



**U.S. Fish & Wildlife Service**

# **Monomoy National Wildlife Refuge**

## *Hunting Plan*

*September 2019*



Photo Credit: George Gentry (USFWS)

*Appendix A. Compatibility Determination  
Appendix B. Environmental Assessment  
and Finding of No Significant Impact  
Appendix C. Intra-Service Section 7 Evaluation*



**Monomoy National Wildlife Refuge  
Hunting Plan**

**U.S. Fish and Wildlife Service**

**Monomoy National Wildlife Refuge  
30 Wikis Way  
Chatham, MA 02633**

**Submitted By:**  
Project Leader

  
\_\_\_\_\_  
Signature

9/30/19  
Date

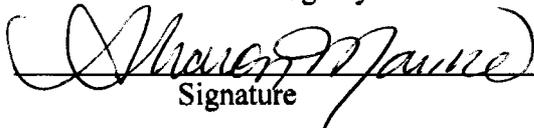
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9/30/19  
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**Approved:**  
Regional Chief,  
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**ACTING**

  
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## Table of Contents

I. INTRODUCTION .....	1
II. STATEMENT OF OBJECTIVES .....	2
III. DESCRIPTION OF HUNTING PROGRAM .....	3
A. Areas to be Opened to Hunting.....	3
B. Species to be Taken, Hunting Periods, Hunting Access .....	3
C. Hunter Permit Requirements (if applicable) .....	3
D. Consultation and Coordination with the State .....	4
E. Law Enforcement .....	4
F. Funding and Staffing Requirements.....	5
IV. CONDUCT OF THE HUNTING PROGRAM.....	5
A. Hunter Permit Application, Selection, and/or Registration Procedures.....	5
B. Refuge-Specific Hunting Regulations.....	6
C. Relevant State Regulations.....	6
D. Other Refuge Rules and Regulations for Hunting .....	6
E. Access.....	7
V. PUBLIC ENGAGEMENT.....	7
A. Outreach for Announcing and Publicizing the Hunting Program .....	7
B. Anticipated Public Reaction to the Hunting Program.....	7
C. How Hunters Will Be Informed of Relevant Rules and Regulations .....	8
VI. COMPATIBILITY DETERMINATION .....	8

## Appendices

Appendix A. Compatibility Determination.....	A-1
Appendix B. Environmental Assessment and Finding of No Significant Impact.....	B-1
Appendix C. Intra-Service Section 7 Evaluation .....	C-1

## List of Figures

Figure 1.1. Aerial map of Monomoy NWR showing the Refuge Boundaries, Headquarters and Visitor Contact Station, and proposed waterfowl hunting area .....	9
Figure 2.2. Aerial map of Monomoy NWR, showing the Refuge boundaries, including the Monomoy Wilderness Boundary.....	10
Figure 3.3. Map of Eastern Massachusetts NWR Complex, including Monomoy NWR.....	11

## **MONOMOY NATIONAL WILDLIFE REFUGE HUNTING PLAN**

### **I. INTRODUCTION**

Monomoy National Wildlife Refuge (NWR, refuge) was established June 1, 1944 pursuant to a Declaration of Taking "... for use as an inviolate sanctuary, or for other management purpose, for migratory birds" under authority of the Migratory Bird Conservation Act (16 U.S.C. § 715d).

Throughout the initial designation process for the refuge, the Monomoy area was recognized as an "outstanding waterfowl area" and as "one of the finest shorebird beaches in North America" (Salyer 1938) and for the eelgrass (*Zostera* spp.) beds in shoal waters northwest of Inward Point on the Common Flats (Griffith 1938) that were described as "dense" beds in 1929 (Hotchkiss and Ekvall 1929). The biological values of this area helped define the refuge boundary.

The Declaration of Taking, which was implemented through a condemnation action, includes a detailed written description of an extensive western area containing upland, intertidal flats, and submerged lands and waters, as well as a map generally outlining those exterior limits and describing them as the "Limits of Area to be Taken." The eastern boundary is the mean low water line and is ambulatory, meaning it moves as the mean low water line moves with accretion and erosion of the shoreline. This taking was approved by the District Court of the United States in February 1944 and took immediate effect on June 1, 1944, when it was filed in Federal court.

In 1970, Congress designated approximately 2,600 acres of land as wilderness to become part of the National Wilderness Preservation System, thereby preserving the wilderness character of the Monomoy Islands. The Monomoy wilderness extends to the mean low water mark, and the size of the wilderness area has changed over time as the Monomoy landform and surrounding intertidal lands have shifted.

With the designation of national wilderness at Monomoy, the original establishing purpose of the refuge — management and protection of migratory birds — was expanded to include management and protection of wilderness character and values.

Thus, in order to meet specific refuge and other broader U.S. Fish and Wildlife Service (Service) directives, the following purposes are established for Monomoy NWR:

- For lands acquired under the Migratory Bird Conservation Act of 1929 (16 U.S.C. §715-715r), as amended, "...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds..." (16 U.S.C. §715d)
- "...to secure for the American people of present and future generations the benefits of an enduring resource of wilderness." (78 Stat. 890:16 U.S.C. 1121 (note), 1131-1136, Wilderness Act of 1964, as amended)

Monomoy NWR is managed as part of the National Wildlife Refuge System (Refuge System), whose mission 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 requires that refuges restore and maintain the integrity, diversity, and environmental health necessary to achieve this mission and the purposes established for each refuge. Further, the act defines six wildlife-dependent uses that are to receive enhanced consideration on refuges: hunting, fishing, wildlife observation and photography, and environmental education and interpretation.

Monomoy NWR stretches for 8 miles off the elbow of Cape Cod in the Town of Chatham, Barnstable County, Massachusetts. This 7,898 -acre refuge includes South Monomoy, North Monomoy Island, Minimoy Island, 40 acres on Morris Island where the headquarters and visitor contact station are located (Figure 1.1), and all waters within the Declaration of Taking to a fixed line west of the islands. Nearly half (47 percent) the refuge, including most of refuge land above the mean low water (MLW) mark, is designated as a wilderness area, currently the only wilderness area in southern New England (Figure 1.2).

Monomoy NWR is one of eight refuges that make up the Eastern Massachusetts NWR Complex (Refuge Complex), which is headquartered in Sudbury, Massachusetts (Figure 1.3). The barrier islands are part of a dynamic coastal zone, characterized by an ever-changing landscape. Salt and freshwater marshes, dunes, and ponds provide nesting, resting, and feeding habitat for migratory birds.

There is a long history of waterfowl hunting in the open waters off Monomoy Island. The Monomoy Branting Club of Boston was established near Shooter’s Island and Inward Point in 1862 as steam powered the industrial revolution and leisure time increased (Roscoe 1995, Phillips 1932). Atlantic brant was the principle game sought by club members in sink boxes (Deane 1885) each spring from 1863 through 1909, when spring brant hunting was abolished (Bent 1925, Phillips 1932). Fall sport hunting continued, but was generally less successful than spring hunting due to differing seasonal migration patterns (Bent 1925, Phillips 1932).

Today, waterfowl hunting occurs in the Chatham area and commercial guides advertise for waterfowl hunts around Monomoy, but none have requested a refuge permit to operate within the refuge. It is likely these commercial guides are not aware the refuge has never been opened for waterfowl or any other form of hunting. The actual numbers of commercial guides operating within the refuge, the number of waterfowl hunters that are being commercially guided, where or when they hunt, or what they harvest is unknown.

## **II. STATEMENT OF OBJECTIVES**

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

Monomoy NWR’s CCP, published March 2016, identified the goal to “Provide the public with wildlife-dependent recreational, interpretive, and environmental educational opportunities to

enhance awareness and appreciation of refuge resources and to promote stewardship of the wildlife and habitats of Monomoy NWR.” Furthermore, Objective 2.7 of the CCP stated that we would “Officially open up to 40 percent of the refuge within the Declaration of Taking to waterfowl hunting in accordance with Federal law and Massachusetts regulations.”

The objectives of a waterfowl hunt, on Monomoy NWR are to:

1. Provide the public with a high-quality recreational experience on refuge waters and increase opportunities and access for hunters;
2. Implement a hunt program that is safe for all refuge users;
3. Design a hunting program that is administratively efficient and manageable with existing staffing levels; and
4. Design a hunting program that does not detract from refuge habitat management objectives.

### **III. DESCRIPTION OF HUNTING PROGRAM**

#### **A. Areas to be Opened to Hunting**

The area of the refuge to be opened for waterfowl hunting will consist of open water habitat encompassing approximately 3,080 acres of the total 7,898 acre refuge (Figure 1.1).

The hunting program on Monomoy NWR would be in accordance with the Commonwealth of Massachusetts hunting rules and regulations for waterfowl (duck, coot and geese), Title 50 of the Code of Federal Regulations (CFR), and additional refuge-specific regulations. The refuge weighs a number of factors in opening an area to hunting or fishing, including safety considerations and limiting conflicts with ongoing research and management efforts. The refuge manager may, upon annual review of the hunting program, modify the program to ensure compatibility. Restrictions may occur if hunting becomes inconsistent with other priority refuge programs, endangers refuge resources or public safety.

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

**MIGRATORY BIRD HUNTING:** Waterfowl (duck, goose and coot) hunting in accordance with specific Massachusetts State regulations is permitted on approximately 3,080 acres of certain open water portions of the refuge as hunting access, habitats, and conditions exists. Hunters will self-navigate to their location.

#### **C. Hunter Permit Requirements (if applicable)**

No refuge-specific permit will be required for this hunt. A valid Massachusetts hunting license is required. See section IV.B for refuge-specific regulations. Commercial hunting guides would be required to obtain a special use permit from the refuge manager. All monies, minus administration costs, would be used to enhance the hunting program.

#### **D. Consultation and Coordination with the State**

National wildlife refuges, including Monomoy NWR, conduct hunting programs within the framework of state and federal regulations. All authorized hunts are at least as restrictive as the Commonwealth of Massachusetts. By maintaining hunting regulations that are as restrictive as the state, individual refuges ensure that they are maintaining seasons which are supportive of management on a local and regional basis. The refuge has moved forward with developing this hunting plan based upon earlier formal coordination with MassWildlife as well as the intervening informal discussions. The results of this coordination are reflected in this plan.

Refuge Complex (including Monomoy NWR) staff will continue to consult and coordinate with MassWildlife annually to maintain regulations and programs that are consistent with the state, as well as to monitor populations of proposed hunt species and to set harvest goals. Refuge Complex and MassWildlife staff will also work together to ensure safe and enjoyable recreational hunting opportunities. Law enforcement officers from both agencies work together to conduct patrols, safeguard hunters and visitors, and protect both game and nongame species.

Over the past few years, much of the communication and coordination with the state has been through Regional leadership staff and has focused on increasing hunting and fishing opportunities on all Service lands within the commonwealth.

The refuge reviewed the operations and regulations for neighboring State wildlife management areas to find consistency where possible. Regional refuge leadership has been coordinating on a statewide level. The refuge first reached out to the State in the winter of 2019 to discuss this Hunting Plan, and we worked with the local State biologist and conservation officers early in the process. We will continue to consult and coordinate on specific aspects of the Hunting Plan. The State is in agreement with the refuge's Hunting Plan, as it will help meet State objectives. Monomoy NWR will continue to work together with partners to ensure safe and enjoyable recreational hunting opportunities.

#### **E. Law Enforcement**

Federal and State officers work together to ensure safe and enjoyable recreational hunting opportunities. Law enforcement officers from both agencies work together to patrol, safeguarding hunters, visitors, and both game and nongame species. Enforcement of refuge violations associated with management of a national wildlife refuge is the responsibility of federally commissioned law enforcement officers. Other fish and wildlife officers, special agents, State conservation officers, and the local Sheriff's Department occasionally assist Federal Wildlife Officers stationed at Eastern Massachusetts NWR Complex.

During the hunting seasons, the refuge will be patrolled regularly by both the Federal Wildlife Officer(s) and the State Environmental Police Officer(s) assigned to this part of the state. The frequency of patrols will be determined by hunter use, the level of compliance observed during patrols, and information obtained from participants, visitors, and other sources. If required, hunters will be checked in the field for compliance with regulations. Refuge brochures and increased signage will emphasize refuge specific regulations, safety considerations, and the

protection of wildlife species found on the refuge. Regulations and maps will be posted on the Monomoy NWR website (<https://www.fws.gov/refuge/monomoy>), on signs at the refuge entrance and available at the Complex headquarters, and will be provided upon request.

## F. Funding and Staffing Requirements

Annual hunt administration costs for Monomoy NWR, including salary, equipment, law enforcement, maintenance of sites, and communication with the public will be approximately \$5,150 annually and \$22,500 for the first year due to the need for infrastructure and signage improvements. Refuge staff is funded from the Complex’s operational budget to support the hunt program. Costs associated with updating signage and maintaining access will be funded by the annual operating budget as well (visitor services and/or maintenance funds, as appropriate).

**Table 1. Initial Costs of Hunting Programs at Monomoy NWR**

Activity	Material Costs	Labor Costs	Total
Document Preparation	\$2,500	\$5,000	\$7,500
Posting/Signs	\$1,000	\$1,500	\$2,500
Administration	\$500	\$1,500	\$2,000
Outreach	\$1,500	\$3,000	\$4,500
Law Enforcement	\$1,500	\$4,500	\$6,000
<b>Totals</b>	<b>\$7,000</b>	<b>\$15,500</b>	<b>\$22,500</b>

**Table 2. Annual Costs of Hunting Programs at Monomoy NWR**

Activity	Material Costs	Labor Costs	Total
Document Preparation	\$100	\$300	\$400
Posting/Signs	\$100	\$150	\$250
Administration	\$200	\$800	\$1,000
Outreach	\$500	\$500	\$1,000
Law Enforcement	\$500	\$2,000	\$2,500
<b>Totals</b>	<b>\$1,400</b>	<b>\$3,750</b>	<b>\$5,150</b>

## IV. CONDUCT OF THE HUNTING PROGRAM

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

Refuge-specific hunting permits will not be required to hunt waterfowl on Monomoy NWR. Due to the remoteness of the waters surrounding Monomoy Island and the anticipated low hunter participation, we feel it is not necessary to require hunters to obtain individual, refuge-specific permits. Although the service will implement several specific regulations that differ from other parts of the state, they are not significant enough to warrant implementation of a permit system. There will be no limit to the number of hunters or guides allowed to participate in these hunts as participation is expected to be low.

Commercial hunting guides would be required to obtain a Special Use Permit (SUP) from the Refuge Manager and pay a fee. All monies minus administrative costs would be used to enhance the hunting program. As a condition of the SUP, guides would be required to report annually the number of hunters (parties), days hunted and number and species of game taken.

All hunters must also possess all the required State and Federal licenses, stamps and permits and be in compliance with all applicable regulations.

Refuge specific hunt regulations and hunt unit maps (brochures) will be made available to hunters at kiosks, the refuge website (<https://www.fws.gov/refuge/monomoy>) and at the Refuge Headquarters at 30 Wikis Way on Morris Island, Chatham, Massachusetts.

## **B. Refuge-Specific Hunting Regulations**

Refuge-specific regulations that pertain to hunting on Monomoy NWR are codified through a public process, and these regulations (50 CFR §32.40) may be modified on an annual basis as conditions change.

**MIGRATORY BIRD HUNTING:** Waterfowl (duck, goose and coot) hunting in accordance with specific Massachusetts State regulations is permitted on approximately 3,080 acres of the refuge as hunting access, habitats, and conditions exists. Hunters will self-navigate to their location. A special use permit and associated fee will be required for all commercial hunting guides. We allow the use of dogs for retrieving game.

## **C. Relevant State Regulations**

### *Migratory Birds (Waterfowl)*

Migratory birds are managed through a Continent-wide cooperative effort with multiple agencies and partners, although ultimately the Service establishes the annual framework regulations (season length, bag limits, and framework dates). Framework regulations for various species, or guilds (e.g., ducks), are adjusted as needed based on established harvest strategies, population assessments, habitat conditions and productivity estimates. Results of the 2017 waterfowl assessment are found in the annual report (USFWS 2017). Individual states select migratory game bird hunting seasons within the Federal framework. The refuge follows all Federal regulations for migratory birds and season dates selected by the Commonwealth of Massachusetts.

## **D. Other Refuge Rules and Regulations for Hunting**

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

- Refuge islands are closed to night-time use. Offshore waterfowl hunting is permitted in accordance with state seasons and time of day.

- Mooring – Hunters are not permitted to use any refuge-owned mooring.

## **E. Access**

Access to all refuge hunt units will be by boat. The anchoring and securing of boats is the full responsibility of the user and the Service will not be liable for lost or damaged equipment. The launching of boats and parking of vehicles will take place at local boat launches, harbors and marinas or from private residences, as the refuge does not own or operate a boat ramp.

