

Chincoteague National Wildlife Refuge and Wallops Island National Wildlife Refuge Hunting Plan *September 2022*



N A T I O N A L
WILDLIFE
REFUGE SYSTEM

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**Chincoteague National Wildlife Refuge and
Wallops Island National Wildlife Refuge
Hunting Plan**

September 2022

U.S. Fish and Wildlife Service

**Chincoteague National Wildlife Refuge
8231 Beach Road
Chincoteague, VA 23336**

Submitted By:
Project Leader

Signature

Date

Concurrence:
Refuge Supervisor

Signature

Date

Approved:
Regional Chief (Acting),
National Wildlife Refuge System

Signature

Date

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CHINCOTEAGUE NATIONAL WILDLIFE REFUGE AND WALLOPS ISLAND NATIONAL WILDLIFE REFUGE HUNTING PLAN

I. Introduction

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

The Secretary of the Department of the Interior (DOI) established Chincoteague National Wildlife Refuge (NWR, refuge) in 1943 under authority of the Migratory Bird Conservation Act “...for use as an inviolate sanctuary or for any other management purpose, for migratory birds” (16 U.S.C. § 715d), especially migrating and wintering waterfowl. Since that time, refuge objectives have been expanded to include the protection and management of threatened and endangered species and other wildlife, and to provide for wildlife-oriented public use. Other refuge purposes, and their associated acquisition authorities, now include:

- “... suitable for— (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species ...” 16 U.S.C. § 460k- “... the Secretary ... may accept and use ... real ... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors ...” (Refuge Recreation Act (16 U.S.C. § 460k-460k-4), as amended);
- “... the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions ...” 16 U.S.C. § 3901(b) (Emergency Wetlands Resources Act of 1986);
- “... for the development, advancement, management, conservation, and protection of fish and wildlife resources ...” 16 U.S.C. § 742f(a)(4) “... for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude ...” 16 U.S.C. § 742f(b)(1) (Fish and Wildlife Act of 1956); and,
- “... for conservation purposes ...” 7 U.S.C. § 2002 (Consolidated Farm and Rural Development Act).

Wallops Island NWR was created on March 11, 1971, when 373 acres of land were transferred to the Service from the National Aeronautics and Space Administration (NASA) Wallops Flight Center. Formally, Wallops Island NWR was established:

- “... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds” 16 U.S.C. § 715d (Migratory Bird Conservation Act); and
- for “... particular value in carrying out the national migratory bird management program” 16 U.S.C. § 667b (Fish and Wildlife Coordination Act).

Chincoteague NWR encompasses approximately 14,032 acres. All but 418 of those acres are located in Accomack County, Virginia. In addition to the Virginia portion of Assateague Island, Chincoteague NWR also includes all 427 acres of Morris Island (located between Chincoteague and Assateague Islands), 546 acres of the northern end of Chincoteague Island (known as Wildcat Marsh), all 1,434 acres of Assawoman Island, 174 acres of the northern end of Metompkin Island, and 2,012 acres of Cedar Island in both fee title and easements. Chincoteague NWR has been designated as part of a Globally Important Bird Area (IBA) by the American Bird Conservancy and the Audubon Society; one of the top 10 birding Hotspots by the National Audubon Society; and a Site of International Importance within the Western Hemisphere Shorebird Reserve Network (WHSRN), a conservation partnership of stewards and landowners led by the Manomet Center for Conservation Sciences.

Chincoteague NWR is also an important recreational destination, particularly for people living in the Washington, D.C., Baltimore, Philadelphia, and New York City metropolitan areas. With approximately 1.2 to 1.4 million recreational visits annually, Chincoteague NWR is one of the most visited refuges in the United States. Chincoteague NWR is open to all six of the priority public uses of the Refuge System (hunting, fishing, wildlife observation and photography, environmental education and interpretation) as well as other public uses that have been deemed appropriate and compatible. Most visits to the refuge are for the recreational beach. The beach is managed by the National Park Service (NPS) under an agreement with the FWS resulting from a congressional mandate from when the Assateague Island National Seashore was designated in 1965. Visitation to Chincoteague NWR supports the Town of Chincoteague’s tourist economy.

Wallops Island NWR is located on the mainland, east of Wattsville, Virginia in Accomack County. The refuge is immediately adjacent to Highway 175, which provides access to the Town of Chincoteague and Chincoteague NWR. Wallops Island NWR is comprised mainly of salt marsh and woodlands and contains habitat for a variety of species, including upland- and wetland-dependent migratory birds. Wallops Island NWR is managed as a satellite refuge of Chincoteague NWR.

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

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

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

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

Therefore, it is a priority of the FWS 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.

Hunting on the Delmarva Peninsula is a traditional outdoor pastime and remains a popular form of wildlife-dependent recreation on the refuges and a vital part of the cultural, social, and economic fabric of the communities near the refuges. All hunting is conducted within the regulatory framework established annually by the Commonwealth of Virginia. Chincoteague NWR is open to white-tailed deer, sika, and migratory bird hunting. Wallops Island NWR is closed to the public except for white-tailed deer hunting. It was opened to public hunting in 2002 to reduce effects of overbrowsing by white-tailed deer and to reduce the potential of deer collisions with vehicles on the adjacent Highway 175 and aircraft at the neighboring NASA flight facility.

New proposed changes for Chincoteague NWR include the following:

- In the Northern Hunt Zone, we would add raccoon, opossum, fox, and coyote hunting during the regular State deer season. Also in the Northern Hunt Zone, we would allow the use of muzzleloaders for big game hunting, remove the limit on the number of hunters in the sign-in/sign-out process, follow the State bag limit for white-tailed deer and open a quota hunt for turkey.

- The current Toms Cove Hook Hunt Zone would be merged into the Archery Only Hunt Zone, removing shotguns as a method of take.
- In the expanded Archery Only Hunt Zone, we would add raccoon, opossum, fox, and coyote hunting during the regular State deer season. Also in the Archery Only Hunt Zone, we would remove the limit on the number of hunters in the sign-in/sign-out process, we would follow the State bag limit for white-tailed deer, and we would open a quota hunt for wild turkey.
- The Waterfowl Hunt Areas would open to all migratory game birds during State seasons, from September 16 through March 14.

New proposed changes for Wallops Island NWR include the following:

- The refuge would open for the first time to hunting for upland game (raccoon, opossum, fox, coyote, rabbit, and squirrel), and all migratory game birds. Hunting for these species would occur during State seasons between September 16 and March 14.
- The refuge would eliminate the existing sign-in/out process for all hunts.

For both refuges, the use of non-lead ammunition for proposed new hunting opportunities (raccoon, opossum, fox and coyote, plus rabbit, squirrel and migratory game birds at Wallops Island NWR) will be encouraged upon implementation of this plan in 2022. The use of non-lead ammunition for hunting will initially be voluntary and will transition to be required for use after a 4-year phase-in period is implemented then completed in 2026. This proposed phase-in period will allow hunters time to adapt to the new regulations without diminishing deer hunting opportunities on the refuges. The refuge staff will provide information to assist in a valuable transition period that benefits fish, wildlife, and people.

II. Statement of Objectives

The objectives for the hunting programs at Chincoteague and Wallops Island NWRs are to provide the public with high quality wildlife-dependent recreational opportunities that align with refuge purposes and management objectives. The Service has long recognized that hunting is an integral part of a comprehensive wildlife management program and that positive benefits can be attributed to a well-managed hunt. As such, hunting is considered one of the six priority public uses of the refuge system. Hunting is recognized as an acceptable, traditional form of wildlife-dependent recreation that can be and is sometimes used as a tool to effectively manage wildlife population levels.

