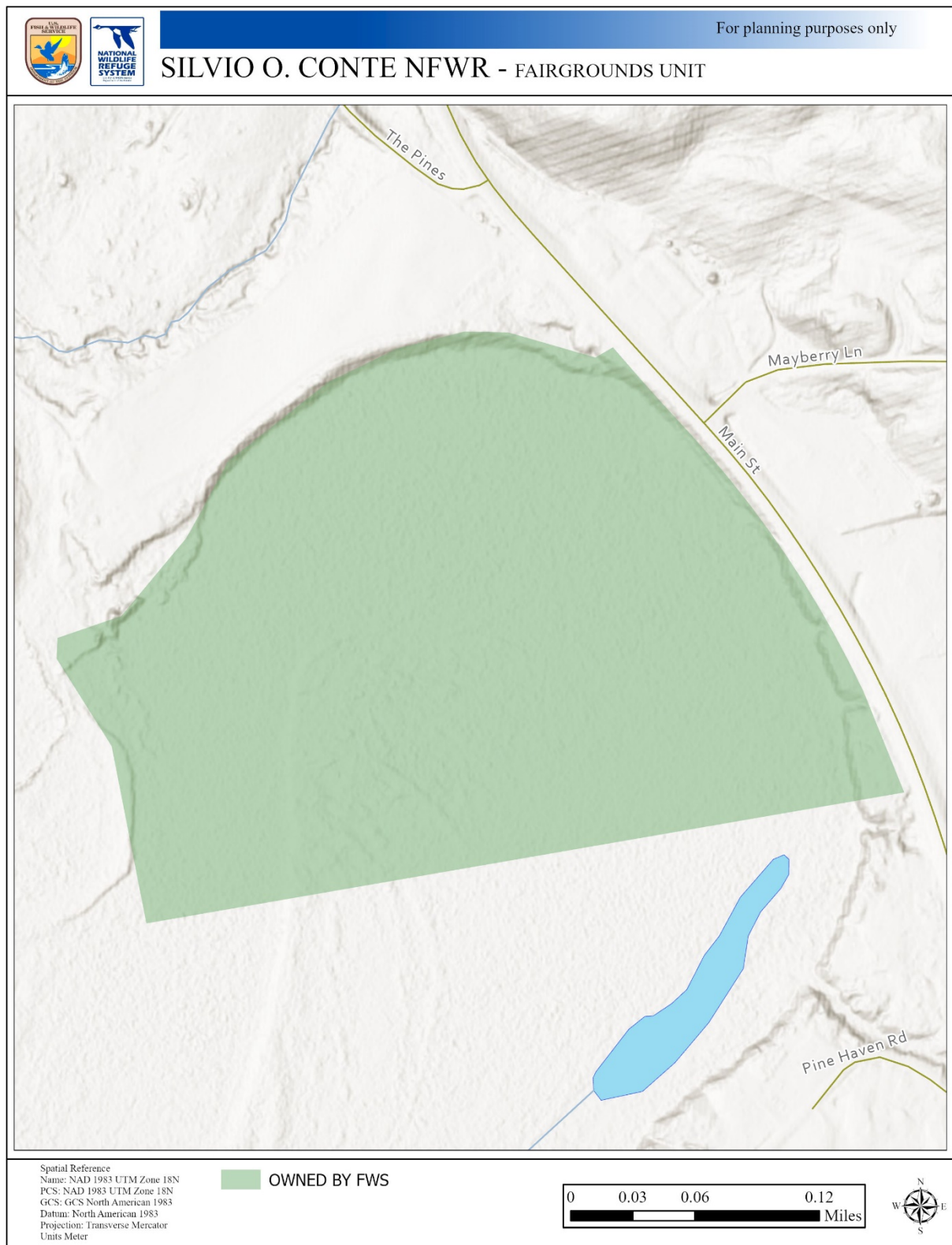


Figure 4. Map of the Pondicherry Division of Silvio O. Conte NFWR

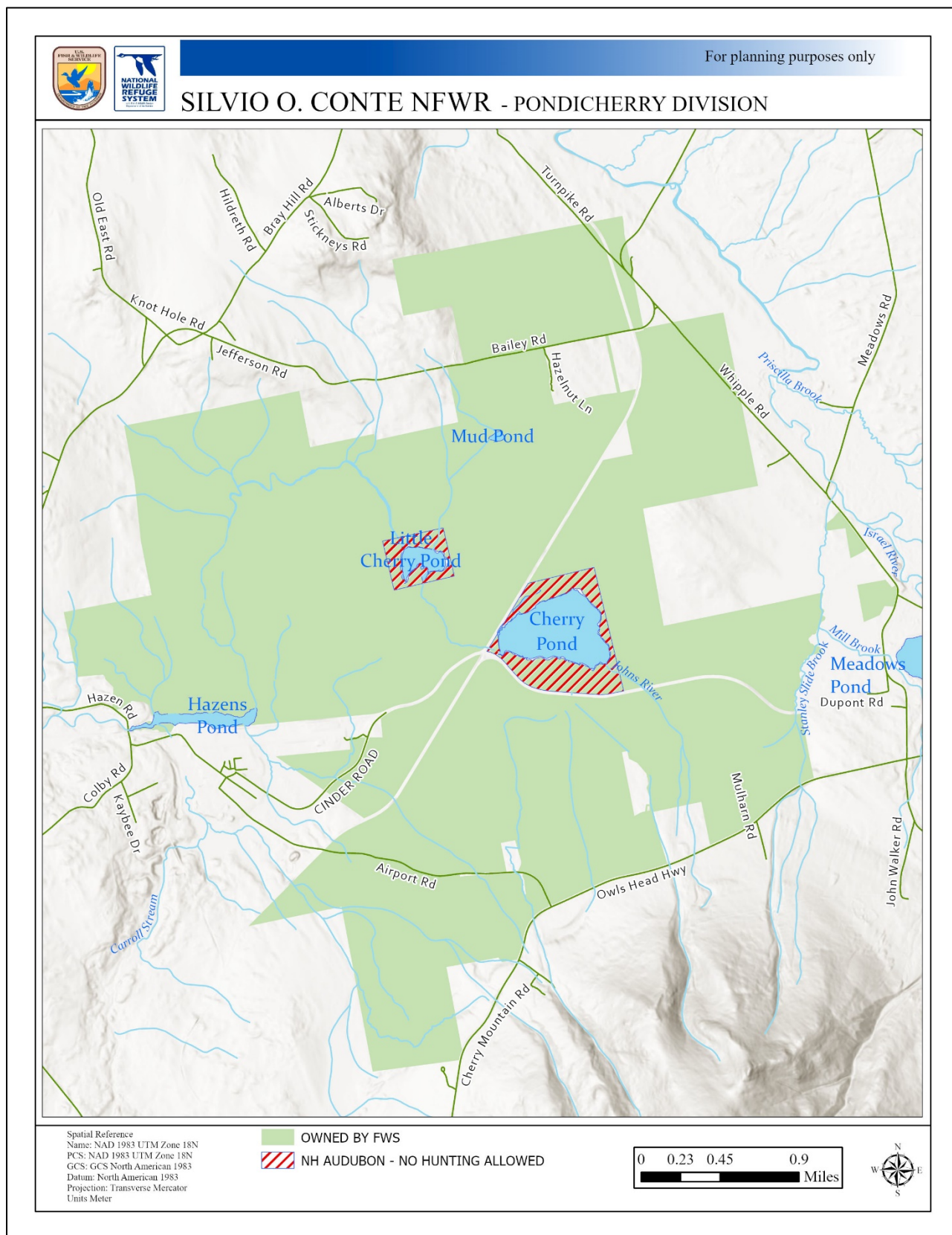


Figure 5. Map of the Saddle Island of Silvio O. Conte NFWR



Figure 6. Map of the Mascoma Division of Silvio O. Conte NFWR

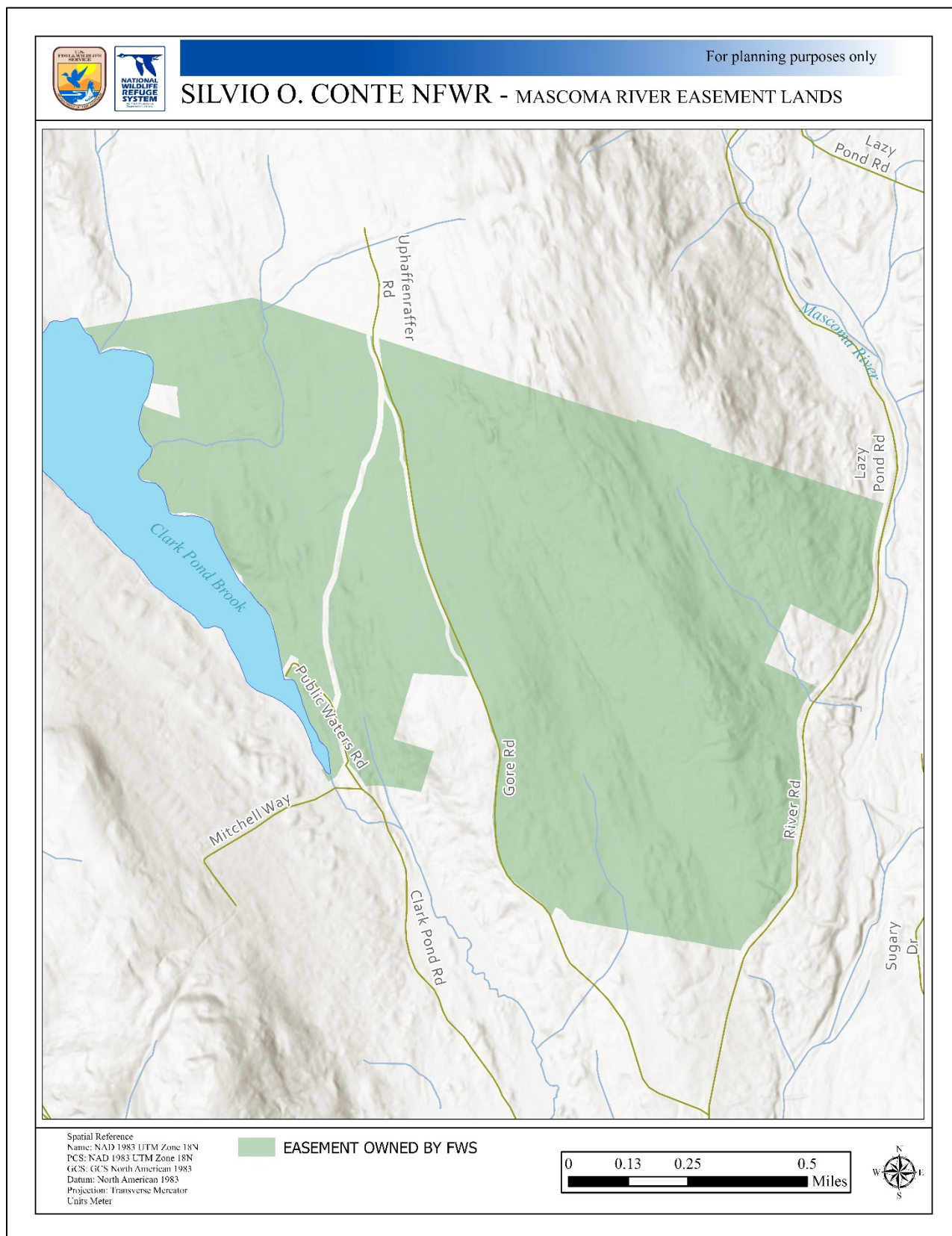


Figure 7. Map of the Nulhegan Basin Division of Silvio O. Conte NFWR

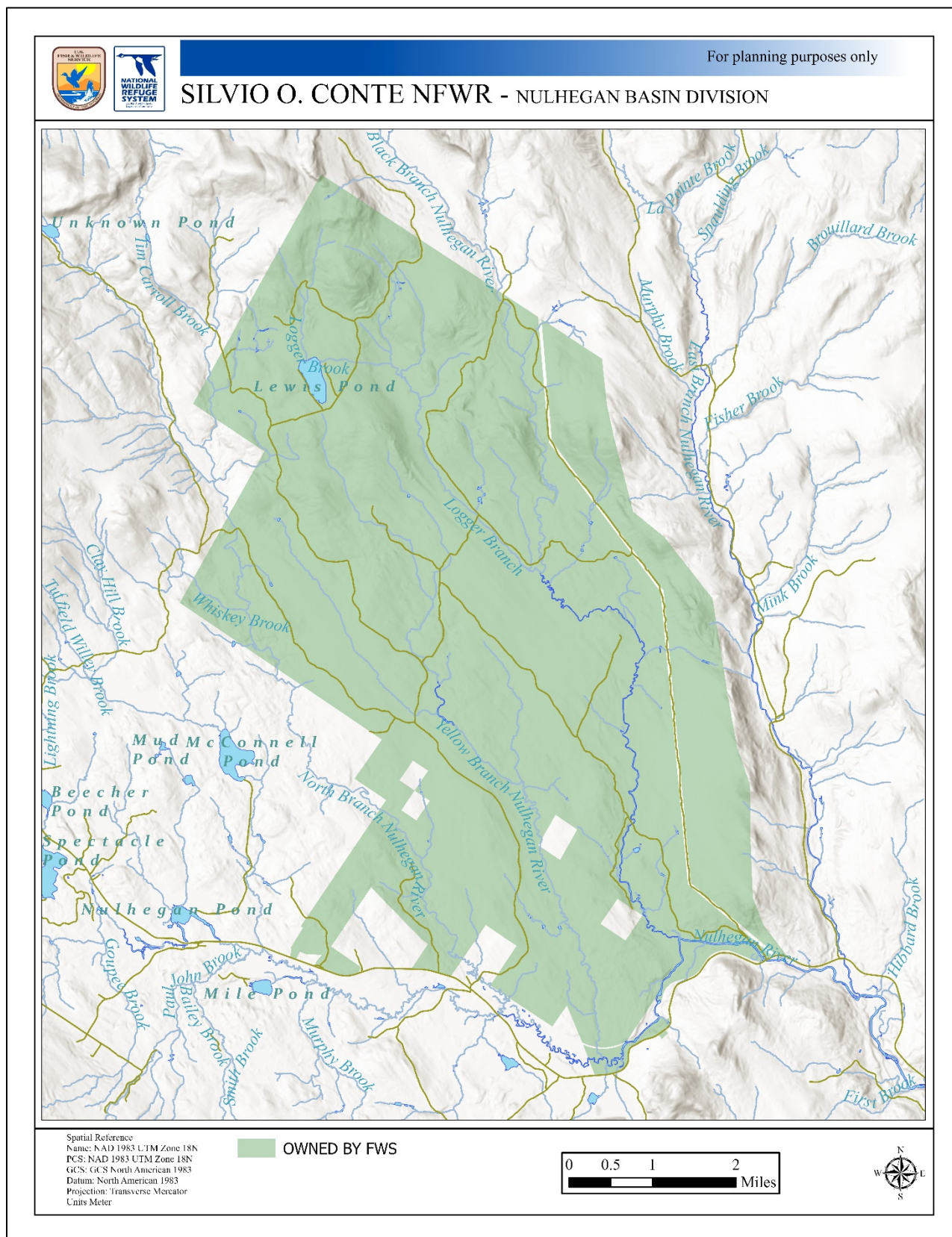
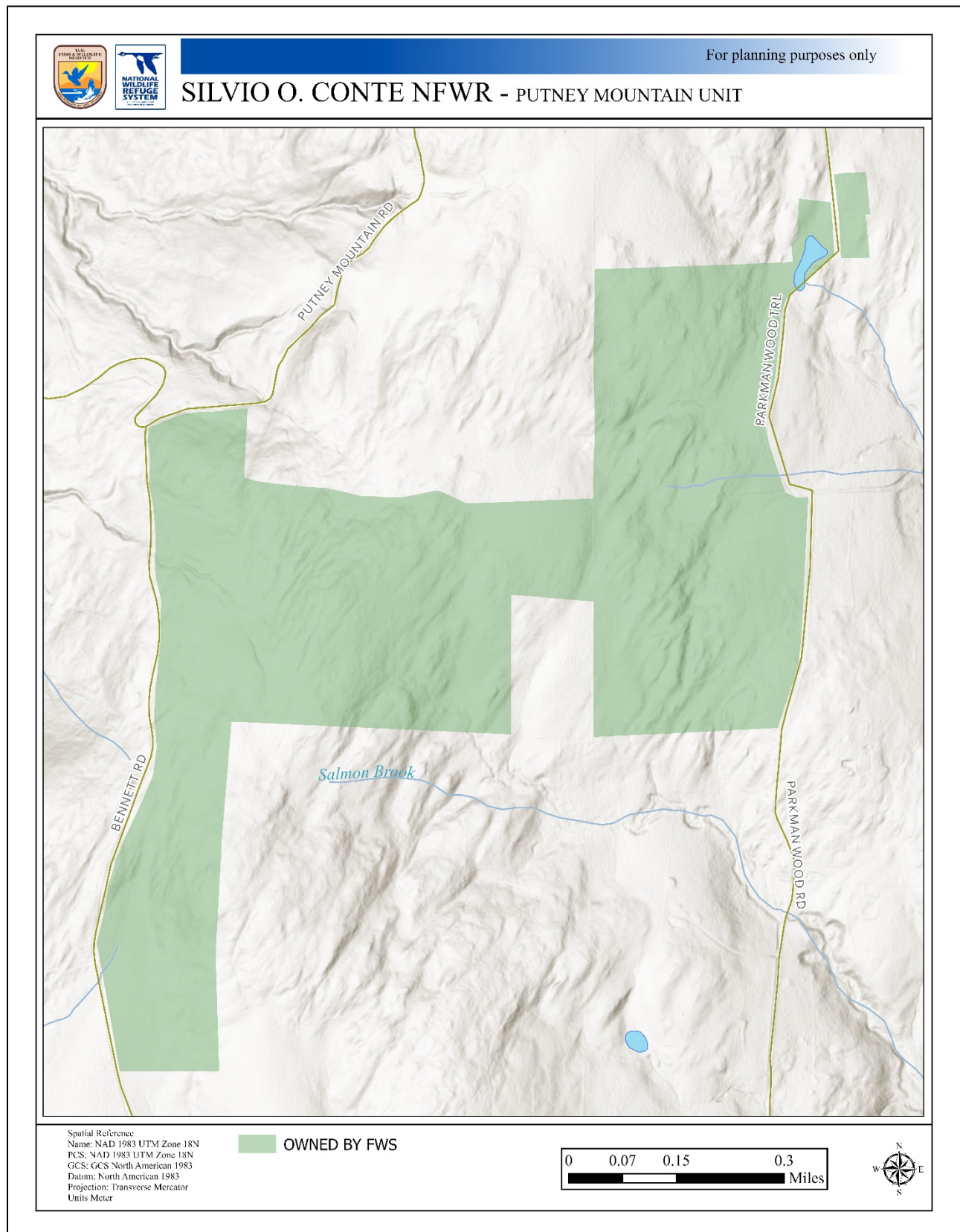


Figure 8. Map of the Putney Mountain Unit of Silvio O. Conte NFWR



COMPATIBILITY DETERMINATION

USE: Hunting (in New Hampshire and Vermont)

REFUGE NAME: Silvio O. Conte National Fish and Wildlife Refuge

DATE ESTABLISHED: October 3, 1997

ESTABLISHING and ACQUISITION AUTHORITY(IES):

- Silvio O. Conte National Fish and Wildlife Refuge Act (Public Law 102-212).
- Migratory Bird Conservation Act of 1929, as amended, (16 U.S.C. § 715d).
- Land and Water Conservation Fund Act of 1965 (Public Law 88-578)

REFUGE PURPOSE(S):

The purposes of the Silvio O. Conte National Fish and Wildlife Refuge (NFWR, Conte Refuge, refuge) are:

- “To conserve, protect, and enhance the Connecticut River populations of Atlantic salmon, American shad, river herring, shortnose sturgeon, bald eagles, peregrine falcons, osprey, black ducks, and other native species of plants fish and wildlife;
- To conserve, protect, and enhance the natural diversity and abundance of plant, fish, and wildlife species, and the ecosystem upon which these species depend within the refuge;
- To protect species listed as endangered or threatened, or identified as candidates for listing, pursuant to the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 et seq.);
- To restore and maintain the chemical, physical, and biological integrity of wetland and other waters within the refuge;
- To fulfill the international treaty obligations of the United States relating to fish, wildlife, and wetlands;
- To provide opportunities for scientific research, environmental education, and fish and wildlife-oriented recreation and access to the extent compatible with the other purposes stated in this section” Public Law 102-212 (Silvio O. Conte National Fish and Wildlife Refuge Act).
- “...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds” 16 U.S.C. § 715d (Migratory Bird Conservation Act);

- “...for the development, management, advancement, conservation, and protection of fish and wildlife resources by purchase or exchange of land and water or interests therein...”
16 U.S.C. § 460l (Land and Water Conservation Fund Act of 1965, as amended).