## **V. PUBLIC ENGAGEMENT**

### **A. Outreach for Announcing and Publicizing the Hunting Program**

The Refuge maintains a mailing list, for news release purposes, to local newspapers, radio, and websites. Special announcements and articles may be released in conjunction with hunting seasons. In addition, information about hunting on the refuge will be available at Complex headquarters or on the Monomoy NWR website.

Refuge staff will work directly with partners, especially, MassWildlife, to publicize the opening of this hunt program. Public Information meetings will be hosted by refuge staff as needed in Chatham.

### **B. Anticipated Public Reaction to the Hunting Program**

During the extensive public review and comment period for the CCP, several comments were received expressing concern or opposition to the proposal to open the refuge to waterfowl hunting. Reasons cited included: concern over firearms and visitor public safety, concern that other wildlife might be disturbed by hunting (particularly shorebirds and raptors), and the feeling that hunting “does not promote sound ecological management” and does not “fall within the guidelines of protecting the wilderness resources.” One commenter was concerned that some waterfowl might be non-lethally injured by hunters and that harvested waterfowl might not always be retrieved. Another commenter requested that the proposal to allow waterfowl hunting receive further review and discussion. Similarly, the Association to Preserve Cape Cod wrote, “There appears to be no means of actively monitoring and managing the impacts of hunting on the protected resources...such monitoring should be integral to the overall management plan.” The Cape Cod Group of the Massachusetts Chapter of the Sierra Club acknowledged that hunting can occur on refuges and requested that future planning receive further review and discussion. Others, including the Massachusetts Department of Fish and Game, supported waterfowl hunting.

The draft hunting plan included opening portions of the refuge both to waterfowl and to coyote hunting. We received 48 public comments on the draft hunt plan, including comments from multiple organizations on the 2019–2020 station-specific hunting and sport fishing proposed rule. Collectively, these comments indicated strong opposition and little support for opening Monomoy NWR to coyote hunting in particular. Locally, only three individuals supported the coyote hunt proposal, with two of those supporting specifically for the purposes of predator management for bird protection – not for recreational hunting. The majority of respondents were

opposed to coyote hunting, and despite extensive outreach efforts, no sporting clubs or local outfitters supported or provided comments on the draft plan.

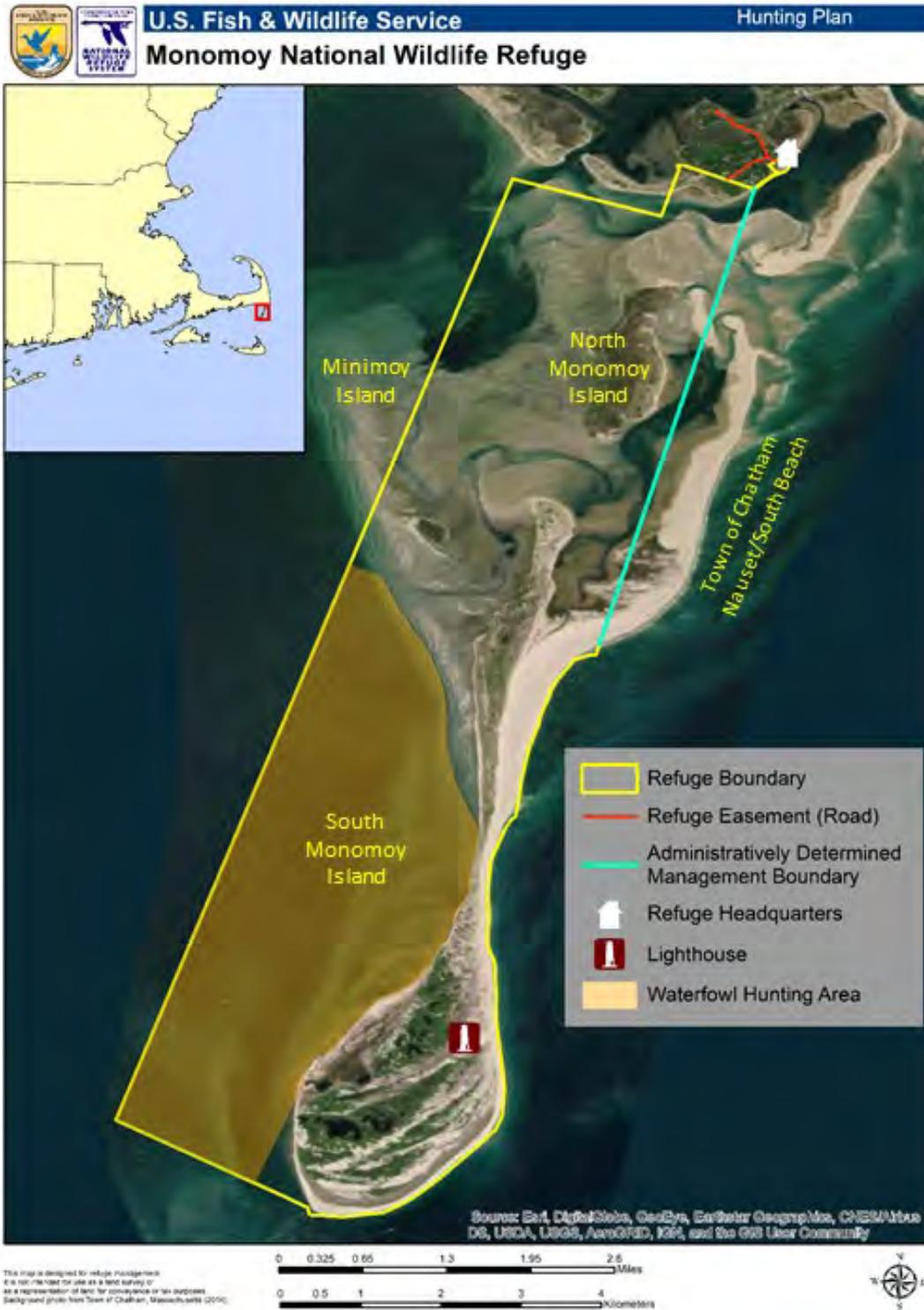
Major concerns were raised during the comment period by the U.S. Department of Commerce's National Oceanic and Atmospheric Administration (NOAA) and other local and national nonprofit conservation organizations regarding the likelihood for seal disturbance and incidental harassment. The Service did not complete the necessary coordination with NOAA to identify Marine Mammal Protection Act (16 U.S.C. 1361 et seq.) concerns prior to the release of the environmental assessment. Therefore, the Service will not allow for a coyote hunting program at Monomoy NWR. Monomoy NWR will implement the waterfowl hunting program in 2019–2020, as proposed.

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

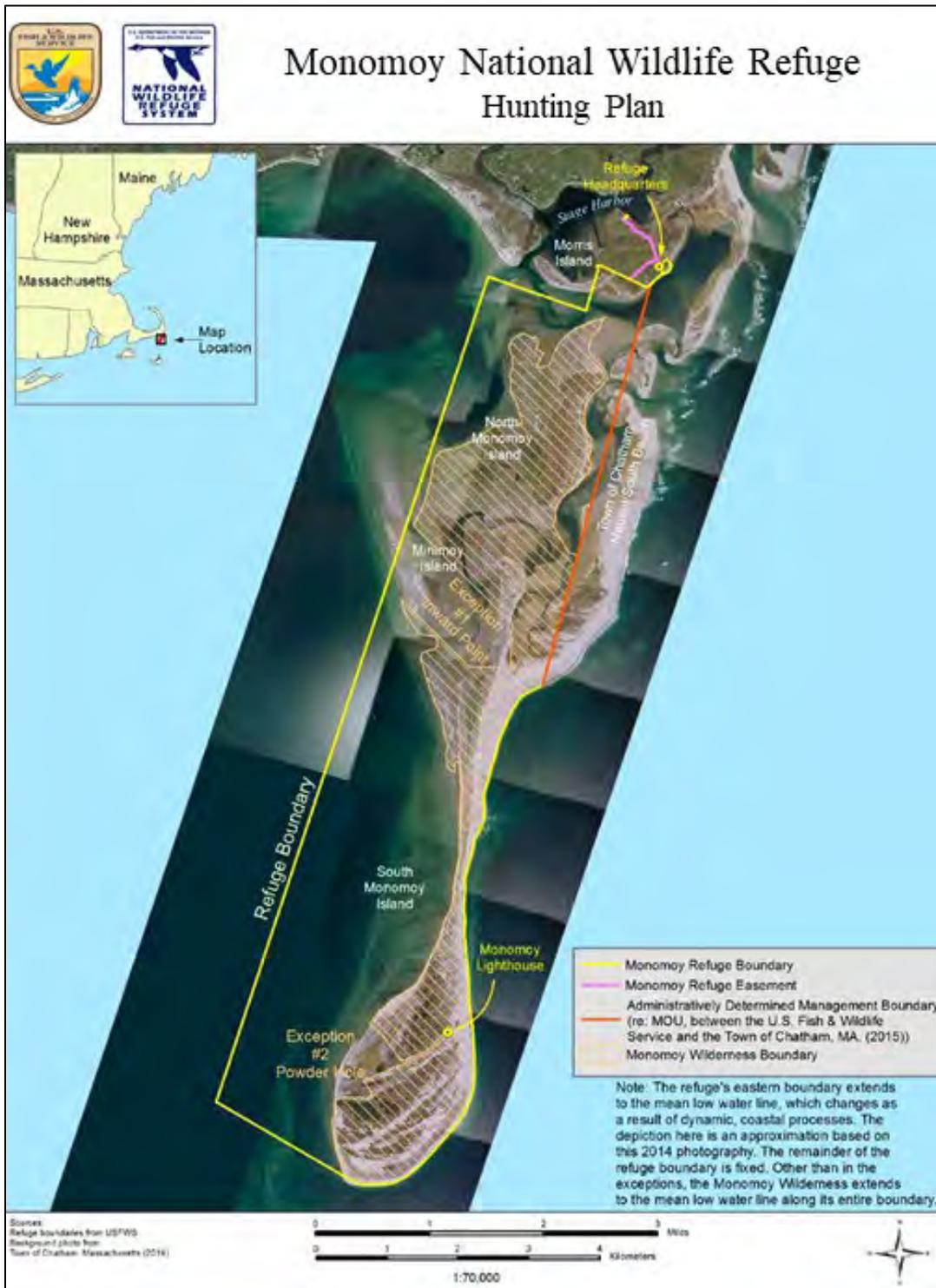
General information regarding hunting and other wildlife-dependent public uses can be obtained at Monomoy NWR headquarters at 30 Wikis Way, Chatham, MA 02633, or by calling (508) 945-0594. Dates, maps, directions, and permit requirements about the hunt will be available on the station website at: [https://www.fws.gov/refuge/Monomoy/visit/visitor\\_activities.html](https://www.fws.gov/refuge/Monomoy/visit/visitor_activities.html)

## **VI. COMPATIBILITY DETERMINATION**

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



**Figure 4.1.** Aerial map of Monomoy NWR showing the Refuge Boundaries, Headquarters and Visitor Contact Station, and area to be opened to Waterfowl Hunting



**Figure 5.2.** Aerial map of Monomoy NWR, showing the Refuge boundaries, including the Monomoy Wilderness Boundary

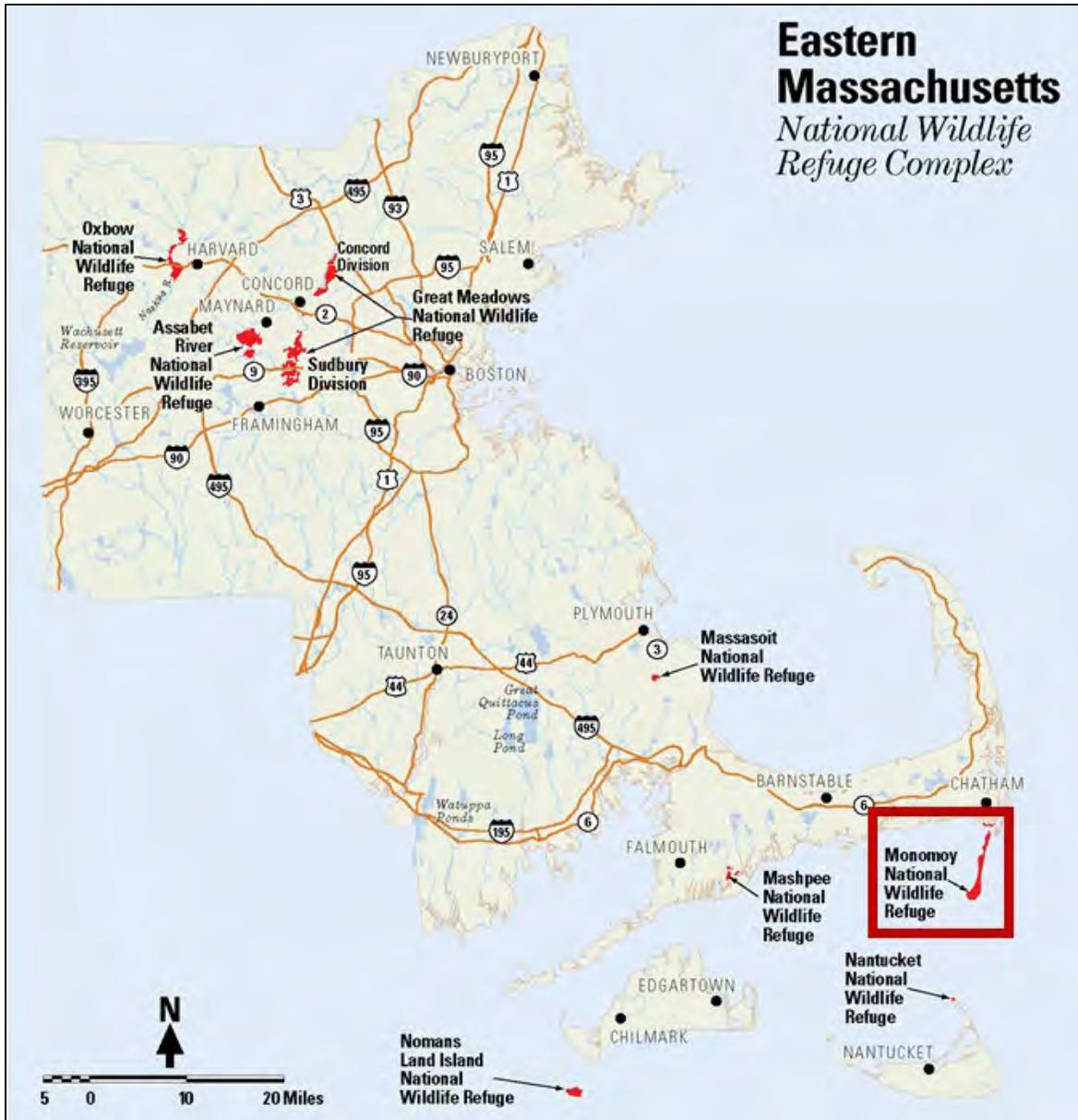


Figure 6.3. Map of Eastern Massachusetts National Wildlife Refuge (NWR) Complex, including Monomoy NWR (Outlined by red box)

## **COMPATIBILITY DETERMINATION**

**USE:** Hunting

**REFUGE NAME:** Monomoy National Wildlife Refuge

**DATE ESTABLISHED:** June 1, 1944

### **ESTABLISHING AND ACQUISITION AUTHORITIES:**

Migratory Bird Conservation Act {16 U.S.C. 715d}

### **PURPOSE FOR WHICH ESTABLISHED:**

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

“...wilderness areas...shall be administered for the use and enjoyment of the American people in such a manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character, and for the gathering and dissemination of information regarding their use and enjoyment as wilderness. (P.L. 88-577 §2(a), Wilderness Act; as referenced in P.L. 91-504 § 1(g), An Act to Designate Certain Lands as Wilderness).

### **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 waterfowl (ducks, geese, and coots) on Monomoy National Wildlife Refuge (NWR, refuge). Hunting was identified as one of six priority public uses of the Refuge System by the Refuge System Administration Act of 1966, as amended by the Refuge System Improvement Act of 1997 (Public Law 105-57), when found to be compatible.

#### **(b) Where would the use be conducted?**

The approximate area we propose to open to waterfowl hunting is presented in Figure 1.1. The area of the refuge open for waterfowl hunting will consist of open water habitat encompassing approximately 3,080 acres of the total 7,898 acre refuge.

**(c) When would the use be conducted?**

Offshore duck, goose and coot hunting seasons and hours would follow applicable State of Massachusetts regulations.

**(d) How would the use be conducted?**

The hunt program on Monomoy NWR would be in accordance with the Commonwealth of Massachusetts hunting rules and regulations for waterfowl (duck, coot and geese) and coyote (except as noted above), federal regulations, and additional refuge-specific regulations. The refuge weighs a number of factors in opening an area to hunting or fishing, including safety considerations and limiting conflicts with ongoing research and management efforts. The refuge manager may, upon annual review of the hunting program, modify the program to ensure compatibility. Restrictions may occur if hunting becomes inconsistent with other priority refuge programs, endangers refuge resources or public safety.