Hunting is consistent with Goal 6 of the refuges' 2015 Comprehensive Conservation Plan (CCP) to provide the opportunity for "people of all ages and abilities [to] develop a stewardship ethic while enjoying their refuge experience and increasing their knowledge of the Service, Refuge System, and the refuge." This goal includes a specific objective (Goal 6, Objective 6.1) to "increase level of opportunity (e.g., expansion of hunted species) in the hunt program, such as the fall/winter light goose hunt, through expansion of hunted species, trapping, and new hunting programs." This

objective will help provide safe and high-quality big game, small game, and waterfowl hunting opportunities for the public.

III. Description of Hunting Program

A. Areas to be Opened to Hunting

We allow public hunting to occur in the following designated areas. Please see the attached map (Figure 1).

- Northern Hunt Zone (3,869 acres)
- Archery Only Zone (3,268 acres)
- Waterfowl Hunt Area (2,703 acres)
 - Morris Island (located between Chincoteague and Assateague Islands);
 - Wildcat Marsh (northern end of Chincoteague Island);
 - Assawoman Island; and
 - Metompkin Island (northern end)
- Wallops Island NWR (373 acres)

No-hunting zones would include beach areas, the over wash zone on the Assateague Island Unit, the southwest portion of Wildcat Marsh, and a 100-foot buffer area around any building, road or trail. Areas that would require a buffer area include the bunkhouse, visitor center, maintenance buildings, the Wildlife loop trail, headquarters office, lighthouse, Service Road, and the Marsh, Swan Cove, and the Woodland trails.

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

Hunting at Chincoteague and Wallops Island NWRs will be permitted from September 16 to March 14. Hunting hours and season dates within this time period will be in accordance with State regulations and may include additional refuge-specific limitations.

Chincoteague NWR

Migratory game bird hunting would be permitted for duck, goose, swan, rail, coot, snipe, gallinule, woodcock, dove, and crow in the designated Migratory Game Bird Hunt Zones (see map). Hunting and access for migratory game birds will be by boat only. Sunday hunting will be permitted for all migratory birds. The use of dogs will be allowed in designated areas. The use of non-lead ammunition will be required for all migratory game bird species in addition to the Federal requirements for waterfowl, swans, and coot.

Upland game hunting for raccoon, opossum, fox, and coyote would be allowed in the Northern and Archery Only Hunt Zones. Upland game hunting would be permitted during regular refuge hours only (i.e., no night hunting, access from 2 hours before sunrise to 2 hours after sunset) and would be concurrent with the State deer season. No dogs will be allowed. Upland game hunting would not be permitted on Sundays. The proposed requirement of non-lead ammunition will be phased in by 2026 where firearms are allowed.

Big game hunting will be permitted for white-tailed deer and sika in accordance with State seasons and methods of take in the Northern and Archery Only Hunt Zones. Spring and fall turkey hunting would also be allowed in the Northern and Archery Only Hunt Zones via a mentored quota hunt initially targeted to hunts for youth and apprentice hunters to assist the State with hunter recruitment and retention efforts (commonly referred to as R3). The Northern Hunt Zone is the firearms zone. In this area, methods of take will include all methods permitted by the State. Where firearms are allowed, the use of non-lead ammunition will be encouraged for turkey hunts, and will be encouraged for deer and sika until it's required for all species in 2026. The Archery Only Zone will be restricted to archery equipment only. Chase dogs will not be permitted for hunting deer on the refuge. Big game hunting will not be permitted on Sundays. Daily sign-in and sign-out procedures will be required for big game hunters. This procedure notifies hunters of current management activities that may impact the hunt zones and allows for the collection of harvest and hunter participation data for planning of future hunt opportunities. The number of hunters will not be limited within each zone. Daily and seasonal bag limits will follow State regulations. The sika harvest will be regulated in accordance with the state Deer Population Reduction Program (DPOP).

Wallops Island NWR

Migratory game bird hunting would be permitted for waterfowl, rail, coot, snipe, gallinule, dove, woodcock, and crow. Hunting would adhere to State seasons except that it will start on September 16 and end on March 14 to minimize disturbance to shore birds arriving to nest in the spring. Use of dogs would be permitted according to State regulations for hunting migratory game birds. Upland game hunting would include raccoon, opossum, fox, coyote, rabbit, and squirrel from September 16 to March 14. For big game, the refuge will remain open to white-tailed deer hunting in accordance with State seasons and methods of take. Chase dogs will not be permitted for hunting of upland game or deer on the refuge. Spring and fall turkey hunting would be administered via a mentored quota hunt and initially targeted to hunts for youth and apprentice hunters to assist the State with hunter recruitment and retention efforts (commonly referred to as R3). Use of non-lead ammunition will be proposed for phase in for all migratory game bird, upland game, and turkey hunts. The use of non-lead ammunition will be encouraged for deer hunting until it is required in 2026.

C. Hunter Permit Requirements

Hunters will be required to obtain all relevant State and Federal licenses and permits and have in their possession a signed refuge-specific hunt brochure. See "Hunter Permit Application and/or Registration Procedures" below.

D. Consultation and Coordination with the State

The refuge reviewed the operations and regulations for neighboring State Wildlife Management Areas and refuges to find consistency where possible. Refuge staff worked with the local State biologist and conservation officers early in the development of the plan. We continue to coordinate with the State to address changes to hunting programs on national wildlife refuges within Virginia. We reached out to VDW on June 11, 2021, to discuss this Hunting Plan. Refuge staff requested review by the State regional office that covers our area to help adjust our

plan to align, where possible, with State management goals. Refuge staff have continued to consult and coordinate on specific aspects of the Hunting Plan. The State is in agreement with the refuges' hunting program, as it will help meet State objectives. Chincoteague NWR and Virginia Department of Wildlife Resources (VDWR) will continue to work together to ensure safe and enjoyable recreational hunting opportunities.

E. Law Enforcement

Enforcement of refuge violations normally associated with management of a national wildlife refuge is the responsibility of commissioned Federal Wildlife Officers (FWOs). Other officers, Special Agents, NPS Rangers, State Conservation Police Officers, and the local Sheriff's Department may assist the Service's full-time FWOs.

F. Funding and Staffing Requirements

Annual hunt administration costs for Chincoteague and Wallops Island NWRs including salary, equipment, updating brochures, signs, collection of hunt data and analysis of biological information, etc. total approximately \$24,000. Chincoteague NWR funds are used to conduct hunts on the Chincoteague and Wallops Island NWRs. Funding specifically for hunts has not been allocated, although funds are available through recreation fees. We anticipate that funding would continue to be sufficient to continue the hunting program at Chincoteague and Wallops Island NWRs in the future.

Table 1. Funding and Staffing Requirements

Identifier	Cost
Staff (Maintenance, Biologist, Managers, Visitor Services, Contractors)	\$9,000
Maintain roads, parking lots, trails*	\$13,000
News releases, fact sheets, permitting reports	\$1,000
Maintain hunt/fish materials and supplies (signs, deer check station)	\$1,000
Total Annual Cost	\$24,000

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

IV. Conduct of the Hunting Program

To ensure compatibility with refuge purposes and the mission of the Refuge System, hunting is conducted in accordance with State and Federal regulations and supplemented by refuge-specific regulations (50 CFR 32.65). However, the refuge managers may, upon annual review of the hunting program, impose further restrictions on hunting, recommend the refuges be closed to activities, or further liberalize hunting regulations up to the limit of State regulations. The refuges will restrict activity if it becomes inconsistent with other priority refuge programs or endangers refuge resources or public safety.