NATIONAL WILDLIFE REFUGE SYSTEM MISSION:

The mission of the National Wildlife Refuge System (Refuge System) is “... to administer a national network of lands and waters for the conservation, management and, where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans” (Refuge System Improvement Act of 1997, Public Law 105-57).

DESCRIPTION OF USE:

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

The use is public hunting of big game, small game, and migratory game birds on Silvio O. Conte NWR lands in New Hampshire and Vermont. Hunting was identified as one of six priority public uses of the National Wildlife Refuge System by the NWRSA of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57), when found to be compatible.

(b) Where would the use be conducted?

Hunting would occur on five refuge units and divisions in New Hampshire and two in Vermont.

In New Hampshire, the units and divisions opening to hunting would be the Blueberry Swamp Division in Columbia, the Fairgrounds Unit in Lancaster, the Pondicherry Division in Carroll, Jefferson and Whitefield, the Saddle Island Unit in Bath, and the Mascoma Division in Lyme. (see Recreational Hunting and Fishing Plan, Figures 2 through 6).

In Vermont, the Nulhegan Basin Division in Bloomfield, Brunswick, Ferdinand and Lewis, and the Putney Mountain Unit in Putney would open to hunting. (see Recreational Hunting and Fishing Plan, Figures 7 and 8). Hunting may eventually be opened on new lands acquired and added to existing divisions if the uses are found compatible.

(c) When would the use be conducted?

Refuge lands would be open to hunting consistent with the State of New Hampshire and State of Vermont hunting seasons with some additional restrictions to protect wildlife and habitat, and to reduce potential public use conflicts. Refuge property would be open to hunting from 1 1/2-hour before sunrise to 1 1/2-hour after sunset. Night hunting is prohibited except by special use permit at the Nulhegan Basin Division.

(d) How would the use be conducted?

All refuge lands would be open to hunting unless posted closed and hunting will conform to State seasons and be in accordance with State, Federal, and refuge-specific regulations for archery, firearms, and muzzleloader. Hunt brochures and maps for all hunting opportunities will be updated regularly and made available to hunters on the refuge website.

Hunters would access refuge lands via public roads or by foot. Areas may be closed if there are unacceptable resource impacts such as soil erosion, repeated disturbance to susceptible wildlife, or unresolvable conflicts with other compatible priority public uses. The need for site closures will be considered by the refuge manager on a case-by-case basis.

The hunting program will be reviewed annually or as needed to assess its effectiveness and to ensure wildlife populations and habitat quality are managed appropriately.

(e) Why is the use being proposed?

Hunting is one of the priority public uses outlined in the Refuge Improvement Act. The U.S. Fish and Wildlife Service (Service) supports and encourages priority uses when they are appropriate and compatible on refuges. Hunting is a healthy, traditional and recreational use of renewable natural resources that is deeply rooted in America's heritage. Hunting is also an important wildlife management tool.

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

AVAILABILITY OF RESOURCES:

There are sufficient funds within the refuge's annual operating budget to administer this hunting program. All hunts will be administered in accordance with existing Federal and State regulations.

Table A-1. Estimated Costs of Hunting

| Identifier | Costs |
|-------------------------------|-----------------|
| Maintenance Workers | \$10,000 |
| Refuge Managers | \$10,000 |
| Visitor Services Manager | \$5,000 |
| Supplies/Brochures* | \$5,000 |
| Kiosks Signs* | \$10,000 |
| Trail/parking lot maintenance | \$5,000 |
| Total to implement | \$45,000 |

*Not an annual cost

ANTICIPATED IMPACTS OF THE USE:

Hunting has occurred on some refuge lands for many years with no discernible adverse impacts to resources. Hunting provides wildlife-dependent recreational opportunities that can foster a

better appreciation and more complete understanding of wildlife and habitat, which can translate into stronger support for wildlife conservation, the refuge, the Refuge System, and the Service.

Vegetation

The current number of hunters comprises a small fraction of the refuge's total visitation. Hunters traverse areas that are open to other refuge visitors and often travel on existing roads and game trails. Some foot travel is anticipated from hunting, but it will generally be dispersed over large areas. The physical effects on refuge vegetation from hunters is expected to be minimal.

Hunting could create a positive, indirect effect on vegetation through controlling the white-tailed deer and moose populations. The impacts of dense deer and moose populations on forest regeneration and the composition and diversity of the herbaceous understory have been well documented (Tierson et al. 1966, Behrend et al. 1970, Tilghman 1989, Cote et al. 2004, White 2012, Bergeron et al. 2011, Andreozzi et al. 2014). Opening the refuge to deer and moose hunting will help to maintain habitat in its current form, prevent habitat degradation due to over browsing, and promote successful natural regeneration and a more sustainable plant community. A well-managed hunting program can effectively control deer and moose populations and produce dramatic changes in the forest vegetation (Behrend et al. 1970, Warren R.J. 2011, Rae et al. 2014). An overabundance of deer and moose can suppress native vegetation, which may facilitate the success of invasive species in forested habitats (Knight et al. 2009, Averill et al. 2016, DiTommaso et al. 2014, and De la Cretaz et al. 2002). Lessening the impact of excessive deer and moose herbivory is a key forest management strategy (White 2012, Nuttle et al. 2013, Warren R.J. 2011, Knight et al. 2009, De la Cretaz et al. 2002, Rae et al. 2014, and Jenkins et al. 2015) and will likely become even more important as the climate warms (Galatowitsch et al. 2009). Deer and moose hunting on the refuge can create a positive effect on vegetation through better regeneration of forest canopy species and an increase in the diversity of the herbaceous understory.

Possible negative impacts of recreational hunting include the temporary trampling of vegetation and light soil erosion. Spring turkey season could cause some trampling effects to emerging plants, especially in wet areas; however, we do not expect these impacts to be substantial, because turkey hunter density is expected to be low and dispersed. Most hunting occurs during the fall, but hunters tend to disperse when in the woods; we do not anticipate substantial hunter-related impacts to habitats. Some hunt seasons extend into winter when plants are dormant, and the ground is either frozen and/or covered in snow. Hunters would have little impact on plants during this period. For these reasons, impacts to plant communities and soils are not likely to be significant during either the fall or spring hunting seasons.

Soils

It is anticipated that hunting on the refuge will have minor impacts to soils. Soils can be compacted or eroded due to repeated foot traffic, especially in wetland habitats. The potential for soil erosion will vary during the year based on soil moisture and temperatures. At the anticipated use levels, and because hunters tend to disperse when searching for game, impacts to soils are not likely to be significant.

Hydrology (Water Resources and Wetlands)

Hydrology impacts from hunting would be minimal and only result from the use of roads and trails. Unsurfaced trails are susceptible to a variety of impacts including vegetation loss and compositional changes, soil compaction, erosion and muddiness, exposure of plant roots, trail widening, and the proliferation of visitor-created side trails (Marion and Leung 2001). However, these effects are considered minimal as hunters are generally dispersed, which reduces repeated erosive actions on soils. Hunters are not permitted to use vehicles off designated refuge roads.

Big Game

White-tailed Deer

The regulated hunting of deer in accordance with State regulations would not compromise the persistence of deer on the refuge or surrounding lands. Deer populations are maintained in accordance with the available habitat through regulated hunting. High deer densities have been shown to negatively affect plant and animal communities. Therefore, a hunting program would help to facilitate ecological diversity by mitigating the effects of high deer densities. Deer densities, if maintained through regulated hunting, will sustain the native vegetation and forest regeneration associated with the natural communities in those regions. Regulated deer hunting will also maintain a deer herd in good physical condition that staves off malnutrition and disease.

There are an estimated 120,000 deer in New Hampshire. A total of 12,306 deer were harvested in New Hampshire in 2019 (<https://www.wildlife.state.nh.us/hunting/harvest-summary.html>). There are an estimated 140,000 deer in Vermont. A total of 16,550 deer were harvested in Vermont in 2019 (<https://vtfishandwildlife.com/learn-more/fish-wildlife-library/hunting-trapping-information/library-white-tailed-deer-harvest-summary-reports>). The New Hampshire Department of Fish and Game (NHDFG) and the Vermont Department of Fish and Wildlife (VTDFW) actively monitor their State's deer populations and the overall physical condition of the herd by collecting harvest numbers and biological parameters. The biological data from harvested deer, habitat data and other information are used by biologists to manage the deer herd throughout each state. Deer harvested on the refuge would likely be replaced by other deer within a relatively short time. Hunting other game species (e.g., turkey or small game) will have a transient effect on deer, as both species flush and move away from hunters. Deer will use energy and experience physiological stress when avoiding hunters and other refuge visitors.

Moose

The regulated hunting of moose in accordance with State regulations would not compromise the persistence of moose on the refuge or surrounding lands. Moose populations are maintained in accordance with the available habitat through regulated hunting. High moose densities have been shown to negatively affect plant and animal communities (Bergeron et al. 2011, Andreozzi et al. 2014). Therefore, a hunting program would help to facilitate ecological diversity by mitigating the effects of high moose densities. Moose densities, if maintained through regulated hunting, will sustain the native vegetation and forest regeneration associated with the natural communities in those regions (Behrend et al. 1970, Warren R.J. 2011, Rae et al. 2014). Regulated moose hunting will also maintain a physically healthy moose herd that staves off malnutrition and disease.

There are an estimated 3,500 moose in New Hampshire. A total of 38 moose were harvested in

New Hampshire in 2019 (<https://www.wildlife.state.nh.us/hunting/harvest-summary.html>). There are an estimated 2,200 moose in Vermont. Hunting of moose was not open in 2019 in Vermont due to concerns with the health of the population. The NHDFG and VTDFW actively monitor their State's moose population and the overall physical condition of the herds by collecting harvest numbers and biological parameters. The biological data from harvested moose, habitat data and other information are used by biologists to manage the moose herd throughout each State. Moose harvested on the refuge would likely be replaced by other moose within a relatively short time. Hunting other game species (e.g., turkey or small game) will have a transient effect on moose, as the species flush and move away from hunters. Moose will use energy and experience physiological stress when avoiding hunters and other refuge visitors.

Black Bear

The black bear is cherished by hunters in New Hampshire and Vermont as a valuable game species for both its meat and pelt. Black bears are the largest predator in New England and have few natural enemies. In the two states, the annual bear harvest serves as the primary tool to regulate bear population growth while monitoring the population to ensure that the legal harvest is sustainable. Desired harvest levels typically result in bear densities that are consistent with or moving towards bear population objectives in each of the States' management regions. Regulated hunting of these species in accordance with State regulations will not compromise the persistence of them on the refuge or surrounding lands.

There are an estimated 6,000 black bears in New Hampshire. A total of 1,183 bears were harvested in New Hampshire in 2020 (<https://www.wildlife.state.nh.us/hunting/harvest-summary.html>). Vermont's bear population is currently estimated to be within the population objective of 3,500 to 5,500 bears called for in the Big Game Management Plan, 2020-2030. A total of 925 black bears were harvested in Vermont in 2020. Hunting is a critical tool in maintaining this population objective. Although considered a valuable game species, black bears annually cause extensive agricultural and property damage and are capable of inflicting injuries to humans. Most bear-related human injuries have involved bears that were not afraid of humans. Hunting is used not only as a tool to manage population size and health, but also as a means of keeping bears wary of humans.

Wild Turkey

Wild turkeys are native to New Hampshire and Vermont but disappeared from these states over 150 years ago due to overharvesting and habitat loss. In 1969 and 1970, NHDFG re-introduced wild turkey to the State. This attempt failed but was tried again in 1975. Twenty-five wild turkeys were relocated from New York. With this successful reintroduction and 15 additional reintroduction efforts over the course of 20 years, an estimated 40,000 turkeys now range throughout the State (Silverberg, J. 2012). In 2019, over 5,092 wild turkeys were harvested, and turkeys have become a valuable game species in the State.

In Vermont, from the 1950s through the late 1960s, attempts at turkey restoration through artificial propagation were largely unsuccessful, largely due to the release of farm-raised birds unable to survive Vermont's harsh winters. A breakthrough in restoration efforts occurred in 1969 and 1970, when the VTDFW in coordination with the New York Department of Environmental Conservation live-captured and translocated a total of 31 free-roaming wild

turkeys from New York to Vermont's Rutland County. This introduction was successful, and by the mid-1980s, VTFWD captured and transferred Vermont birds to other parts of the State. These releases and subsequent population expansion have resulted in the successful restoration of wild turkeys across the entire state (VTFWD 2009). Around 5,800 wild turkeys are harvested each year in Vermont and turkey has become a valuable game species in the State. Regulated hunting of these species in accordance with State regulations will not compromise the persistence of them on the refuge or surrounding lands.

Populations of turkeys that exceed the biological carrying capacity of their habitat can be decimated by diseases (including avian pox that can spread to other bird species) and are capable of degrading their habitat. Populations that are allowed to exceed the cultural carrying capacity can cause extensive agricultural damage. The U.S. Department of Agriculture Wildlife Services reports that many farms within the Connecticut River Valley already sustain damage to their stored silage and corn crops from turkeys. Regulated hunting plays an important role in limiting the damage to agriculture from turkeys.

Small Game

Based on State regulations, small game species to be hunted within each state may vary. Small game in New Hampshire and Vermont include gray squirrel, snowshoe hare and Eastern cottontail.

Many small game species present on the refuge are strategist species, demonstrating high productivity and mortality rates, with population densities often tied to the quality of available habitat. Most of the small game species' populations are positively influenced by increasing percentages of younger forest age classes that provide the mix of cover and foods for these animals. When appropriate, some refuge lands are managed to promote early successional habitat. This provides a high quality habitat foundation to support higher densities of these species. Even so, population fluctuations can be driven by weather, changes in predator populations, or annual fluctuations in food supplies. Hunting mortality is compensatory and generally not considered to be a factor affecting population size (Edwards et al. 2003). The number of hunters pursuing small game is predicted to be low and is not expected to have negative impacts on populations.

Other Wildlife and Non-Target Species

Hunting can have direct and indirect impacts on 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, Bell and Austin 1985). In many cases, hunting removes a portion of the wildlife population that would otherwise naturally succumb to predation, disease, or competition (Bartmann et al. 1992).

In general, refuge visitors engaged in hunting would be walking off-trail. General disturbance from recreational activities, including hunting, vary with the wildlife species involved and the activity's type, level, frequency, duration, and the time of year it occurs. The responses of wildlife to human activities like hunting, include avoidance or departure from the site (Owen 1973, Burger 1981, Kaiser and Fritzell 1984, Korschen et al. 1985, Kahl 1991, Klein 1993,

Whittaker and Knight 1998), the use of suboptimal habitat (Erwin 1980, Williams and Forbes 1980), altered behavior or habituation to human disturbance (Burger 1981, Korschen et al. 1985, Morton et al. 1989, Ward and Stehn 1989, Havera et al. 1992, Klein 1993, Whittaker and Knight 1998), attraction (Whittaker and Knight 1998), and an increase in energy expenditure (Morton et al. 1989, Belanger and Bedard 1990). Burger (1986) found the level of disturbance in birds tends to increase when the distance is decreased between visitors and birds.

Some bird species flee from human disturbance, which can lower their nesting productivity and cause disease and death (Knight and Cole 1991). Miller et al. (1998) found bird abundance and nesting activities (including nest success) increased as distance from a recreational trail increased in both grassland and forested habitats.

Furbearing Species

Because the furbearer hunting seasons are set at a time of year when pelts are prime and of highest value, the harvest of furbearers during the regulated hunting seasons provides citizens an opportunity to utilize these sustainable, renewable fur resources. Several of these furbearing species are commonly viewed as nuisance animals due to their feeding behaviors.

Migratory Birds

Migratory birds are managed on a flyway basis and hunting regulations are established in each State based on flyway data. Federal and State regulations would apply. Hunting migratory birds on the refuge would reduce the total numbers of birds in the flyway, but harvest would be within allowable limits as determined by the Service annually. Hunting waterfowl on the refuge would make the birds more skittish and prone to disturbance, reduce the amount of time they spend foraging and resting, and alter their habitat usage patterns (Raveling 1979, Owen 1973, White-Robinson 1982, Madsen 1985, Bartelt 1987). Disturbance to non-target birds and resident wildlife would likely occur from hunting and associated hunter activity but would be short-term and temporary. Overall, the effects on migratory birds are expected to be minimal due to the low number of hunters on refuge lands.

Federally Listed Species

Canada lynx, Northern long-eared bat, Jessup's milk vetch, dwarf wedgemussel and Northeastern bulrush have been documented on or in the vicinity of the Conte NFWR divisions and units in New Hampshire and Vermont. Due to the species' specific habitat requirements, the status of species and the time of year that hunting would take place, hunting is not likely to adversely affect these species. Refuge staff will continue to monitor for the presence of threatened or endangered species on the refuge. If they are found on the refuge, the effects of hunting on these species will be evaluated. See Intra-Service Section 7 (Appendix D) for additional details.

Other Visitors and Users

The refuge is open to all six of the Refuge System's priority public uses (hunting, fishing, wildlife observation, wildlife photography, environmental education and environmental interpretation) where found compatible. Conflicts between hunters and other refuge visitors can occur, particularly where there is concentrated use by both groups. The Pondicherry Division in Jefferson, New Hampshire is a location that attracts both hunters and an increasing number of

non-hunting refuge visitors.

Cherry and Little Cherry Ponds were acquired in 1963 by NH Fish and Game and NH Audubon, and are designated as a waterfowl refuge. Hunting is prohibited on the two bodies of water. The trail network at the Pondicherry Division provides accessible recreation opportunities that are very popular with refuge visitors. The refuge staff will monitor the use of the recreational trails and if circumstances warrant, modify public access such that conflicts are avoided (e.g., restricted hunting zones, enhanced outreach). Because hunting is generally a long-standing use in the area and is dispersed across a large landscape, it is anticipated that there would be negligible impacts to those individuals participating in fishing, wildlife observation and photography, environmental education, and wildlife interpretation.

PUBLIC REVIEW AND COMMENT:

This Compatibility Determination (CD) is part of the Silvio O. Conte NFWR Recreational Hunting and Fishing Plan and the accompanying Environmental Assessment (EA). On April 12, 2021, we distributed a press release to news organizations and alerted the public about the availability of the draft documents. The plan was sent directly to local town representatives and partners. No public meetings were held due to restrictions on public gatherings due to COVID-19. The refuge manager did answer questions about the hunt plan by phone throughout the comment period. The public comment period ended on July 6, 2021, a total of 86 days. A total of 711 individuals and organizations offered input to the refuge. Comments received from the public have been considered, and some modifications were incorporated into the final plan and decision documents. A summary of substantive comments received, and our responses, can be found in Appendix E (Finding of No Significant Impact).

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 Silvio O. Conte NFWR in accordance with State and Federal regulations, and refuge-specific restrictions to ensure that wildlife and habitat management goals are achieved and that the program is providing a safe, high quality hunting experience for participants. We will evaluate this program annually and if monitoring indicates that this use or any of its components are not compatible (materially interferes with or detracts from fulfillment of the Refuge System mission or the purposes of the refuge), we would curtail, modify or eliminate the use or component.

Lead is a well-known toxin to people and wildlife and even small amounts can have adverse health effects. Hunters are encouraged to voluntarily use non-toxic ammunition for big game.

The following stipulations are necessary to ensure compatibility:

- Excluding the Nulhegan Basin Divisions, refuge lands are closed to night hunting. Hunters are allowed on refuge lands from 1½-hour before sunrise to 1½-hour after sunset.
- We prohibit shooting from, over, or within 25 feet of the traveled portion of any road that is accessible to motor vehicles, with the exception of a permanently disabled hunter with the proper state and refuge issued special use permit.
- Tree stands, blinds and other hunting equipment must be removed from the refuge within 72 hours after the regulated hunting season has ended.
- We allow the use of dogs consistent with State regulations, except hunters using more than two dogs must possess a Special Use Permit (FWS Form 3-1383-G) issued by the refuge manager.
- We will allow training of dogs as governed by state regulations from August 1 through the last Saturday in September during daylight hours, if the trainer possesses a Special Use Permit (FWS Form 3-1383-G) issued by the refuge manager.
- At the Putney Mountain Unit, we allow the use of dogs only for hunting ruffed grouse.

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 consideration during planning and management.

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

We do not expect this activity to conflict with any of the other priority public uses or adversely impact biological resources. The use will not cause an undue administrative burden. We will manage the use in accordance with Federal and State regulations, as well as refuge-specific regulations to ensure that wildlife and habitat management goals are achieved, and that the use is providing a safe, high quality experience for participants. Annual adjustments can be made to the use or any of its components to ensure its continued compatibility. Therefore, through this compatibility determination process, we have determined that hunting on Silvio O. Conte NFWR, 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 purposes of the refuge.