Commercial Hunting Guides would be required to obtain a Special Use Permit (SUP) from the Refuge Manager and pay a processing fee. As a condition of the SUP, guides would be required to report annually the number of hunters (parties), days hunted and number and species of game taken.

Access to all refuge hunt units is by boat and the refuge would not provide moorings. The anchoring and securing of boats is the full responsibility of the user and the Service will not be liable for lost or damaged equipment. The launching of boats and parking of vehicles will take place at local boat launches, harbors and marinas or from private residences, as the refuge does not own or operate a boat ramp.

Refuge specific hunt regulations and hunt unit maps (brochures) will be made available to hunters at kiosks, the refuge website (<https://www.fws.gov/refuge/monomoy>) and at the Refuge Headquarters at 30 Wikis Way on Morris Island, Chatham MA.

**(e) Why is this use being proposed?**

Hunting 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. Hunting is an important wildlife management tool and a traditional form of wildlife-oriented recreation deeply rooted in America's heritage.

Monomoy NWR's CCP, published in March of 2016, identified the goal to "Provide the public with wildlife-dependent recreational, interpretive, and environmental educational opportunities to enhance awareness and appreciation of refuge resources and to promote stewardship of the wildlife and habitats of Monomoy NWR." Furthermore, Objective 2.7 of the CCP stated that staff would "Officially open up to 40 percent of the refuge within the Declaration of Taking to waterfowl hunting in accordance with Federal law and Massachusetts regulations."

**AVAILABILITY OF RESOURCES:**

There are sufficient funds within the refuge's annual operating budget to administer the hunting program. Annual hunt administration costs for Monomoy NWR, including salary, equipment,

law enforcement, maintenance of sites, and communication with the public will be approximately \$5,150 annually and \$22,500 for the first year due to the need for infrastructure and signage improvements. Costs associated with updating signage and maintaining access will be funded by the annual operating budget. The issuance of Special Use Permits to guides may generate additional revenue.

**Table 1. Initial Costs of Hunting Programs at Monomoy NWR**

Activity	Material Costs	Labor Costs	Total
Document Preparation	\$2,500	\$5,000	\$7,500
Posting/Signs	\$1,000	\$1,500	\$2,500
Administration	\$500	\$1,500	\$2,000
Outreach	\$1,500	\$3,000	\$4,500
Law Enforcement	\$1,500	\$4,500	\$6,000
<b>Totals</b>	<b>\$7,000</b>	<b>\$15,500</b>	<b>\$22,500</b>

**Table 2. Annual Costs of Hunting Programs at Monomoy NWR**

Activity	Material Costs	Labor Costs	Total
Document Preparation	\$100	\$300	\$400
Posting/Signs	\$100	\$150	\$250
Administration	\$200	\$800	\$1,000
Outreach	\$500	\$500	\$1,000
Law Enforcement	\$500	\$2,000	\$2,500
<b>Totals</b>	<b>\$1,400</b>	<b>\$3,750</b>	<b>\$5,150</b>

**ANTICIPATED IMPACTS OF THE USE:**

Hunting provides wildlife-dependent recreational opportunities that can foster a better appreciation and understanding of wildlife and their habitat, which can translate into stronger support for the refuge, the Refuge System, the Service, and wildlife conservation in general.

Overall, we anticipate an average of two waterfowl hunters per day. Using the 2018/2019 hunting season as a guide (November 19 to January 26), there were a total of 58 hunting days (as no hunting is allowed in Massachusetts on Sundays, thus all Sundays have been subtracted). Therefore, we estimate approximately 116 hunt visits per year for waterfowl. According to local experts and the professional judgement of refuge staff, this would result in an estimated waterfowl harvest (duck, goose, and coot) of 232 mixed-species harvested per year (2 harvested/visit x 116 visits = 232).

**Vegetation and Soils**

There will be no negative impacts to vegetation or soils, as all hunting would occur in offshore waters.

**Hydrology (Water Resources and Wetlands)**

Impacts to water resources are possible, as motorboats are required to access all hunt areas and inadvertent discharge of pollutants could occur.

While boating and fishing are already very popular within the waters around Monomoy, opening migratory bird hunting areas could result in some additional impacts from increased boat use and use of beach landings during the winter months, when visitation has typically been very low. However, due to its isolated location, marine environment, and challenging visitor access conditions, particularly in winter, we do not anticipate that use levels would be high enough to cause anything but minor, temporary impacts.

### **Wildlife**

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, such as 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). The amount of disturbance tends to increase with decreased distance between visitors and birds (Burger 1986).

While some disturbance to non-target wildlife species is expected, we anticipate this to be minimal, due to low numbers of participants. Due to the location of the waterfowl hunting area, all hunters will hunt from offshore boats, thereby limiting disturbance to wintering and migratory birds on the shoreline, flats and marshlands.

### **Migratory Birds**

Migratory birds are managed on a flyway basis and hunting regulations are established in each state based on flyway data. The Atlantic Flyway Council and Commonwealth of Massachusetts regulations would apply (except as noted above). 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 State and Federal agencies. As noted above, we estimate a total of 232 waterfowl taken per year. Hunting may make waterfowl more prone to disturbance, reduce the amount of time spent foraging and resting, alter habitat usage patterns, and disrupt pair and family bonds (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 anticipated number of hunters on refuge lands and waters.

### **Federally listed species**

A Section 7 analysis under the Endangered Species Act (ESA) (16 U.S.C. 1536) of 1973 was conducted in cooperation with the Service's New England Field Office for federally listed

species, including piping plover (*Charadrius melodus*), roseate tern (*Sterna dougallii*), northeastern beach tiger beetle (*Cicindela dorsalis dorsalis*) red knot (*Calidris canutus rufa*), and seabeach amaranth (*Amaranthus pumilus*). Hunting will have no effects on each of the aforementioned listed bird species, as there will be no temporal overlap between hunters and these species. Confirmed seabeach amaranth habitat will be posted as closed to all public entry, so we expect no adverse effects to this species if hunters abide by posted closures. The northeastern beach tiger beetle requires open beach habitat free from heavy vehicle or pedestrian traffic. The presence of hunters would not markedly increase sand compaction rates to adversely affect this species.

One of the refuge's objectives is to maximize production of Federally-listed bird species through reducing depredation and human disturbance. Several measures are in place to protect these birds, from public education to seasonal closures.

### **Seals**

Throughout the winter and spring months, gray seals, and to a lesser extent harp and harbor seals, depend upon the refuge as a critical resting, pupping and/or haul-out site. Tens of thousands of seals occupy about 5.5 miles of Atlantic-facing refuge shoreline, from the South Tip of South Monomoy Island to the connection with South Beach. From late December through early March, nursing gray seal pups and their mothers are also located throughout the interior dune systems adjacent to the ocean beach. By Federal law (Marine Mammal Protection Act, MMPA), it is illegal to harass, feed, hunt, capture, collect, or kill any marine mammal or part of a marine mammal. It is also required to maintain a distance of at least 150 feet from any marine mammal. Given that Monomoy gray seals routinely flush into the water when they observe people at a much closer range than 150 feet, the entire eastern shoreline and adjacent dune systems would effectively be closed to hunting (and all other public uses) when seals are present.

As refuge visitation is irregular and inconsistent during the winter months, grey seals have become accustomed to Monomoy being relatively free from anthropogenic disturbance; that is, they are not habituated to humans, as many are during the summer months when they disperse throughout the coastal waters of Cape Cod and beyond. Therefore, the presence of even a small number of hunters may cause increased stress behaviors in the over-wintering seal populations of Monomoy. In addition to the potential for physiological stress response, large numbers of hauled-out seals have been known to flush *en masse* when disturbed at the refuge and at other sites, causing the potential for trampling, particularly of pups.

However, the main seal haul-out sites are along the eastern shoreline, whereas waterfowl hunting would occur offshore of the western shoreline. Waterfowl hunters must be mindful of the presence of seals while hunting offshore of the refuge, both in the water and when in proximity to the southern tip of South Monomoy Island where seals may be hauled out.

### **Other Visitors and Users**

The refuge is currently open to five of the six priority public uses (fishing, wildlife observation, wildlife photography, environmental education and environmental interpretation). About 46,156 visitors access the refuge each year, including 13,109 to the Visitor Center; 42,960 for wildlife observation; and 8,601 for fishing, among other users. Hunting on the refuge will take place in

designated areas that are open to all other public uses; however, hunting would be taking place at times of the year when visitor use is much lower. Therefore, impacts to other visitor uses and experiences are anticipated to be minimal.

### **Economic**

The Town of Chatham has a very long hunting and fishing history, and maintaining a vibrant fishing industry in particular is important to the Town. Chatham is a tourist destination because of its scenic beauty, beaches, seals, and its vibrant and artistic downtown.

The visitor contact station on Morris Island is accessible by car. North and South Monomoy Islands, the majority of which are designated as wilderness, are accessible by ferry or private boat. The refuge is open year-round, with most visitation occurring during the summer tourist season from late spring to early fall. The refuge offers wildlife viewing sites, hiking trails, and extensive fishing opportunities.

Most refuge visits, especially those to the Monomoy Islands, occur between May and October, peaking in summer. Monomoy NWR provides wildlife habitat, and also provides visitors with opportunities to enjoy a variety of wildlife-dependent recreational and educational activities. Opening the refuge to hunting may provide a minor economic benefit, particularly over the winter months when fewer programs exist for the local population and fewer tourists visit.

### **Cumulative Impacts**

Cumulative impacts result from incremental impacts of a proposed action when added to other past, present, and reasonably foreseeable future actions. While cumulative impacts may result from individually minor actions, they may, viewed as a whole, become substantial over time. The hunt program has been designed to be sustainable through time given relatively stable conditions, particularly because of close coordination with MassWildlife.

The cumulative impacts of hunting on waterfowl populations at the refuge are expected to be negligible (i.e., 232 waterfowl estimated to be harvested per year). The proportion of the refuge's harvest of these species is negligible when compared to local, regional, and statewide populations and harvest.

We anticipate that expanding hunting opportunities at the refuge will result in no direct or indirect cumulative impacts on resident or migratory wildlife, because of: (1) the Service's regulatory process for harvest management, (2) hunting seasons occurring largely outside of the breeding seasons for resident and migratory wildlife, and (3) the ability to adapt refuge-specific hunting regulations to changing local conditions.

**PUBLIC REVIEW AND COMMENT:**

This Compatibility Determination (CD) is part of the Monomoy NWR Hunting Plan and the accompanying Environmental Assessment (EA). Public notification and review of this CD included a 35-day comment period. We informed the public through local venues, the refuge website, and social media. Comments received from the public were considered, and modifications incorporated into the final plan and decision documents.

The draft plan and CD included opening portions of the refuge both to waterfowl and to coyote hunting. We received 48 public comments on the draft hunt plan, including comments from multiple organizations on the 2019–2020 station-specific hunting and sport fishing proposed rule. Collectively, these comments indicated strong opposition and little support for opening Monomoy NWR to coyote hunting in particular. Locally, only three individuals supported the coyote hunt proposal, with two of those supporting specifically for the purposes of predator management for bird protection – not for recreational hunting. The majority of respondents were opposed to coyote hunting, and despite extensive outreach efforts, no sporting clubs or local outfitters supported or provided comments on the draft plan.

Major concerns were raised during the comment period by the U.S. Department of Commerce’s National Oceanic and Atmospheric Administration (NOAA) and other local and national nonprofit conservation organizations regarding the likelihood for seal disturbance and incidental harassment. The Service did not complete the necessary coordination with NOAA to identify Marine Mammal Protection Act (16 U.S.C. 1361 et seq.) concerns prior to the release of the environmental assessment. Therefore, the Service will not allow for a coyote hunting program at Monomoy NWR.

**DETERMINATION (CHECK ONE):**

Use is not compatible.

Use is compatible with the following stipulations

**STIPULATIONS NECESSARY TO ENSURE COMPATIBILITY:**

- All commercial guides are required to obtain a Special Use Permit to conduct business on the refuge. Monitoring this use through special use permits is necessary per federal code.
- Carts or other wheeled equipment may not be used within the wilderness area on North Monomoy Island and South Monomoy Island.
- No hunting shall occur on refuge islands or inland waters. Waterfowl hunting is only permitted in offshore sections of Nantucket Sound

**JUSTIFICATION:**

Hunting is a priority wildlife-dependent use for the Refuge System through which the public can

*Appendix A – Compatibility Determination*

develop an appreciation for fish and wildlife. The refuge facilitates opportunities for wildlife-dependent recreation when compatible and consistent with sound fish and wildlife management, and ensure that they receive priority consideration during planning and management.

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

We do not expect this activity to conflict with any other priority public uses or adversely affect biological resources. The use will not cause an undue administrative burden. We will manage the use in accordance with State and Federal regulations, as well as refuge-specific regulations and general operations 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 Monomoy NWR, in accordance with the stipulations provided above, is a compatible use that will not materially interfere with, or detract from, the fulfillment of the Refuge System mission or the purposes of the refuge.

**SIGNATURE:**  
Refuge Manager

  
\_\_\_\_\_  
(Signature)

9/30/19  
\_\_\_\_\_  
(Date)

**ACTING** **CONCURRENCE:**  
Regional Chief

  
\_\_\_\_\_  
(Signature)

10/15/19  
\_\_\_\_\_  
(Date)

**MANDATORY 15 YEAR RE-EVALUATION DATE:**

10/15/2034  
\_\_\_\_\_  
(Date)

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*Appendix A – Compatibility Determination*

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## **Environmental Assessment for Hunting at Monomoy National Wildlife Refuge**

**Date: March 20, 2019**

This Environmental Assessment (EA) evaluates the impacts 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 (516 DM 8) and U.S. Fish and Wildlife Service (Service) (550 FW 3) policies.

### **Proposed Action:**

The Service is proposing to allow public hunting opportunities for waterfowl and coyote on Monomoy National Wildlife Refuge (NWR, refuge) in accordance with the refuge's Comprehensive Conservation Plan (CCP) (Service 2016). Monomoy NWR stretches for 8 miles off the elbow of Cape Cod in the Town of Chatham, Barnstable County, Massachusetts. This 7,898-acre refuge includes South Monomoy Island, North Monomoy Island, Minimoy Island, and 40 acres on Morris Island where the headquarters and visitor contact station are located. We propose to open 3,080 acres of the refuge to waterfowl (i.e., ducks, geese, and coots) hunting, and open approximately 7,250 acres of lands above mean low water (MLW) on North and South Monomoy Islands to coyote hunting.

This proposed action is iterative and may evolve over time during the process as we refine the proposal and learn 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 not be made until after 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, and laws and international treaties. Relevant guidance includes the Refuge System Administration Act 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 Service Manual.

The refuge was established June 1, 1944 pursuant to a Declaration of Taking "... for use as an inviolate sanctuary, or for other management purpose, for migratory birds" under authority of the Migratory Bird Conservation Act (16 U.S.C. § 715d). With the designation of national wilderness at Monomoy NWR in 1970, the original establishing purpose of the refuge — management and protection of migratory birds — was expanded to include management and protection of wilderness character and values "...to secure for the American people of present and future generations the benefits of an enduring resource of wilderness." (78 Stat. 890:16 U.S.C. 1121 (note), 1131-1136, Wilderness Act of 1964, as amended).

The mission of the Refuge System, as outlined by the Refuge System Administration Act (Refuge System Administration Act), as amended by the Refuge System Improvement Act (16

U.S.C. 668dd et seq.), is to:

*“... 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 Refuge System Administration Act mandates the Secretary of the Interior in administering the System to:

- Provide for the conservation of fish, wildlife, and plants, and their habitats within the Refuge System;
- Ensure that the biological integrity, diversity, and environmental health of the Refuge System are maintained for the benefit of present and future generations of Americans;
- Ensure that the mission of the Refuge System described at 16 U.S.C. 668dd(a)(2) and the purposes of each refuge are carried out;
- Ensure effective coordination, interaction, and cooperation with owners of land adjoining refuges and the fish and wildlife agency of the States in which the units of the Refuge System are located;
- Assist in the maintenance of adequate water quantity and water quality to fulfill the mission of the Refuge System and the purposes of each refuge;
- Recognize compatible wildlife-dependent recreational uses as the priority general public uses of the Refuge System through which the American public can develop an appreciation for fish and wildlife;
- Ensure that opportunities are provided within the Refuge System for compatible wildlife-dependent recreational uses; and
- Monitor the status and trends of fish, wildlife, and plants in each refuge.

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

We know that there is a long history of waterfowl hunting in the open waters off Monomoy Island. Today, waterfowl hunting occurs in the Chatham area and commercial guides advertise waterfowl hunts around Monomoy, but none have requested a refuge permit to operate within the refuge. It is likely these commercial guides are not aware the refuge has never been opened for waterfowl or any other form of hunting. The actual numbers of commercial guides operating within the refuge, the number of waterfowl hunters that are being commercially guided, where or when they hunt, or what they harvest is unknown.