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

Hunters are required to sign the appropriate hunt brochure prior to hunting on Chincoteague and

Wallops Island NWRs. Hunt brochures are available to be printed or downloaded from the refuge website. Brochures are also available at the hunter check station and at the Herbert H. Bateman Visitor and Administrative Center. Hunters are required to sign in and out at the hunt check station each day in order to hunt in the Chincoteague NWR Northern or Archery Only Hunt Zones. Spring and fall turkey hunting will be administered via a mentored quota hunt and initially targeted to hunts for youth and apprentice hunters to assist the State with hunter recruitment and retention efforts (commonly referred to as R3). Hunter application and selection procedures for the proposed turkey quota hunts will be developed in coordination with the State and published online on the refuge website and in our hunting brochure.

B. Refuge-Specific Hunting Regulations

Listed below are proposed refuge-specific regulations and procedures that pertain to hunting on Chincoteague and Wallops Island NWRs upon implementation of this plan. These regulations and procedures may be modified as conditions change or if refuge expansion continues or occurs.

Chincoteague NWR

Migratory Birds

- Hunting of waterfowl (duck, goose, swan), rail, coot, snipe, gallinule, dove, woodcock, and crow is allowed on designated areas of the refuge in accordance with State regulations between September 16 to March 14.
- Hunters must obtain and possess a signed refuge migratory game bird hunt brochure while hunting.
- Hunters may access the refuge from 2 hours before sunrise until 2 hours after sunset.
- Trained dogs may be used for the hunting of migratory birds according to State regulations.
- Portable blinds and decoys must be removed at the end of each day's hunt.
- Permanent blinds and pit blinds are prohibited.
- Hunting areas are only accessible by boat.
- Non-lead ammunition is required.

Big Game

- Hunting of white-tailed deer and sika is allowed on designated areas of the refuge in accordance with State regulations.
- We allow hunting for turkey through a quota hunt process.

- Hunters must obtain and possess a signed big and upland game refuge hunt brochure while hunting.
- Firearms are prohibited in the designated archery only areas.
- Hunters may access the refuge from 2 hours before sunrise until 2 hours after sunset.
- All occupants of a vehicle or hunt party must possess a signed refuge hunt brochure and be actively engaged in hunting unless aiding a disabled person who possesses a valid State disabled hunting license.
- Portable tree stands are allowed but must be removed at the end of each day's hunt.
- Virginia DPOP tags will be provided by refuge staff and must be used on sika taken on the refuge.
- Hunting is prohibited within 100 feet of any building, road, or trail.
- Organized deer drives are prohibited.
- Deer chase dogs are prohibited.
- Hunters must sign in at the hunter check station prior to hunting and sign out upon exiting the refuge.
- Hunters must report all harvested animals on the sign-out sheet at the hunter check station. Self-serve jawbone extraction may be requested in accordance with State permit requirements.
- Non-lead ammunition is encouraged. Requirement will be proposed for turkey and deer hunting beginning in 2026.

Upland Game

- Hunting of raccoon, opossum, fox, and coyote is allowed on designated areas of the refuge concurrent with the State deer season.
- Hunters must obtain and possess a signed refuge big and upland game hunt brochure while hunting.
- Hunters may access the refuge from 2 hours before sunrise until 2 hours after sunset.

- Firearms are prohibited in designated archery only areas.
- All occupants of a vehicle or hunt party must possess a signed refuge hunt brochure and be actively engaged in hunting unless aiding a disabled person who possesses a valid State disabled hunting license.
- Hunting is prohibited within 100 feet of any building, road, or trail.
- Hunters must sign in at the hunter check station prior to hunting and sign out upon exiting the refuge.
- Dogs are prohibited.
- Non-lead ammunition is encouraged. Requirement will be proposed for hunting beginning in 2026.

Wallops Island NWR

Migratory Birds

- Hunting of waterfowl (duck, goose, swan), rail, coot, snipe, gallinule, dove, woodcock, and crow is allowed on designated areas of the refuge in accordance with State regulations between September 16 to March 14.
- Hunters must obtain and possess a signed refuge hunt brochure while hunting.
- Hunters may access the refuge from 2 hours before sunrise to 2 hours after sunset.
- Trained dogs may be used for the hunting of migratory birds according to state regulations.
- Portable blinds and decoys must be removed at the end of each day.
- Permanent blinds and pit blinds are prohibited.
- Non-lead ammunition is encouraged. Requirement will be proposed for hunting beginning in 2026.

Big Game

- Hunting of white-tailed deer is allowed on designated areas of the refuge in accordance with State regulations.
- We allow the hunting of turkey through a quota hunt process.

- Hunters must obtain and possess a signed refuge hunt brochure while hunting
- Hunters may access the refuge from 2 hours before sunrise to 2 hours after sunset.
- Portable tree stands are allowed but must be removed at the end of each day.
- Chase dogs for deer are prohibited.
- Organized deer drives are prohibited.
- Non-lead ammunition is encouraged. Requirement will be proposed for turkey and deer hunting beginning in 2026.

Upland Game

- Hunting of raccoon, opossum, fox, coyote, rabbit, and squirrel is allowed on designated areas of the refuge from September 16 to March 14 in accordance with State regulations.
- Hunters must obtain and possess a signed refuge hunt brochure while hunting
- Hunters may access the refuge from 2 hours before sunrise to 2 hours after sunset.
- Non-lead ammunition is encouraged. Requirement will be proposed for deer hunting beginning in 2026.

For both refuges, the use of non-lead ammunition for proposed new hunting opportunities (raccoon, opossum, fox and coyote, plus rabbit, squirrel and migratory game birds at Wallops Island NWR) will be encouraged upon implementation of this plan in 2022. The use of non-lead ammunition for hunting deer, turkey, migratory birds, and upland game will be voluntary and will be required for use after a proposed 4-year phase-in period is completed in 2026. This phase-in period will allow hunters time to adapt to the new regulations without diminishing deer hunting opportunities on the refuges. The refuge staff will provide information to assist in a valuable transition period that benefits fish, wildlife, and people.

C. Relevant State Regulations

We allow hunting on the refuges in accordance with State regulations subject to certain conditions including some season date restrictions. Additionally, the refuges coordinate with the State as needed to maintain regulations and programs that are consistent with the State's management programs. Relevant refuge-specific regulations are annually listed in 50 CFR 32.65, and summarized above in Section IV, subsections B and C. In addition to CFRs and refuge rules, hunters participating in refuge hunt should refer to the Virginia Hunting or Fishing Regulations Guide for general hours, requirements, definition of approved method, limits, license requirements, and other important information. Information can also be found on the VDWR

website and through the annual Virginia Hunting and Trapping and/or Fishing Regulation Digests. Hunters are responsible for knowing and complying with all applicable State, Federal, and refuge-specific regulations.

D. Other Refuge Rules and Regulations for Hunting

- Visitors, including hunters, must pay the refuge entrance fee to access the Assateague Island unit of the Chincoteague NWR.
- Four-wheel drive vehicles are required to access Toms Cove Hook (does not require ORV zone permit for access).
- All over-sand vehicles must carry a shovel, jack, tow rope or chain, a board or similar support for the jack, and a low-pressure tire gauge.
- All vehicles must be parked in designated areas.
- Mopeds and other motorized vehicles are prohibited on trails meant for walking and biking.
- Pets are prohibited unless specifically allowed for a hunting purpose.

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 the hunt will be available at the Chincoteague NWR Visitor Center, on the Chincoteague NWR and Wallops Island NWR websites, and/or posted on the hunt check station.

B. Anticipated Public Reaction to the Hunting Program

Based on the comments received during the 2015 CCP process and because hunting has been allowed on Chincoteague NWR for almost 20 years, little negative public reaction to the proposed changes is expected. Hunting is an important economic and recreational use of natural resources in Virginia and along the Eastern shore. Some hunters may oppose combining the old Toms Cove Hook Zone with the Archery Only Zone, and the removal of shotgun as a method of take on Toms Cove Hook.