SIGNATURE:

Refuge Manager

(Signature)

(Date)

CONCURRENCE:

Regional Chief

(Signature)

(Date)

MANDATORY 15 YEAR RE-EVALUATION DATE:

(Date)

LITERATURE CITED:

Andreozzi, H.A., P.J. Pekins, and M.L. Langlais. 2014. Impact of Moose Browsing on Forest Regeneration in Northeast Vermont. *Alces*. 50: 67-79.

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.

Averill, K.M., D.A. Mortensen, E.A.H. Smithwick, and E. Post. 2016. Deer feeding selectivity for invasive plants. *Biological Invasions*. 18:1247-1263

Bartmann, R.M., White, G.C., and Carpenter, L.H. 1992. Compensatory mortality in a Colorado mule deer population. *Wildlife Monographs*, 121, 1-39.

Bartelt, G.A. 1987. Effects of disturbance and hunting on the behavior of Canada geese family groups in East Central Wisconsin. *Journal of Wildlife Management*, 51, 517-522.

Behrend, D.F., Mattfield, G.F., Tierson, W.C., and Wiley, J.E. 1970. Deer density control for comprehensive forest management. *Journal of Forestry*, 68, 695-700.

Belanger, L. and Bedard, J. 1990. Energetic cost of man-induced disturbance to staging snow geese. *Journal of Wildlife Management*, 54, 36-41.

Bergeron, D.H., P.J. Pekins, H. F. Jones, and WB. Leak. 2011. Moose Browsing and Forest Regeneration: A Case Study in Northern New Hampshire. *Alces* 47:39-51.

Bell, D.V. and Austin, L.W. 1985. The game-fishing season and its effects on overwintering wildfowl. *Biological Conservation*, 33, 65-80.

Burger, J. 1986. The effect of human activity on shorebirds in two coastal bays in northeastern United States. *Biological Conservation*, 13, 123-130.

- Burger, J. 1981. Effect of human activity on birds at a coastal bay. *Biological Conservation* 21, 231-241.
- Cole, D.N. and Knight, R.L. 1990. Impacts of recreation on biodiversity in wilderness. *Natural Resources and Environmental Issues*, 0, 33-40.
- 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.
- Cote, S.D., T.P. Rooney, J-P Tremblay, C. Dussault, and D.M. Waller. 2004. Ecological Impacts of Deer Overabundance. *Annual Review of Ecology and Systematics* 35:113-147.
- De la Cretaz, A.L. and M.J. Kelty. 2002. Development of Tree Regeneration in Fern-dominated Forest Understories after Reduction of Deer Browsing. *Restoration Ecology*. 10:416-426.
- DiTommaso, A., Morris, S.H., Parker, J.D., Cone, C.L., and Agrawal, A.A. 2014. Deer Browsing Delays Succession by Altering Aboveground Vegetation and Belowground Seed Banks. *PLoS ONE* 9(3): e91155. doi:10.1371/journal.pone.0091155.
- Edwards, J., M, Ford, and D. Guynn. 2003. Fox and gray squirrels in Wild Mammals of North America. Pgs 248-267. Johns Hopkins University Press.
- Erwin, R.M. 1980. Breeding habitat by colonially nesting water birds in two Mid-Atlantic U.S. regions under different regimes of human disturbance. *Biological Conservation*, 18, 39-51.
- Galatowitsch, S., L. Frelich, and L. Phillips-Mao. 2009. Regional climate change adaptation strategies for biodiversity conservation in a mid-continental region of North America. *Biological Conservation* 142:2012-2022.
- Havera, S.P., Boens, L.R., Georgi, M.M., and Shealy, R.T. (1992). Human disturbance of waterfowl on Keokuk Pool, Mississippi River. *Wildlife Society Bulletin*, 20, 290-298.
- Jenkins, L.H., B.D. Murray, M.A. Jenkins, and C.R. Webster. 2015. Woody regeneration response to over a decade of deer population reductions in Indiana state parks. *The Journal of the Torrey Botanical Society*. 142:205-219.
- Kahl, R. 1991. Boating disturbance of canvasbacks during migration at Lake Poygan, Wisconsin. *Wildlife Society Bulletin*, 19, 242-248.
- Kaiser, M.S. and Fritzell, E.K. 1984. Effects of river recreationists on green-backed heron behavior. *Journal of Wildlife Management*, 48, 561-567.
- Klein, M.L. 1993. Waterbird behavioral responses to human disturbance. *Wildlife Society Bulletin*, 21, 31-39.

- Knight, R.L. and Cole, D.N. 1991. Effects of recreational activity on wildlife in wildlands. Transactions of the 56th North American Wildlife and Natural Resources Conference, 238-247.
- Knight, T.M., J.L. Dunn, L.A. Smith, J. Davis, and S. Kalisz. 2009. Deer facilitate invasive plant success in a Pennsylvania forest understory. *Natural Areas Journal* 29(2):110-116.
- Korschen, C.E., George, L.S., and Green, W.L. 1985. Disturbance of diving ducks by boaters on a migrational staging area. *Wildlife Society Bulletin*, 13, 290-296.
- Madsen, J. 1985. Impact of disturbance on field utilization of pink-footed geese in West Jutland, Denmark. *Biological Conservation*, 33, 53-63.
- Marion, J.L. and Leung, Y.-F. 2001 Indicators and Protocols for Monitoring Impacts of Formal and Informal Trails in Protected Areas. 217.
- Miller S.G., Knight, R.L, and Miller, C.K. 1998. Influence of Recreational Trails on breeding bird communities. *Ecological Society of America*, 8(1), 162-169.
- Morton, J.M., Fowler, A.C., and Kirkpatrick, R.L. 1989. Time and energy budgets of American black ducks in winter. *Journal of Wildlife Management*, 53, 401-410 (also see corrigendum in *Journal of Wildlife Management*, 54, 683.
- Nuttle, T., A.A. Royo, M.B. Adams, and W.P. Carson. 2013. Historic disturbance regimes promote tree diversity only under low browsing regimes in eastern deciduous forest. *Ecological Monographs* 83(1):3-17.
- Owen, M. 1973. The management of grassland areas for wintering geese. *Wildfowl*, 24,123-130.
- Rae, L.F., D.M. Whitaker, and I.G. Warkentin. 2014. Multiscale impacts of forest degradation through browsing by hyperabundant moose (*Alces alces*) on songbird assemblages. *Diversity and Distributions*. 20:382-395.
- Raveling, D.G. 1979. Traditional use of migration and winter roost sites by Canada geese. *Journal of Wildlife Management*, 43, 229-235.
- Silverberg, Judy. 2012. Naturalist's Notebook: Eastern Wild Turkey. *New Hampshire Wildlife Journal*. Pages 23-24. <https://www.wildlife.state.nh.us/pubs/documents/samples/wj-wild-turkey.pdf>.
- Tierson, W.C., Patric, E.F., and Behrend, D.F. (1966). Influence of white-tailed deer on the logged northern hardwood forest. *Journal of Forestry*, 64, 804-805.
- Tilghman, N.G. 1989. Impacts of white-tailed deer on forest regeneration in northwestern Pennsylvania. *Journal of Wildlife Management*, 53, 524-532.

- U.S. Fish and Wildlife Service. 1995. Final action plan and environmental impact statement - Silvio O. Conte National Fish and Wildlife Refuge. Hadley, New Hampshire.
- Vermont Fish and Wildlife Department. 2009. Vermont's Big Game Management Plan 2010 - 2020. Pages 65-74.
- Ward, D.H. and Stehn, R.A. 1989. Response of brant and other geese to aircraft disturbance at Izembek Lagoon, Alaska. Anchorage, AK: U.S. Fish and Wildlife Service, Alaska Fish and Wildlife Research Center. Final report to the Minerals Management Service.
- Warren, R.J. 2011. Deer overabundance in the USA: recent advances in population control. *Animal Production Science*. 51:259-266.
- White, M.A. 2012. Long-term effects of deer browsing: composition, structure and productivity in a northeastern Minnesota old-growth forest. *Forest Ecology and Management* 269: 222-228.
- White-Robinson, R. 1982. Inland and saltmarsh feeding of wintering brent geese in Essex. *Wildfowl*, 33, 113-118.
- Whittaker, D. and Knight, R. 1998. Understanding wildlife responses to humans. *Wildlife Society Bulletin*, 26(3), 312-317.
- Williams, G.J. and Forbes, E. 1980. The habitat and dietary preferences of dark-bellied brant geese and widgeon in relation to agricultural management. *Wildfowl*, 31, 151-157.

COMPATIBILITY DETERMINATION

USE: Recreational Fishing (New Hampshire and Vermont)

REFUGE NAME: Silvio O. Conte National Fish and Wildlife Refuge

DATE ESTABLISHED: October 3, 1997

ESTABLISHING and ACQUISITION AUTHORITY(IES):

- Silvio O. Conte National Fish and Wildlife Refuge Act (Public Law 102-212).
- Migratory Bird Conservation Act of 1929, as amended, (16 U.S.C. § 715d).
- Land and Water Conservation Fund Act of 1965 (Public Law 88-578)

REFUGE PURPOSE(S):

The purposes of the Silvio O. Conte National Fish and Wildlife Refuge (Silvio O. Conte NFWR, Conte Refuge, refuge) are:

- “To conserve, protect, and enhance the Connecticut River populations of Atlantic salmon, American shad, river herring, shortnose sturgeon, bald eagles, peregrine falcons, osprey, black ducks, and other native species of plants fish and wildlife;
- To conserve, protect, and enhance the natural diversity and abundance of plant, fish, and wildlife species, and the ecosystem upon which these species depend within the refuge;
- To protect species listed as endangered or threatened, or identified as candidates for listing, pursuant to the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 et seq.);
- To restore and maintain the chemical, physical, and biological integrity of wetland and other waters within the refuge;
- To fulfill the international treaty obligations of the United States relating to fish, wildlife, and wetlands;
- To provide opportunities for scientific research, environmental education, and fish and wildlife-oriented recreation and access to the extent compatible with the other purposes stated in this section” Public Law 102-212 (Silvio O. Conte National Fish and Wildlife Refuge Act);
- “...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds” 16 U.S.C. § 715d (Migratory Bird Conservation Act); and

- “...for the development, management, advancement, conservation, and protection of fish and wildlife resources by purchase or exchange of land and water or interests therein...”
16 U.S.C. § 4601 (Land and Water Conservation Fund Act of 1965, as amended).

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 recreational fishing on Conte Refuge in New Hampshire and Vermont. Fishing was identified as one of six priority public uses of the Refuge System by the Refuge System Administration Act of 1966 (16 U.S.C. 668dd-668ee), as amended by the Refuge System Improvement Act of 1997 (Public Law 105-57), when found to be compatible.

(b) Where would the use be conducted?

The use would be conducted on and from the banks of all lakes, ponds, streams and rivers within the boundaries of the Conte Refuge in New Hampshire and Vermont that are open to fishing. At present, this includes fishing on the following open water: East Branch of Simms Stream (Blueberry Swamp Division), John’s River, Stanley Slide Brook, Ayling Brook, Cherry Pond, Little Cherry Pond and Hazen’s Pond (Pondicherry Division), Connecticut River (Saddle Island), Mascoma River and Clark Pond (Mascoma Division), Black Branch, Logger Branch, North Branch, Nulhegan River, Tim Carrol Brook, Yellow Branch and Lewis Pond (Nulhegan Basin Division).

(c) When would the use be conducted?

The use would be conducted during the seasons specified in the fishing regulations established by the New Hampshire Department of Fish and Game (NHDFG) or the Vermont Department of Fish and Wildlife (VTDFW) and would occur between 1 1/2-hour before sunrise to 1 1/2-hour after sunset.

(d) How would the use be conducted?

Recreational fishing would be conducted under the State of New Hampshire’s regulations for open water and ice fishing, and the State of Vermont’s regulations for inland fisheries with some additional restrictions to protect fish, wildlife, and habitat and to reduce potential public use conflicts. This Compatibility Determination (CD) applies to shoreline fishing and fishing access from refuge lands.

The refuge does not currently have any established boat launches in New Hampshire or Vermont where people can launch onto the Connecticut River. Two non-motorized boat launches are located at the Nulhegan Basin Division for accessing the Nulhegan River.

Shoreline fishing would occur on the banks of previous listed streams and rivers and along the banks of the Nulhegan Basin Division and Pondicherry Division ponds. At the discretion of the refuge manager, some areas may be seasonally, temporarily, or permanently closed to fishing if wildlife impacts, habitat impacts, or user conflicts are documented.

Unauthorized introductions of both non-native and native fish can disrupt aquatic ecosystems and destroy natural fisheries. No fish of any species may be introduced onto the refuge without appropriate State and refuge permits. This includes unused bait fish and viable eggs.

(e) Why is the use being proposed?

Fishing is one of the priority public uses outlined in the Refuge Improvement Act. The Service supports and encourages priority uses when they are compatible on national wildlife refuges. Providing for recreational fishing will promote stewardship of our natural resources and increase public appreciation and support for the refuge. Further, fishing is a traditional recreational use of renewable natural resources deeply rooted in America's heritage.

Providing this use will further align the refuge with the Department of the Interior's Secretarial Order 3356 which directs the Service to enhance and expand public access to lands and waters on refuges for hunting, fishing, recreational shooting, and other forms of outdoor recreation.

AVAILABILITY OF RESOURCES:

There are sufficient funds within the refuge's annual operating budget to administer recreational fishing. All fishing will be administered in accordance with existing Federal and State regulations.

Table B-1. Estimated Costs of Fishing

| Identifier | Costs |
|-----------------------------|----------------|
| Brochures/Sign Maintenance | \$1,000 |
| Monitoring Resource Impacts | \$1,000 |
| Signage (Parking, etc.) | \$1,000 |
| Law Enforcement | \$5,000 |
| Total Annual Cost | \$8,000 |

ANTICIPATED IMPACTS OF THE USE:

The Connecticut River, its tributaries, and nearby ponds support a diverse array of both cold water and warm water fish species, many of which can be found on the various tracts of the Conte Refuge. For more details, see the Comprehensive Conservation Plan (CCP) at: https://www.fws.gov/Refuge/Silvio_O_Conte/what_we_do/finalccp.html.

Fish Species

Recreational fishing can have negative impacts on fish populations if it occurs at high levels or is not managed properly. Potential impacts from fishing include direct mortality from harvest and

catch and release; injury to fish caught and released, changes in age and size class distribution, changes in reproductive capacity and success, loss of genetic diversity, altered behavior, and changes in ecosystems and food webs (Lewin et al. 2006 and Cline et al. 2007). These impacts are often disproportionate among fish species, sizes, ages, sexes, and based on other behavioral traits because anglers selectively catch fish based on these factors (Lewin et al. 2006).

Anglers tend to target larger and older fish. The selective removal of larger and older fish can have a variety of impacts on fish population dynamics. First, it can decrease the age and size class distribution in fish populations. Second, larger and older fish tend to have greater reproductive capacity because they are better able to compete for spawning areas and generally have higher egg outputs. Because of this, their selective removal may reduce the populations' overall reproductive success. Depending upon the species, anglers may also be more likely to catch males (e.g., some male largemouth bass are more aggressive towards lures) or females (e.g., in some species females grow faster). Furthermore, fish that are more active during the day are often more vulnerable to being caught.

Catch-and-release fishing can also have impacts on individual fish, including immediate or delayed mortality (Lewin et al. 2006). The likelihood of mortality is related to the type of fishing gear used, where the fish is hooked, how the fish is handled, angler experience, and environmental conditions. In general, circle hooks tend to cause less damage than barbed hooks. In addition, fish hooked in the lips or jaws tend to have minimal mortality as compared to fish hooked in the gills, esophagus, intestine, or eyes. Fish caught and released with nonlethal injuries may also be exposed to parasites or more susceptible to bacterial or fungal infections. Individuals that are caught and then handled may also experience stress, which can lead to changes in physiology and behavior that can affect their growth, reproduction, and immune system. Since fishing generally removes individuals from a population, at high levels it can lead to reduced population sizes and loss of genetic diversity (Lewin et al. 2006). The loss of genetic diversity can ultimately reduce a population's fitness, resilience, and ability to adapt to environmental changes and stressors, such as climate change. These impacts increase with higher levels of mortality.

While fishing does remove individuals from the population, we do not anticipate that current or projected fishing pressure would affect the refuge's fish populations as a whole. The State sets catch limits, designates special regulations for certain rivers, streams and lakes, and fishing seasons to protect the State's fish populations. Some refuge lands were open to fishing prior to Service acquisition, and since acquisition, fishing has continued under pre-acquisition CDs. Based on experience, these areas are lightly used by anglers and we do not expect adverse effects on fish populations.

Other Wildlife

Since fishing occurs along the shores of or in streams, rivers, and lakes, it has the greatest potential to affect wildlife associated with riparian, wetland, and aquatic habitats. In particular, fishing has the potential to disturb nesting birds. Fishing seasons in New Hampshire and Vermont overlap with spring to early summer nesting and brood-rearing periods for many species of riparian- and aquatic-dependent birds. Anglers can also affect the number, behavior, and temporal distribution of some species of birds including bald eagles, common ravens, and

American crows (Knight et al. 1991). Human activity including both walking along trails and boat use has the potential to affect the distribution, abundance, and species richness of water birds by disturbing birds that are nesting, foraging and resting.

Disturbance from recreational activities vary with the wildlife species involved and the activity's type, level, frequency, duration, and the time of year it occurs. The responses of wildlife to human activities include avoidance or departure from the site (Owen 1973, Burger 1981, Kaiser and Fritzell 1984, Korschen et al. 1985, Kahl 1991, Klein 1993, Whittaker and Knight 1998), the use of suboptimal habitat (Erwin 1980, Williams and Forbes 1980), altered behavior or habituation to human disturbance (Burger 1981, Korschen et al. 1985, Morton et al. 1989, Ward and Stehn 1989, Havera et al. 1992, Klein 1993, and Whittaker and Knight 1998), attraction (Whittaker and Knight 1998), and an increase in energy expenditure (Morton et al. 1989, Belanger and Bedard 1990). Shore anglers and those in canoes or kayaks may disturb nesting birds by approaching too closely to nests, causing nesting birds to flush. Flushing may expose eggs to predation or cooling, resulting in egg mortality. This does not appear to be a problem at this time, but if that changes, we would work closely with the NHDFG and the VTDFW to take steps to protect vulnerable birds.

Visiting anglers would generally walk along refuge trails or along the shores of streams and ponds. A study by Miller et. al. (1998) indicated that species composition and nest predation were altered adjacent to trails in both forested and grassland habitats. It appears that species composition changes are due to the presence of humans and not the trail or roadway itself. On the other hand, nest predation does appear to be a function of the trail, which may improve access for mammalian nest predators. Several studies have examined the effects of recreationists on birds using shallow-water habitats adjacent to trails and roads through wildlife refuges and coastal habitats in the Eastern United States (Burger 1981, Burger 1986, Klein 1993, Klein et al. 1995, Rodgers and Smith 1995, Rodgers and Smith 1997, Burger and Gochfeld 1998). Overall, the existing research clearly demonstrates that disturbances from recreation activities have at least temporary effects on the behavior and movement of birds within a habitat or localized area.

Discarded fishing tackle may harm waterfowl, eagles, loons and other birds externally by catching and tearing skin. Fishing line may also become wrapped around body parts and hinder movement, impair feeding, or cause constriction with subsequent reduction of blood flow and tissue damage. An object above or below the water surface may snag entangled animals, from which they are unable to escape. Nineteen percent of loon mortalities in Minnesota were attributed to entanglement in fishing line (Ensor et al. 1992). Entanglement in fishing line has also caused mortality in bald eagles. Birds may also ingest sinkers, hooks, floats, lures, and fishing line. Ingested tackle may cause damage or penetration of the mouth or other parts of the digestive tract, resulting in impaired function or death.

Ingestion of lead fishing gear is the single largest cause of mortality for adult loons in New England (NHDFG 2013a). Veterinarians at Tufts University School of Veterinary Medicine examined over 483 dead adult loons from fresh waters and determined that approximately 44 percent of these birds died as the result of lead poisoning from the ingestion of lead fishing gear. Their ongoing research has documented that ingestion of lead sinkers (including split shot) accounted for approximately 79 percent of the dead adult loons from fresh water. Just a single

lead sinker can poison a loon. New Hampshire prohibits the sale and use of lead fishing sinkers and lead jigs weighing less than 1 ounce in all inland freshwater (<http://gencourt.state.nh.us/rsa/html/xviii/211/211-13-b.htm>). Vermont prohibits the sale of any lead fishing sinkers and lead jigs weighing less than 1 ounce (<https://legislature.vermont.gov/statutes/section/10/111/04615>). The refuge and the State would provide education and outreach on the hazards of lead sinkers and discarded fishing tackle.

Water Quality

Pollutants from motorboats, human waste, and litter have the potential to negatively impact water quality. Surface water quality testing has not been carried out on refuge units or divisions in either State. We would initiate public outreach and education on littering, pollutants, and proper waste disposal if the use increases substantially above current use levels to help mitigate water quality impacts.