**Purpose and Need for the Proposed Action:**

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

National wildlife refuges, including Monomoy NWR, conduct hunting programs within the

framework of state and federal regulations. All authorized hunts are at least as restrictive as the State of Massachusetts. By maintaining hunting regulations that are as, or more, restrictive than the state, individual refuges ensure that they are maintaining seasons which are supportive of management on a local and regional basis. Hunters on the refuge are expected to be ethical hunters and respectful of other hunters, non-consumptive users, wildlife species, and the environment while on refuge lands.

The objective of the Monomoy NWR hunting program is to:

- Provide the public with a high-quality recreational experience on refuge lands and waters and increase opportunities and access for hunters;
- Design a hunting program that is administratively efficient and manageable with existing staffing levels;
- Implement a hunt program that is safe for all refuge users;
- Provide hunting opportunities for youth and those that need assistance

Department of the Interior Secretarial Order 3356 directs the Service to enhance and expand public access to lands and waters on national wildlife refuges for hunting, fishing, and other forms of outdoor recreation. The proposed action will also promote one of the priority public uses of the Refuge System, and will promote stewardship of our natural resources and increase public appreciation and support for the refuge by providing opportunities for visitors to hunt. To address the needs stated above, the purpose of the proposed action will bring the refuge into compliance with management guidance detailed in the 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)).

Monomoy NWR’s CCP from March 2016 identified the goal to “Provide the public with wildlife-dependent recreational, interpretive, and environmental educational opportunities to enhance awareness and appreciation of refuge resources and to promote stewardship of the wildlife and habitats of Monomoy NWR.” Furthermore, Objective 2.7 of the CCP stated that we would “Officially open up to 40 percent of the refuge within the Declaration of Taking to waterfowl hunting in accordance with Federal law and Massachusetts regulations.”

Coyotes are found abundantly throughout Massachusetts and on the refuge. Evidence of coyote on Monomoy NWR was first recorded in 1996 (USFWS 1997), and evidence of coyote denning has been observed in most years since 1998. Beginning in 1998, lethal coyote removal has been conducted to minimize depredation on nesting birds. The refuge has employed a variety of techniques that are outlined in appendix J of the 2016 CCP.

The presence of mammalian predators (i.e., coyote, red fox, domestic dog, fisher, mink, weasel, striped skunk, river otter, raccoon, opossum, and muskrat) on the islands fluctuates with ease of access to mainland source populations. Access to the island became easier for land-based mammals with the connection to Nauset/South Beach in November 2006, when staff observed a corresponding increase in mammal activity on South Monomoy Island. However, the February 2013 and April 2017 breaks in Nauset/South Beach appear to limit the number of coyotes and

other mammalian predators. As North Monomoy Island continues to expand northward toward Morris Island, it is possible that mammal populations may again increase. The refuge implements several strategies on an annual basis to reduce the number of predators on the refuge. Adding recreational coyote hunting may support these efforts. Lethal management of eastern coyotes is addressed within the “Predator and Competitor Management Plan” of the CCP.

This EA serves as the NEPA document that analyzes the impacts on environmental, cultural, and historical resources of providing hunting opportunities on the refuge.

### **Alternatives Considered:**

#### **Alternative A – Keeping Monomoy NWR closed to hunting (e.g. Current Management Strategies) – [No Action Alternative]:**

The No Action Alternative would keep all of Monomoy NWR closed to all forms of hunting. Periodic patrols from Federal and state wildlife officers will be performed to ensure hunting is not taking place on refuge lands or waters, and enforcement of the open waters west of the refuge would increase. Marker buoys delineating the western boundaries of the Declaration of Taking would be installed.

#### **Alternative B –Opening Monomoy NWR for Waterfowl (ducks, geese and coots) and Coyotes – [Proposed Action Alternative]:**

The Service has prepared a Hunting Plan, presented in this document as the Proposed Action Alternative. Under the Proposed Action Alternative, the Service proposes to open hunting to 3,080 acres for waterfowl hunting, and 7,250 acres to coyote hunting on Monomoy NWR where these uses are found to be compatible. All Units opened to hunting under this proposed action will follow the Commonwealth of Massachusetts seasons and regulations and subject to additional refuge-specific regulations.

**MIGRATORY BIRD HUNTING:** Waterfowl (duck, goose and coot) hunting in accordance with specific Massachusetts State Regulations is permitted on approximately 3,080 acres of the refuge as hunting access, habitats, and conditions exists. Hunters will self-navigate to their location. A special use permit and fee will be required for all commercial hunting guides. We allow the use of dogs for retrieving game.

**COYOTE HUNTING:** Coyote hunting is permitted on approximately 7,250 acres of the refuge as hunting access, habitats, and conditions exists. A special use permit and fee will be required for all commercial hunting guides. Hunters will self-navigate to their location. The refuge will be open for coyote hunting in accordance with specific Massachusetts State regulations and subject to the following refuge-specific conditions:

- Hunting hours on the refuge will be ½ hour before sunrise until sunset. No night hunting will be permitted. This regulation is being imposed due to presence of up to 30,000 seals hauled out both inland and along beaches during winter months. There is a greater risk of hunters inadvertently harassing these marine mammals and even accidentally shooting one with a misplaced shot at a coyote during the night. The

- refuge also does not allow overnight camping. Additionally, access to the refuge and anchoring of boats is extremely difficult during daylight. Accessing the refuge at night will make it more dangerous for hunters and emergency responders.
- The refuge coyote hunt season would begin November 1 to protect the numerous field staff and ongoing research and management projects during the busy avian migration season in October.
  - No hunting is permitted when seal research teams are operating on the refuge due to safety concerns. Researchers typically access the refuge for up to 12 days between late December and early February. Hunters would therefore be required to contact the refuge manager by phone (508-945-0594) or email (r5rw\_mnwr@fws.gov) at least 2 days in advance of their proposed hunt date to ensure no researchers are operating on the islands.
  - Hunters would be required to report the location(s) and number of coyotes taken, as these data are critical to enhance the refuge's ongoing predator control program.
  - Use of dogs for coyote hunting will not be permitted.

Refuge-specific hunting permits will not be required to hunt waterfowl or coyote on Monomoy NWR. Although the Service will implement several specific regulations that differ from other parts of the state, they are not substantial enough to warrant implementation of a permit system. There will be no limit to the number of hunters or guides allowed to participate in these hunts as participation is expected to be low.

Commercial hunting guides would be required to obtain a Special Use Permit (SUP) from the Refuge Manager and pay a processing fee. All monies minus administrative costs would be used to enhance the hunting program. As a condition of the SUP, guides would be required to report annually the number of hunters (parties), days hunted and number and species of game taken. Prior to hunting, coyote hunters would be required to inform the refuge manager by phone the days and hours they will be hunting. All coyote hunters would also be required to report the number and location of coyotes taken, as these data are critical to enhance the refuge's ongoing predator control program.

The Monomoy Light Keepers House, located on the southeast section of South Monomoy Island (Figure 1.4), is regularly used as housing for refuge staff, volunteers and researchers; therefore, it is considered to be an 'Occupied Dwelling' per Massachusetts Hunt Regulations. No hunting will be permitted within 500 feet of this building and associated oil shed. Larger safety zones may be established in the future if the safety of occupants becomes a greater concern.

Hunting is closed from the refuge boundary at the mean low water line to 400 feet inland of where the dune line meets the Atlantic-facing shoreline to protect the large population of seals found throughout these beaches and within the adjacent dune systems.

The hunt program on Monomoy NWR would be in accordance with the Commonwealth of Massachusetts hunting rules and regulations for waterfowl (duck, coot and geese) and coyote (except as noted above), Federal regulations in 50 CFR, and additional refuge-specific regulations. The refuge weighs a number of factors in opening an area to hunting, including safety considerations and limiting conflicts with ongoing research and management efforts.

The refuge manager may, upon annual review of the hunting program, modify the program to ensure compatibility. Restrictions may occur if hunting becomes inconsistent with other priority refuge programs, endangers refuge resources or public safety.

Access to all refuge hunt units is by boat and the refuge would not provide moorings. The anchoring and securing of boats is the full responsibility of the user and the Service will not be liable for lost or damaged equipment. The launching of boats and parking of vehicles will take place at local boat launches, harbors and marinas or from private residences, as the refuge does not own or operate a boat ramp.

**Mitigation Measures to Avoid Conflicts:**

- Current hunting and fishing information will be available at the refuge’s headquarters and posted on the refuge’s website and at on-site kiosks.
- Regulations set by the State will be enforced by refuge and State law enforcement officers.
- Hunting will take place during daylight hours only
- A 500-foot safety zone will be established around the Monomoy Light Keepers house to enhance the safety of refuge staff, researchers or volunteers residing in the dwelling.
- All commercial guides will be required to obtain a Special Use Permit and report on the number of hunters, days hunted and game taken on an annual basis
- Coyote hunters will be required to contact the refuge manager prior to hunting to ensure safety of hunters, staff and visitors

This alternative offers increased opportunities for public hunting and fulfills the Service’s mandate under the National Wildlife Refuge System Improvement Act of 1997. The Service has determined that the hunt plan is compatible with the purposes of the Monomoy NWR and the mission of the Refuge System.

**Affected Environment:**

For a detailed description of the current environmental conditions of Monomoy NWR refer to Chapter 3 of the 2016 CCP at [https://www.fws.gov/refuge/Monomoy/what\\_we\\_do/finalccp.html](https://www.fws.gov/refuge/Monomoy/what_we_do/finalccp.html)

The refuge’s natural terrestrial habitats are dominated by intertidal sandflats, open sand, grass-covered dunes, and salt marsh, interspersed with shrublands representative of coastal ecosystems. The majority (60 percent) of Monomoy’s vegetation cover types are shaped by the dynamic tidal processes and shifting sands associated with barrier beach habitats. The remaining 40 percent is composed of upland shrubland and forest with woody shrubs and small trees.

Monomoy NWR’s beaches and salt marshes provide important spawning and nursery habitat for horseshoe crabs, and the refuge is one of the most important areas for horseshoe crabs in the State (USFWS 2002). The refuge provides habitat for large populations of gray and harbor seals and is the largest gray seal haulout site on the U.S. Atlantic seaboard. The 2015 count, based on aerial photography conducted in May 2011, numbered 19,166 individual gray seals hauled out on the refuge (Josephson, personal communication 2016), a number which has trended upward since that time.

About 12 percent of the State's piping plover population nests on Monomoy NWR and Nauset/South Beach combined. The refuge hosts one of the largest common tern colonies along the Atlantic seaboard in most years since 1999, and the largest laughing gull colony in Massachusetts in most years since 2001. Monomoy NWR also is a reintroduction site for the Federally-threatened northeastern beach tiger beetle and seabeach amaranth plant.

*North Monomoy Island*

North Monomoy Island is an estimated 1.3 miles long and 0.4 miles wide and consists of beach, dunes, intertidal, salt marsh, and (sand and mud) flats. North Monomoy Island provides habitat for spawning horseshoe crabs, nesting habitat for salt marsh sparrows, and nesting and staging areas for shorebirds, terns, and wading birds.

*South Monomoy Island and Nauset/South Beach*

South Monomoy Island is roughly tear-shaped, about 6 miles long and 1.3 miles wide at the southern end and is characterized by sand and mudflats, sandy beaches, extensive dunes, salt marsh, and freshwater ponds and wetlands. Small salt marsh patches occur on the northwest and southwest sides, consisting primarily of salt marsh cordgrass, salt marsh hay, saltgrass, and black grass. The freshwater ponds and marshes, which cover more than 150 acres on South Monomoy Island, host cattail, pond lilies, and common reed (USFWS 1988).

As a result of ongoing, natural coastal beach migration processes typical of this area, adjacent Nauset/South Beach accreted sufficiently to connect to the northeast tip of South Monomoy Island (Figure 1.1) in 2006, creating a land bridge from the island to mainland Cape Cod. Sand is now accreting on the ocean side, widening the seaward side of the 2006 connection, while salt marsh forms on the interior side of the connection.

*Minimoy Island*

Minimoy Island, a small island located west of the northern tip of South Monomoy Island, is also included in this management unit. This eroding island is currently estimated to be 0.25 miles long and 0.36 miles wide, and is also characterized by sandy beaches and dunes, as well as a growing salt marsh on the east side. This management unit provides habitat for thousands of nesting and migrating birds, including shorebirds and terns.

**Table 1. Primary Refuge Habitat Plant Community Descriptions**

Habitat Type	Description
North Atlantic Upper Ocean Beach	Sparsely vegetative beach environment consisting of occasional American searocket ( <i>Cakile edentula</i> spp.)
Northern Beach Heather Dune Shrubland	Dwarf shrubland with vegetative communities consisting of woolly beachheather ( <i>Hudsonia tomentosa</i> ) and bearberry ( <i>Arctostaphylos uva-ursi</i> )
Northern Interdunal Cranberry Swale	Dwarf Shrub-dominated community occurring within shallow basins or swales. Dominant herbaceous vegetative communities include large cranberry ( <i>Vaccinium marocarpon</i> ) and Northern bayberry ( <i>Morella pensylvanica</i> ) (Commonwealth of Massachusetts 2016)
North Atlantic Low Salt Marsh	Monotypic tall grassland dominated by smooth cordgrass ( <i>Spartina alterniflora</i> ) in regularly flooded intertidal zones
Salt Panne and Pools	Depressions within salt and brackish marshes in which water pools. These areas often contain herbaceous vegetation such as beaked tasselweed ( <i>Ruppia maritima</i> ) and sea clubrush ( <i>Schoenoplectus maritimus</i> )
Tidal Flat	Intertidal sand and mud flats associated with coastal areas where sediment accumulates. (USFWS 1982)
Submerged Aquatic Vegetation	Submerged aquatic vegetation (SAV) primarily dominated by eel grass beds located in shallow marine environments.
Open Water	Open water habitats include tidal creeks estuaries, shallow marine and associated transitional habitats influenced by fluctuating water levels. These habitats also provide foraging opportunities for other species including waterfowl, wading birds shorebirds and colonial nesting birds.

*Federally Listed Endangered or Threatened Species*

Three federally listed species are known to breed on Monomoy NWR: piping plover (threatened), roseate tern (endangered), and northeastern beach tiger beetle (threatened). A fourth federally listed species, the red knot (threatened), uses Monomoy NWR during its long-distance migration, particularly when staging during the fall southbound migration. The federally threatened seabeach amaranth plant was reintroduced to Monomoy in 2017. The following paragraphs describe the presence of these five species on Monomoy NWR.

### **Piping Plover**

Management and protection of piping plovers is one of the priority programs for the refuge. Early documentation of piping plover on the refuge is scattered, but the species was nesting on the refuge prior to listing. Beginning in 1983, piping plovers were counted and monitored annually on the refuge. In February 1988, a master plan (USFWS 1988) was completed for Monomoy NWR, which stipulated that all piping plover nesting sites be closed seasonally to the public. Starting that year, nesting sites were closed to the public from April through August to help protect the birds, their nests, and their habitat, and that effort has continued to the present time. In recent years, the refuge has had a low of four nesting pairs of piping plover in 1993, with recorded numbers greatly expanding after the initiation of the avian diversity program in 1996. While plovers successfully nest on Monomoy NWR, recent numbers (generally, 30 to 45 pairs) are generally lower than the potential capacity estimated for Monomoy NWR.

### **Roseate Tern**

Monomoy NWR is an important nesting site for this species. Massachusetts tern populations, including roseate and common terns, were abundant during the mid-19th century, with hundreds of thousands of pairs reportedly nesting on Muskeget Island alone and several smaller colonies located on the mainland of Cape Cod which included colonies in Chatham and Wellfleet (Nisbet 1973). By the late 1800s, due to a combination of shooting and egging for food and bait, and feather collection for the millinery trade, numbers of terns nesting on Cape Cod and the islands had dramatically declined to estimates of between 5 and 10 thousand pairs. The roseate tern was listed as an endangered species because of the significant reduction in nesting sites; 30 major colonies were abandoned or experienced substantial declines between 1920 and 1979. By 1997, Cape Cod, Nantucket, and Martha's Vineyard had only 20 nesting pairs — considerably low numbers when compared to the 105 pairs in 1999. Due to inconsistent tern surveys and monitoring protocols prior to 1987, it is unclear whether the population is now stable or declining (USFWS 1998a). In 2002, Monomoy NWR, though considered a minor site, was one of only three sites in Massachusetts supporting nesting roseate terns.

### **Northeastern Beach Tiger Beetle**

In August of 1990, the Service listed the northeastern beach tiger beetle as threatened. This tiger beetle occurred historically “in great swarms” on beaches along the Atlantic coast from Cape Cod to central New Jersey, and along Chesapeake Bay beaches in Maryland and Virginia. In 1994, only two small populations remained on the Atlantic coast. Currently northeastern beach tiger beetles can be found at two sites north of the Chesapeake Bay in Massachusetts: one on the south shore of Martha's Vineyard and one on South Monomoy and Nauset/South Beach in Chatham, Massachusetts. The successful establishment of a northeastern beach tiger beetle population requires a long stretch of relatively wide beach with no OSVs and relatively light recreational impacts. It is difficult to find these characteristics along the Massachusetts coast.