The refuge anticipates some public concern about obtaining non-lead ammunition given the phasing out of lead use on the refuge. It is for this reason that the proposed requirement to use non-lead ammunition will not be put into place until fall 2026, providing hunters and anglers time to transition their supplies.

A total of eleven comment letters were submitted that offered input to the refuge. Any comments

and our responses can be found in the Finding of No Significant Impact (Appendix E).

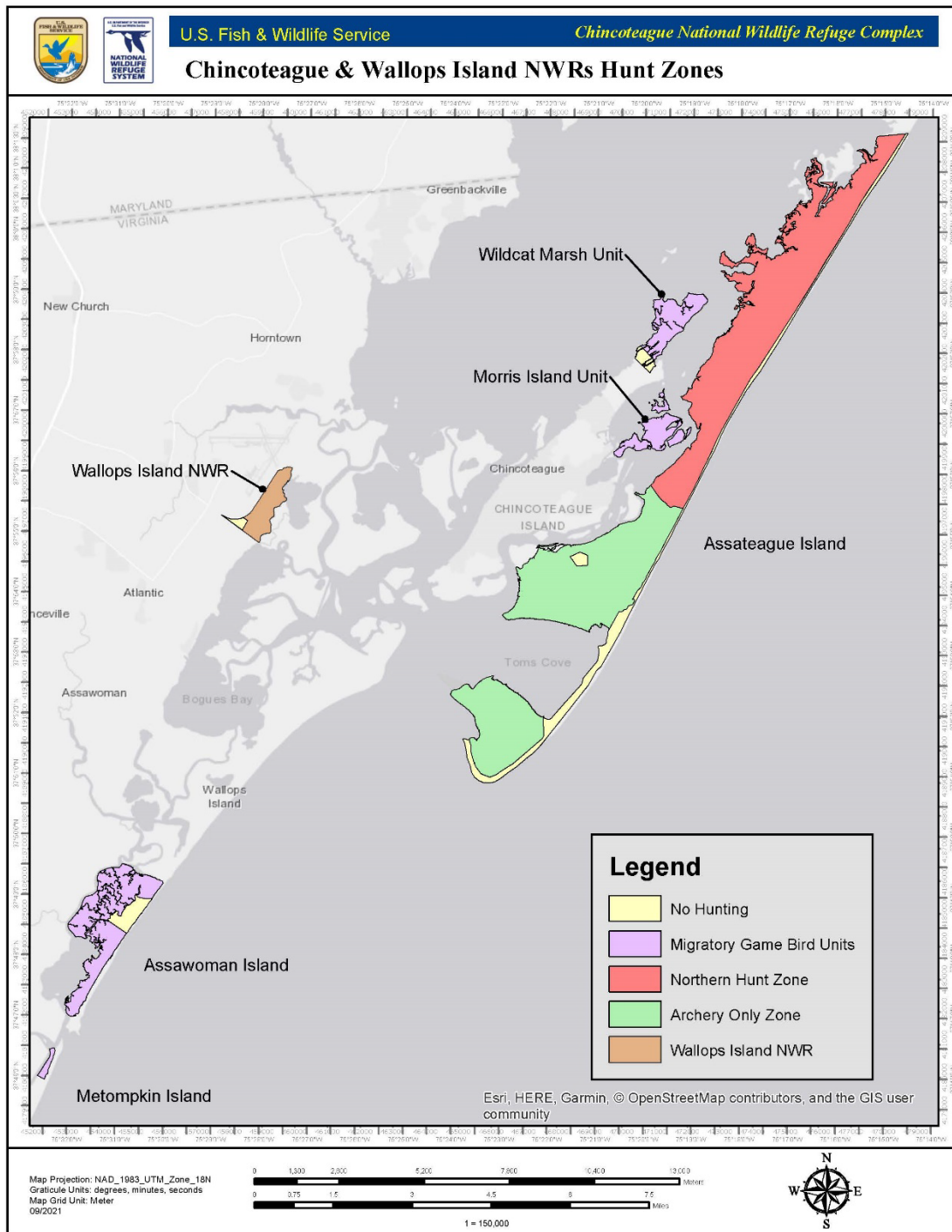
C. How Hunters Will Be Informed of Relevant Rules and Regulations

General information regarding hunting and other wildlife-dependent public uses can be obtained at Chincoteague NWR Visitor Center located at 8231 Beach Road, Chincoteague, VA 23336 or by calling (757) 336-6122. Dates, forms, hunting unit directions, maps, applications, and permit requirements about the hunt will be available at the Refuge Visitor Center and on the Chincoteague and Wallops Island NWR websites. See <https://www.fws.gov/refuge/chincoteague/visit-us/activities/hunting>

VI. Compatibility Determination

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

Figure 1. Chincoteague and Wallops Island NWRs Hunt Zones



COMPATIBILITY DETERMINATION

USE: Hunting (Big game, upland game, and migratory game bird hunting)

REFUGE NAME: Chincoteague National Wildlife Refuge

DATE ESTABLISHED: May 13, 1943

ESTABLISHING and ACQUISITION AUTHORITIES:

- 1) Migratory Bird Conservation Act {16 U.S.C. 715d}
- 2) Refuge Recreation Act {16 U.S.C. 460 K-1, K-2}
- 3) Emergency Wetlands Resources Act of 1986 {16 U.S.C. 3901(b)}
- 4) Fish and Wildlife Act of 1956 {16 U.S.C. 742f (a)(4), (b)(1)}
- 5) Consolidated Farm and Rural Development Act {7 U.S.C. 2002}

REFUGE PURPOSE(S):

- “... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds.” 16 U.S.C. § 715d (Migratory Bird Conservation Act);
- “... suitable for - (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species ...” 16 U.S.C. § 460k-1 “... the Secretary ... may accept and use ... real ... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors ...” 16 U.S.C. § 460k-2 (Refuge Recreation Act (16 U.S.C. § 460k-460k-4), as amended);
- “... the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions ...” 16 U.S.C. § 3901(b) (Emergency Wetlands Resources Act of 1986);
- “... for the development, advancement, management, conservation, and protection of fish and wildlife resources ...” 16 U.S.C. § 742f(a)(4) “... for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude ...” 16 U.S.C. § 742f(b)(1) (Fish and Wildlife Act of 1956); and
- “... for conservation purposes ...” 7 U.S.C. § 2002 (Consolidated Farm and Rural Development Act).

NATIONAL WILDLIFE REFUGE SYSTEM MISSION:

The mission of the National Wildlife Refuge System (Refuge System) is “... to administer a

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

DESCRIPTION OF USE:

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

The use is public hunting of big game (white-tailed deer, sika, and turkey), upland game (raccoon, opossum, fox, and coyote), and migratory game birds (rail, coot, snipe, gallinule, duck, goose, swan, woodcock, dove, and crow) at Chincoteague National Wildlife Refuge (NWR, refuge). Hunting was identified as one of six priority public uses of the Refuge System by the National Wildlife Refuge System Administration Act (NWRSA) of 1966, as amended by the Refuge System Improvement Act of 1997 (Public Law 105-57), when found to be compatible.

(b) Where would the use be conducted?

The use would be conducted in designated management units of the refuge. Migratory game bird hunting is open on the Wildcat Marsh Unit, Morris Island Unit, Assawoman Island Unit, and Metompkin Island Unit. Wildcat Marsh Unit (546 acres) is located at the north end of Chincoteague Island, and Morris Island Unit (427 acres) is located between Chincoteague and Assateague Islands. Assawoman Island Unit contains 1,434 acres and encompasses the entire island, and the Metompkin Island Unit consists of 174 acres on the north end of the island. Thus, migratory game bird hunting would be conducted in designated areas of the refuge on a total of up to 2,581 acres over the 14,032-acre refuge, or approximately 18 percent of the refuge.