Bank and trail erosion from human activity (e.g., canoe/kayak landings, foot traffic) may increase aquatic sediment loads of streams and rivers and alter riparian or streamside habitat and vegetation in ways harmful to fish or other wildlife. Currently, there is no evidence that anglers or other visitors are adversely affecting shorelines or banks. At current levels of use, we do not expect trail erosion to increase because of foot traffic related to fishing. The only refuge waters suitable to boating are the ponds at the Nulhegan Basin, Mascoma and Pondicherry Divisions. Boating impacts to the banks appear to be minimal because the banks are vegetated and stable.

Hydrology

Paths used by anglers can affect the hydrology of an area by altering drainage patterns. Some anglers may walk off-trail to access a fishing area, thereby creating new trails and affecting drainage. However, we expect those impacts to be minimal since anglers are not repeatedly using the same paths, and levels of use are unlikely to create adverse effects. Refuge staff have observed only negligible problems associated with erosion, incision, compaction or stream alteration, and we do not expect any increase in these negligible impacts.

Other Impacts

Accidental or deliberate introductions of non-native fish may negatively impact native fish, wildlife, or vegetation. The refuge would continue to work cooperatively with the States in providing educational outreach and signs on preventing introductions of non-native fish and to contain introductions if they occur.

Accidental introduction of invasive plants, pathogens, or exotic invertebrates attached to fishing boats may also affect native vegetation, wildlife, and habitats. However, no comprehensive invasive aquatic plant inventories have been completed on any of the existing divisions or units. There are several riparian and wetland invasive plants established on the refuge that may spread from fishing activities including purple loosestrife, knotweed and common reed. We are currently managing these species on refuge lands and hope to eliminate their presence from the most vulnerable habitats. We can help mitigate the potential for introductions by posting educational materials on kiosks at entrances.

The 2016 national survey of fishing, hunting, and wildlife-associated recreation reveals that 532,000 people 16 years old and older fished in New Hampshire

<https://www.census.gov/content/dam/Census/library/publications/2018/demo/fhw16-nat.pdf> (USFWS and USCB 2013). Properties administered by the Conte Refuge were a destination for some of this wildlife-dependent recreation. Visitors fishing on the refuge help to benefit the local economy by purchasing gas, food, fishing equipment and lodging.

Due to the relatively low rate of angler activity observed on existing divisions and units, we are not aware of current conflicts between anglers and other user groups. Should any significant conflicts become evident, we may need to manage uses more deliberately. That may include providing additional education and outreach or limiting the type of access.

PUBLIC REVIEW AND COMMENT:

This CD is part of the Silvio O. Conte NFWR Recreational Hunting and Fishing Plan and the accompanying Environmental Assessment (EA). On April 12, 2021, we distributed a press release to news organizations and alerted the public about the availability of the draft documents. The plan was sent directly to local town representatives and partners. No public meetings were held due to restrictions on public gatherings due to COVID-19. The refuge manager did answer questions about the hunt plan by phone throughout the comment period. The public comment period ended on July 6, 2021, a total of 86 days. A total of 711 individuals and organizations offered input to the refuge. A summary of substantive comments received, and our responses, can be found in Appendix E (Finding of No Significant Impact).

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, fishing can occur at Silvio O. Conte NFWR in accordance with State, Federal, and refuge-specific regulations to ensure that wildlife and habitat management goals are achieved and that the program is providing a safe experience for participants. This fishing 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:

- Take of amphibians, reptiles, and baitfish is prohibited.

JUSTIFICATION:

The Refuge System Improvement Act of 1997 identifies fishing as a priority public use. Priority public uses are to receive enhanced consideration when developing goals and objectives for refuges if they are determined to be compatible. Providing fishing opportunities will promote public appreciation and support for the refuge. Recreational fishing will not materially interfere with or detract from the mission of the Refuge System or the purposes for which the refuge was established. We find that recreational fishing conducted according to the Commonwealth of New Hampshire and State of Vermont seasons and limits will be compatible with the principles of sound wildlife management and otherwise in the public interest.

SIGNATURE:

Refuge Manager

(Signature)

(Date)

CONCURRENCE:

Regional Chief

(Signature)

(Date)

MANDATORY 15 YEAR RE-EVALUATION DATE:

(Date)

LITERATURE CITED:

- Belanger, L. and J. Bedard. 1990. Energetic cost of man-induced disturbance to staging snow geese. *Journal of Wildlife Management* 54:36.
- Burger, J. 1981. Effect of human activity on birds at a coastal bay. *Biological Conservation* 21:231-241.
- . 1986. The effect of human activity on shorebirds in two coastal bays in Northeastern United States. *Biological Conservation* 13:123-130.
- Burger, J. and M. Gochfeld. 1998. Effects of eco-tourists on bird behavior at Loxahatchee National Wildlife Refuge, Florida. *Environmental Conservation* 25:13-21.
- Cline, R., N. Sexton, and S.C. Stewart. 2007. A human-dimensions review of human-wildlife disturbance: a literature review of impacts, frameworks, and management solutions. U.S. Geological Survey, Open-File Report 2007-1111, 88 pp.
- Erwin, R.M. 1980. Breeding habitat by colonially nesting water birds in two Mid-Atlantic U.S. regions under different regimes of human disturbance. *Biological Conservation*, 18, 39-51.
- Ensor, K.L., D.D. Helwig, and L.C. Wemmer. 1992. The common loon in Minnesota: potential contaminant implications. *In*: L. Morse, S. Stockwell and M. Pokras, eds., *Proceedings from the 1992 conference on the loon and its ecosystem: status, management, and environmental concerns*, Bar Harbor, ME.
- Havera, S.P., L.R. Boens, M.M. Georgi, and R.T. Shealy. 1992. Human disturbance of waterfowl on Keokuk Pool, Mississippi River. *Wildlife Society Bulletin* 20:290-298.
- Kahl, R. 1991. Boating disturbance of canvasbacks during migration at Lake Poygan, Wisconsin. *Wildlife Society Bulletin* 19:242-248.
- Kaiser, M.S. and E.K. Fritzell. 1984. Effects of river recreationists on green-backed heron behavior. *Journal of Wildlife Management* 48:561-567.
- Klein, M.L. 1993. Waterbird behavioral responses to human disturbance. *Wildlife Society Bulletin* 21:31-39.
- Klein, M.L., S.R. Humphrey, and H.F. Percival. 1995. Effects of ecotourism on distribution of waterbirds in a wildlife Refuge. *Conservation Biology* 9:1454-1465.
- Knight, R.L., and D.N. Cole. 1991. Effects of recreational activity on wildlife in wildlands. *Transactions of the 56th North American Wildlife and Natural Resources Conference* pp. 238-247.

- Korschen, C.E., L.S. George, and W.L. Green. 1985. Disturbance of diving ducks by boaters on a migrational staging area. *Wildlife Society Bulletin* 13:290-296.
- Lewin, W.C., R. Arlinghaus, and T. Mehner. 2006. Documented and potential biological impacts of recreational fishing: insights for management and conservation. *Reviews in Fisheries Science* 14:305-367.
- New Hampshire Department of Fish and Game. 2013a. Loons, lead sinkers & jigs. West Boylston, MA. Accessed June 2013 at: <http://www.mass.gov/eea/agencies/dfg/dfw/hunting-fishing-wildlife-watching/fishing/loons-lead-sinkers-and-jigs.html>.
- New Hampshire Department of Fish and Game. 2013b. Trout stocked waters. West Boylston, MA. Accessed June 2013 at: <http://www.mass.gov/eea/agencies/dfg/dfw/hunting-fishing-wildlife-watching/fishing/trout-stocked-waters.html>.
- New Hampshire Department of Fish and Game. 2013c. Try fishing the Vermont! West Boylston, MA. Accessed June 2013 at: <http://www.eregulations.com/wp-content/uploads/2012/11/13MAAB-FINAL-LR.pdf>.
- Miller, S.G., Knight R.L., and Miller C.K. 1998. Influence of Recreational Trails on Breeding Bird Communities. *Ecological Applications* 8:162-169.
- Morton, J.M., A.C. Fowler, and R. L. Kirkpatrick. 1989. Time and energy budgets of American black ducks in winter. *Journal of Wildlife Management* 53:401-410.
- National Wild and Scenic Rivers System. 2018. Westfield River. Accessed November 2018 at: <http://www.westfieldriverwildscenic.org/map.html#segments>.
- Owen, M. 1973. The management of grassland areas for wintering geese. *Wildfowl* 24:123-130.
- Pokras, M.A. and R. Chafel. 1992. Lead toxicosis from ingested fishing sinkers in adult common loons (*Gavia immer*) in New England. *Journal of Zoology and Wildlife Medicine* 23(1):92-97.
- Rodgers, J.A. and H.T. Smith. 1995. Set-back distances to protect nesting bird colonies from human disturbance in Florida. *Conservation Biology* 9:89-99.
- . 1997. Buffer zone distances to protect foraging and loafing waterbirds from human disturbance in Florida. *Wildlife Society Bulletin* 25:139-145.
- U.S. Department of the Interior, U.S. Fish and Wildlife Service (USFWS), and U.S. Department of Commerce, U.S. Census Bureau (USCB). 2013. 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation: New Hampshire. Washington, DC. 70pp.
- Ward, D. H., and R. A. Stehn. 1989. Response of brant and other geese to aircraft disturbance at Izembek Lagoon, Alaska. U.S. Fish and Wildlife Service, Alaska Fish and Wildlife

- Research Center. Final report to the Minerals Management Service. Anchorage, AK. 193 pp.
- Whittaker, D., and R.L. Knight. 1998. Understanding wildlife responses to humans. *Wildlife Society Bulletin* 26:312-317.
- Williams, G.J., and E. Forbes. 1980. The habitat and dietary preferences of dark-bellied brant geese and widgeon in relation to agricultural management. *Wildfowl* 31:151-157.

Environmental Assessment for Recreational Fishing and Hunting on Silvio O. Conte National Fish and Wildlife Refuge

This Environmental Assessment (EA) is being prepared to evaluate the effects associated with this 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 (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 Service is proposing to open fishing and hunting opportunities for big game, small game and migratory birds in New Hampshire and Vermont on the Silvio O. Conte National Fish and Wildlife Refuge (NFWR, Conte NFWR, refuge) in accordance with the refuge's Recreational Hunting and Fishing Plan. The Conte Refuge is proposing all refuge-owned land in the two States be opened for hunting and fishing when found to be compatible, and consistent with Federal, State, and refuge-specific hunting and fishing regulations.

This proposed action is often iterative and evolves over time during the process as the agency refines its proposal and learns more from the public, Tribes, and other agencies. Therefore, the final proposed action may be different from the original. The final decision on the proposed action will be made 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, Service policy, laws and international treaties. Relevant guidance includes the Refuge System Administration Act (NWRSA) of 1966, as amended by the Refuge System Improvement Act of 1997, Refuge Recreation Act of 1962, and portions of the Code of Federal Regulations and Service Manual.

The refuge was established pursuant to The Silvio O. Conte National Fish and Wildlife Act (Public Law 102-212 H.R.794). The purpose of the refuge is to:

- To conserve, protect, and enhance the Connecticut River populations of Atlantic salmon, American shad, river herring, shortnose sturgeon, bald eagles, peregrine falcons, osprey, black ducks, and other native species of plants fish and wildlife.
- To conserve, protect, and enhance the natural diversity and abundance of plant, fish, and wildlife species, and the ecosystem upon which these species depend within the refuge.
- To protect species listed as endangered or threatened, or identified as candidates for

listing, pursuant to the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 et seq.).

- To restore and maintain the chemical, physical, and biological integrity of wetland and other waters within the refuge.
- To fulfill the international treaty obligations of the United States relating to fish, wildlife, and wetlands; and
- To provide opportunities for scientific research, environmental education, and fish and wildlife-oriented recreation and access to the extent compatible with the other purposes stated in this section.

The mission of the Refuge System, as outlined by the NWRSA, as amended by the National Wildlife 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 act 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 as 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.

The refuge has managed hunting and fishing on some refuge lands for over a decade through pre-acquisition Compatibility Determinations (CDs) that were completed when lands were acquired. The New Hampshire portion of the refuge receives approximately 25,000 visitors each year, with estimates of 500 hunting and 400 fishing visits per year. The Vermont portion receives approximately 30,000 visitors, with estimates of about 1,000 hunting and 500 fishing visits.

Purpose and Need for the Proposed Action

The purpose of the proposed action is to provide expanded recreational hunting and fishing opportunities on the refuge. Hunting and fishing are healthy, traditional recreational uses of renewable natural resources deeply rooted in America's heritage, and they can be important wildlife management tools. The NWRSA of 1966, the Refuge System Improvement Act of 1997, other laws, and the Service's policies permit fishing and hunting on a national wildlife refuge when it is compatible with the purposes for which the refuge was established and acquired.

The Comprehensive Conservation Plan (CCP) addressed hunting and fishing with broad objectives.

Objective 3.1 - Hunting: Support quality public hunting opportunities in the Connecticut River Watershed in cooperation with willing landowners to promote a unique understanding and appreciation of natural resources and their management including the role of the Service and other public lands in resource conservation while also protecting a traditional outdoor pastime deeply rooted in America's natural and cultural heritage and conservation history.

Objective 3.2 - Fishing: Support quality public fishing opportunities in the Connecticut River Watershed in cooperation with willing landowners to promote an understanding and appreciation of natural resources and their management, including the role of the Service and other public lands in resource conservation, while also protecting a traditional outdoor pastime deeply rooted in America's natural heritage and conservation history.

The Recreational Hunting and Fishing Plan further defined and enhanced these objectives. The objectives of a big game, small game, and migratory game bird hunting program, and a fishing program, on Silvio O. Conte NFWR are to:

1. Provide the public with a high-quality recreational experience on refuge lands and increase opportunities and access for hunters and fishermen;
2. Design a hunting and fishing program that are administratively efficient and manageable with existing staffing levels and that better aligns with State regulations;
3. Implement a hunting and fishing program that are safe for all refuge users;

4. Provide hunting and fishing opportunities for youth and those that need assistance; and
5. Design a hunting and fishing program that are in alignment with refuge habitat management objectives.

Department of the Interior Secretarial Order 3356 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. The proposed action will also promote two of the priority public uses of the Refuge System, encourage stewardship of our natural resources, and increase public appreciation and support for the refuge by providing opportunities for visitors to hunt and fish.

To address the needs stated above, the purpose of the proposed action will bring the refuge into further 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

No Action Alternative – Current Hunting and Fishing Program

The No Action Alternative would continue the refuge’s current hunting and fishing program, which allows refuge lands in New Hampshire and Vermont to be hunted or fished under the guidance of pre-acquisition CDs and existing Hunting Plans. Hunting and fishing regulations are consistent with New Hampshire, Vermont and refuge-specific regulations.

Proposed Action Alternative- Expand Hunting and Fishing Opportunities

The refuge has prepared a Recreational Hunting and Fishing plan, presented here as the Proposed Action Alternative. Under the Proposed Action Alternative, the Service is proposing to open or expand hunting for species allowed under the current hunting program as well as various additional species (primarily furbearers and coot). We will continue with the current fishing program under this alternative. All refuge lands in New Hampshire and Vermont will be open to hunting and fishing consistent with State regulations and subject to refuge-specific regulations.

Hunting

Vermont Species and Regulations

Hunting on refuge lands will follow Vermont Department of Fish and Wildlife’s (VTDFW) hunting regulations with some additional restrictions to protect wildlife and habitat, and to reduce potential public use conflicts. Hunters can access refuge lands by public roads and adjoining public lands and water.

Approximately, 26,887 acres would be open to hunting on Vermont refuge lands for the following species:

Big Game – Moose, white-tailed deer, black bear and turkey hunting would be permitted on Vermont units of the refuge.

Furbearers – Bobcat, red and gray fox, raccoon, coyote, skunk, muskrat, opossum, weasel and woodchuck hunting would be permitted on Vermont units of the refuge.

Small Game – Eastern cottontail, snowshoe hare and gray squirrel hunting will be permitted on Vermont units of the refuge.

Game Bird – Wilson’s snipe, coot, crow, pheasant, ruffed grouse, duck, light geese, dark geese, and woodcock hunting would be permitted on Vermont units of the refuge.

New Hampshire Species and Regulations

Hunting on refuge lands will follow the New Hampshire Department of Fish and Game’s (NHDFG) hunting regulations with some additional restrictions to protect wildlife and habitat, and to reduce potential public use conflicts. The Saddle Island Unit and Mascoma Division will open to hunting for the first time. Hunters can access refuge lands by public roads and adjoining public lands and water.

Approximately, 9,917 acres will be open to hunting on New Hampshire refuge lands for the following species:

Big Game – Moose, white-tailed deer, black bear and turkey hunting would be permitted on New Hampshire units of the refuge.

Furbearers – Red and gray fox, raccoon, coyote, skunk, muskrat, opossum, weasel, fisher and mink hunting would be permitted on New Hampshire units of the refuge.

Small Game – Eastern cottontail, snowshoe hare and gray squirrel hunting would be permitted on New Hampshire units of the refuge.

Game Bird – Wilson’s snipe, coot, crow, pheasant, ruffed grouse, duck, light geese, dark geese, and woodcock hunting would be permitted on New Hampshire units of the refuge.

Fishing

The Connecticut River watershed supports a diversity of fishery resources. Cold, cool and warm water species are in general abundance throughout the watershed. The cold-water tributaries within the New Hampshire and Vermont portion of the refuge provides important habitat for brook trout, rainbow trout, and brown trout. Refuge ponds provide habitat for the usual warm water fish species including pumpkinseed, yellow perch and pickerel.

Recreational fishing would be conducted under the State of New Hampshire’s regulations for

open water and ice fishing, and the State of Vermont’s regulations for inland fisheries with some additional restrictions to protect fish, wildlife, and habitat and to reduce potential public use conflicts. During the seasons specified in the fishing regulations established annually by the States, fishing could occur between one-half-hour before sunrise to one-half-hour after sunset. Anglers can access refuge waters from refuge roads, refuge lands, public roads and adjoining public lands.

Special Refuge Specific Regulations

- Excluding the Nulhegan Basin Divisions, refuge lands are closed to night hunting. Hunters are allowed on refuge lands from one and a-half-hour before sunrise to one and a-half-hour after sunset.
- A person shall not take or attempt to take any wild animal by shooting a firearm, muzzleloader, bow and arrow or crossbow within 25 feet of a traveled portion of a public road, with the exception of a permanently disabled hunter with the proper state and refuge issued special use permit.
- Tree stands, blinds, or other hunting equipment must be removed from the refuge within 72 hours after the regulated hunting season has ended.
- Take of amphibians, reptiles and baitfish is prohibited.

Alternative(s) Considered, But Dismissed From Further Consideration

In developing hunting plans for national wildlife refuges, we regularly receive comments and requests from some members of the public to eliminate hunting. An alternative that would close the refuge 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 and fishing 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 national wildlife 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.

Mitigation Measures to Avoid Conflicts

- Safety zones will be posted in areas of high visitation such as around buildings to reduce

the interaction between hunters and other user groups.

- Current hunting and fishing information will be available at the refuge's headquarters and posted on the refuge's website and at onsite kiosks.
- Hunting and fishing will take place during daylight hours only to avoid nighttime disturbance to wildlife except on the Nulhegan Basin Division with a special permit.

This proposed alternative offers increased opportunities for public hunting and fishing and fulfills the Service's mandate under the Refuge System Improvement Act of 1997. The Service has determined that the hunting and fishing plan is compatible with the purposes of the Conte Refuge and the mission of the Refuge System.

Refuge staff have worked closely with stakeholders to develop the current proposed plan. There are no unresolved conflicts about the proposed action with respect to the alternative uses of available resources. Additionally, the proposed action builds on an existing hunting and fishing program, and includes areas developed during the completion of the refuge's CCP, which involved an extensive public review process; 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 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 (see Table C-2). This EA focuses on the 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 will not be more than negligibly impacted by the action may be dismissed from further analyses. We determine significance by considering the degree of effects to that environment, and connected actions are used to assist in determining significance.

As stated above, this section predicts the foreseeable impacts of implementing the hunting and fishing program in each of the alternatives. 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 and fishing areas of the refuge in comparison with the entire Atlantic Flyway or the breeding ranges of the many birds and wildlife that use it. We recognize that the refuge is not isolated ecologically from the land around it; however, we may have overstated positive or negative impacts in that larger geographic context. Nevertheless, the actions we propose conform with the CCP and other regional landscape plans, and provide positive, incremental contributions to those larger

landscape goals.

The New Hampshire portion of the Conte Refuge consists of five units and divisions, located within the Connecticut River Watershed in Northern New Hampshire (see Figure 1 within the Recreational Hunting and Fishing Plan). The Vermont portion of the Conte Refuge consists of one division and one unit within in the Connecticut River Watershed in Vermont. The refuge is made up of a wide range of habitat types (see Table C-1) depending on the unit or division.