Since 2004, tiger beetle larvae have not been transferred to Monomoy NWR due to logistical challenges and habitat loss on the source beach at Martha's Vineyard. However, annual monitoring confirms successful survival and production of tiger beetles through all stages of life, and gives a firm indication of a new self-sustaining population at Monomoy NWR.

**Red Knot**

In December 2014, the red knot was designated as threatened (effective January 12, 2015). Southeastern Massachusetts, and Monomoy NWR in particular, are likely to provide one of the most important sites for adult and juvenile red knots during their southward migration (Koch and Paton 2009, Harrington et al. 2010a, Harrington et al. 2010b). Research has shown that this region supports red knots bound for different winter destinations. North American wintering birds exhibit different migration chronology, flight feather molt, and even foraging habits than South American wintering birds (Harrington et al. 2010b). In 2009, refuge staff began partnering with the Conserve Wildlife Foundation of New Jersey and others to cannon-net shorebirds on Monomoy NWR during southward migration.

**Seabeach Amaranth**

Seabeach amaranth was federally listed as a threatened species in 1993. It is native (endemic) to Atlantic Coast beaches and barrier islands and occupies elevations from 8 inches to 5 feet above mean high tide. The habitat of seabeach amaranth is sparsely vegetated with annual herbs and, less commonly, perennial herbs (mostly grasses) and scattered shrubs. Seabeach amaranth is often associated with beaches managed for the protection of beach nesting birds such as the piping plover (*Charadrius melodus*) and least tern (*Sterna antillarum*). Threats to seabeach amaranth include beach stabilization (particularly the use of beach armoring, such as sea walls and riprap), intensive recreational use, mechanical beach raking, and herbivory by insects.

Because Monomoy NWR provides highly suitable habitat conditions for this species, and is within the northern limits of its historic range, a reintroduction effort was implemented in 2017, when 2,000 seeds were planted along the Atlantic-facing beach front of South Monomoy Island.

**State Listed Endangered, Threatened, and Species of Concern**

Monomoy NWR provides habitat for numerous State-listed species. In particular, the refuge is mapped as Priority and Estimated Habitat (13th edition of the MA Natural Heritage Atlas) for 10 State-listed species. (<http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/regulatory-maps-priority-and-estimated-habitats/> (accessed February 2015).

**Table 2. State-listed Species for which Monomoy NWR is Designated Priority and Estimated Habitat**

Species	State Status	Federal Status
Roseate tern	Endangered	Endangered
Common tern	Special Concern	None
Arctic tern	Special Concern	None
Least tern	Special Concern	None
Northern harrier	Threatened	None
Piping plover	Threatened	Threatened
Pied-billed grebe	Endangered	None

Species	State Status	Federal Status
Oysterleaf	Endangered	None
American sea-blite	Special Concern	None
Northeastern beach tiger beetle	Endangered	Threatened

**Environmental Consequences of the Action**

This section analyzes the environmental consequences of the action on each affected resource, including direct and indirect effects. This EA only includes the written analyses of the environmental consequences on a resource when the impacts on that resource could be more than negligible and therefore considered an “affected resource”. Any resources that will not be more than negligibly impacted by the action have been dismissed from further analyses.

Table 3 provides:

- A brief description of the affected resources in the proposed action area;
- Impacts of the proposed action and any alternatives on those resources, including direct and indirect effects.

Table 4 provides a brief description of the cumulative impacts of the proposed action and any alternatives.

**Impact Types**

*Direct impacts* are those which are caused by the action and occur at the same time and place.

*Indirect impacts* are those which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Impacts includes ecological (such as the impacts on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative. Impacts may also include those resulting from actions which may have both beneficial and detrimental impacts, even if on balance the agency believes that the impacts will be beneficial.

*Beneficial impacts* are those resulting from management actions that maintain or enhance the quality and/or quantity of identified refuge resources or recreational opportunities.

*Adverse impacts* are those resulting from management actions that degrade the quality and/or quantity of identified refuge resources or recreational opportunities.

**Duration of Impacts**

*Short-term impacts* affect identified refuge resources or recreational opportunities; they occur during implementation of the management action but last no longer.

*Medium-term impacts* affect identified refuge resources or recreational opportunities that occur during implementation of the management action; they are expected to persist for some time into the future though not throughout the life of the action.

*Long-term impacts* affect identified refuge resources or recreation opportunities; they occur during implementation of the management action and are expected to persist throughout the life of the Plan and possibly longer.

**Intensity of Impact**

*Negligible impacts* result from management actions that cannot be reasonably expected to affect identified refuge resources or recreational opportunities at the identified scale.

*Minor impacts* result from a specified management action that can be reasonably expected to have detectable though limited impact on identified refuge resources or recreation opportunities at the identified scale.

*Moderate impacts* result from a specified management action that can be reasonably expected to have apparent and detectable impacts on identified refuge resources or recreation opportunities at the identified scale.

*Major impacts* result from a specified management action that can be reasonably expected to have readily apparent and substantial impacts on identified refuge resources and recreation opportunities at the identified scale.

**TABLE 3.** AFFECTED NATURAL RESOURCES AND ANTICIPATED IMPACTS OF THE PROPOSED ACTION AND ANY ALTERNATIVES

<b>ANTICIPATED IMPACTS TO NATURAL RESOURCES</b>	
<b>AFFECTED ENVIRONMENT</b>	<b>ANTICIPATED DIRECT AND INDIRECT IMPACTS</b>
<p><b>Waterfowl:</b> Monomoy NWR has among the highest species richness of breeding waterfowl throughout the state. Brood surveys conducted sporadically over the years have found the following waterfowl species breeding on the refuge: mallard, Canada goose, American black duck, gadwall, green-winged teal, American widgeon, northern pintail, northern shoveler, blue-winged teal, and ruddy duck, among others (USFWS unpublished data).</p> <p>South Monomoy’s freshwater ponds and marshes also provide important migratory stopover and wintering habitat for waterfowl. Redhead, bufflehead, common goldeneye, hooded merganser, lesser scaup, greater scaup, ring-necked duck, canvasback, pied-billed grebe, and American coot have also been found to use Monomoy’s freshwater ponds and marshes as migratory stopovers (Nikula, personal communication 2011). The shellfish-rich waters around the refuge attract thousands of migrating and wintering scoter, common eider,</p>	<p><b>No Action:</b> No migratory bird hunting would be permitted on the refuge; therefore, no direct impacts to these species through hunting would occur.</p> <p><b>Proposed Action:</b> The Massachusetts migratory bird season is generally open from mid-October through mid-January. Hunting would not have a significant impact on local, regional, or Atlantic Flyway waterfowl populations because the percentage taken on the refuge, though possibly additive to existing hunting take, would measure a small fraction of a percent of the estimated migratory game birds populations. In addition to direct mortality, hunting could result in some short-term redistribution due to disturbance.</p>

<b>ANTICIPATED IMPACTS TO NATURAL RESOURCES</b>	
<b>AFFECTED ENVIRONMENT</b>	<b>ANTICIPATED DIRECT AND INDIRECT IMPACTS</b>
<p>long-tailed duck, and red-breasted merganser. Extensive eelgrass and sea lettuce beds in the nearshore waters of Monomoy NWR provide winter food for wintering and migrating Atlantic brant.</p>	<p>Massachusetts and Atlantic Flyway Council have responsibility of establishing season length and harvest limits for all species we propose to open to hunting at Monomoy NWR. They have evaluated population parameters and habitat conditions and determined that populations are at levels acceptable to support a public hunt while maintaining healthy population levels that are commensurate with the carrying capacity of the habitat.</p> <p>Overall, we anticipate an average of two waterfowl hunters per day. Using the 2018/2019 hunting season as a guide (November 19 to January 26), there were a total of 58 hunting days (as no hunting is allowed in Massachusetts on Sundays, thus all Sundays have been subtracted). Therefore, we estimate approximately 116 hunt visits per year for waterfowl. According to local experts and the professional judgement of refuge staff, this would result in an estimated waterfowl harvest (duck, goose, and coot) of 232 mixed-species harvested per year (2 harvested/visit x 116 visits = 232).</p> <p>All State and Federal stamps and licenses will be required to hunt on the refuge. The purchase of a duck stamp goes towards purchase of wetland habitat for inclusion in the Refuge System.</p> <p>Partnerships and assisted hunting opportunities planned by the refuge could assist in increasing hunter numbers in the future.</p>

ANTICIPATED IMPACTS TO NATURAL RESOURCES	
AFFECTED ENVIRONMENT	ANTICIPATED DIRECT AND INDIRECT IMPACTS
<p><b>Coyote:</b> Evidence of coyote on Monomoy NWR was first recorded in 1996 (USFWS 1996b), and evidence of coyote denning has been observed in most years since 1998. Beginning in 1998, lethal coyote removal has been conducted to minimize depredation on nesting birds.</p>	<p><b>No Action:</b> No recreational coyote hunting would be permitted on the refuge; therefore, no impacts to this species through recreational hunting would occur.</p> <p><b>Proposed Action:</b> Opening refuge lands to coyote hunting will likely adversely affect this species during the hunting season. However, coyote hunting may benefit other refuge priority species.</p> <p>We anticipate an average of one hunter per month, and 4 to 5 hunt visits per year for coyote, with a harvest of one coyote per year.</p>

<b>ANTICIPATED IMPACTS TO NATURAL RESOURCES</b>	
<b>AFFECTED ENVIRONMENT</b>	<b>ANTICIPATED DIRECT AND INDIRECT IMPACTS</b>
<p><b>Other Wildlife and Aquatic Species:</b>                      The refuge supports a diversity of wildlife species of coastal Massachusetts including game and nongame species, fish, crustaceans, and invertebrates, which are important contributors to the overall biodiversity on the refuge. Songbirds, raptors, wading birds, shorebirds waterfowl and waterbirds utilize the refuge for breeding, wintering and migratory habitat.</p>	<p><b>No Action:</b> No hunting will be permitted on the refuge, therefore there will be no impacts to other wildlife species through hunting.</p> <p><b>Proposed Action:</b> While resident and non-game wildlife in areas newly opened to hunters and hunting may be negatively impacted by disturbance, that impact is expected to be negligible. The degree of the impact by the Proposed Action is not expected to be much different than what may already occur (including temporary displacement of songbirds, raptors, and resident wildlife from foot traffic moving through the area). Certain species such as nesting shorebirds could benefit from reduced predator populations.</p> <p>Non-toxic shot is required for all migratory bird hunting, which reduces negative impacts to wildlife using waterways and marshes. The refuge is not requiring the use of non-toxic shot for coyote but encourages hunters to utilize it to reduce unintended negative impacts to wildlife. Some scavenging of game shot on the ground or in carcasses left by hunters could occur, but the likelihood of poisoning of wildlife is low.</p>

<b>ANTICIPATED IMPACTS TO NATURAL RESOURCES</b>	
<b>AFFECTED ENVIRONMENT</b>	<b>ANTICIPATED DIRECT AND INDIRECT IMPACTS</b>
<p><b>Threatened and Endangered Species and Other Special Status Species:</b>                      Three federally listed species are known to breed on Monomoy NWR: piping plover (<i>Charadrius melodus</i>, threatened), roseate tern (<i>Sterna dougallii</i>, endangered), and northeastern beach tiger beetle (<i>Cicindela dorsalis dorsalis</i>, threatened). The red knot (<i>Calidris canutus rufa</i>, threatened) uses Monomoy NWR during its long-distance migration, particularly when staging during the fall southbound migration. The seabeach amaranth (<i>Amaranthus pumilus</i>, threatened) was re-introduced to South Monomoy Island in 2017 and annual monitoring continues. The following paragraphs describe the presence of these five species on Monomoy NWR. A Section 7 Endangered Species Act review was conducted in coordination with the Service’s New England Field Office for these five federally listed species.</p> <p>In addition to the species listed above, Monomoy NWR has also been designated as Priority Habitat for several species by MA Natural Heritage and Endangered Species Program (<a href="http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/regulatory-maps-priority-and-estimated-habitats/">http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/regulatory-maps-priority-and-estimated-habitats/</a> (accessed February 2015)). These species include: Common tern, Arctic tern, Least tern, Northern harrier, Pied-billed grebe, Oysterleaf, and American sea-blite.</p>	<p><b>No Action:</b> No hunting will be permitted on the refuge, therefore there will be no impacts to other wildlife species through hunting.</p> <p><b>Proposed Action:</b> This alternative will result in some short-term, but negligible, negative impacts to threatened and endangered species and other species status due to disturbance in areas where human access for hunting activities occur, however access is limited in areas where protected nesting birds are known to exist. One of the refuge’s objectives is to maximize production of these nesting bird species such as the piping plover and terns through the reduction of predation and human disturbance. Several measures are in place to protect these birds through educating the public and through seasonal closures.</p> <p>In addition, the refuge will continue to work with the state and local towns to protect these species through seasonal closures and predator management. Recreational coyote hunting, when performed in concert with other predator management efforts, may directly benefit species that are prone to nest predation.</p>

ANTICIPATED IMPACTS TO NATURAL RESOURCES	
AFFECTED ENVIRONMENT	ANTICIPATED DIRECT AND INDIRECT IMPACTS
<p><b>Marine Mammals:</b> Gray seal, a Massachusetts species of special concern, harbor seal and harp seal are found on the refuge and in the surrounding waters. Gray seals use the refuge for hauling out and pupping. Monomoy NWR is the largest haulout site for gray seals on the U.S. Atlantic seaboard, and one of only two consistent sites in Massachusetts where gray seals pup. Gray seals use the refuge lands and waters all year. While Monomoy has never be a substantial pupping site since the Refuge was established, gray seal pupping on South Monomoy island has been increasing steadily over the last decade.</p>	<p><b>No Action:</b> No hunting will be permitted on the refuge, therefore there will be no impacts to other wildlife species through hunting.</p> <p><b>Proposed Action:</b> This alternative may result in some short-term negative impacts to marine mammals due to disturbance in areas where human access for hunting activities occurs. Disturbance, harassment of, marine mammals is prohibited under the Marine Mammal Protection Act. One of the refuge’s objectives is to protect these species. Several measures are in place to protect marine mammals through educating the public, supporting research, adhering to recommended buffer distances, and enforcing ‘no hunt’ zones throughout seal haulout and pupping areas.</p> <p>The refuge is also not permitting night hunting for the primary purpose of reducing the risk of unintentional disturbance to marine mammals that are hauled out on the refuge.</p>

<b>ANTICIPATED IMPACTS TO NATURAL RESOURCES</b>	
<b>AFFECTED ENVIRONMENT</b>	<b>ANTICIPATED DIRECT AND INDIRECT IMPACTS</b>
<p><b>Vegetation</b> (including vegetation of special management concern): The refuge’s natural terrestrial habitats are dominated by intertidal sandflats, open sand, grass-covered dunes, and salt marsh, interspersed with shrublands representative of coastal ecosystems. The majority (60 percent) of Monomoy’s vegetation cover types are shaped by the dynamic tidal processes and shifting sands associated with barrier beach habitats. Vegetation varies throughout the refuge, but hunt areas are generally either forested wetlands and uplands or tidal saltmarsh.</p> <p><b>North Monomoy Island</b> North Monomoy Island is an estimated 1.3 miles long and 0.4 miles wide and consists of beach, dunes, intertidal salt marsh, and (sand and mud) flats. North Monomoy Island provides habitat for spawning horseshoe crabs, nesting habitat for salt marsh sparrows, and nesting and staging areas for shorebirds, terns, and wading birds.</p> <p><b>South Monomoy Island</b> South Monomoy Island is about 6 miles long and 1.3 miles wide at the southern end and is characterized by sand and mudflats, sandy beaches, extensive dunes, salt marsh, and freshwater ponds and wetlands. Small salt marsh patches occur on the northwest and southwest sides, consisting primarily of salt marsh cordgrass, salt marsh hay, saltgrass, and black grass. The freshwater ponds and marshes, which cover more than 150 acres on South Monomoy Island, host cattail, pond lilies, and common reed (USFWS 1988).</p>	<p><b>No Action:</b> No impacts to this resource will occur under this alternative.</p> <p><b>Proposed Action:</b> Opening the refuge to hunting is not expected to adversely affect vegetation. While some vegetation could be trampled, this is expected to be minor as most hunting would occur when plants are dormant and the number of hunters is anticipated to be low. Additionally, hunter use during all seasons will be dispersed, minimizing the impact to any one area.</p>
<p><b>Air Quality:</b> The Commonwealth of Massachusetts measures outdoor air quality for more than 20 monitoring stations across the state, with 15 continuous ozone monitoring stations. Based on information collected from these sites, there were 14 days when the 8-hour ozone standard of 0.075 ppm was exceeded by at least one monitoring station in 2010. There were</p>	<p><b>No Action:</b> No impacts to this resource will occur under this alternative.</p> <p><b>Proposed Action:</b> A negligible, short-term adverse impact could be associated with increased emissions from vehicles and boats; however, it</p>