Big game and upland game hunting would be conducted in designated areas of the refuge on the Virginia portion of Assateague Island Unit. Assateague Island is a barrier beach island that extends over 30 miles along the Atlantic coast. The Assateague Island Unit includes the Northern Hunt Zone (3,869 acres) and the Archery Only Zone (3,268 acres).

No-hunting zones would include beach areas, the over wash zone on Assateague Island Unit, the southwest portion of Wildcat Marsh, and a 100-foot buffer area around any building, road or improved trail, including around refuge housing units, the bunkhouse, the headquarters office and Visitor Center, maintenance buildings, the lighthouse, the Service Road, the Wildlife Loop, the Marsh Trail, Swan Cove Trail, and the Woodland Trail. Please refer to Figure 1.

(c) When would the use be conducted?

Hunting would be permitted from September 16 to March 14. Season dates, within this time period, will be in accordance with State regulations. The only exception is for spring turkey hunting, which would occur during the State spring season from mid-April through early May. Big game and migratory game bird hunting hours would occur in accordance with State regulations, and hunters may access the refuge 2 hours before sunrise until 2 hours after sunset. Upland game hunting would only occur in accordance with State regulations and only during regular refuge access hours for hunting from 2 hours before sunrise to 2 hours after sunset. Night hunting would not be allowed. Hunting on Sundays would be permitted for migratory bird hunting and prohibited for big game and upland game hunting.

(d) How would the use be conducted?

Hunting would be permitted in designated areas of the refuge in accordance with State and refuge-specific regulations. Hunters will read and sign a hunt brochure prior to hunting on the refuge. Hunt brochures are available online on the refuge website, at the hunt check station, or at the Visitor Center. Hunters on the Assateague Island Unit of the refuge are required to sign-in/sign-out at the hunt check station daily.

Big Game

Big game hunting is permitted for white-tailed deer, sika, and wild turkey in accordance with State seasons and methods of take within respective zones. The Northern Hunt Zone is the firearms zone and includes all methods permitted by the State, and the Archery Zone is restricted to archery equipment only. Spring and fall turkey hunting would be administered via a mentored quota hunt and initially targeted to hunts for youth and apprentice hunters to assist the State with hunter recruitment and retention efforts (commonly referred to as R3). The quota turkey hunt would encourage the use of non-lead ammunition. Big game hunting will not be permitted on Sundays. Daily sign-in/sign-out procedures will be required for big game hunters to facilitate notification of hunters for current management activities which may impact the hunt zones, collection of harvest data, and to determine hunter participation data for planning of future hunt opportunities. The number of hunters will not be limited within each zone. Daily and seasonal bag limits will follow the State regulations. The sika harvest would be regulated in accordance with the State Deer Population Reduction Program (DPOP).

Upland Game

Upland game hunting for racoon, opossum, fox, and coyote would be allowed during regular refuge hours only (no night hunting, access from sunrise to sunset) and would be concurrent with the deer season (approximately October through early January). The use of non-lead ammunition will be proposed to phase in for all upland game species in 2026. Upland game hunting will not be permitted on Sundays.

Migratory Game Birds

Migratory game bird hunting would be permitted for rail, coot, snipe, gallinule, duck, goose, swan, woodcock, dove, and crow in the designated Migratory Bird Hunt Zones (see map). Hunting and access for migratory game bird hunting would be by boat only. Sunday hunting would be permitted for all migratory game birds. The use of dogs would be allowed according to State regulations. Hunters must obtain, sign, and have in their possession a signed hunt brochure. The use of non-lead ammunition would be required for all migratory game bird species in addition to the Federal ammunition requirements for duck, goose, swan, and coot.

Hunter Access

The refuge will make reasonable efforts to allow hunters access to each of the hunt units. The intention is to provide safe, quality hunting opportunities that consider the welfare of the refuge wildlife resources. If hunting conditions are deemed unsafe to hunters or refuge staff or negative impacts on resources are discovered, hunt program procedures and timing are subject to change. All access points and hunter parking areas will be delineated on refuge hunt maps and will be included in the hunt brochures. Hunters may be permitted to enter refuge lands prior to normal refuge

operating hours in order to reach hunt units at the start of State hunting hours for big game and migratory game bird hunting.

Waterfowl hunters may access hunt units by boat via several private and public boat launches within the refuge vicinity. No boat launches exist on the refuge and the waterfowl hunt units are not accessible via land. State and municipal boat launches are within a short distance of refuge hunting areas and can be used for the launch and retrieval of boats.

Non-Lead Ammunition

The use of non-lead ammunition for proposed new hunting opportunities (all migratory birds, raccoon, opossum, fox, coyote, and turkey) will be voluntary. The use of non-lead ammunition for hunting deer and sika will initially be voluntary and will transition to be required for use after a 4-year phase-in period is completed in 2026. This proposed phase-in period will allow hunters time to adapt to the new regulations without diminishing deer hunting opportunities on the refuge. The refuge staff will provide information to assist in a valuable transition period that benefits fish, wildlife, and people.

(e) Why is the use being proposed?

Hunting is one of the priority public uses defined by the NWR SAA of 1966, as amended by the Refuge System Improvement Act of 1997 (Public Law 105-57). Department of the Interior Secretarial Order 3356 (September 15, 2017) further emphasized identifying opportunities to increase outdoor recreation opportunities for all Americans, including opportunities to hunt and fish. This legitimate and appropriate use of a NWR is generally considered compatible as long as it does not materially interfere with or detract from the fulfillment of the Refuge System mission or the purposes of the refuge.

Objectives for the hunting program at Chincoteague NWR include providing the public with high quality wildlife-dependent recreational opportunities that align with refuge purposes and management objectives. The Service has long recognized that hunting is an integral part of a comprehensive wildlife management program and that positive benefits can be attributed to a well-managed hunt.

Hunting is consistent with the 2015 Comprehensive Conservation Plan's (CCP) larger goal that aims to have "people of all ages and abilities develop a stewardship ethic while enjoying their refuge experience and increasing their knowledge of the FWS, Refuge System, and the refuge." This goal includes a specific objective (Goal 6, Objective 6.1) to "increase level of opportunity (e.g., expansion of hunted species) in the hunt program, such as the fall/winter light goose hunt, through expansion of hunted species, trapping, and new hunting programs." This objective will help provide safe and high-quality big game, small game, and waterfowl hunting opportunities for the public.

AVAILABILITY OF RESOURCES:

Cost analysis for administration and management of the hunt is estimated to be approximately \$24,000. Adequate Service resources currently exist and can be provided with existing personnel to

properly develop, operate, and maintain the hunt and will not detract from refuge purposes or the Refuge System mission.

Resources involved in management and administration of the hunt include personnel to provide annual updates to the hunt brochure, website information, and hunt kiosk; personnel to maintain boundary markers in the field; staff and equipment to maintain roads and create designated parking and install signage in new units (see Table A-1).

Table A-1. Estimated Costs for Hunting at Chincoteague and Wallops Island NWRs Combined

Identifier	Cost
Staff (Maintenance, Biologist, Managers, Visitor Services, Contractors)	\$9,000
Maintain roads, parking lots, trails*	\$13,000
News releases, fact sheets, permitting reports	\$1,000
Maintain hunt/fish materials and supplies (signs, deer check station)	\$1,000
Total Annual Cost	\$24,000

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

Monitoring of regional populations to determine harvest regulations will be conducted by the State. In addition, we will request State resources to manage the mentored turkey hunts.