Table C-1. Silvio O. Conte NFWR Habitat Types

| Habitat Type | Description |
|---------------------|---|
| Hardwood Forest | Hardwood forest communities represent a large matrix community throughout the watershed. They include deciduous-dominated forests, such as Northeast interior dry-mesic oak, Central Appalachian dry oak-pine, North Atlantic coastal plain dry hardwood forest, and Laurentian-Acadian Northern hardwood forests, as well as mixed wood communities, such as Laurentian-Acadian pine-hemlock-hardwood, and Appalachian hemlock-Northern hardwood. Tree species common to this habitat are sugar and red maple, American beech, yellow and white birch, and to a lesser extent basswood, white ash, and black cherry. Mixed-wood forests are often along transitional zones between deciduous and coniferous dominated habitats, and thus are characterized by plant species and soil properties that stem from both. Most often these are found on either gently sloping benches or plateaus or at higher elevations (2,000 to 2,500 feet), where soils are typically shallow above a restricting pan layer. These forests are important for several priority species including wood thrush, American woodcock, and black-throated blue warbler. |
| Hardwood Swamp | Forested swamps can be found in large and small patches within and around the larger upland formations. They grow on terrain with little to no slope, in topographic depressions and sumps, and often in watershed headwater basins. Hardwood forested swamps vary in their hydrological regimes from wetlands having standing water for only a small part of the year to very wet wetlands that seasonally flood and/or saturate surfaces for a substantial part of the year. Forested swamps provide important wildlife habitat; for example, forested wetlands tend to have more total birds as well as more bird species nesting in a given area than upland forested sites (Newton 1988). Red maple swamps can be found in a wide range of settings and provide habitat for a large variety of wetland-dependent species including wood ducks, marbled salamanders, and beaver. |

| | |
|-----------------------------------|---|
| Pasture/Grassland | <p>In the Connecticut River Watershed, pasture, hay, and grasslands are primarily the result of agricultural production activities. Although historically there were natural grasslands in the region most likely in major river valleys and along the coast, very little natural grassland remains today (Dettmers and Rosenberg 2000). Although agricultural lands are not native wildlife habitat, they can serve the needs of many species. Forage lands or pasture, hay fields, open vegetable patches and sod fields can be valuable to many species of birds, mammals, reptiles and amphibians. These grassland ecosystems have since been impacted by development and fragmentation.</p> |
| Shrub Swamp/ Floodplain Forest | <p><i>Shrub Swamps:</i> Shrub swamps are wetlands dominated by woody shrubs. They can be found throughout the watershed and are highly variable depending on climate, past disturbance, hydrology, and mineral enrichment. They are often found in transitional zones between marshes and forested wetlands along pond margins, lake margins, and along rivers and streams (Gawler 2008, Thompson and Sorenson 2000).</p> <p><i>Floodplain Forests:</i> Annual spring high water flows in the Connecticut River Watershed have created a substantial number of floodplains. In areas without constant scouring, floodplains host rich forest habitats. Connecticut River floodplain forests are usually dominated by silver maple, Eastern cottonwood, and black willow with an understory of ostrich fern, wood nettle, and false nettle. These riverside forests provide critical nursery habitats (e.g., shade, cover) for some fish and important migratory stopover habitat.</p> |
| Freshwater Marsh | <p>Freshwater marshes are open wetlands found throughout the watershed. They are dominated by herbaceous vegetation such as sedges, grasses, and cattails with little or no woody vegetation present. Freshwater marshes are rich and very productive biological communities. They are identified as having high ecological and functional importance within the State Wildlife Action Plan. Marshes support a variety of emergent plants such as cattails, grasses and sedges.</p> |
| Open Water | <p>Open water habitats include rivers, streams, ponds, lakes and associated transitional habitats influenced by fluctuating water levels. Diadromous and indigenous fish, freshwater mussels, mayflies, dragonflies, and amphibians each rely on these communities for some stage of their life cycle. These habitats also provide foraging opportunities for other species including waterfowl, herons, egrets, mink and otter.</p> |

For more information regarding descriptions of all refuge resources, please see the refuge's CCP, Volume 2, State of New Hampshire Lands at:
https://www.fws.gov/Refuge/Silvio_O_Conte/what_we_do/finalccp.html.

Table C-2. Affected Resources and Anticipated Impacts

| Affected Resource | ANTICIPATED IMPACTS |
|--|--|
| NATURAL RESOURCES | |
| <p>Big Game (<i>White-tailed Deer, Black Bear, Moose, Wild Turkey</i>)</p> <p>Populations of these species have generally remained steady to slight increases in New Hampshire and Vermont. Both States will adjust seasons and limits to maintain healthy populations.</p> | <p>No Action: White-tailed deer, black bear, moose and wild turkey are currently hunted on refuge lands. State wildlife agencies manage populations at or below carrying capacity to maintain healthy wildlife populations and ecologically sound habitats. No additional impacts are expected.</p> <p>Proposed Action: These species would continue to be hunted following State regulations. The Mascoma Easement and 1-acre Saddle Island Unit have been hunted prior to Service control, so no additional impacts would be expected.</p> |
| <p>Small Game (<i>Coyote, Red and Gray Fox, Raccoon, Skunk, Muskrat, Opossum, Weasel, Woodchuck, Fisher, Porcupine, Bobcat, Mink, Eastern Cottontail, Snowshoe Hare, Gray Squirrel</i>)</p> | <p>No Action: Coyote, red and gray fox, raccoon, bobcat, cottontail rabbit, snowshoe hare and gray squirrel hunting are currently permitted on the refuge. These species are monitored by the State wildlife agencies and hunting regulations are set based on the population status of these species. Impact on these species is minimal based on State population monitoring and hunter survey data. Hunting mortality for many of these is compensatory and generally not considered to be a factor affecting population size (Edwards et al. 2003). There will be no impact on muskrat, opossum, weasel, fisher, and mink. These species would not be open to hunting under this alternative.</p> <p>Proposed Action: All small game species would be open to hunting under this alternative. Impacts to coyote, red and gray fox, raccoon, bobcat, Eastern cottontail, snowshoe hare and gray squirrel would be similar to the No Action Alternative. The number of hunters pursuing skunk, muskrat, opossum, weasel, woodchuck (sometimes referred to as groundhog), fisher-, porcupine and mink is predicted to be low and is not expected to have negative impacts on populations. These species are mainly considered nuisance species in populated areas causing human-wildlife conflicts. Refuge lands are in a remote area. Hunting of these species</p> |

| Affected Resource | ANTICIPATED IMPACTS |
|---|---|
| | is more likely to occur off of refuge lands surrounding more populated areas. |
| <p>Game Birds (<i>Wilson’s Snipe, Coot, Crow, Pheasant, Ruffed Grouse, Duck, Light Geese, Dark Geese, and Woodcock</i>)</p> | <p>No Action: These species are currently open to hunting with the exception of Wilson’s snipe and pheasant. Woodcock and ruffed grouse are the most pursued game bird on refuge lands. Ruffed grouse populations are monitored, and hunting regulations are enforced by the State wildlife agencies. Waterfowl and woodcock seasons and bag limits are set by States within a framework set by the Service and based on surveys, harvest data, and habitat data. Populations of these species have remained relatively stable. The number of hunters pursuing geese and crow are relatively low. Refuge lands do not support large numbers of these species and they are not popular hunted game birds on the refuge.</p> <p>Proposed Action: All of these species would be open to hunting under this alternative. Impacts would be similar to the No Action Alternative for crow, ruffed grouse, ducks, light geese, dark geese, and woodcock. We expect the number of hunters pursuing pheasant, snipe and coot would be low. Pheasant are not native to the area and are typically released on private or State lands for hunting purposes. The release of pheasant on refuge lands is not allowed because it is not a native species. Hunting of pheasant would only occur if a bird found its way to refuge lands from adjoining properties. At this time, birds are not released on lands adjacent to refuge lands. Wilson’s snipe is often an incidental species taken while hunting woodcock. It is not a highly pursued game species. Impacts to these species would be minimal.</p> |
| <p>Other Wildlife and Aquatic Species The refuge supports a diversity of wildlife species in New Hampshire and Vermont, including reptiles, amphibians, and invertebrates, which are important contributors to the overall biodiversity on the refuge. Some songbirds and raptors breed at the refuge,</p> | <p>No Action: The current hunting and fishing taking place on refuge lands may cause a short-term disturbance to wildlife. The number of overall hunters is relatively low with peak numbers during the first week of deer rifle season. This season occurs in November when the breeding season of most wildlife species has ended and migratory species have moved further South. We feel that the disturbance to other wildlife is minimal due to the short time period of disturbance. The overall number of hunters during all hunting seasons is low and dispersed across large acreage, leaving many parts of the refuge undisturbed. The refuge</p> |

| Affected Resource | ANTICIPATED IMPACTS |
|--|--|
| <p>whereas others utilize the refuge for wintering and during migration.</p> | <p>works closely with each State wildlife agency to minimize impacts to game species that look similar to other protected species such as spruce grouse and Canada lynx. Spruce grouse is a species of concern in New Hampshire and endangered in Vermont. Female spruce grouse look very similar to female ruffed grouse. VTDFW posts signs in the Nulhegan Basin Division to educate hunters about key identification characteristics and habitat preferences of spruce grouse. Canada lynx, a federally listed species, can be misidentified as bobcat. We work closely with VTFW to educate hunters about lynx (see Section 7 for details). We follow State hunting and fishing regulations and distribute each State wildlife agency hunting and fishing guides. These guides provide each State's hunting and fishing regulations and educational tools to minimize impacts on other species. State regulations and seasons also take into account impacts on other wildlife species.</p> <p>Proposed Action: Impacts would be similar to those described in the No Action alternative.</p> |
| <p>Threatened and Endangered Species (T&E) and Other Special Status Species <i>(Northern long-eared bat, Northeastern bulrush, Canada lynx, Jessup's milk-vetch)</i></p> | <p>An Intra-Service Section 7 analysis under the Endangered Species Act (ESA) of 1973, as amended was conducted in cooperation with the Service's New England Field Office (see Appendix D).</p> <p><i>Northern long-eared bats</i> – No new mitigation measures would be necessary to protect Northern long-eared bats even though there is the possibility that they live on refuge lands. Impacts to Northern long-eared bats will be minimal as there is very little overlap with hunting activities and the bats' maternity and volant periods.</p> <p><i>Northeastern bulrush</i> – Refuge staff would monitor recreational use and the population status of Northeastern bulrush on the refuge. Impacts to Northeastern bulrush populations will likely be minimal; hunters and anglers would not use the area the species occupies frequently because the wetland type provides limited habitat for fish and waterfowl.</p> <p><i>Canada lynx</i> – Canada lynx may or may not be present on the refuge, but refuge staff would monitor their presence. Hunters frequently mistake Canada lynx for bobcat, which</p> |

| Affected Resource | ANTICIPATED IMPACTS |
|---|---|
| | <p>look very similar and are allowed to be hunted. The refuge would work with VTDFW to educate hunters on key identifiable differences between Canada lynx and bobcat. Impacts of hunting activities to Canada lynx would be minimal due to the few individuals that occupy habitats on a transient basis.</p> <p><i>Jessup's milk-vetch</i> – Refuge staff would monitor recreational use and population status of the Jessup's milk-vetch growing on the refuge. Impacts to Jessup's milk-vetch would be minimal based on the current use patterns of the island by anglers and other user groups.</p> <p><i>Dwarf wedgemussel</i> – No mitigation measures would be taken for protecting dwarf wedgemussels. Although there is no dwarf wedgemussel population on the refuge, there are populations within the vicinity of the refuge. Because there are none living in the refuge, there would be no impacts to dwarf wedgemussel populations.</p> <p>Refuge staff will continue to monitor for the presence of threatened or endangered species on the refuge. If they are found on the refuge, the effects of hunting on these species will be evaluated. See Intra-Service Section 7 for additional details.</p> |
| <p>Vegetation (including vegetation of special management concern) Vegetation varies widely throughout refuge lands, encompassing shrubby and herbaceous communities, as well as forested communities with a wide array of canopy types.</p> | <p>No Action: Overbrowsing of vegetation is one consequence of populations that are beyond their carrying capacity (Behrend et al. 1970, White 2012, Bergeron et al. 2011). VTDFW increased hunting pressures on moose populations in Northeast Vermont due to an unexpected spike in their population. Impacts of moose overbrowsing is evident throughout the forests of the Nulhegan Basin Division. Hunting is used as a tool to maintain game populations at or below carrying capacity, which will minimize impacts on vegetation. Hunters and anglers could negatively affect vegetation by trampling and creating footpaths. Current levels of use for hunting and fishing have had negligible impacts to vegetation (i.e., factors include low number of users, low frequency of use, and dispersed use patterns).</p> <p>Proposed Action: Under this alternative, additional species would be open for hunting. It is expected that the number of hunters pursuing these species will be low. Impacts to</p> |

| Affected Resource | ANTICIPATED IMPACTS |
|--|--|
| | vegetation will be similar to the No Action Alternative as the number of additional hunters is expected to be negligible. |
| Water Resources Recreational fishing would be open for the season and species as regulated by the States. | <p>No Action: Recreational fishing would continue to occur on refuge lands following State regulations and seasons. The States strive to ensure maintenance of healthy and diverse fish species populations. Anglers must abide by the State's seasons, catch limits, and regulations which were designed to protect the State's fish populations. The refuge's fishing pressure has been light and sustainable. We do not anticipate an increase in recreational fishing activities.</p> <p>Proposed Action: We do not propose any changes to the fishing program under this alternative. Impacts would be similar to those mentioned under the No Action Alternative</p> |
| Wetlands | <p>No Action: Hunters are permitted to walk on lands throughout designated hunting areas without restriction. Migratory bird hunters are permitted to place blinds on the refuge but must remove them daily, minimizing impacts to vegetation. As bird hunting occurs in the fall and early winter, impacts to vegetation are negligible and short-term. No impacts to any wetland habitats have been observed by refuge staff.</p> <p>Proposed Action: Under this alternative, additional species would be open for hunting. It is expected that the number of hunters pursuing these species will be low. Impacts to wetlands will be similar to the No Action Alternative as the number of additional hunters is expected to be negligible.</p> |
| VISITOR USE AND EXPERIENCE | |
| The refuge is open to all priority public uses (hunting, fishing, wildlife observation, wildlife photography, environmental education and environmental interpretation) on lands where found compatible. | <p>No Action: Currently, the refuge is open to all six priority wildlife-dependent uses. The lands that are open to hunting and fishing follow State seasons and regulations. There have been very few conflicts among user groups that have involved hunting or fishing. Public health and safety are addressed through clearly delineated safety zones and increased outreach to all users.</p> <p>Proposed Action: Under this alternative, additional species would be open for hunting. It is expected that the number of</p> |

| Affected Resource | ANTICIPATED IMPACTS |
|---|---|
| | hunters pursuing these species will be low. We do not expect to see an increase in the number of conflicts among user groups. |
| CULTURAL RESOURCES | |
| There are no known cultural resources that will be impacted. | <p>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 (historic, architectural and archeological properties) that are listed or eligible for listing in the National Register of Historic Places (NRHP).</p> <p>Under each 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.</p> |
| REFUGE MANAGEMENT AND OPERATIONS | |
| <p>Land Use The refuge currently owns and maintains a Visitor Center in Brunswick, Vermont, various parking lots, hiking trails, informational kiosks and gravel roads.</p> | <p>No Action: Hunters and anglers currently use refuge infrastructure to gain access to refuge lands. The impacts to refuge infrastructure are short-term and negligible.</p> <p>Proposed Action: Under this alternative, additional species would be open for hunting. It is expected that the number of hunters pursuing these species will be low. These users would use existing infrastructure to access the refuge. The frequency and extent of maintenance and improvement of current facilities is not expected to differ from that required to support other public uses. We do not expect any conflicts among user groups, crowding, or overuse of the refuge's infrastructure.</p> |
| <p>Administration There are currently three full time and one part time employee positions that oversee this portion of the refuge. Management, biological and maintenance staff work together to ensure hunting and fishing programs are safe, successful</p> | <p>No Action: Annual operating costs to administer the Vermont and New Hampshire portion of the refuge's current program including infrastructure, signs and staff time is approximately \$53,000.</p> <p>Proposed Action: The costs to implement the fishing and hunting programs under this alternative are expected to be similar to the No Action Alternative.</p> |

| Affected Resource | ANTICIPATED IMPACTS | | |
|---|---|------------------------------------|-----------------|
| and biologically sound. | | Maintenance Workers | \$10,000 |
| | | Refuge Managers | \$10,000 |
| | | Visitor Services Manager | \$5,000 |
| | | Supplies/Brochures* | \$5,000 |
| | | Kiosks Signs* | \$10,000 |
| | | Trail/parking lot maintenance | \$5,000 |
| | | Total to implement (hunt) | \$45,000 |
| | | Supplies/Brochures | \$1,000 |
| | | Monitoring Resource Impacts | \$1,000 |
| | | Signage (Parking, etc.) | \$1,000 |
| | | Law Enforcement | \$5,000 |
| | | Total to implement (fish) | \$8,000 |
| | | TOTAL (hunting and fishing) | \$53,000 |
| | | *Not an annual cost | |
| SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE | | | |
| The refuge lands in Vermont and New Hampshire are situated in mostly rural communities. The more populated areas are in the southern portion of the States. People come to the region throughout the year to participate in activities such as hunting, fishing, camping, hiking, canoeing, kayaking, snowmobiling, skiing, and driving the scenic roads. Hotels, restaurants and the associated service industry all benefit from the infusion of tourism dollars. | <p>No Action: The current program has a minor, long-term and beneficial impact to the local economy. Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, involves 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. No additional impacts are expected.</p> <p>Proposed Action: Under this alternative, additional species would be open for hunting. It is expected that the number of hunters pursuing these species will be low. Impacts will be similar to the No Action Alternative.</p> | | |

Other Impacts

This section includes those effects with a reasonably close causal relationship to the proposed action or alternatives, but may be later in time or farther removed in distance from the proposed action or alternatives. For more information on the national cumulative impacts of the Service's hunting and fishing program on the Refuge System, see "U.S. Fish and Wildlife Service, Cumulative Impacts Report 2021-2022 National Wildlife Refuge and National Fish Hatchery Proposed Hunting and Sport Fishing Openings (2021)."

Table C-3. Potential Impacts Associated with Environmental Trends

| | |
|--|---|
| <p>Hunting/Fishing</p> <p>Hunting and fishing occurs on public and private lands that are found adjacent to several units and divisions of the refuge. Hunting and fishing is part of the culture in the Connecticut River watershed. The refuge currently runs fishing events to try to connect people with nature and the outdoors.</p> | <p><i>Big Game</i> – The Service considers hunting to be an important tool for wildlife management. Hunting gives resource managers an effective means to control populations of some species that might otherwise exceed the carrying capacity of their habitat and threaten the well-being of habitats (composition, structure, and function) and other wildlife species, and in some instances, threaten human health and safety. A lack of hunting on the refuge lands diminishes the refuge’s ability to manage wildlife populations, and by extension, NHDFG and VTDFW ability to manage populations. Likewise, an increase in deer and moose densities may negatively affect forest regeneration and plant diversity, resulting in degradation of habitat for woodcock, nesting songbirds, and the wide array of other migratory birds that use early successional forests. Overabundant deer and moose populations on refuge lands may have detrimental impacts to forest conditions on adjacent lands as well. Heavy browsing by refuge deer and moose could influence forest regeneration and plant diversity on neighboring properties.</p> <p><i>Migratory Birds</i> – Waterfowl populations throughout the United States are managed on a flyway basis. The Conte Refuge is located in the Atlantic Flyway. In North America, the process for establishing waterfowl hunting regulations is conducted annually. In addition, public hearings are held, and the proposed regulations are published in the Federal Register to allow public comment.</p> <p>Annual waterfowl assessments are based upon the distribution, abundance, and flight corridors of migratory birds. An Annual Waterfowl Population Status Report is produced each year and includes the most current breeding population and production information available for waterfowl in North America (USFWS 2017a). An Annual Adaptive Harvest Management Report (AHM) provides the most current data, analyses, and decision-making protocols (USFWS 2017b). These reports are intended to aid the development of waterfowl harvest regulations in the United States for each hunting season.</p> <p>Hunting on the refuge will not add significantly to accumulative impacts of migratory waterfowl management on local, regional, or Atlantic Flyway waterfowl populations,</p> |
|--|---|

| | |
|--|--|
| | <p>as the percentage taken on the refuge, though additive to existing hunting takes, would be a tiny fraction of the estimated populations. In addition, overall populations will continue to be monitored and future harvests will be adjusted as needed under the existing processes.</p> <p>The proportion of the national waterfowl harvest that occurs on refuges is only 6 percent (US DOI 2009) and there are no waterfowl populations that exist wholly and exclusively on refuges. Annual hunting regulations within the United States are established at levels consistent with the current population status and refuges cannot permit more liberal seasons than provided for in Federal frameworks. Refuges purchased with funds derived from the Federal Duck Stamp must limit hunting to 40 percent of the available area.</p> <p><i>Resident Wildlife</i> – Refuges, including Silvio O. Conte NFWR, conduct hunting programs within the framework of State regulations. Hunting frameworks and take limits are set by the State. The proposed refuge hunting program rules will follow hunting regulations set by the State of New Hampshire or the State of Vermont with some changes. The refuge coordinates with the States about the hunting and fishing programs.</p> |
| <p>Use of Lead Ammunition/Tackle Lead ammunition is permitted in New Hampshire and Vermont, and on the refuge for all hunts except for migratory birds.</p> <p>New Hampshire prohibits the sale and use of lead fishing sinkers and lead jigs weighing less than 1 ounce in all inland freshwater. Vermont prohibits the sale of any lead fishing sinkers and lead jigs weighing less than 1 ounce.</p> | <p>The refuge receives approximately 3,500 hunting and fishing visits each year. Use of the refuge is not expected to increase significantly. The refuge will encourage voluntary use of non-lead ammunition and tackle when hunting or fishing on the refuge.</p> |

Monitoring

The refuge will be adaptive with harvest management under the hunt program. Refuge-specific hunting regulations may be altered to achieve species-specific harvest objectives in the future.