<b>ANTICIPATED IMPACTS TO NATURAL RESOURCES</b>	
<b>AFFECTED ENVIRONMENT</b>	<b>ANTICIPATED DIRECT AND INDIRECT IMPACTS</b>
<p>36 exceedances during those 14 days (i.e., multiple monitors exceeded the standard on the same day, MA DEP 2011). The closest two monitoring stations to the refuge are included in those that registered exceedances: Fairhaven (5 days) and Truro (4 days). Exceedances at a station averaged over 3 years can lead to a violation of NAAQS. Based on data from 2008 to 2010, both of these stations indicated violation of the 8-hour ozone standard (MA DEP 2011).</p>	<p>is anticipated that if those new hunters were not traveling to the refuge, they would likely be traveling to other hunt locations or engaging in other activities that would have comparable emission releases.</p>
<p><b>Water Resources:</b>                      Monomoy NWR contains freshwater and saltwater wetland habitats including salt marsh, intertidal flats, and ponds. The only source of fresh water is from precipitation. The waters of Monomoy NWR, including waters in and adjacent (i.e., within 1,000 feet seaward of MLW) to the Cape Cod National Seashore, are classified as marine waters Class SA or freshwaters Class B (MA DEP 2002). Big and Little Station Ponds are 32-acre and 11-acre freshwater ponds, respectively, on South Monomoy Island, originally formed when a bay was closed off by the growth of a re-curved spit. Other small freshwater ponds and wetlands are present on South Monomoy Island. Most are natural, but a few lie in depressions excavated by the Service in the 1950s in effort to increase waterfowl habitat. Almost 25 acres of salt marsh surround the 5-acre estuarine Hospital Pond at the northern end of South Monomoy Island. Powder Hole, which in the mid-1800s was a deep and extensive harbor, is now a shallow estuarine water body on the southwest end of the refuge.</p>	<p><b>No Action:</b> No additional impacts to this resource would occur under this alternative.</p> <p><b>Proposed Action:</b> Impacts to water resources could occur by motorized boats used by hunters (i.e., inadvertently leaking of polluting substances), as it is the only means of accessing the hunt areas. These impacts would be considered minor and short-term due to low anticipated numbers of hunters.</p>
<p><b>Wetlands:</b> Monomoy NWR consists of diverse wetland habitats including salt marsh and associated tidal creek, ponds, and mud flat. These habitats are located throughout the hunt area.</p>	<p><b>No Action:</b> No additional impacts to this resource would occur under this alternative.</p> <p><b>Proposed Action:</b> As most hunting occurs during fall and winter and anticipated hunter numbers are low, impacts to wetland vegetation are negligible and short-term. No impacts</p>

<b>ANTICIPATED IMPACTS TO NATURAL RESOURCES</b>	
<b>AFFECTED ENVIRONMENT</b>	<b>ANTICIPATED DIRECT AND INDIRECT IMPACTS</b>
	to any wetlands habitats have been observed by refuge staff from other priority public uses.
<p><b>Wilderness:</b> In 1970, Congress designated approximately 2,600 acres of land as wilderness to become part of the National Wilderness Preservation System, thereby preserving the wilderness character of the Monomoy Islands.</p> <p>“In accordance with ... the Wilderness Act... certain lands in the Monomoy National Wildlife Refuge, Massachusetts, which comprise about two thousand six hundred acres but excepting and excluding therefrom two tracts of land containing approximately ninety and one hundred and seventy acres, respectively and which are depicted on a map entitled “Monomoy Wilderness—Proposed” and dated August 1970, which shall be known as the Monomoy Wilderness”—an Act to Designate Certain Lands as Wilderness (Public Law 91-504, 16 U.S.C. § 1132(c)).</p> <p>The Monomoy wilderness extends to the mean low water mark, as evidenced in records from the Service’s first wilderness proposal and public hearing through to the officially certified description of the wilderness area. The size of the wilderness area has changed over time as the Monomoy landform and surrounding intertidal lands have changed.</p> <p>Motor boats are allowed in the Monomoy wilderness area because the Wilderness Act allows the use of motor boats to continue where these uses have already been established and deemed desirable by the Secretary of the Interior (16 U.S.C. § 1133(d)(1)).</p>	<p><b>No Action:</b> No additional impacts to this resource would occur under this alternative.</p> <p><b>Proposed Action:</b> Due to the anticipated low number of new hunters, impacts are expected to be negligible. Some vegetation throughout the refuge may be trampled, but there are generally no long-term expected impacts. Additionally, hunter use will be dispersed throughout the refuge, minimizing the impact to any one area. Cutting vegetation is prohibited on the refuge.</p>

<b>ANTICIPATED IMPACTS TO NATURAL RESOURCES</b>	
<b>AFFECTED ENVIRONMENT</b>	<b>ANTICIPATED DIRECT AND INDIRECT IMPACTS</b>
<p><b>Visitor Use and Experience:</b> The refuge is currently open to five of the six priority public uses (fishing, wildlife observation, wildlife photography, environmental education and environmental interpretation). Although sea duck hunting occurs in refuge-owned waters, it has never been officially opened. About 46,156 visitors access the refuge each year, including 13,109 to the Visitor Center; 42,960 for wildlife observation; and 8,601 for fishing, among other users.</p>	<p><b>No Action:</b> No additional impacts to this resource would occur under this alternative.</p> <p><b>Proposed Action:</b> All hunting will take place in designated hunting areas that are open to all other public uses. However, hunting will be taking place at times of the year when other uses are occurring at much lower levels. Therefore, impacts to other visitor uses and experiences are anticipated to be minimal.</p>
<p><b>Refuge Management and Operations:</b> The infrastructure in hunt areas associated with refuge management includes several unmaintained trails and the Monomoy Point Light House and keeper’s house. A 500-foot buffer will be established around this structure.</p>	<p><b>No Action:</b> No adverse impacts would occur under this alternative.</p> <p><b>Proposed Action:</b> While areas of the refuge would be open to hunting, use of existing infrastructure would be limited. While there may be increased hunters throughout the refuge, impacts to trails are expected to be negligible.</p>
<p><b>Administration:</b> The staff requirement for offering this wildlife-dependent, priority public use is minimal. Staff is needed for administrative duties, such as communicating with the public about the hunt, printing and processing materials, collecting applications, coordinating with coyote hunters, and issuing permits. Refuge law enforcement is needed to ensure compliance with state and refuge regulations. The refuge will request the assistance, as needed, of Service or other authorized law enforcement personnel from Federal, State, county or local agencies during the hunt. This activity is within the staffing capabilities of the refuge to manage.</p>	<p><b>No Action:</b> No additional impacts to this resource would occur under this alternative.</p> <p><b>Proposed Action:</b> Estimated costs to implement this alternative are \$22,500 in year 1, and \$5,150 annually. This could slightly affect administration of the refuge. We would still implement priority actions and obligations in meeting the refuge purpose and mission of the Refuge System, such as habitat restoration and management, environmental education programs, etc.</p>

<b>ANTICIPATED IMPACTS TO NATURAL RESOURCES</b>	
<b>AFFECTED ENVIRONMENT</b>	<b>ANTICIPATED DIRECT AND INDIRECT IMPACTS</b>
<p><b>Socioeconomics:</b> The Town of Chatham has a long fishing history, and maintaining a vibrant fishing industry is very important to the Town. The visitor contact station on Morris Island is accessible by car. North Monomoy Island and South Monomoy Island, the majority of which is designated as wilderness, are accessible primarily by ferry or private boat. The refuge is open year-round, with most visitation occurring during the summer tourist season from late spring to early fall. The refuge offers wildlife viewing sites, hiking trails, and extensive fishing opportunities.</p> <p>Most refuge visits, especially those to the Monomoy Islands, occur between May and October, peaking in June, July, and August. The operation of the Refuge System not only provides wildlife with habitat but also provides visitors with opportunities to enjoy a variety of wildlife-dependent recreational and educational activities. The operation of an individual refuge is much like that of any small business. Refuge budgets are spent on salaries, expenses, and payments, much of which are spent within the local community.</p>	<p><b>No Action:</b> The economic benefit to the local community is not anticipated to change under the No Action Alternative.</p> <p><b>Proposed Action:</b> While hunting visitation will increase, hunting only accounts for 1 percent of expenditures related to the refuge. Therefore, only a minor beneficial economic impact is expected to result from the Proposed Action; however, it is anticipated to increase in comparison to the No Action Alternative.</p>
<p><b>ENVIRONMENTAL JUSTICE</b> Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires all Federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high or adverse human health or environmental impacts of their programs and policies on minorities and low-income populations and communities.</p>	<p>The Service has not identified any potential high and adverse environmental or human health impacts from this proposed action or any of the alternatives. The Service has identified no minority or low income communities within the impact area. Minority or low income communities will not be disproportionately affected by any impacts from this proposed action or any of the alternatives.</p>
<p><b>INDIAN TRUST RESOURCES</b> Some refuge lands were formerly occupied by Massachusetts Native Americans.</p>	<p>There are no known Indian Trust Resources on the refuge and this action will not affect any Indian Trust Resources.</p>

**Cumulative Impact Analysis:**

Cumulative impacts are defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions” (40 CFR 1508.7).

For more information on the national cumulative impacts of the Service’s hunting and fishing program on the National Wildlife Refuge System, see “U.S. Fish and Wildlife Service, Cumulative Impacts Report 2019-2020 National Wildlife Refuge and National Fish Hatchery Proposed Hunting and Sport Fishing Openings (2019)”.

**Table 4. Cumulative Impacts Table**

<b>Past, Present, and Reasonably Foreseeable Activity in Area of Analysis</b>	<b>Descriptions of Anticipated Cumulative Impacts</b>
<p><b>Hunting</b> Hunting occurs on public lands and waters that are found adjacent to or not far from the refuge. These areas include Nantucket Sound and a variety of town and state-owned conservation lands throughout Cape Cod.</p>	<p><b>Resident Wildlife:</b> The refuge hunt program will be conducted within the framework of State and Federal regulations. Population estimates of hunted species are developed at a regional and state scale. Hunting frameworks and take limits are set based upon these estimates. The proposed hunting program rules will be the same as, or more restrictive than, hunting regulations throughout the State of Massachusetts. By maintaining hunting regulations that are the same as or more restrictive than the State, we can ensure that we are maintaining seasons that are supportive of management on a more regional basis. Such an approach provides consistency with large-scale population status and objectives. The refuge regularly coordinates with the State about the hunting program.</p> <p>Under the proposed action alternative, the refuge would allow the harvest of coyotes. Nearby public properties in the local area offer similar hunting opportunities. We anticipate a harvest of one coyote per year. Even at the local level, the refuge would add a negligible amount to regional and statewide populations. Wildlife management of populations is important to ensure the health of the ecosystem, and the refuge’s hunt program provides minor, additional beneficial impacts to the cumulative impacts of wildlife management in the state.</p> <p><b>Migratory Birds:</b> Migratory bird populations throughout the United States are managed through</p>

<b>Past, Present, and Reasonably Foreseeable Activity in Area of Analysis</b>	<b>Descriptions of Anticipated Cumulative Impacts</b>
	<p>an administrative process known as flyways. The refuge is located in the Atlantic Flyway. In North America, the process for establishing hunting regulations is conducted annually. In the United States, the process involves a number of scheduled meetings (Flyway Study Committees, Flyway Councils, Service Regulations Committee, etc.) in which information regarding the status of migratory bird populations and their habitats is presented to individuals within the agencies responsible for setting hunting regulations. 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 2017). The Report is a cooperative effort by the Service, the Canadian Wildlife Service, various state and provincial conservation agencies, and private conservation organizations. An Annual Adaptive Harvest Management Report (AHM) provides the most current data, analyses, and decision making protocols (USFWS 2017). These reports are intended to aid the development of waterfowl harvest regulations in the United States for each hunting season.</p> <p>The Service believes that hunting on the refuge will not add significantly to the cumulative impacts of migratory bird management on local, regional, or Atlantic Flyway populations because the percentage likely taken on the refuge, though possibly additive to existing hunting takes, would be a tiny fraction of the estimated populations. Overall populations will continue to be monitored and future harvests will be adjusted as needed under the existing flyway and State regulatory processes. Several points support</p>

<b>Past, Present, and Reasonably Foreseeable Activity in Area of Analysis</b>	<b>Descriptions of Anticipated Cumulative Impacts</b>
	<p>this conclusion: (1) the proportion of the national waterfowl harvest that occurs on national wildlife refuges is only 6 percent (Service 2013c); (2) there are no populations that exist wholly and exclusively on national wildlife refuges; (3) annual hunting regulations within the United States are established at levels consistent with the current population status; (4) refuges cannot permit more liberal seasons than provided for in Federal frameworks; and (5) refuges purchased with funds derived from the Federal Duck Stamp must limit hunting to 40 percent of the available area.</p> <p>Although the Proposed Action Alternative will increase hunting opportunities compared to the No Action Alternative, the slight increase in hunter activity (i.e., an estimated harvest of 232 waterfowl per year) will not rise to a significant cumulative impact locally, regionally, or nationally.</p>
<p><b>Development and Population Increase</b>            Today, although Massachusetts is the seventh smallest state in the U.S., it is the third most densely populated state in the country (Massachusetts Population 2018-11-30).</p> <p>In 2010, Chatham had a local year-round population of around 1,400. The largest employers in the area, in terms of employment, were: (1) the arts, entertainment, recreation, and accommodation and food services; (2) finance/insurance, real estate and rental/leasing; and (3) health care and social assistance (U.S. Census Bureau 2010). Together, these three industries employed about 43 percent of the total workforce. Construction and retail trade also employed about 20 percent of total employment.</p>	<p>Because the refuge uses an adaptive management approach for its hunt program, reviewing the hunt program annually and revising annually (if necessary), the Service’s hunt program can be adjusted to ensure that it does not contribute further to the cumulative impacts of population growth and development on resident wildlife and migratory birds.</p>

<b>Past, Present, and Reasonably Foreseeable Activity in Area of Analysis</b>	<b>Descriptions of Anticipated Cumulative Impacts</b>
<p>Developmental pressure, in Chatham appears to be stable due to the lack of available land suitable for building; however, development throughout much of Cape Cod continues to increase.</p>	
<p><b>Use of lead ammunition</b> Lead ammunition is permitted in Massachusetts and on the refuge for all hunts, except migratory birds.</p>	<p>The number of participants in coyote hunting is expected to be low and the number of actual shots fired will be even lower; therefore, the amount of additional lead to the landscape will be negligible. However, it is possible that any accumulation of lead could incur negative impacts if it is consumed by wildlife, but the likelihood of that resulting in poisoning is low.</p>
<p><b>Climate Change</b> Ecological stressors are expected to affect a variety of natural processes and associated resources into the future. The most substantial concern at the refuge is sea level rise and the impact on marsh elevation. This is already causing marsh migration, marsh inundation, and increased mortality in forests adjacent to saltmarshes. These habitat changes may dramatically reduce the amount and quality of both forest for resident wildlife and saltmarsh for migratory birds that are hunted. As a result, wildlife would be forced into reduced amounts of available habitat.</p> <p>Concentrating birds into smaller areas has potential to more readily allow disease to spread within overwintering waterfowl populations, resulting in increased bird mortality.</p>	<p>Under the Proposed Action, the refuge would use an adaptive management approach for its hunt program, reviewing the hunt program annually and revising annually (if necessary), the Service’s hunt program can be adjusted to ensure that it does not contribute further to the cumulative impacts of climate change on resident wildlife and migratory birds.</p>

**Monitoring**

The Refuge will be adaptive in the 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 MassWildlife through field surveys and game harvest reports, which will provide an additional means for monitoring populations. Refuge staff will also use formal and anecdotal information to help monitor population on refuge lands. The 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 briefly provides sufficient evidence and analysis for determining whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI). The term “significantly” as used in NEPA requires consideration of both the context of the action and the intensity of impacts. This section summarizes the findings and conclusions of the analyses above so that we may determine the significance of the impacts.