ANTICIPATED IMPACTS OF THE USE:

The following are anticipated impacts for hunting on Chincoteague NWR. For more specific impacts related to all proposed changes detailed in the Hunting Plan, please refer to the Environmental Assessment (Appendix C).

Hunting has been permitted on the refuge since 1964 with no discernible adverse impacts to resources. Hunting provides wildlife-dependent recreational opportunities and can foster a better appreciation and more complete understanding of the wildlife and habitats associated with the southern Delmarva Peninsula landscape. This could result in more widespread and stronger support for wildlife conservation, the refuge, the Refuge System, and the Service.

This section predicts foreseeable impacts of implementing the hunting program on refuge resources. When detailed information may be deficient or unavailable, we base our evaluation on professional judgment and experience. We usually identify potential impacts within a long-range timeframe (i.e., 15 years) and beyond that timeframe, they become more speculative.

The refuge hunt program is designed to be sustainable through time, given relatively stable conditions, particularly because of close coordination with the Virginia Department of Wildlife Resources (VDWR). Overall, adverse impacts of hunting on big game (white-tailed deer, sika, and turkey), upland game (raccoon, opossum, fox, and coyote), and migratory game bird (rail, coot, snipe, gallinule, duck, goose, swan, woodcock, dove, and crow) populations at the refuge would be negligible. The proportion of the refuge's harvest of these species would be negligible when compared to local, regional, and statewide populations and harvest.

Because of the regulatory process for harvest management in place within the Service, the ability of individual refuge hunt programs to adapt refuge-specific hunting regulations to changing local conditions, and the wide geographic separation of individual refuges, we anticipate no significant impacts on resident wildlife, migratory birds, and non-hunted wildlife as a result of hunting on Chincoteague NWR.

In comparison with the entire Atlantic Flyway, or the breeding ranges of the many birds and wildlife that use it, the hunting area of the refuge comprises a relatively small total land mass. The Service recognizes that the refuge is not isolated ecologically from the land around it; however, we may have overstated positive or negative impacts in that larger geographic context. Nevertheless, many of the actions we propose conform with the 2015 CCP and other regional landscape plans, and provide positive, incremental contributions to those larger landscape goals.

Big Game

Deer hunting (white-tailed and sika) on the refuge has been occurring since 1964 and annual harvest numbers on the refuge remain relatively high (in 2020/2021: 216 deer harvested; 2019/2020: 194 deer harvested). We anticipate a small increase in the number of deer harvested annually, but this would not meaningfully affect the current overpopulation of deer in the county. Deer may avoid hunting areas due to increased pressure, but this would not create negative impacts to the population. Sika populations are estimated using the Downing Population Reconstruction and are managed through the State harvest regulations for DPOP.

According to VDWR, the wild turkey population was estimated as 0.45 to 0.61 turkeys per square mile of suitable habitat for the northern Virginia region in the 2016-2017 season. The northern Virginia region population is considered stable to rising. Approximately 20,525 turkeys were harvested during the 2020 spring gobbler season, and 232 harvests were made in Accomack County.

Studies examining the direct effects of hunting on turkey behavior and movement are limited. One study conducted in Louisiana tracked the movements of wild turkey during the hunting season and found that distances traveled by wild turkeys were only 8 percent greater during hunting days than non-hunting days (Gross et al. 2015). Although hunting made it more likely for a turkey to change their movement patterns, a small-scale increase in range is not biologically significant.

The refuge would open a limited quota mentored turkey hunt during the spring and fall seasons. The remainder of the year would allow turkey to rest and recover. The refuge lacks current population estimates for turkeys on the refuge. However, based on staff observations of turkeys and anticipated hunter participation, the refuge estimates less than 10 turkeys will be harvested annually from Chincoteague NWR. Relative to State harvest numbers, refuge impacts on statewide populations are expected to be negligible.

Upland Game

We anticipate small harvest levels of these species and only minor impacts to their population levels. Most of the land use surrounding the refuge lands consists of agriculture and residential areas where populations of these species proliferate on the broader surrounding landscape. Any impacts will be short-term and minor and would mostly include changes in habitat use by individuals.

Migratory Game Birds

Opening less than 40 percent of the marshes to migratory game bird hunting would have some short-term disturbance to the waterbirds resting and feeding in the area. Marsh areas are prone to disturbance, and increased foot traffic to access hunting sites would result in trampling of sensitive marsh plants in frequently used areas (Lomnický et al. 2019). There would be few long-term impacts to waterbird populations since most of the marsh area on the eastern shore is owned by the State and is already open to migratory bird hunting.

Non-target Species

Chincoteague NWR hosts a wide diversity of both resident and migratory wildlife. The refuges are important stopover sites in the Atlantic Flyway and provide important habitat for resident species in an area with rising development trends. Many common bird species will be in areas adjacent to hunting, in both upland and wetland areas, and they may relocate to other areas of the refuge during hunting.

Thirty-four mammal species have been recorded on the lower Delmarva Peninsula and 9 bat species may be found on or around the refuge. Frogs and toads that can be found at Chincoteague NWR include the Northern spring peeper, Southern green frog, Southern leopard frog, Fowler's toad, and Eastern narrow-mouthed toad. The freshwater and estuarine turtles that inhabit the refuge include the Eastern painted turtle, spotted turtle, Eastern mud turtle, Northern red-bellied cooter, Eastern box turtle, Eastern snapping turtle, and the estuarine Northern diamond-backed terrapin. The red-backed salamander is also commonly found.

Finfish of primary importance found near the refuges include the black drum, red drum, bluefish, winter flounder, summer flounder, menhaden, spot, Atlantic croaker, grey trout, mullet, spotted seatrout, and striped bass.

Some disturbance to non-target wildlife species and impacts on vegetation may occur. While not targeted for hunting or fishing, other wildlife may experience disturbance, avoidance of areas, habitat damage, or injury as a result of the use (Cole 1990). Hunting is not likely to adversely affect these species given the time of year the activities take place (September 16 through March 14) and where the uses occur on the refuge. In addition, hunting will not be permitted on Sunday for big and upland game and will not be permitted at night for any species.

Opening the Northern Hunt Zone and Archery Only Zone to fox, raccoon, opossum and coyote hunting may result in fewer predator species that have negative impacts on nesting migratory birds on the refuge. Populations of these species prey on eggs and disturb nesting birds resulting in reduced productivity. Allowing harvest of these species will likely result in desirable, positive outcomes of decreased predation on nesting migratory birds, and might reduce the need to conduct predator control.

Threatened and Endangered Species

Species that may be found on or nearby the refuge include seabeach amaranth, Northeastern beach tiger beetle, piping plover, red knot, roseate tern, black rail, Northern long-eared bat, Atlantic sturgeon, bald eagle, and five species of sea turtles. While not federally listed as a threatened or endangered species, bald eagles can be found nesting on or near the refuge and are protected by the

Bald and Golden Eagle Protection Act.

Piping plover, red knot, roseate tern

In order to protect these shorebird species, staff at Chincoteague NWR close certain critical nesting, foraging, and roosting areas on Assateague, Assawoman, and Metompkin islands to public entry from March 15 through September 15. This timing does not overlap when the overwhelming majority of hunters visit the refuge. For example, deer, waterfowl, and upland game hunting are all conducted outside this date range. In addition, the refuge's hunt zones do not overlap with the preferred habitat of intertidal zone beaches and mudflats.