Many game species populations are monitored by NHDFG and VTDFW through field surveys and game harvest reports which will provide an additional means for monitoring populations. Each State has determined that populations of game species are at levels acceptable to support hunting and these assessments are reviewed and adjusted periodically.

Summary of Analysis

This EA provides sufficient evidence and analysis for determining whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).

No Action: There would be no change to the current public use and wildlife management programs on the refuge. New hunting and fishing opportunities would not be created under this alternative. This alternative has the least short-term impacts to physical and biological resources, though negligible when compared to the Proposed Action Alternative. In addition, this alternative would reduce our actions as mandated under the NWRSA and Secretarial Order 3356.

Proposed Action: This alternative is the Service's proposed action because it offers the best opportunity for public hunting and fishing that would result in a minimal impact on physical and biological resources, while meeting the Service's mandates under the NWRSA and Secretarial Order 3356. The Service believes that hunting and fishing on the refuge will not have a significant impact on local or regional wildlife populations because the percentage likely to be harvested on the refuge, though possibly additive to existing hunting takes, would be a tiny fraction of the estimated populations. Additional hunting would add no more than slightly to the cumulative impacts to wildlife from hunting at the local or regional levels and would only result in minor, negative impacts to wildlife populations.

List of Preparers

U.S. Fish and Wildlife Service, Silvio O. Conte National Fish and Wildlife Staff

Andrew French – Project Leader
Steve Agius – Refuge Manager
Rachel Cliche – Wildlife Biologist
Jeremy Goetz – Forester

U.S. Fish and Wildlife Service, Northeast Regional Office Staff

Thomas Bonetti – Senior Planner
Graham Taylor – Refuge Supervisor, North Zone
Brittany Peterson – Assistant Refuge Supervisor
Wilson Darbin – Visitor Services Assistant

State Coordination

Extensive coordination and consultation occurred in advance of the development of the hunting and fishing programs as a part of the CCP process which was signed in January of 2017. Prior to completion of the CCP, hunting and fishing were allowed where they had traditionally occurred

before coming under the stewardship by the Service as a part of a national wildlife refuge. During this public process, there was considerable interest and support for these public use opportunities, especially by the States of New Hampshire and Vermont. Each State was a member of the CCP Core Planning team.

Tribal Consultation

Tribal consultation to expand hunting and fishing occurred during the development of the CCP that was completed in 2017. Refuge staff continues to coordinate with federally recognized Tribal governments in areas of mutual interest including hunting and fishing opportunities.

Public Outreach


The public will be notified of the availability of the Silvio O. Conte NFWR Recreational Hunting and Fishing Plan, EA, and CD for review and will include a 30-day comment period. We will inform the public through local venues, the refuge website, and social media. Comments received from the public will be considered, and modifications may be incorporated into the final plan and decision documents.

Determination

This section will be filled out upon completion of any public comment period and at the time of finalization of the Environmental Assessment.

☐ The Service's action will not result in a significant impact on the quality of the human environment. See the attached "**Finding of No Significant Impact**".

☐ The Service's action **may significantly affect** the quality of the human environment and the Service will prepare an Environmental Impact Statement.

Preparer Signature:  Date: 8/13/2021

Name/Title/Organization: Thomas Bonetti, Hunting and Fishing Coordinator

References

- Behrend, D.F., Mattfield, G.F., Tierson, W.C., and Wiley, J.E. 1970. Deer density control for comprehensive forest management. *Journal of Forestry*, 68, 695–700.
- Bergeron, D.H., P.J. Pekins, H. F. Jones, and WB. Leak. 2011. Moose Browsing and Forest Regeneration: A Case Study in Northern New Hampshire. *Alces* 47:39–51.
- Dettmers, R. and K. Rosenberg. 2000. DRAFT Partners in Flight Landbird Conservation Plan Physiographic Area 9 Southern New England. Unpublished report.
- Division of Fisheries and Wildlife (MassWildlife). 2018.
<https://www.mass.gov/orgs/division-of-fisheries-and-wildlife>. Accessed November 2018.
- Edwards, J., M. Ford, and D. Guynn. 2003. Fox and gray squirrels in Wild Mammals of North America. Pgs 248–267. Johns Hopkins University Press.
- Gawler, S.C. 2008. Northeastern Terrestrial Wildlife Habitat Classification. Report to the Virginia Department of Game and Inland Fisheries on behalf of the Northeast Association of Fish and Wildlife Agencies and the National Fish and Wildlife Foundation. NatureServe, Boston, Massachusetts. 102 pp.
- Golet, F., A. Calhoun, W. DeRagon, D. Lowry, and A. Gold. 1993. Ecology of Red Maple Swamps in the Glaciated Northeast: A Community Profile. Biological Report 12, United States Department of the Interior, Fish and Wildlife Service, Washington, DC.
- Gregonis, Michael A. 2017 Vermont Wild Turkey Program Report 12 Feb. 2019.
- LaBonte, Andrew. 2017 Vermont Deer Program Summary. 12 Feb. 2019.
- Lewin, W.C., R. Arlinghaus, and T. Mehner, Documented and Potential Biological Impacts of Recreational Fishing. *Fisheries Science*. 14:305–367, 2006.
- Newton, R. 1988. Forested Wetlands of the Northwest, Environmental Institute Publication No 88–1. University of New Hampshire, Amherst, MA.
- Thompson, E. and E. Sorenson. 2000. Wetland, Woodland, Wildland: A Guide to the Natural Communities of Vermont. Nature Conservancy and Vermont Department of Fish and Wildlife, Waterbury, VT.
- U.S. Fish and Wildlife Service. 2017a. Waterfowl: Population Status, 2017. USFWS, Laurel, MD. 74pp.
- U.S. Fish and Wildlife Service. 2017b. Adaptive Harvest Management: 2018 Hunting Season. U.S. Department of Interior, Washington, DC. 69 pp.

White, M.A. 2012. Long-term effects of deer browsing: composition, structure and productivity in a northeastern Minnesota old-growth forest. *Forest Ecology and Management* 269:

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, and 450
- Fish and Wildlife Act of 1956, 16 U.S.C. 742 a-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)

Water Resources

- Coastal Zone Management Act of 1972, 16 U.S.C. 1451 et seq.; 15 CFR Parts 923, 930, 933
- Federal Water Pollution Control Act of 1972 (commonly referred to as Clean Water Act), 33 U.S.C. 1251 et seq.; 33 CFR Parts 320-330; 40 CFR Parts 110, 112, 116, 117, 230-232, 323, and 328
- Rivers and Harbors Act of 1899, as amended, 33 U.S.C. 401 et seq.; 33 CFR Parts 114, 115, 116, 321, 322, and 333. Safe Drinking Water Act of 1974, 42 U.S.C. 300f et seq.; 40 CFR Parts 141-148
- Executive Order 11988 – Floodplain Management, 42 Fed. Reg. 26951 (1977)
- Executive Order 11990 – Protection of Wetlands, 42 Fed. Reg. 26961 (1977)

INTRA-SERVICE SECTION 7 BIOLOGICAL EVALUATION FORM

Originating Person: Rachel Cliche
Refuge Biologist
Silvio O. Conte NFWR

Telephone Number: (802) 962-5240

Date: April 18, 2020

I. Region: Northeast, Region 5

II. Service Activity (Program): NWRS, Silvio O. Conte NFWR

III. Pertinent Species and Habitat:

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

- Northern long-eared bat (*Myotis septentrionalis*)
- Northeastern bulrush (*Scirpus ancistrochaetus*)
- Canada lynx (*Lynx canadensis*)
- Jessup's milk-vetch (*Astragalus robbinsii* var. *jesupii*)

B. Proposed species and/or proposed critical habitat within the action area:

None

C. Candidate species within the action area:

None

IV. Geographic area of station name and action:

Opening of Silvio O. Conte NFWR lands in Vermont and New Hampshire to fishing, big game, small game, furbearer and migratory bird hunting.

V. Location:

A. Ecoregion Number and Name:

- Adirondack- New England Mixed Forest – Coniferous Forest, Alpine Meadow Province; M212 (R.G. Bailey, Ecoregions of the United States, 1995)

B. County and State:

Vermont

- Windham and Essex County

New Hampshire

- Coos and Grafton County

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

Vermont

- 44.810083, -71.739043 Nulhegan
- 42.984990, -72.602261 Putney

New Hampshire

- 44.376199, -71.512900 Pondicherry
- 44.840594, -71.402452 Blueberry
- 44.161837, -72.041428 Saddle Island
- 43.735830, -72.054305 Mascoma Easement
- 44.518204, -71.574391 Fairgrounds

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

The refuge in Vermont is within the towns of Brunswick and Putney. The refuge in New Hampshire is within the towns of Carroll, Jefferson, Lancaster, Columbia, Woodsville, Lebanon and Lancaster.

E. Species/habitat occurrence:

The species considered in this document were identified through consultation with the U.S. Fish and Wildlife Service's (Service) New England Field Office and from a query of the Service's Information for Planning and Conservation (IPaC) System. See attachment for IPaC Official Species List and Report generated for this project (Consultation Code: 05E1NE00-2020-SLI-2325, Event Code: 05E1NE00-2020-E-06881). Silvio O. Conte NFWR uses IPaC to identify threatened and endangered species, including for purposes of this Biological Evaluation. This is done because the IPaC database is the better of the Service's databases for the refuge and may contain the best available information on species presence. Nevertheless, in order to ensure a thorough review, this Biological Evaluation considers all threatened and endangered species identified by both the IPaC and ECOS databases. Note, however, that these databases are updated regularly, approximately every 90 days, and, thus, it is possible that the specific threatened and endangered species identified as present on or near the refuge may change between the finalization of this Biological Evaluation and its publication and/or between finalization and your reading this document.

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

Northern long-eared bat: The project area contains habitat used by the northern long-eared bat for roosting and foraging. No hibernacula are present within the project area.

Northeastern bulrush: Occupies small beaver wetlands within the Putney Mountain Unit.

Canada lynx: A transient population of Canada lynx have occupied habitats within the Nulhegan Basin Division and the vicinity since 1998 (Chris Bernier, personal communication 2013). Up to 5 individuals have been documented at one time, including a family group in 2012 and 2013. Since that time, individual lynx have been detected by winter track and camera trap monitoring in 2014 and 2017. Blueberry Swamp and Pondicherry Divisions contain habitat used by lynx, but no observations of this species have been documented.

Jessup's milk-vetch: This species was introduced to Saddle Island in 2014. A robust population occupies the southeast portion of the island.

Dwarf wedgemussel: There is no known occurrence of dwarf wedgemussel on refuge lands. This species occupies sites within the vicinity of the Fairgrounds Unit along the Connecticut River mainstem (Nedeau 2010).

VI. Description of Proposed Action

The refuge division and unit in Vermont and the 4 divisions and unit in New Hampshire contain a diversity of habitat types from hardwood and spruce-fir forest, open water, grasslands, swamps, shrublands, and floodplain forest. We are proposing to open these lands to hunting and fishing. This matrix of lands support a variety of species with target species being found in higher densities on some lands. The hunt program on refuge lands in Vermont and New Hampshire will be in accordance with Federal and state regulations, and additional Refuge-specific regulations.

We are proposing all refuge lands that are found to be compatible with hunting and fishing to be open to these activities. Hunting was found not to be compatible on some lands where safety zones were established to protect private residences.

Fishing

Recreational fishing would be conducted on, and from the banks of, all water bodies within the boundaries of the Conte Refuge that are open to fishing, including lakes, ponds, streams, and rivers. At present, this includes reaches on the following rivers and ponds:

Vermont – Nulhegan River and its tributaries (Nulhegan Basin Division) and Lewis Pond (Nulhegan Basin Division)

New Hampshire – Simms Stream East Branch (Blueberry Swamp Division), John's River, Cherry and Little Cherry Ponds (Pondicherry Division), Connecticut River (Saddle Island), Clark Pond and Mascoma River (Mascoma Easement)

Big Game, Small Game, Furbearer and Migratory Game Bird Hunting

Vermont Species and Regulations

Approximately, 26,886 acres will be open to hunting on Vermont refuge lands for the following species:

| | | | |
|-------------------|---------------|----------------------------------|----------|
| Moose | Skunk | Turkey | Crow |
| White-tailed Deer | Woodchuck | Light Geese (Snow Geese) | Grouse |
| Black Bear | Porcupine | Dark Geese (Canada Goose, Brant) | Woodcock |
| Coyote | Squirrel | Sea Duck | Pheasant |
| Fox | Rabbit & Hare | Duck | Snipe |
| Raccoon | Bobcat | | Opossum |

Hunting on refuge lands will follow Vermont Department of Fish and Wildlife's (VTFW) hunting regulations. Access to refuge lands for hunting is from public roads and adjoining public lands and water.

New Hampshire Species and Regulations

Approximately, 9,917 acres will be open to hunting on New Hampshire refuge lands for the following species:

| | | | |
|-------------------|---------------|----------------------------------|----------|
| Moose | Skunk | Turkey | Crow |
| White-tailed Deer | Woodchuck | Light Geese (Snow Geese) | Grouse |
| Black Bear | Porcupine | Dark Geese (Canada Goose, Brant) | Woodcock |
| Coyote | Squirrel | Sea Duck | Pheasant |
| Fox | Rabbit & Hare | Duck | Snipe |
| Raccoon | | | Opossum |

Hunting on refuge lands will follow New Hampshire Fish and Game hunting regulations. Access to refuge lands for hunting is from public roads and adjoining public lands and water.

VII. Determination of Effects

A. Explanation of effects of the action on species and critical habitats in items III.

A, B, and C:

The hunt area contains habitat used by the Northern long-eared bat for roosting and foraging. This project complies with the Northern long-eared bat 4(d) rule and any incidental take of the NLEB that may occur is not prohibited by the final 4(d) rule. Hunting activities may cause disturbance to roosting bats if roost trees are disturbed or used to erect tree stands. Disturbance to foraging bats is not anticipated, as bats are least active during hunting hours, which are 1/2 hour before sunrise to 1/2 hour after sunset. There is also limited overlap between hunting seasons and the Northern long-eared bats' maternity and volant periods. Some hunters might choose to use tree stands while hunting, but hunters generally use healthy trees to secure their stands, not dead or dying ones with cavities that are preferred by bats. Tree stand placement and gun noise near bats' roosting trees could flush the bats from the trees, but it is more likely that the bats would remain in the tree than be flushed and instances of flushing would not result in bat mortality. There is no hunting near any cave or mine where Northern long-eared bats could hibernate (i.e., hibernaculum), and hunting programs would not result in any tree cutting or other habitat alteration. The majority of hunting seasons fall within the bats spring and fall migratory period or during winter when bats are hibernating and least active on the landscape, further reducing the risk to bat disturbance.

Northeastern bulrush is a sedge plant that occupies small beaver wetlands within the Putney Mountain Unit. This population tends to fluctuate in numbers from year to year, with some years experiencing no occupancy by the species. The majority of the wetlands lack substantial amount of water for fishing and limited habitat for waterfowl. Activities such as filling or ditching in a wetland can destroy or degrade this species' habitat and pose a threat.

There is no habitat alternation associated with hunting or fishing activities at the Putney Mountain Unit. We believe that these wetlands, in their current state, will receive limited use by hunters and anglers; therefore, impacts to the bulrush will be insignificant.

Canada lynx have occupied habitats intermittently within the Nulhegan Basin Division and the vicinity since 1998 (Chris Bernier, personal communication 2013). A family group was detected within the Division in the winters of 2012 and 2013. Since that time, individual lynx have been detected by winter track and camera trap monitoring in 2014 and 2017.

Occupancy by lynx seems to coincide with increased snow-depth within a long winter period (Siren 2017). These conditions decrease competition with other predators and increase the survival rate of snowshoe hare (*Lepus americanus*), a main prey species for lynx. Due to the transient nature of this population and the fact that hunting of lynx is prohibited, it is unlikely that the limited presence of anglers and hunters, with their potential foot traffic and gun noise, will have any significant impact on this species. Hunting activities are considered second tier influences, which are those that may affect individual lynx but are not expected to substantially impact populations or habitats.

Hunting of lynx is prohibited, but hunting of bobcat in Vermont is allowed from January through February. There is potential for hunters to mistake a lynx for a bobcat while hunting. Lynx and bobcat look similar in color and stature, but there are distinguishing features that hunters should pay attention to before harvesting an animal. These are described below.

Bobcat

- Reddish brown fur with distinct spots and streaks
- Tail has black bars with a white tip on top and white on the bottom

Lynx

- Gray fur with faded spots
- Tail tip is completely black top and bottom
- Feet are twice the size of bobcat
- Hind legs are disproportionally longer, causing them to have a stooped appearance

Vermont Department of Fish and Wildlife educates hunters about these key identification features on their website at <https://vtfishandwildlife.com/hunt> and in their annual Vermont Hunting and Trapping Guide booklet. They encourage hunters to identify tracks before pursuing an animal and to identify the animal before harvesting to minimize risk of taking a lynx. VTFW also identifies the Wildlife Management Units that have been occupied by lynx. The lynx population within the Nulhegan Basin Division is low (<5 individuals) and transient. The likelihood of a hunter coming across a lynx while bobcat hunting is low and a well-educated hunter will know the distinguishing characteristics between a bobcat and a lynx. For these reasons, we believe that the risk of a lynx being taken during bobcat hunting is minimal.

Jessup's milk-vetch was introduced to Saddle Island in 2014. A robust population occupies the southeast corner of the island and is monitored annually. Based on current observations, this area receives no to very little use by the public. Recreational activities, such as fishing

and wildlife observation, can occur on the west side of the island at the Connecticut River where there is easy access and productive fishing opportunities. We feel that impacts to this species will be minimal based on the current and proposed use of the 1-acre island by anglers and hunters.

There is no known occurrence of dwarf wedgemussel on refuge lands. This species occupies sites within the vicinity of the 48-acre Fairgrounds Unit along the Connecticut River mainstem (Nedeau 2010). The Fairgrounds Unit boundary does not provide access to the mainstem of the river. The lack of waterbodies within this Unit provides no opportunity for recreational fishing. Therefore, there will be no impact to dwarf wedgemussel populations.

Lead ammunition can be used on the refuge for upland and big game hunting as detailed in the Hunting and Fishing Plan, in accordance with State and refuge-specific regulations. The amount of lead introduced to the environment because of proposed changes to the hunting and fishing program, however, is negligible given that we expect a small number of hunters on the refuge; hunters take few shots, if any, per hunt; and any lead shot would be dispersed over a large area. The bioaccumulation of lead is a potential concern, but it will have little impact on threatened and endangered species on the refuge, including Northern long-eared bat and Canada lynx. Northern long-eared bats forage on insects, and the likelihood of these prey species having high lead levels from lead ammunition is discountable. For example, herbivorous insects could only be lead contaminated through eating contaminated plants, and plants do not take up lead from the soil unless the levels reach a critical threshold. Further, the foraging ecology of the bats (i.e., preying on flying insects) limits their potential direct exposure to lead ammunition in the environment. A transitory Canada lynx population of a few individuals occupy the more than 36,000 acres of huntable refuge lands. Lynx' main prey, snowshoe hare, could be hunted with lead ammunition. We are not aware of any information suggesting that lynx are being impacted by lead ammunition on the refuge or elsewhere in the species' range. We believe the chance of a Canada lynx being exposed to lead from the proposed hunting program is discountable, because (1) lynx do not occupy the refuge every year; (2) when lynx are present, they use refuge lands in low numbers; and (3) the chance of a lynx encountering a snowshoe hare that has been wounded by lead ammunition and not recovered by the hunter is extremely low. We encourage use of non-toxic alternatives and will educate hunters and the public to the potential adverse impacts of lead. The Service anticipates no significant adverse effects to Northern long-eared bats or Canada lynx from hunting activities. For these reasons, we expect the likelihood of adverse effects from lead ammunition is discountable.