**Table 5. Summary of Findings Table**

<b>Resource</b>	<b>No Action Alternative</b>	<b>Proposed Action Alternative</b>
Hunted Species	No impact	Negligible, short-term adverse impacts (waterfowl and coyote) minor, long-term beneficial impacts (population control for hunted species which decreases potential for disease and/or famine)
Other Wildlife and Aquatic Species	No impact	Minor, short-term adverse impacts (disturbance). Minor, long-term positive impact potential (coyote)– reduced predation of birds and their eggs
Threatened and Endangered Species	No impact	Minor, long-term positive impact (coyote) – reduced predation of birds and their eggs
Vegetation	No impact	Negligible, short-term impacts (trampling) and soil erosion (boats, wakes, boat landing sites)
Air Quality	No impact	Negligible, short-term adverse impacts (emissions)
Water Resources	No impact	Minor, short-term adverse impacts (boat emissions)
Wetlands	No impact	Negligible, short-term adverse impacts (trampling)
Cultural Resources	No impact	No adverse impacts
Visitor Use and Experience	No impact	Negligible, short-term impacts (temporary inconvenience)

Resource	No Action Alternative	Proposed Action Alternative
Socioeconomics	No impact	Minor, long-term positive impacts (economic growth)
Refuge Management and Operations	No impact	Minor, long-term positive (providing opportunities) and negative (funding) impacts
Environmental Justice	No impact	No impact
Indian Trust Resources	No impact	No impact

**No Action:** There would be no additional costs to the refuge under this alternative. There would be no change to the current public use and wildlife management programs on the refuge. There would not be an increase in economic impacts to local economies. New hunting opportunities would not be created under this alternative, including new access sites to refuge lands for other users. This alternative has the least short-term impacts to physical and biological resources; however, long-term impacts on habitat quality could be adverse. In addition, this would reduce our actions mandated under the Refuge System Administration Act and Secretarial Order 3356.

**Proposed Action:** This alternative is the Service’s proposed action because it offers the best opportunity for public hunting that would result in a minimal impact on physical and biological resources, while meeting the Service’s mandates under the Refuge System Administration Act and Secretarial Order 3356. The Service believes that hunting 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. In addition, overall populations will continue to be monitored in collaboration with MassWildlife and future harvests will be adjusted as needed. Refuge hunting would not measurably add to the cumulative impacts to wildlife from hunting at the local or regional levels, and would only result in minor impacts to wildlife populations.

**Conclusion**

The Service proposes to open hunting opportunities on Monomoy NWR as analyzed above under the Proposed Action Alternative, which is not anticipated to have any significant impacts on the human environment.

**List of Sources, Agencies and Persons Consulted:**

- Massachusetts Division of Fisheries and Wildlife - Jason Zimmer
- Massachusetts Department of Conservation and Recreation:
- National Oceanic and Atmospheric Administration – Kimberly Murray, Elizabeth Josephson
- Tufts University – Dr. Wendy Puryear

**List of Preparers:**

Linh Phu - Project Leader  
Tom Eagle - Deputy Project Leader  
Matthew Hillman – Refuge Manager

**State Coordination:**

National wildlife refuges, including Monomoy NWR, conduct hunting programs within the framework of State and Federal regulations. All authorized hunts are at least as restrictive as the State of Massachusetts. By maintaining hunting regulations that are as, or more, restrictive than the State, individual refuges ensure that they are maintaining seasons which are supportive of management on a local and regional basis. This EA associated with the Hunting Plan will be shared with the Massachusetts Division of Fisheries and Wildlife (MassWildlife) for their review. The refuge has moved forward with developing this Hunting Plan and EA based upon earlier formal coordination with MassWildlife as well as the intervening informal discussions.

Eastern Massachusetts NWR Complex (Monomoy NWR) will continue to consult and coordinate with MassWildlife annually to maintain regulations and programs that are consistent with the State; as well as to monitor populations of proposed hunt species and to set harvest goals. Refuge staff met with MassWildlife representatives to discuss the current hunting program and to discuss recommendations for the future.

**Tribal Consultation:**

Email notification regarding the opening of Monomoy NWR to hunting was sent to Cedric Cromwell, Chairman of the Mashpee Wampanoag Tribal Council on January 16, 2019. A follow up phone call was made on January 23, 2019 to Chuckie Green, Director of Natural Resources for the Mashpee Wampanoag Tribe, requesting a letter of support by February 15, 2019. Director Green said he would draft a letter of support and do his best to get a signature from the Tribal Chairman.

**Public Outreach:**

A public meeting will be held during the 30-day public review period in the town of Chatham.

**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: \_\_\_\_\_

Name/Title/Organization: \_\_\_\_\_

\_\_\_\_\_

Reviewer Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name/Title: \_\_\_\_\_

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*Appendix B. Environmental Assessment*

\_\_\_\_\_ 2017. Waterfowl Population Status, 2017. August.

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**FINDING OF NO SIGNIFICANT IMPACT**  
**ENVIRONMENTAL ASSESSMENT**  
***HUNTING PLAN***  
**MONOMOY NATIONAL WILDLIFE REFUGE**  
***Barnstable County, Massachusetts***

The U.S. Fish and Wildlife Service (Service) proposes to open Monomoy National Wildlife Refuge (NWR, refuge) to hunting. An Environmental Assessment (EA) was prepared in compliance with the National Environmental Policy Act (NEPA) to provide decision-making framework that: (1) explores a reasonable range of alternatives to meet project objectives; (2) evaluate potential issues and impacts to the refuge, resources and values; and (3) identifies mitigation measures to lessen the degree or extent of these impacts. The EA evaluated the effects associated with No Action and Proposed Action alternatives.

**Selected Action**

**Proposed Action Alternative**

The Service selected a modified version of the proposed action alternative evaluated in the EA. Under the Proposed Action Alternative, the Service originally proposed to open hunting to 3,080 acres for waterfowl hunting, and 7,250 acres to coyote hunting on Monomoy NWR. Major concerns were raised during the comment period by the U.S. Department of Commerce's National Oceanic and Atmospheric Administration (NOAA) and other local and national nonprofit conservation organizations regarding the likelihood for seal disturbance and incidental harassment with the coyote hunting aspect of the plan. The Service did not complete the necessary coordination with NOAA to identify Marine Mammal Protection Act (16 U.S.C. 1361 et seq.) concerns prior to the release of the environmental assessment. The majority of respondents were opposed to coyote hunting and, despite extensive outreach efforts, no sporting clubs or local outfitters supported or provided comments on the draft plan. Therefore, the Service will not allow for a coyote hunting program at Monomoy NWR.

The selected alternative proposes to allow public hunting opportunities for waterfowl on Monomoy NWR in accordance with the refuge's Comprehensive Conservation Plan (CCP) (Service 2016). Monomoy NWR stretches for 8 miles off the elbow of Cape Cod in the Town of Chatham, Barnstable County, Massachusetts. This 7,898-acre refuge includes South Monomoy Island, North Monomoy Island, Minimoy Island, and 40 acres on Morris Island where the headquarters and visitor contact station are located. We propose to open 3,080 acres of the refuge to waterfowl (i.e., ducks, geese, and coots) hunting.

All units opened to hunting under this proposed action will follow the Commonwealth of Massachusetts seasons and regulations and subject to additional refuge-specific regulations. Monomoy NWR is one of eight refuges that make up the Eastern Massachusetts NWR Complex (Refuge Complex), which is headquartered in Sudbury, Massachusetts. The barrier islands are part of a dynamic coastal zone, characterized by an ever-changing landscape. Salt and freshwater marshes, dunes, and ponds provide nesting, resting, and feeding habitat for migratory birds

The preferred alternative was selected over other alternatives because the hunting program, along with all other management programs, relates directly to the overall mission of the Service. Additionally, the National Wildlife Refuge System (Refuge System) Improvement Act of 1997 identifies six priority public uses that are appropriate on national wildlife refuges, including hunting, fishing, wildlife observation, wildlife photography, and environmental interpretation and education. Development and enhancement of a quality and biologically sound hunting program will provide the public with a high-quality recreational experience on refuge lands and increase opportunities and access for hunters, and better align with refuge habitat management objectives. The action also complies with direction set forth in the 2016 CCP.

**Other Alternatives Considered and Analyzed**

**No Action Alternative**

Under this alternative, refuge lands would continue to be closed to all forms of hunting. Disadvantages of the no action alternative include not being able to promote a priority public use of the Refuge System. There would be no additional costs to the refuge under this alternative. There would be no change to the current public use and wildlife management programs on the refuge. The refuge would not increase its impact on the economy and would not provide new hunting and access opportunities. This alternative has the least direct impacts of physical and biological resources. In addition, this alternative would not meet mandates under the Refuge System Administration Act and Secretarial Order 3356.

**Summary of Effects of Selected Action**

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

Resource	No Action Alternative	Proposed Action Alternative
Hunted Species	No impact	Negligible, short-term adverse impacts (waterfowl) minor, long-term beneficial impacts (population control for hunted species which decreases potential for disease and/or famine)
Other Wildlife and Aquatic Species	No impact	Minor, short-term adverse impacts (disturbance)
Threatened and Endangered Species	No impact	Minor, short-term negative impact (disturbance, migrating red knots)
Vegetation	No impact	Negligible, short-term impacts due to soil erosion (boats, wakes, boat landing sites)
Air Quality	No impact	Negligible, short-term adverse impacts (emissions)

*Appendix B. Environmental Assessment*

<b>Resource</b>	<b>No Action Alternative</b>	<b>Proposed Action Alternative</b>
Water Resources	No impact	Minor, short-term adverse impacts (boat emissions)
Wetlands	No impact	No adverse impacts
Cultural Resources	No impact	No adverse impacts
Visitor Use and Experience	No impact	Negligible, short-term impacts (temporary inconvenience)
Socioeconomics	No impact	Minor, long-term positive impacts (economic growth)
Refuge Management and Operations	No impact	Minor, long-term positive (providing opportunities) and negative (funding) impacts
Environmental Justice	No impact	No impact
Indian Trust Resources	No impact	No impact

Measures to mitigate and/or minimize adverse effects have been incorporated into the proposal. These measures include:

- Refuge and State law enforcement officers enforce hunting regulations. Providing hunting information through various forums will ensure the public is aware of applicable laws and policies.
- To minimize conflict, refuge-specific hunt regulations and hunt unit maps (brochures) will be made available to hunters at kiosks, the refuge website (<https://www.fws.gov/refuge/monomoy>) and at the Refuge Headquarters at 30 Wikis Way on Morris Island, Chatham, Massachusetts.
- 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 MassWildlife through field surveys and game harvest reports, which will provide an additional means for monitoring populations. The State has determined that populations of game species are at levels acceptable to support hunting and these assessments are reviewed and adjusted periodically.
- All commercial guides will be required to obtain a Special Use Permit and report on the number of hunters, days hunted and game taken on an annual basis.

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

several reasons:

- The Service works closely with the Commonwealth to ensure healthy populations of the species for present and future generations of Americans;
- 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;
- The adverse direct and indirect effects of the proposed action on air, water, soil, habitat, wildlife, aesthetic/visual resources, and wilderness values are expected to be minor and short-term. The benefits to long-term ecosystem health that these efforts will accomplish far outweigh any of the short-term adverse impacts discussed in this document;
- Refuge staff will monitor for impacts related to hunting;
- The action, along with proposed mitigation measures, will ensure that there is low danger to the health and safety of refuge staff, visitors, and the hunters themselves;
- The action is not in an ecologically sensitive area;
- The action will not impact any threatened or endangered species; or any federally designated critical habitat;
- The action will not impact any cultural or historical resources;
- The action will not impact any wilderness areas;
- There is no scientific controversy over the impacts of this action and the impacts of the proposed action are relatively certain;
- The proposal is not expected to have any significant adverse effects on wetlands and floodplains, pursuant to Executive Orders 11990 and 11988 because hunters must use established access points that will not be located near sensitive habitats.

The proposal is compatible with the purposes of the refuge and the mission of the Refuge System and consistent with applicable laws and policies regarding the establishment of hunting on national wildlife refuges (see the Compatibility Determination (CD) (Appendix A of the Hunting Plan). Refuge-specific regulations promulgated in conjunction with this action will be finalized through the standard of the *Federal Register*, and published in Title 50 of the Code of Federal Regulations (50 CFR §32.40).

### **Public Review**

The proposal has been thoroughly coordinated with all interested and/or affected parties. Parties

contacted include:

- Massachusetts Division of Fisheries and Wildlife
- Massachusetts Department of Conservation and Recreation
- National Oceanic and Atmospheric Administration (Kimberly Murray, Elizabeth Josephson)
- Tufts University (Dr. Wendy Puryear)

The public was notified of the availability of the Monomoy NWR Hunting Plan, EA, and CD for review, which included a 35-day comment period. We informed the public through local venues, hunting groups and clubs, news media, the refuge website, one public meeting, and social media. Comments received from the public were considered, and modifications were incorporated into the final plan and decision documents.

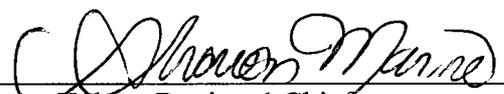
The draft plan included opening portions of the refuge both to waterfowl and to coyote hunting. We received 48 public comments on the draft hunt plan, including comments from multiple organizations on the 2019-2020 station-specific hunting and sport fishing proposed rule. Collectively, these comments indicated strong opposition and little support for opening Monomoy NWR to coyote hunting in particular. Locally, only three individuals supported the coyote hunt proposal, with two of those supporting specifically for the purposes of predator management for bird protection - not for recreational hunting. The majority of respondents were opposed to coyote hunting, and despite extensive outreach efforts, no sporting clubs or local outfitters supported or provided comments on the draft plan.

Major concerns were raised during the comment period by NOAA and other local and national nonprofit conservation organizations regarding the likelihood for seal disturbance and incidental harassment. The Service did not complete the necessary coordination with NOAA to identify Marine Mammal Protection Act (16 U.S.C. 1361 et seq.) concerns prior to the release of the environmental assessment. Therefore, the Service will not allow for a coyote hunting program at Monomoy NWR. Monomoy NWR will implement the waterfowl hunting program in 2019-2020, as proposed.

### **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 implement hunting on Monomoy NWR does not constitute a major Federal action significantly affecting the quality of the human environment under the meaning of Section 102 (2)(c) of the NEPA of 1969 (as amended). As such, an environmental impact statement is not required. An EA has been prepared in support of this finding and is available upon request to the U.S. Fish and Wildlife Service, Monomoy NWR.

**ACTING**

  
\_\_\_\_\_  
Scott Kahan, Regional Chief  
National Wildlife Refuge System  
North Atlantic-Appalachian Region

10/15/19  
\_\_\_\_\_  
Date

INTRA-SERVICE SECTION 7 BIOLOGICAL EVALUATION  
FORM

Originating Person: Matt Hillman, Refuge Manager  
Contact Info: [matthew\\_hillman@fws.gov](mailto:matthew_hillman@fws.gov), 774-840-4001  
Date: 9/06/2019

- I. Region: North Atlantic-Appalachian
- II. Service Activity (Program): NWRS, hunt plan opening package
- III. Pertinent Species and Habitat:
  - a. Listed species and/or their critical habitat within the action area:
    - Piping plover (*Charadrius melodus*)
    - Red knot (*Calidris canutus rufa*)
    - Roseate tern (*Sterna dougallii dougallii*)
    - Northeastern beach tiger beetle (*Cicindela dorsalis dorsalis*)
    - Seabeach amaranth (*Amaranthus pumilus*)
  - b. Proposed species and/or proposed critical habitat within the action area:
    - None
  - c. Candidate species within the action area:
    - None
- IV. Geographic area or station name: Monomoy NWR, Chatham, Barnstable County, MA
- V. Location:

Proposed waterfowl (duck, goose, and coot) hunting areas include approximately 3,080 acres of offshore waters south of Minimoy Island and west of South Monomoy Island up to the Declaration of Taking boundary line (Figure 1). Hunters would be accessing refuge waters by boat and remaining on the boat at all times while hunting. No hunting will be permitted on intertidal or upland portions of the refuge. Waterfowl hunting seasons would follow state of MA regulations. For the 2019-2020 waterfowl season, this would include October 11-19, and November 27 – January 25.
- VI. Species/habitat occurrence:
  - Piping plovers breed on South Monomoy Island from late March to August, and breeding and/or migrating piping plovers occur throughout the refuge's open beach habitats from March through September (Figure 3a).
  - Red knots use refuge salt marshes, open beach, and tidal habitats during spring migration and summer in small numbers, and in larger numbers during fall migration from July through November, with the largest numbers

occurring from mid-July through mid-October. A habitat map of red knots is not included, as they are observed throughout the refuge's beaches, marshes, and tidal flats during migration.

- Roseate terns breed on the north tip of South Monomoy Island from April through July, and migrants are observed through September on many refuge beaches and nearshore waters (Figure 3b).
- Northeastern beach tiger beetles occur on the open beaches of South Monomoy Island year-round, predominantly along the Atlantic (east) side (Figure 3c).
- Seabeach amaranth was out-planted along a section of South Monomoy Island's Atlantic-facing beach in 2017 (Figure 3b), and several plants went to seed in 2018.

VII. Description of proposed action:

Open portions of Monomoy NWR to hunting as follows:

- Waterfowl: The hunt season would be consistent with State of Massachusetts regulations; generally open for a 1-week window in mid-October and from mid-November through mid-January. Hunting is permitted offshore by boat only.

VIII. Determination of effects:

a. Explanation of effects of the action on species and critical habitats in items III.a, b and c:

- There would be no spatial or temporal overlap between waterfowl hunters and the presence of piping plovers, red knots, and roseate terns.
- There would be no spatial overlap between waterfowl hunters and seabeach amaranth or northeastern beach tiger beetles.