Regarding the impacts of lead ammunition, specifically for the beach shorebirds (i.e., roseate tern, red knot and piping plover), the deer and sika hunt in the Northern Zone hunt unit is the primary hunting opportunity in which hunters may use lead ammunition (upland game may be hunted at the same time). This hunt only occurs from November to January, in the more forested habitat of the refuge. Thus, it will not occur within, or in close proximity to, areas where those species occur. Even if lead could leach out into the beach habitat these species use, the increase in lead would be extremely minor and dispersed, and therefore insignificant. Because hunting—including the use of lead ammunition, until it is discontinued at the beginning of the fall 2026-2027, is highly unlikely to overlap with piping plovers, red knots or roseate terns in time or space, these species are not likely to be adversely affected by the proposed hunting activities.

Eastern black rail

Because Eastern black rails do not occur on the refuge, the proposed activities are not likely to adversely affect this species. Hunting takes place September 15 through March 15, and would not overlap with breeding season for black rails during May. Any potential effects from disturbance are extremely unlikely to occur and considered discountable because the hunting area is far away from the marshes where Eastern black rail would occur.

The potential for lead impacts to black rails is discountable because of the bird's preferred habitat. Because of the federal ban already in place requiring the use of non-lead ammunition for waterfowl hunting, and that hunting with lead ammunition only occurs in the Northern Hunt zone (an upland area), and because we plan to require the use of non-lead ammunition for hunting all species on the refuges at the beginning of the fall 2026-2027 hunting season, impacts from lead are not likely to adversely affect black rail. In conclusion, the proposed hunting activities are not likely to adversely affect the Eastern black rail.

Northeastern beach tiger beetle

Northeastern beach tiger beetle (*Habroscelimorpha* (formerly *Cicindela*) *dorsalis dorsalis*) is not likely to be adversely affected by the proposed changes because they do not occur on the refuge. Only a subspecies, *Cicindela dorsalis media*, which is not federally protected, is found on Chincoteague's beaches.

Atlantic sturgeon

All proposed hunting changes are inland from the beach, and not near the ocean. Furthermore, all waterfowl hunting currently requires non-lead ammunition. For the next 4 years, lead ammunition is only allowed in the Northern Hunt Zone. Because Atlantic sturgeon also do not occur on the refuge,

are separated from the forested areas of the Northern Hunt Zone by Service Road on the west, and distanced by 200 to 300 feet of beach/dune/scrub habitats on the east, the species will not experience any effects from the proposed activities. Therefore, the proposed activities will have no effect on the Atlantic sturgeon.

Northern long-eared bats

Northern long-eared bats (NLEB) may occur in some hunting zones but are not likely to experience any significant disturbance or habitat loss even if bats and hunters may briefly overlap. Firearms hunting is conducted in the Northern Hunt Zone (usually from November 19 through January 7) and archery hunting in the Archery Only Hunt Zone (usually from October 1 to November 18). Bats are typically nocturnal and inactive during most hunting seasons and times, and not present for most of the hunting seasons; therefore, disturbance would be highly unlikely.

Potential disturbances from expanded hunting, such as an increase in gun noise or additional portable tree stands, are expected to be insignificant given the amount of hunting expected to occur on these acres. Noise from firearms or dog barks could disturb roosting bats but it is likely that the bats would remain in the tree during daylight hours. Such noise disturbances are temporary and last only for the duration of the noise, not fundamentally unlike other temporary disturbances that bats may naturally experience, with no long-term effects; therefore, any potential disturbance effects are expected to be insignificant. Other possible disturbances include hunters climbing and placing portable tree stands on trees. However, hunters typically select live trees for safety reasons while bats are most often in dead or dying trees with large slabs of peeling bark. Further, hunting activities would not result in any roost tree destruction as no tree cutting or other habitat alteration is permitted on the refuge.

The potential for lead impacts to bats is discountable due to Northern long-eared bats' diet and foraging habits. Considering the chain of events that are necessary for exposure and the small amount of lead that would contribute to lead concentrations in refuge soils, it seems likely that bats that occur on refuges will not consume lead derived from ammunition fired by hunters on the refuge. Because there have been no known occurrences of NLEB; because the potential for overlap in time or space between hunters and bats is very low; because the expected impacts to roosting bats even if there is overlap are insignificant; and because the potential for lead impacts are discountable, the proposed hunting activities are not likely to adversely affect the NLEB.

Sea turtles: Loggerhead, Green, Hawksbill, Kemp's Ridley, Leatherback

Five species of federally listed sea turtles use Assateague Island's ocean and bay waters. The leatherback sea turtle, Kemp's Ridley sea turtle, and the hawksbill sea turtle are listed as endangered species under the ESA; the loggerhead sea turtle and green sea turtle are listed as threatened. In Virginia, the state status is the same as the Federal status for these species. Of the five sea turtles, only loggerheads are known to nest on the refuge, which is the northern extent of its breeding range. In recent years, crawl and nesting activity (one to three nests) occurs June through August. Because incubation takes longer (90 or more days) at this latitude, the hatch window is August through October. Hunting activities do not occur where loggerhead sea turtles nest. Refuge beaches on Assateague, Assawoman, and Metompkin Islands will remain closed to hunting during the sea turtle nesting seasons. All waterfowl hunting currently requires non-lead ammunition. Turtles present but not nesting, remain in the water, and thus, will not be impacted by hunting activities. Accordingly,

the proposed hunting changes will have no effect on the five listed turtle species because the sea turtles are separated from the proposed hunting activities—including the use of lead ammunition—in space, and therefore, the species do not have the potential to be exposed to the effects of the proposed activities.

Monarch butterfly

Monarch butterflies are observed on nectar plants within beach strand habitat and impoundment management units during their peak migration (last two weeks of September through the first two weeks of October). Monarch butterflies typically concentrate on seaside goldenrod located along the Beach Road corridor and the dunes from Swan Cove Trail south to Toms Cove, which is closed to hunting. Dogs are not allowed on the Assateague Island unit of the refuge to minimize any potential for disturbance in the most sensitive areas of the refuge.

The plants senesce as the butterflies begin their fall migration, usually in October. Before then in, in the fall, hunting activity could result in some trampling of nectar sources available for monarchs, but any potential impact would be concentrated, insignificant, and leave plenty of available nectar sources on other areas of the refuge and unit. Only light foot travel from hunters accessing the area for hunting is expected to occur on these acres. While hunters are walking through habitat used by monarchs, there could be some impacts including flushing while resting or feeding. This disturbance is minimal as the monarchs can easily move to another spot when disturbed, which is a normal behavior response that does not result in long-term effects. Furthermore, hunting does not result in the removal of vegetation, including nectar sources or milkweed, and so it would have negligible impacts to habitat resources important for monarchs.

The potential for lead impacts to monarchs is discountable due to their diets. Adult monarch butterflies feed on nectar. However, as with bats, it relies on the very unlikely occurrence that lead concentrations in the soil from hunting activities reach high enough levels for uptake by plants, and in this case, it would further require uptake by milkweed and the specific plants that monarchs rely on for nectar sources. Given that hunters are not likely to overlap with areas where monarchs and their plants are known to occur; that any potential disturbance is expected to be insignificant; and because bioaccumulation through plants into caterpillars or butterflies is discountable, the proposed activities are not likely to jeopardize the monarch butterfly.

Seabeach amaranth

Seabeach amaranth was federally listed as threatened in 1993 by the Service. Seabeach amaranth is an annual plant species that occurs on the upper beach and sparsely vegetated over wash fans and inter-dune areas. This species appears to require extensive areas of barrier island beaches and inlets functioning in a relatively natural and dynamic manner. This plant has been determined not to occur on the refuge, and any impacts from hunting or the associated use of lead ammunition would be extremely unlikely to occur. Therefore, the proposed activities are not likely to adversely affect seabeach amaranth.