The two plants of concern will not be affected by lead ammunition, as plants only uptake lead when it is in soil at substantially elevated levels, and the proposed hunting expansion in wetlands would not introduce enough lead for that possibility.

The amount of lead introduced to the environment because of sport fishing is also negligible given regulations currently in place by the States. New Hampshire prohibits the sale and use of lead fishing sinkers and lead jigs weighing less than 1 ounce in all inland freshwater systems. Vermont prohibits the sale of any lead fishing sinkers and lead jigs weighing less than 1 ounce. The refuge and the States would provide education and outreach on the hazards

of lead sinkers and discarded fishing tackle.

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

Northern long-eared bats

Action - no action

Status – may occur

Explanation - Impacts to Northern long-eared bats will be minimal as there is very little overlap with hunting activities and the bats maternity and volant periods.

Northeastern bulrush

Action – monitor recreational use and population status

Status – occurs

Explanation – Impacts to Northeastern bulrush populations will be minimal. The wetlands the species occupies provides limited habitat for fish and waterfowl, and therefore, will receive limited use by hunters and anglers.

Canada lynx

Action – monitor presence; work with VTFW to educate hunters on identification of lynx and bobcat

Status - may occur

Explanation - Impacts to Canada lynx by hunting activities will be minimal due to the few individuals that occupy habitats on a transient basis.

Jessup's milk-vetch

Action - monitor recreational use and population status

Status – occurs

Explanation - Impacts to Jessup's milk-vetch will be minimal based on the current use patterns of the island by anglers and other user groups.

Dwarf wedgemussel

Action – no action

Status – does not occur

Explanation – Dwarf wedgemussel does not occur on refuge lands, therefore, there will be no impact.

Refuge staff will continue to monitor for the presence of threatened or endangered species on the refuge. If they are found on the refuge, the effects of hunting on these species will be evaluated.

VIII. Effect determination and response requested:

A. Listed species/designated critical habitat:

Determination

Response Requested

No effect/no adverse modification
(species: dwarf wedgemussel)

☒ Concurrence

May affect, but is not likely to adversely
affect species/adversely modify critical habitat
(species: Northern long-eared bat, Northeastern bulrush,
Canada lynx, Jessup's milk-vetch)

☒ Concurrence

May affect, and is likely to adversely
affect species/adversely modify critical habitat
(species: : _____)

_____ Formal Consultation

B. Proposed species/proposed critical habitat:

Determination

Response Requested

No effect/no adverse modification
(species: : _____)

_____ Concurrence

Is likely to jeopardize proposed species/
Adversely modify proposed critical habitat
(species: : _____)

_____ Conference

C. Candidate species:

Determination

Response Requested

No effect
(species: : _____)

_____ Concurrence

Is likely to jeopardize
(species: : _____)

_____ Conference

STEPHEN AGIUS

Digitally signed by STEPHEN AGIUS
Date: 2021.08.12 12:51:02 -04'00'

Refuge Manager, Silvio O. Conte NFWR

Date

IX. Reviewing Ecological Services Office Evaluation:

A. Concurrence _____ X _____

Non-concurrence _____

B. Formal consultation required _____

C. Conference required _____

D. Informal conference required _____

E. Remarks (attach additional pages as needed) _____

AUDREY MAYER

Digitally signed by AUDREY MAYER

Date: 2021.08.12 11:35:08 -04'00'

Audrey Mayer, Supervisor, New England Field Office

Date

Literature Cited

Neddeau, Ethan. 2010. Distribution, Threats, and Conservation of the Dwarf Wedgemussel (*Alasmodonta heterodon*) in the Middle and Northern Macrosites of the Upper Connecticut River. Unpublished.

Sirén, Alexej. 2017. Preliminary Report focusing on snowshoe hare densities for climate change impact research study sites. Unpublished.

FINDING OF NO SIGNIFICANT IMPACT
RECREATIONAL HUNTING AND FISHING PLAN
SILVIO O. CONTE NATIONAL FISH AND WILDLIFE REFUGE
New Hampshire and Vermont

The U.S. Fish and Wildlife Service (Service) is proposing to expand and open fishing and hunting opportunities for big game, small game, and migratory game birds on Silvio O. Conte National Fish and Wildlife Refuge (NFWR, Conte Refuge, refuge) in New Hampshire and Vermont, in accordance with the refuge's Recreational Hunting and Fishing Plan. The Conte Refuge is proposing all refuge-owned land in the two States be opened for hunting and fishing when found to be compatible, and consistent with Federal, State, and refuge-specific hunting and fishing regulations.

Selected Action

Proposed Action Alternative

Under this alternative, the Service is proposing to open or expand hunting for species allowed under the current hunting program as well as various additional species (primarily furbearers and coot). We will continue with the current recreational fishing program, conducted under the State of New Hampshire's regulations for open water and ice fishing, and the State of Vermont's regulations for inland fisheries with some additional restrictions to protect fish, wildlife, and habitat and to reduce potential public use conflicts.

In New Hampshire, the units and divisions opening to hunting would be the Blueberry Swamp Division in Columbia, the Fairgrounds Unit in Lancaster, the Pondicherry Division in Carroll, Jefferson and Whitefield, the Saddle Island Unit in Bath, and the Mascoma Division in Lyme (see Recreational Hunting and Fishing Plan, Figures 2 through 6).

In Vermont, the Nulhegan Basin Division in Bloomfield, Brunswick, Ferdinand and Lewis, and the Putney Mountain Unit in Putney would open to hunting (see Recreational Hunting and Fishing Plan, Figures 7 and 8).

All refuge lands would be open to hunting unless posted closed and hunting will conform to State seasons and be in accordance with State, Federal, and refuge-specific regulations for archery, firearms, and muzzleloader. Refuge property would be open to hunting and fishing from 1 1/2-hour before sunrise to 1 1/2-hour after sunset. Night hunting is prohibited except by special use permit at the Nulhegan Basin Division. Hunt brochures and maps for all hunting opportunities will be updated regularly and made available to hunters on the refuge website.

Hunters would access refuge lands via public roads or by foot. Areas may be closed if there are unacceptable resource impacts such as soil erosion, repeated disturbance to susceptible wildlife, or unresolvable conflicts with other compatible priority public uses. The need for site closures will be considered by the refuge manager on a case-by-case basis. The refuge manager may, upon annual review of the hunting and fishing program, take the necessary steps to impose

further restrictions, recommend that the refuge be closed to hunting or fishing, or further liberalize hunting regulations up to the limits of the State. We would restrict hunting if it became incompatible with other priority refuge programs or endangered refuge resources or public safety.

To ensure compatibility with refuge purposes and the mission of the National Wildlife Refuge System (Refuge System), hunting must be conducted in accordance with State and Federal regulations, as supplemented by refuge-specific regulations (50 CFR 32.48, and 50 CFR 32.64).

Refuge staff have worked closely with stakeholders and State agency staff to develop this plan, and ensure safe and enjoyable recreational hunting opportunities. There are no unresolved conflicts about the proposed action with respect to alternative uses of available resources, because the changes proposed by this action are not expected to have harmful impacts to the ecological, aesthetic, historic, cultural, economic, social, or health aspects of the refuge and surrounding communities. Additionally, the proposed action builds on an existing and well-established hunt program, and is consistent with the refuge's 2016 Comprehensive Conservation Plan (CCP). Therefore, the Service does not need to consider additional alternatives (43 CFR 46.310(b)).

This alternative was selected over other alternative because: (1) it helps fulfill the statement of objectives detailed in the Recreational Hunting and Fishing Plan; (2) it would result in a minimal impact on physical and biological resources; and (3) it meets the Service's mandates under the National Wildlife Refuge System Administration Act (NWRSA) of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997, and Department of the Interior Secretarial Order 3356. The Service believes that expanding hunting and fishing opportunities on the Conte Refuge will not have a significant impact to wildlife, other uses, or refuge administration. This alternative will best meet the purpose and need, refuge objectives, and Service mandates.

Department of the Interior Secretarial Order 3347 – "Conservation Stewardship and Outdoor Recreation," signed March 2, 2017, and Secretarial Order 3356 – "Hunting, Fishing, Recreational Shooting, and Wildlife Conservation Opportunities and Coordination with States, Tribes, and Territories," signed September 15, 2017, includes direction to Department of the Interior agencies to "increase outdoor recreation opportunities for all Americans, including opportunities to hunt and fish; and improve the management of game species and their habitats for this generation and beyond." The selected alternative will also promote two of the priority public uses of the Refuge System, and providing opportunities for visitors to hunt and fish will promote stewardship of our natural resources and increase public appreciation and support for the refuge.

Other Alternatives Considered and Analyzed

No Action Alternative

New hunting opportunities would not be created under this alternative, including new access sites to refuge lands for other users. We would continue the refuge's current hunting and fishing program, which allows refuge lands in New Hampshire and Vermont to be hunted or fished

under the guidance of pre-acquisition CDs and existing Hunting Plans. Hunting and fishing regulations are consistent with New Hampshire, Vermont and refuge-specific regulations. This alternative has the least short-term impacts to physical and biological resources; however, it would not fulfill the Service's mandate under the NWRSA and Secretarial Order 3356 as well as the proposed action.

Summary of Effects of Selected Action

An Environmental Assessment (EA) was prepared in compliance with the National Environmental Policy Act of 1969, as amended (NEPA) to provide a decision-making framework that: (1) explored a reasonable range of alternatives to meet project objectives; (2) evaluated potential issues and impacts to the refuge, resources and values; and (3) identified mitigation measures to lessen the degree or extent of these impacts. The EA evaluated the effects associated with expansion of hunting and fishing opportunities at the Conte Refuge, as well as the effects of a no-action alternative. It is incorporated as part of this finding.

Implementation of the agency's decision would be expected to result in the following environmental, social, and economic impacts:

| Affected Environment | Potential Impacts of the Selected Action |
|---|--|
| Big game (i.e., white-tailed deer, moose, black bear, and wild turkey) | Negligible, short-term adverse impacts to big game species. White-tailed deer, black bear, moose and wild turkey are currently hunted on refuge lands. State wildlife agencies manage populations at or below carrying capacity to maintain healthy wildlife populations and ecologically sound habitats. The Mascoma Easement and 1-acre Saddle Island Unit have been hunted prior to Service control, so no additional impacts would be expected. |
| Small game (coyote, red and gray fox, raccoon, skunk, muskrat, opossum, weasel, woodchuck, fisher, porcupine, bobcat, mink, Eastern cottontail, snowshoe hare, gray squirrel) | Negligible to minor, short-term adverse impacts. Coyote, red and gray fox, raccoon, bobcat, Eastern cottontail, snowshoe hare and gray squirrel hunting are currently permitted on the refuge. These species are monitored by the State wildlife agencies and hunting regulations are set based on the population status of these species. Impact on these species is minimal based on State population monitoring and hunter survey data. Hunting mortality for many of these is compensatory and generally not considered to be a factor affecting population size (Edwards et al. 2003). The number of hunters pursuing skunk, muskrat, opossum, weasel, woodchuck (sometimes referred to as groundhog), fisher, porcupine and mink is predicted |

| Affected Environment | Potential Impacts of the Selected Action |
|---|--|
| | <p>to be low and is not expected to have measurable impacts on populations. These species are mainly considered nuisance species in populated areas causing human-wildlife conflicts. Refuge lands are in a remote area. Hunting of these species is more likely to occur off of refuge lands surrounding more populated areas.</p> <p>Some disturbance to small game species would occur during the hunting season, although the disturbance is considered negligible as the number of anticipated hunters is thought to be very small. Potential impacts to target species include direct mortality or injury and indirect changes in behavior.</p> |
| Game birds (Wilson's snipe, coot, crow, pheasant, ruffed grouse, duck, light geese, dark geese, and woodcock) | <p>Minor, short-term adverse impacts. All species are currently open to hunting with the exception of Wilson's snipe and pheasant. Woodcock and ruffed grouse are the most pursued game bird on refuge lands. We expect the number of hunters pursuing pheasant, Wilson's snipe and coot would be low. Pheasant are not native to the area and are typically released on private or State lands for hunting purposes. The release of pheasant on refuge lands is not allowed because it is not a native species. Hunting of pheasant would only occur if a bird found its way to refuge lands from adjoining properties. At this time, birds are not released on lands adjacent to refuge lands. Wilson's snipe is often an incidental species taken while hunting woodcock. It is not a highly pursued game species. Impacts to these species would be minimal.</p> |
| Other wildlife and aquatic species (non-target species) | <p>Minor, short-term adverse impacts (disturbance) of non-target wildlife species may occur. Hunting can have impacts on both target and non-target species. The number of overall hunters is relatively low with peak numbers during the first week of deer rifle season. This season occurs in November when the breeding season of most wildlife species has ended and migratory species have moved further south. We feel that the disturbance to other wildlife is minimal due to the short time period of disturbance. The overall number of hunters during all hunting seasons is</p> |

| Affected Environment | Potential Impacts of the Selected Action |
|-----------------------------------|---|
| | low and dispersed across large acreage, leaving many parts of the refuge undisturbed. The refuge works closely with each State wildlife agency to minimize impacts to game species that look similar to other protected species such as spruce grouse and Canada lynx. |
| Threatened and Endangered Species | For more detail, see the completed Intra-Service Section 7 Evaluation (Appendix D). We determine that the proposed hunting and fishing activities may affect, but are not likely to adversely affect, four species (Northern long-eared bat, Canada lynx, Northeastern bulrush, and Jessup's milk-vetch). An additional species (dwarf wedgemussel) is not found on the refuge, and would have no effect. |
| Vegetation | Negligible to minor, short-term impacts to vegetation. Hunting could negatively affect vegetation by trampling or creating footpaths. Most hunting activities occur during fall, and some hunt seasons extend into winter when plants are dormant and the ground is frozen and/or covered in snow. Hunters would have negligible to minor impacts on plants during this period. |
| Water Resources | <p>Minor, short-term impacts to vegetation. Pollutants from motorboats, human waste, and litter have the potential to negatively impact water quality. Surface water quality testing has not been carried out on refuge units or divisions in either State. We would initiate public outreach and education on littering, pollutants, and proper waste disposal if the use increases substantially above current use levels to help mitigate water quality impacts.</p> <p>Bank and trail erosion from human activity (e.g., canoe/kayak landings, foot traffic) may increase aquatic sediment loads of streams and rivers and alter riparian or streamside habitat and vegetation in ways harmful to fish or other wildlife. Currently, there is no evidence that anglers or other visitors are adversely affecting shorelines. We do not expect trail erosion to increase because of foot traffic related to fishing. The only refuge waters suitable to boating are the ponds at</p> |

| Affected Environment | Potential Impacts of the Selected Action |
|----------------------------------|---|
| | <p>the Nulhegan Basin, Mascoma and Pondicherry Divisions. Boating impacts to the banks appear to be minimal because the banks are vegetated and stable.</p> <p>Paths used by anglers can affect hydrology of an area by altering drainage patterns. Some anglers may walk off-trail to access a fishing area, thereby creating new trails and affecting drainage. However, we expect such impacts to be minimal since anglers are not repeatedly using the same paths, and levels of use are unlikely to create adverse effects. Refuge staff have observed only negligible problems associated with erosion, incision, compaction or stream alteration, and we do not expect any increase in these negligible impacts.</p> |
| Wetlands | Negligible, short-term adverse impacts. Hunters and anglers are permitted to walk on lands throughout designated areas without restriction. Migratory bird hunters are permitted to place blinds on the refuge but must remove them daily, minimizing impacts to vegetation. As bird hunting occurs in the fall and early winter, impacts to vegetation are negligible and short-term. |
| Visitor Use and Experience | Minor, short-term adverse impacts to other public uses. Refuge-specific hunting regulations help minimize potential conflict between user groups on the refuge. There have been very few conflicts among user groups that have involved hunting or fishing. Public health and safety are addressed through clearly delineated safety zones and increased outreach to all users. With few additional species open for hunting, we expect the number of hunters pursuing these species will be low. We do not expect to see an increase in the number of conflicts among user groups. |
| Cultural Resources | No adverse impacts. We do not anticipate that the minor changes to the hunting program would result in an increase in the number of hunters or anglers using refuge lands nor result in any impacts to any cultural resources that may be present on refuge lands. |
| Refuge Management and Operations | Negligible, short-term and long-term impacts to refuge management and operations. Since the proposed |

| Affected Environment | Potential Impacts of the Selected Action |
|--|--|
| | changes to the hunting and fishing program are minor adjustments, we do not anticipate an increased number of hunters and anglers using the refuge. These changes would not result in any significant increases in the annual costs to administer the program. |
| Socioeconomics and Environmental Justice | Negligible, short-term and long-term benefits. While hunting visitation may increase due to increased opportunities, hunting accounts for a fraction of expenditures related to the refuge. The Service identified no minority or low-income communities within the impact area. Minority or low-income communities would not be disproportionately affected by any impacts from this proposed action. |

While refuges, by their nature, are unique areas protected for conservation of fish, wildlife and habitat, the selected action will not have a significant impact on refuge resources and uses for several reasons:

1. In the context of local and State hunting and fishing programs, the selected action will only result in a tiny fraction of the estimated populations and harvest. The Service works closely with the States to ensure that additional species harvested on a refuge are within the limits set by each state to ensure healthy populations of the species for present and future generations of Americans.
2. The Refuge System uses an adaptive management approach to all wildlife management on refuges, monitoring and re-evaluating hunting opportunities on the refuge on an annual basis to ensure that the program continues to contribute to the biodiversity and ecosystem health of the refuge, and that the impacts from these opportunities do not add up to significant impacts in combination with the environmental trends and planned actions on and near the refuge
3. The adverse effects of the selected action on air, water, soil, habitat, wildlife, aesthetic/visual resources, and wilderness values are expected to be non-existent, minor and/or short-term. The benefits to long-term ecosystem health from the selected action, in conjunction with other existing refuge programs, will far outweigh any of the short-term adverse impacts discussed in the EA and document. The action will result in beneficial impacts to the human environment, including the biodiversity and ecological integrity of the refuge, as well as the wildlife-dependent recreational opportunities and socioeconomics of the local economy, with only negligible adverse impacts to the human environment as discussed above.
4. The refuge-specific regulations detailed in 50 CFR are measures that will reduce or avoid

impacts. Hunting and fishing regulations will be enforced by Federal and State law enforcement officers. Providing information through various forums will ensure the public is aware of applicable laws and policies.

5. The selected action, along with the proposed mitigation measures, will ensure that there is low danger to the health and safety of refuge staff, visitors, and hunters and anglers themselves.
6. The action is not in an ecologically sensitive area.
7. The action is not likely to adversely affect any threatened or endangered species; and will have no effect to federally designated critical habitat.
8. The action will not impact any cultural or historical resources.
9. The action will not impact any wilderness areas.
10. There is no scientific controversy over the impacts of this action, and the impacts of the proposed action are relatively certain.
11. The proposal is not expected to have any significant adverse effects on wetlands and floodplains, pursuant to Executive Orders 11990 and 11988 because hunters and anglers must use established access points that will not be located near sensitive habitats.

Additionally, the following stipulations are necessary to ensure compatibility:

- Excluding the Nulhegan Basin Divisions, refuge lands are closed to night hunting. Hunters are allowed on refuge lands from a ½-hour before sunrise and a ½-hour after sunset.
- We prohibit shooting from, over, or within 25 feet of the traveled portion of any road that is accessible to motor vehicles, with the exception of a permanently disabled hunter with the proper state and refuge issued special use permit.
- Tree stands, blinds, or other hunting equipment must be removed from the refuge within 72 hours after the regulated hunting season has ended.
- We allow the use of dogs consistent with State regulations, except hunters using more than two dogs must possess a Special Use Permit (FWS Form 3-1383-G) issued by the refuge manager.
- At the Putney Mountain Unit, we allow the use of dogs only for hunting ruffed grouse.
- We will allow training of dogs as governed by state regulations from August 1 through the last Saturday in September during daylight hours, if the trainer possesses a Special Use Permit (FWS Form 3-1383-G) issued by the refuge manager.

- Take of amphibians, reptiles and baitfish is prohibited.

These measures to mitigate and/or minimize adverse impacts have been incorporated into the proposal. The proposal is compatible with the purpose of the refuge and the mission of the Refuge System (see the Compatibility Determinations, Appendix A and Appendix B, in the Recreational Hunting and Fishing Plan). Furthermore, the action is consistent with applicable laws and policies regarding the establishment of hunting on national wildlife refuges.

Public Review

The plan has been thoroughly coordinated with all interested and/or affected parties. Refuge staff coordinated with State agency staff in preparation of the Recreational Hunting and Fishing Plan, Compatibility Determinations, and EA, and incorporated their comments into the draft documents.