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

Because the hunt plan, with the seasons and locations proposed, already takes into consideration the presence of protected species, including the five aforementioned threatened and endangered species as well as a large pinniped colony throughout the Atlantic-facing shoreline, no additional actions are needed to reduce adverse effects to federally listed species under current conditions. Should conditions change, the hunt plan would be amended accordingly.

Any effects of hunters on these species would be negligible, as hunter numbers are expected to be low due to challenging access conditions, particularly during the late fall/winter when hunting would take place. Additionally, the hunt season would take place only at the extreme ends of bird migration, so relatively few migrating individuals would be present. Breeding would not be affected for any species.



X. Reviewing Ecological Services Office Evaluation:

A. Concurrence \_\_\_\_\_

Non-concurrence \_\_\_\_\_

B. Formal consultation required \_\_\_\_\_

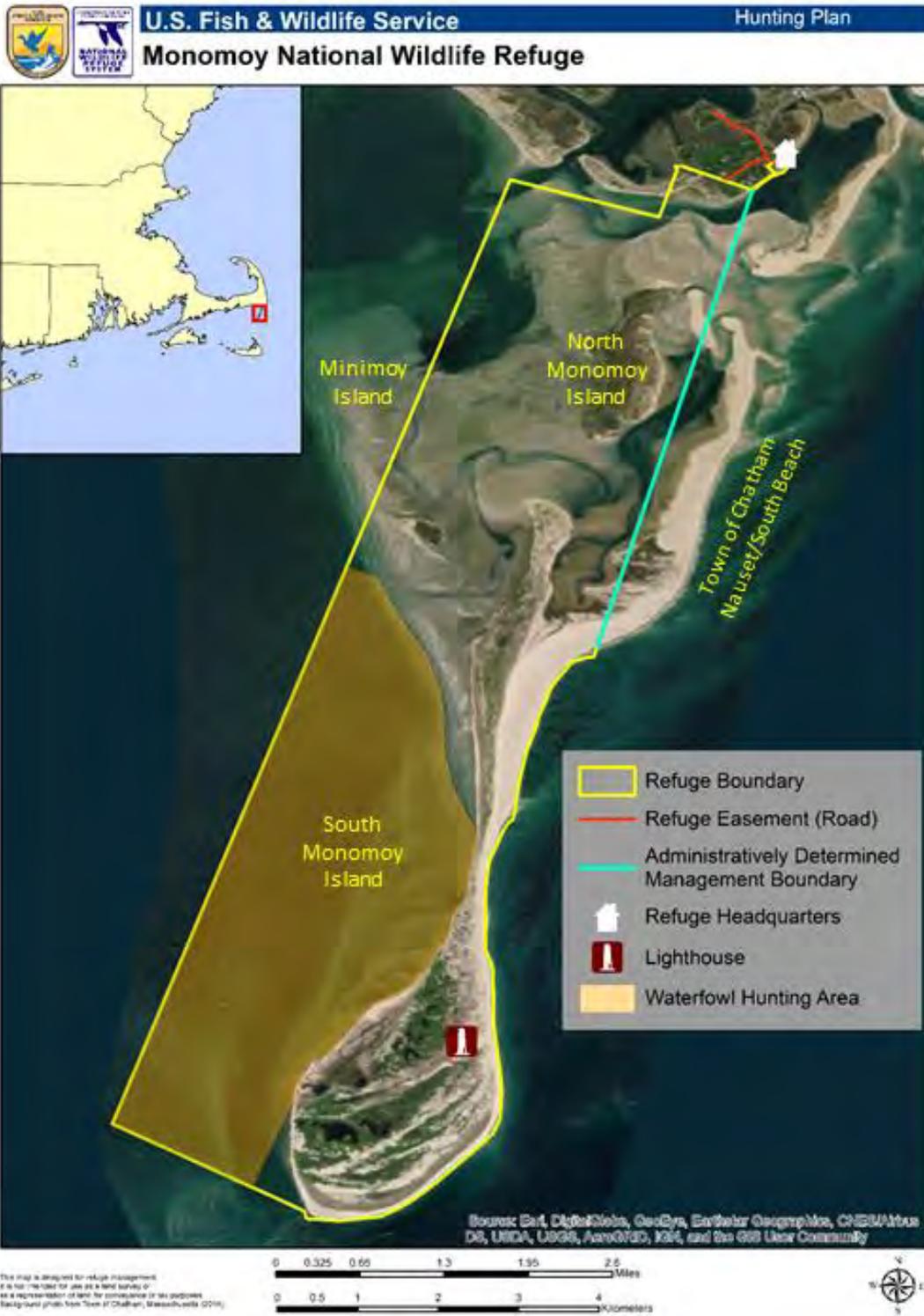
C. Conference required \_\_\_\_\_

D. Informal conference required \_\_\_\_\_

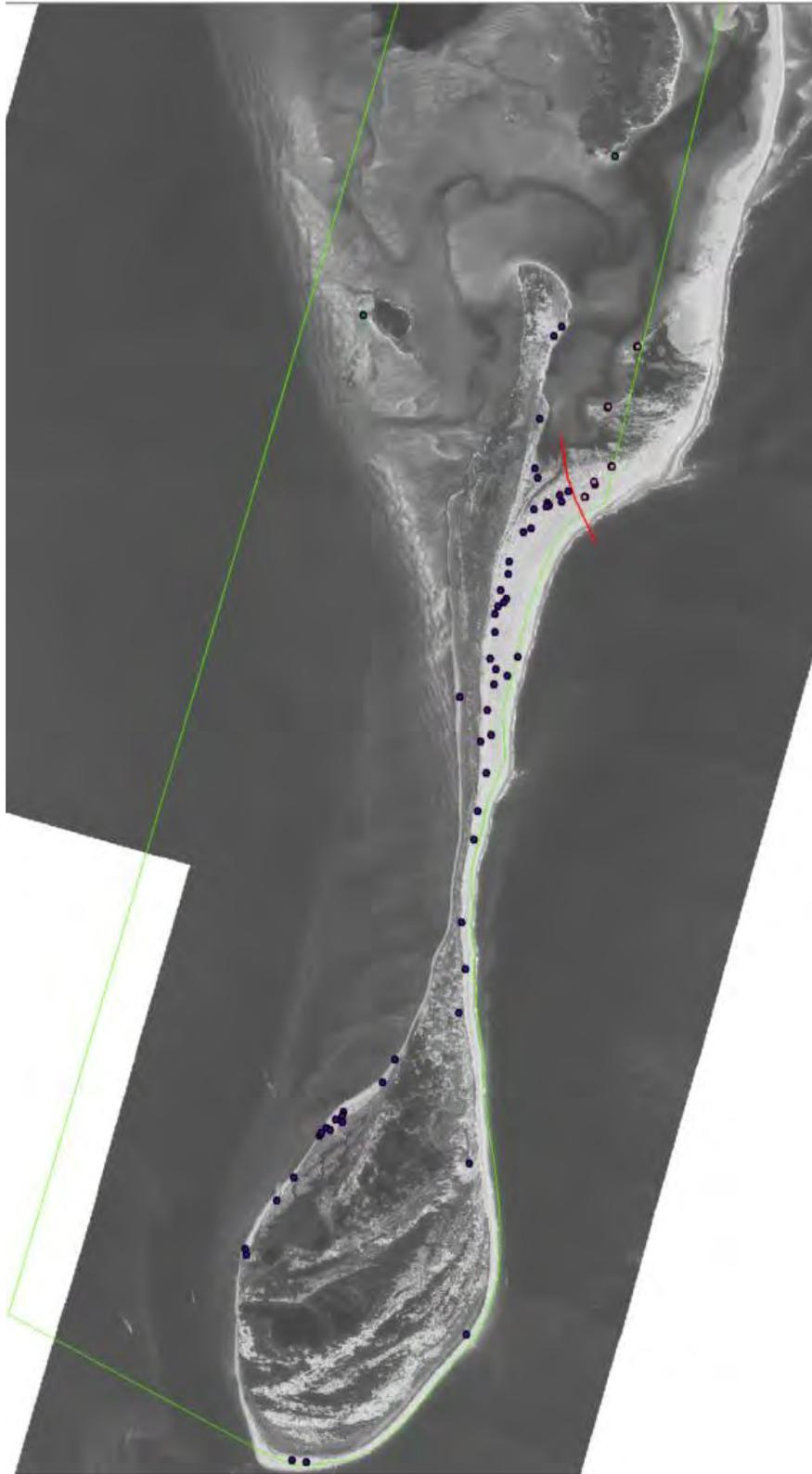
E. Remarks (attach additional pages as needed) \_\_\_\_\_

\_\_\_\_\_  
Supervisor, New England Field Office

\_\_\_\_\_  
Date

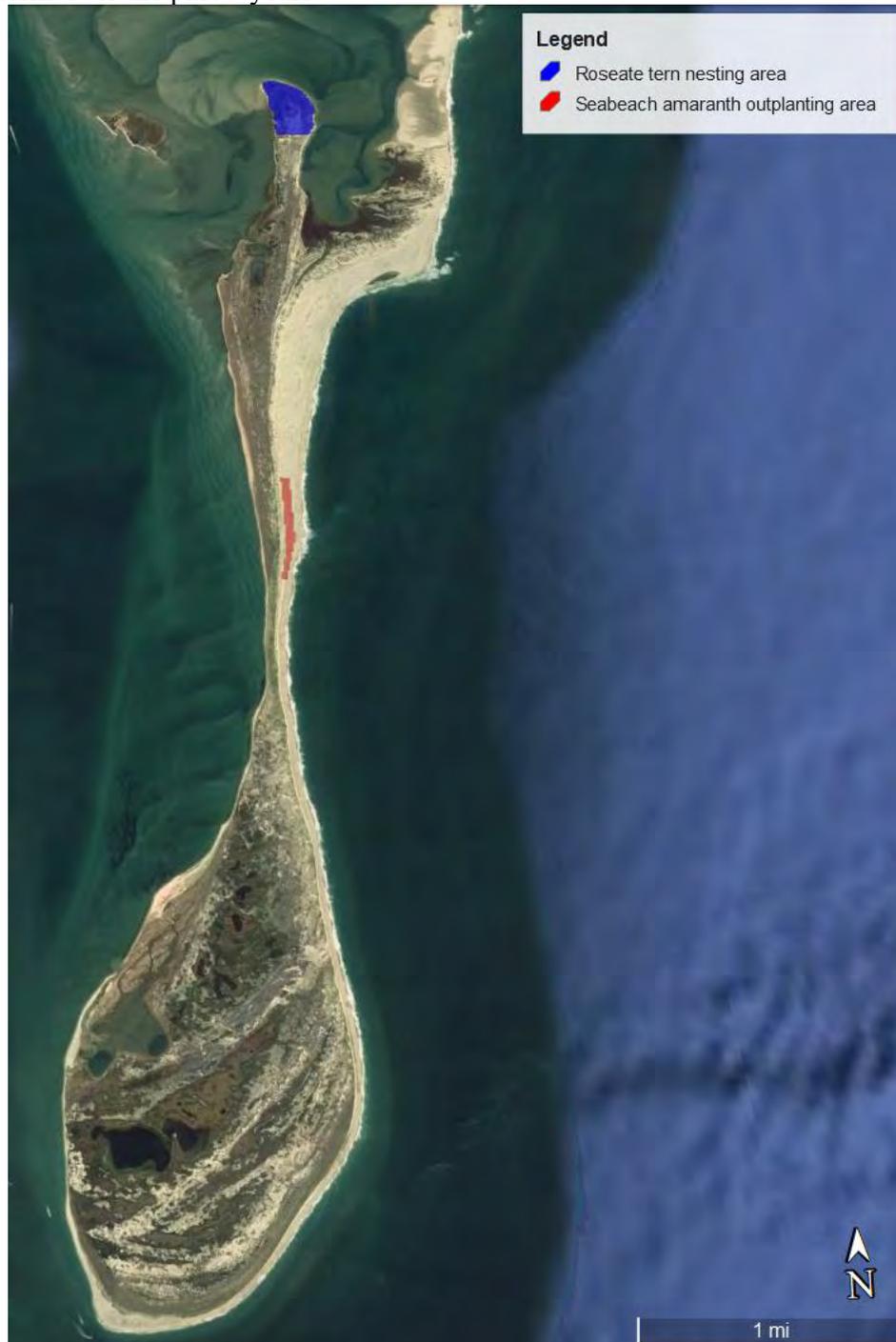


**Figure 1.** Proposed waterfowl hunting area in the waters west of South Monomoy Island, Monomoy National Wildlife Refuge, Chatham, MA.

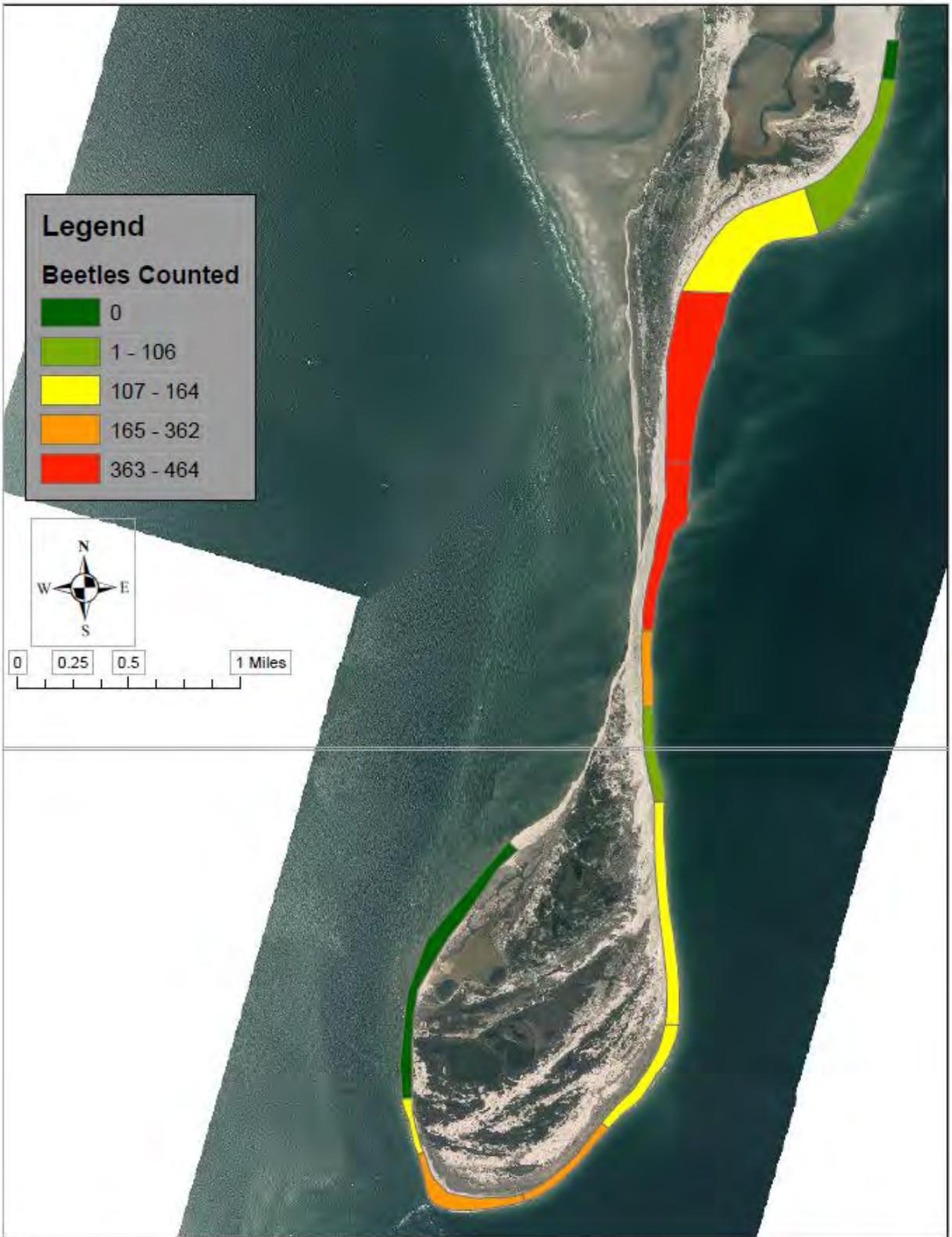


**Figure 3a.** Piping plover nest locations, 2017. Nest distribution is characteristic of general plover

nesting patterns over the past 5 years.



**Figure 3b.** Approximate locations of the tern colony (in blue), where all roseate tern nesting has occurred on the refuge for the past 5 years, and 2017 outplanting area for seabeach amaranth (in red).



**Figure 3c.** Northeastern beach tiger beetle index count, 29 July, 2018, from the Lighthouse Boat Landing (Monomoy NWR) to South Beach (Town of Chatham).