On April 12, 2021, we distributed a press release to news organizations and alerted the public about the availability of the draft documents. The plan was sent directly to local town representatives and partners. No public meetings were held due to restrictions on public gatherings due to COVID-19. The refuge manager did answer questions about the hunt plan by phone throughout the comment period. The public comment period ended on July 6, 2021, a total of 86 days.

A total of 711 individuals and organizations offered input to the refuge. Of these submissions, 473 came from Vermont residents, 45 from New Hampshire, 7 from other states, and 186 unknown. Of the substantive responses received, there were three main categories of comments: (1) alignment with state regulations (66 people); (2) opposition of the use of lead ammunition (81 people); and (3) opposition to the use of hounds (644 people). In addition to the comments, a Change.org petition with 4,352 signatures (1,730 VT residents) was submitted. Those that signed the digital petition were opposed to the use of hounds and lead ammunition on the refuge. Of the total comment letters received, the following agencies, groups and organizations were represented:

- Protect Our Wildlife
- Vermont Traditions Coalition
- Congressional Sportsmen Foundation
- Friends of Nulhegan Basin
- Friends of Pondicherry
- Green Mountain Conservancy
- Putney Mountain Association
- Town of Putney
- The Humane Society of the United States
- Abutting Landowners

We address and respond to substantive comments, which are those that suggest our analysis is flawed in a specific way (e.g., challenge the accuracy of information presented; challenge the

adequacy, methodology, or assumptions of the environmental or social analysis and supporting rationale; present new information relevant to the analysis; present reasonable alternatives, including mitigation, other than those presented in the document).

Our discussion does not require responses to any comments we determined to be non-substantive, such as comments that support or object to our statements without providing reasoning that meet the criteria for a substantive comment; comments that do not pertain to the project area or proposal; or typographical corrections.

It is important to understand that commenting on a proposed action is not a “vote” on whether the proposed action should take place (CEQ Citizens Guide to the NEPA, 2009). Substantive comments allow refuge management to consider additional information into their analysis and address any substantive concerns. We grouped similar comments together and organized them by subject in the discussion below:

Comment: General support

Some commenters were supportive of the plan, including the use of hounds for hunting. Commenters also expressed discontent with refuge regulations, including not allowing night hunting and fishing, prohibition on the use of recorded and electronic calls, not allowing the use of bait for hunting and not allowing hunters to shoot across refuge roads.

Response: We appreciate the support. We allow hunting on refuge lands only if such activity has been determined compatible with the established purpose(s) of the refuge and the mission of the Refuge System, as required by the Improvement Act. When practicable, hunting of resident and migratory wildlife species on refuges generally occurs consistent with state regulations, including seasons and bag limits. Refuge-specific hunting regulations can be more restrictive (but not more liberal) than state regulations and often are more restrictive in order to help meet specific refuge objectives. These objectives include conservation and management of resident and migratory wildlife populations and habitats, minimizing disturbance impacts to wildlife, maintaining high-quality opportunities for wildlife-dependent recreation, eliminating or minimizing conflicts with other public uses and/or refuge management activities, and protecting public safety.

The Service owns and maintains public access roads across many of the divisions/units of the Conte Refuge in New Hampshire and Vermont. The roads are maintained to allow the refuge to implement prescriptive habitat management actions, conduct biological research and to provide compatible priority public uses (as identified in the Conte Refuge’s Comprehensive Conservation Plan). The roads allow the public to enjoy compatible wildlife dependent public uses, such as wildlife viewing, photography, environmental education, interpretation, fishing and hunting. The roads that are open to motor vehicles are shared by all visitors to the refuge and no single user group has the priority use of the roads. In an effort to reduce the risk of conflict between the priority public uses of the refuge, shooting from, over, or within 25 feet of the traveled portion of any gravel road is prohibited. We allow disabled hunters to hunt from a vehicle that is at least 10 feet from the traveled portion of the refuge road if the hunter possesses a state-issued disabled hunting license and a Special Use Permit (FWS Form 3-1383-G) issued by the refuge

manager.

Recognizing that some hunters prefer to hunt along open corridors (e.g. grouse hunting with a dog), hunters are permitted to hunt from gravel roads that are closed to motor vehicles operated by the public (i.e., gated roads). The Conte Refuge supports the use of these access corridors by hunters, and is taking meaningful steps to expand these opportunities across the watershed.

Comment: General opposition to hunting on a national wildlife refuge

Response: The National Wildlife Refuge System Improvement Act stipulates that hunting (along with fishing, wildlife observation and photography, and environmental education and interpretation), if found to be compatible, is a legitimate and priority general public use of a refuge, and should be facilitated. We allow hunting on refuge lands only if such activity has been determined compatible with the established purpose(s) of the refuge and the mission of the Refuge System. Hunting of resident and migratory wildlife species on refuges generally occurs consistent with State regulations, including seasons and bag limits. Secretarial Order 3356 also directs “greater collaboration with state, tribes, and territorial partners” which encourages better alignment of refuge-specific regulations with State regulations.

Congress, through the Improvement Act, envisioned that hunting, fishing, wildlife observation and photography, and environmental education and interpretation would all be treated as priority public uses of the Refuge System. Therefore, the Service facilitates all of these uses on refuges, as long as they are found compatible with the purposes of the refuge, and the mission of the Refuge System. For this plan, we specifically analyzed the possible changes to the hunting programs. Expanded hunting opportunities may upset a certain segment of the public that does not desire change in current public use programs and regulations, may not want to see harvested animals or hunters with firearms, believe it is concerning and inappropriate that a “refuge” is a place where wildlife can be hunted with dogs, or may hold differing views on hunting in general. A compatibility determination (CD) evaluates whether a proposed use is consistent with the purposes for which a national wildlife refuge is established, and is not used to determine compatibility between uses. With regards to concerns over potential visitor use conflicts, the refuge will implement time and space zoning to mitigate conflicts between consumptive and non-consumptive users and to ensure the safety of all users if it becomes necessary.

The word “refuge” includes the idea of providing a haven of safety for wildlife, and as such, hunting might seem an inconsistent use of the Refuge System. On refuges designated as an inviolate sanctuary for migratory birds, hunting can be allowed, provided that hunting of migratory gamebirds cannot exceed 40 percent of the land base at any one time unless shown to be beneficial to the populations. Other species can be hunted throughout the area as determined compatible.

Furthermore, we manage refuges to support healthy wildlife populations that in many cases produce harvestable surpluses that are a renewable resource. As practiced on refuges,

hunting and fishing do not pose a threat to wildlife populations. It is important to note that taking certain individual animals through hunting does not necessarily reduce a population overall, as hunting can simply replace other types of mortality, including disease, starvation, and road collisions. In some cases, however, we use hunting as a management tool with the explicit goal of reducing a population. Therefore, facilitating hunting opportunities is an important aspect of the Service's roles and responsibilities as outlined in the legislation establishing the Refuge System, and the Service will continue to facilitate these opportunities where compatible with the purpose of the specific refuge.

Comment: Oppose use of bait for fishing

A few commenters expressed concerns over the use of bait for fishing in remote ponds on refuge lands. They were concerned with the introduction of non-native species and impacts these species will have on aquatic ecosystems.

Response: We understand and appreciate your concerns. However, we do not have jurisdiction over bodies of water including rivers, streams, lakes and ponds on refuge lands. We defer to each respective state agency to manage and regulate these ecosystems. We collaborate in partnership with the state to educate the public about the use of bait for fishing and the importance of maintaining our native fisheries.

Comment: Opposition to opening the refuge to hunting with dogs

Many commenters expressed concerns about the adverse impacts hunting dogs; in particular, “hounds” would have on wildlife on refuge lands. Concerns included harassment by dogs to ground nesting birds, Canada lynx, and on target species including black bear, bobcat and coyote. Commenters felt that hunting with dogs was unethical and inhumane. They also expressed concerns with dog training and the length of time dogs are allowed to run with wildlife on refuge lands.

Response: The Silvio O. Conte Refuge was established “to conserve, protect, and enhance the natural diversity and abundance of plant, fish, and wildlife species, and the ecosystem upon which these species depend within the Refuge.” Furthermore, the refuge was also established “to provide opportunities for scientific research, environmental education, and fish and wildlife-oriented recreation and access to the extent compatible with the other purposes” We are responsible for balancing conservation of our trust resources, which includes migratory birds and fish, federally listed species and wetlands, and providing outdoor recreational opportunities, including hunting and fishing.

While there are no specific studies indicating that hunting dogs have negative impacts on ground nesting birds, there is enough scientific evidence that show dogs on and off leash have immediate and long-term negative impacts on wildlife including disturbance response by fleeing or flushing (George et al. 2006, Miller et al. 2001, Sime, C.A. 1999, Miller et al. 2020), avoidance of areas of high recreational use (George et al. 2006, Lenth et al. 2008, Parsons et al. 2016, Reilly 2015, Miller et al. 2020), shift in daily activities (George et al. 2006, Lenth et al. 2008, Randler C. 2006, Sime, C.A. 1999, Reilly 2015, Miller et al. 2020), and mortality (Young et al. 2011, Sime, C.A. 1999, Miller et al. 2020). Dogs are related to wolves, and wildlife perceive dogs as predators. The presence of dogs in habitats

disrupts wildlife, no matter if they are dogs trained to track scent or an untrained domestic dog off-leash.

Migratory landbirds nest on the refuge from early June to early August. Many of these species are considered interior forest nesting species, which require large tracts of intact habitat for breeding. These species nest in the tree canopy, shrub layer and on the ground. Eggs require incubation to hatch and hatchlings require warmth and food provided by the parent bird. Disturbance to these species during this vulnerable period may decrease nest and brooding success (Gutzwiller et al. 1998, Thompson, B. 2015). Nesting success is important to maintain the population of these species, many of which are declining across their range. Canada warbler, rusty blackbird, wood thrush and veery for example, have been listed as species in greatest need of conservation in the Birds of Conservation Concern 2021 by the Service's Migratory Bird Program. These species breed within forested habitats of the Conte Divisions in New Hampshire and Vermont. Veeries and Canada warblers nest on or near the ground and their eggs and altricial hatchlings are vulnerable to disturbance, predation and trampling. These, and many other species are also vulnerable to climate change, and the Division habitats provide refugia for these species.

We have come to the determination that hunting with dogs can be compatible with our wildlife conservation purposes, but dog training during the breeding bird season is not compatible. Migratory landbirds are a trust resource, and based on our professional opinion, dog training during the breeding season has negative consequences for these species. To protect the most vulnerable species and those that are most affected from disturbance by dogs, we will prohibit dog training from occurring before August 1 of each year. This proposed change will provide a greater level of protection to those species we are responsible for, while also providing recreational opportunities to train dogs on the refuge. In addition, we will require a Special Use Permit (FWS Form 3-1383-G) issued by the refuge manager for dog training and hunting with more than two dogs to gauge interest and track the use of these activities on refuge lands.

Comment: Opposition to opening the Putney Mountain Unit to hunting with hounds

Many commenters expressed concerns about the impacts hounds would have to other user groups, including people observing wildlife, hiking, walking, and birding within the Putney Mountain Unit. Commenters also expressed concerns about hounds trespassing onto adjacent private property. Concerns included harassment by hounds to other users and their pets and harassment by hounds to livestock, pets, and children on adjacent private properties.

Response: Upon further evaluation, we have determined that hunting with hounds is not compatible at Putney Mountain Unit due to the size of the tract. Putney Mountain Unit is 285 acres. Keeping hounds within the Unit boundaries is not practical and trespassing onto private lands will likely occur, causing conflict between hunters and neighboring property owners. To avoid these conflicts, we will allow the use of dogs only for hunting of ruffed grouse.

Comment: Opposition to the use of lead ammunition and tackle

Many commenters expressed concern on allowing the use of lead ammunition on the refuge.

Concerns included toxicity to non-target wildlife species that may ingest lead through consumption of dead animals shot with lead ammunition.

Response: The Service is aware of the concerns regarding lead in the environment. We acknowledge the potential adverse effects of spent lead ammunition (bullets/shot) on the environment, endangered and threatened species, and all fish and wildlife susceptible to acute poisoning.

Sportsmen and sportswomen have been at the forefront of natural resource conservation across the country for more than a century, and throughout that period of time, hunters have successfully overcome numerous conservation challenges. The ability of the sporting community to voluntarily prevent wildlife lead poisoning from ammunition continues that tradition. We strongly encourage hunters to voluntarily use non-toxic ammunition and tackle. Lead alternatives are becoming more widely available and used by hunters and anglers, and many hunters use archery equipment for hunting. At Silvio O. Conte NFWR, we will work to educate hunters and anglers on the impacts of lead on the environment, including health and safety concerns of consuming animals harvested with lead.

Although there is not a Service-wide ban on lead ammunition for non-migratory bird hunting activities, the Service has taken specific steps to limit the use of lead in hunting and fishing activities on refuges and hatcheries. Ultimately, the Service believes it is important to collaborate in partnership with State wildlife agencies to reach decisions on lead use. On divisions and units in Silvio O. Conte NFWR, the Service will allow lead ammunition and tackle in a manner consistent with the respective state agencies. Within our plan, the amount of lead introduced to the environment because of sport fishing is negligible given regulations currently in place by the states. New Hampshire prohibits the sale and use of lead fishing sinkers and lead jigs weighing less than 1 ounce in all inland freshwater. Vermont prohibits the sale of any lead fishing sinkers and lead jigs weighing less than 1 ounce. We do not anticipate a large number of new hunters or anglers as a result of the new and expanded opportunities, and therefore, the addition of lead into the environment is expected to be minor and dispersed. We support the expansion of proactive conservation efforts to conserve wildlife. The Service will continue to work in partnership with states to encourage use of non-toxic alternatives, and in some places to prohibit the use of lead, where necessary to ensure compatibility.

Comment: Opposition to hunting of black bear and furbearer species (bobcat, coyote, fox)

Response: The Service strives to provide a variety of hunting opportunities for the public, which is supported by the Refuge System's priority public uses policy. Hunting is one tool used to manage and maintain wildlife populations at a level compatible with the environment while providing wildlife-dependent recreational opportunities and permitting the use of a valuable renewable resource.

Legal, regulated hunting has been, and continues to be, the foundation of the North American Model of Wildlife Conservation. In the United States, wildlife is a public resource, independent of the land or water where the species exist. Government agencies

have the responsibility of managing wildlife on behalf of all Americans, and to ensure the long-term sustainability of wildlife populations. Hunting is an important tool to maintain landscape scale populations at a suitable carrying capacity to prevent disease, starvation, road mortality, and human conflicts with wildlife. The refuge works closely with state wildlife agencies to manage hunting opportunities based on the data they collect throughout the year for various game species. We are required by the Improvement Act to be consistent with state regulations when practicable and compatible. We defer to them on hunting regulations that manage for sustainable populations of resident game species.

The Service manages refuges to support healthy wildlife populations that in many cases produce harvestable surpluses that are a renewable resource. As practiced on refuges, hunting does not pose a threat to wildlife populations. It is important to note that taking certain individual animals through hunting does not necessarily reduce a population overall, as hunting can simply replace other types of mortality, including disease, starvation, and road collisions. In some cases, however, we use hunting as a management tool with the explicit goal of reducing a population. Therefore, facilitating hunting opportunities is an important aspect of the Service's roles and responsibilities as outlined in the legislation establishing the Refuge System, and the Service will continue to facilitate these opportunities where compatible with the purpose of the specific refuge.

Comment: Opposition to “wanton waste” or casual killing of wildlife for reasons other than food and fur, self-defense and property protection

Response: We allow hunting of resident wildlife to maintain populations on refuges only if such activity has been determined compatible with the established purpose(s) of the refuge and the mission of the Refuge System. Furthermore, we are required to be consistent with state regulations when practicable and compatible. Hunting is a priority wildlife-dependent recreational use for the Refuge System through which the public can develop an appreciation for fish and wildlife.

We support the sustainable harvest of species as a valuable resource to be used for a purpose such as consumption of the meat or use of the fur. We uphold the values the North American Model of Wildlife Conservation, which prohibits against the casual killing of wildlife for reasons other than food and fur, self-defense, and property protection. We hope that actions taken by the citizens of Vermont and New Hampshire will lead to changes in behavior of those that are disrespectful to wildlife and are intentionally wasteful of this resource. We will work to educate the public through interpretive exhibits about the North American Model of Wildlife Conservation and the importance of using wildlife in a purposeful manner when hunting and fishing.

Summary of Plan Changes

After reviewing all of the comments, we will move forward with changes proposed in the plan including opening for new species and new hunting areas with the following conditions:

- At the Putney Mountain Unit, we will allow the use of dogs only for hunting of ruffed grouse.

- At all other Conte Refuge Divisions and Units, we will allow the use of dogs for hunting consistent with state regulations, except hunters using more than two dogs must possess a Special Use Permit (FWS Form 3-1383-G) issued by the refuge manager.
- We will allow training of dogs as governed by state regulations from August 1 through the last Saturday in September during daylight hours, if the trainer possesses a Special Use Permit (FWS Form 3-1383-G) issued by the refuge manager.

Determination

Based upon a review and evaluation of the information contained in the EA, as well as other documents and actions of record affiliated with this proposal, the Service has determined that the proposal to expand hunting and fishing opportunities at Silvio O. Conte NFWR does not constitute a major Federal action significantly affecting the quality of the human environment under the meaning of section 102(2)(c) of NEPA. As such, an environmental impact statement is not required. An EA has been prepared in support of this finding (Appendix C) and is available upon request to the refuge.

The Service has decided to select the proposed action as described in the EA, and implement the Recreational Hunting and Fishing Plan for Silvio O. Conte NFWR upon publication of the final 2021-2022 Station-Specific Hunting and Sport Fishing Regulations. This action is compatible with the purpose of the refuge and the mission of the Refuge System, and consistent with applicable laws and policies. See attached Compatibility Determinations (Appendix A and Appendix B).

Regional Chief
National Wildlife Refuge System

Date

References

- Council on Environmental Quality, 2007. A Citizen's Guide to the NEPA: Having Your Voice Heard. pp.3-7.
- George SL, Crooks KR. 2006. Recreation and large mammal activity in an urban nature reserve. *Biological Conservation* 133:107-117.
- Gutzwiller, K. J., Marcum, H. A., Harvey, H. B., Roth, J. D., Anderson, S. H. (1998). Bird Tolerance to Human Intrusion in Wyoming Montane Forests. *The Condor*, Vol. 100, No. 3 (August 1998), pp 519-527.
- Lenth, B. E., Knight, R. L., Brennan, M. E. (2008). The Effects of Dogs on Wildlife Communities. *Natural Areas Journal*, Vol. 28 (3).
- Miller, A.B.; King, D.; Rowland, M.; Chapman, J.; Tomosy, M.; Liang, C.; Abelson, E.S.; Truex, R. 2020. Sustaining wildlife with recreation on public lands: a synthesis of research findings, management practices, and research needs. Gen. Tech. Rep. PNW-GTR-993. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 226 p.
- Miller, S.G., Knight, R. L., Miller, Clinton, K. (2001). Wildlife Responses to Pedestrians and Dogs. *Wildlife Society Bulletin*, Vol. 29, No. 1 (Spring, 2001), pp. 124-132.
- Parsons, A.W.; Bland, C.; Forrester, T.; Baker-Whatton, M.C.; Schuttler, S.G.; McShea, W.J.; Costello, R.; Kays, R. 2016. The ecological impact of humans and dogs on wildlife in protected areas in eastern North America. *Biological Conservation*. 203: 75-88.
- Randler, Christoph. 2006. Disturbances by dog barking increase vigilance in coots. *European Journal of Wildlife Research*. 52: 265-270.
- Reilly, M. 2015. Effects of non-motorized recreation on mid-size and large mammals in the San Francisco Bay area. Flagstaff, AZ: Northern Arizona University: 158 p. Ph.D dissertation.
- Sime CA (1999) Domestic dogs in wildlife habitats. In: Joslin G, Youmans H (eds) Effects of recreation on Rocky Mountain wildlife: a review for Montana. Montana Chapter of the Wildlife Society, 307 pp.
- Thompson, B. 2015. Recreational trails reduce the density of ground-dwelling birds in protected areas. *Environmental Management*. 55(5): 1181-1190.
- Young JK, Olson KA, Reading RP, Amgalanbaatar S, Berger J. 2011. Is Wildlife Going to the Dogs? Impacts of Feral and Free-Roaming Dogs on Wildlife Populations. *BioScience* 61:125-132.

U.S. Government Information. Public Law 105-57. October 9, 1997. National Wildlife Refuge System Improvement Act of 1997.

U.S. Fish and Wildlife Service. 2021. Birds of Conservation Concern 2021 Migratory Bird Program. <https://www.fws.gov/migratorybirds/pdf/management/birds-of-conservation-concern-2021.pdf>