All species

The best available science indicates that lead ammunition and tackle may have negative impacts on wildlife and the environment (Golden et al. 2016). Animals can be poisoned by lead in a variety of ways, including “ingestion of bullet fragments and shot pellets left in animal carcasses, spent

ammunition left in the field, lost fishing tackle, lead-based paints, large-scale mining, and lead smelting activities. Despite a large body of scientific literature on exposure to lead and its toxicological effects, controversy still exists regarding its impacts at a population level” (Haig et al. 2014). The use of non-lead ammunition will initially be voluntary, and we plan to require non-lead ammunition for all hunting activities starting at the beginning of the fall 2026-2027 hunting season (after a 4-year phase-in period). This planned phase-in period will ensure continuity of visitor opportunities as hunters understand the changes and become more familiar with the availability and use of non-lead alternatives. We will educate hunters about the impacts of lead and strongly encourage non-lead ammunition alternatives for the next 4 years.

The bioaccumulation of lead is a potential concern, but it does not present a significant issue on this refuge, as: 1) non-lead shot is currently required for hunting waterfowl; 2) we plan to require the use of non-lead ammunition on the refuge at the beginning of the fall 2026-2027 hunting season; 3) the refuge will strongly encourage use of non-lead alternatives for hunting deer and sika for the next 4 years; 4) we will educate hunters and the public to the potential adverse impacts of lead; and 5) the proposed hunting activities are not likely to introduce substantially more lead into the environment over existing amounts with the proposed hunting program. Some hunters will also choose non-lead methods of take such as archery. As a result, the proposed hunting activities are not likely to adversely affect any of the above listed species.

For more detail, see the completed Intra-Service Section 7 Evaluation (Appendix D). Hunting activities may affect, but are not likely to adversely affect, any threatened or endangered species at the refuge. However, if there is a potential for hunting activities to have a negative impact on such species, or a new species of concern is identified on refuge lands, we will reevaluate our programs and implement program changes as necessary.

Habitat and Vegetation

Habitat types on Chincoteague NWR include forests, shrub/scrub, beach/dune, wet meadow/impoundment, and salt marsh. Waterfowl hunting may result in trampling of wetland vegetation, alteration of drainage patterns, and creation of trails (Liddle and Scorgie 1980). Upland game hunters will likely traverse a larger area of the refuge than big game and migratory bird hunters. However, all these impacts will be minimal, as vegetation may be dormant or entering dormancy during the hunting seasons.

Heavily browsed forest understory and shrub vegetation leaves less food and cover for migratory birds, a resource that the refuge is focused on protecting. Reducing the deer population will decrease the browse effects on vegetation and enable the forest understory to grow and produce more food and cover for migrants (Horsley et. al 2003). This will also provide additional habitat for small mammals, reptiles, and invertebrates.

Visitor Use and Experiences

Chincoteague NWR is open to all six priority public uses of the Refuge System. In 2021, the refuge had 1,408,451 recreational visits. Of those visits, 2,074 were for hunting. With the expanded hunting program at Chincoteague NWR, the likelihood for conflicts between hunters and conflicts with non-consumptive users increases. Public outreach, zoning, and restrictions in some locations have been proposed to reduce conflicts among the different user groups. If conflicts arise among

user groups, mitigation efforts can be implemented to ensure that the proposed use will not have significant impacts to other user groups. Impacts to other users will primarily be limited to the hunting season and are minimized by time and space zoning that lessens the interactions between hunters and other wildlife-dependent users.

There is some possibility of negative economic impacts for hunters who must comply with the proposed non-lead requirements beginning in 2026. While non-lead ammunition has become essentially equivalent in price to lead ammunition, certain types of non-lead ammunition can cost more than certain types of lead ammunition. However, the price of non-lead ammunition is the same or less than that of premium lead ammunition. In order to prevent the negative impacts of this switch, the refuge has begun and will continue specific outreach about the requirement to these groups and has put in place measures to mitigate the economic input beyond the proposed phased implementation, which already affords hunters time to gradually transition their supplies of ammunition. The Service will continue educating hunters on the use of non-lead ammunition during the proposed phased in time period, provide resources on companies that produce non-lead ammunition for purchase and work with partner organizations on non-lead ammunition giveaways or exchanges if possible.

PUBLIC REVIEW AND COMMENT:

This Compatibility Determination (CD) is part of the Chincoteague and Wallops Island NWR Hunting opening package. The hunting plan was coordinated with all interested and/or affected parties, including VDWR staff. We informed the public through local venues, the refuge website, and social media. We released the draft plan, CDs and EA for public review and comment from May 3 through August 8, 2022, a total of 97 days. A total of eleven comment letters were submitted that offered input to the refuge. Any comments and our responses can be found in the Finding of No Significant Impact (Appendix E).

DETERMINATION (CHECK ONE BELOW):

☐ Use is not compatible

☒ Use is compatible, with the following stipulations

STIPULATIONS NECESSARY TO ENSURE COMPATIBILITY:

To ensure compatibility with refuge purpose(s) and Refuge System mission, hunting can occur at Chincoteague NWR in accordance with State and Federal regulations and special refuge-specific restrictions to ensure that wildlife and habitat management goals are achieved, and that the program is providing a safe, high quality hunting experience for participants. This hunting program will be monitored and potentially modified or eliminated if any of the program's components are found not compatible.

The following stipulations are necessary to ensure compatibility:

- Hunting for any species will be in accordance with State seasons and limited between

September 16 to March 14 (except for the spring turkey State-managed hunt).

- Hunters may only access the refuge from 2 hours before sunrise until 2 hours after sunset. No night hunting is allowed.
- Trained dogs may be used for the hunting of migratory birds only. Dogs are prohibited on Assateague Island.
- Use of non-lead ammunition for migratory game birds will be required in all firearms units immediately.
- Non-lead ammunition requirement will be proposed for hunting all species beginning in fall of 2026.

JUSTIFICATION:

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

Not only does hunting satisfy a recreational need, but hunting on NWRs is also an important, proactive management action that can prevent overpopulation and the deterioration of habitat (i.e., overbrowsing by deer). Disturbance to other species will occur, but this disturbance is generally short-term or minor. Suitable habitat exists on refuge lands to support hunting as proposed.

This activity will have minimal conflicts with other priority public uses and will not adversely affect biological resources. Therefore, through this compatibility determination process, we have determined that hunting on the refuge, in accordance with the stipulations provided above is a compatible use that will not materially interfere with or detract from the fulfillment of the Refuge System mission or the purposes of the refuge.

SIGNATURE:

Refuge Manager

(Signature)

(Date)

CONCURRENCE:

Regional Chief (Acting)

(Signature)

(Date)

MANDATORY 15 YEAR RE-EVALUATION DATE:

(Date)

LITERATURE CITED:

- Cole, D.N. 1990. Ecological impacts of wilderness recreation and their management. In J.C. Hendee, G.H. Stankey, and R.C. Lucas (Eds.), *Wilderness Management* (pp. 425-466). Golden, CO: North American Press.
- Chincoteague and Wallops Island National Wildlife Refuges Comprehensive Conservation Plan (CCP). U.S. Fish and Wildlife Service. October 2015.
- Golden, N.H., S.E. Werner and M.J. Coffey. 2016. A Review and Assessment of Spent Lead Ammunition and its Exposure and Effects to Scavenging Birds in the United States. P.de. Voogt (ed.), *Reviews of Environmental Contamination and Toxicology* 237:123-191.
- Gross, John, B. Cohen, B. Collier, and M. Chamberlain. 2015. Influences of hunting on movements of male wild turkeys during spring. *Proceedings of the National Wild Turkey Symposium*. 11. 259-268.
- Horsley, S.B., S.L. Stout, and D.S. DeCalesta. 2003. White-tailed deer impact on the vegetation dynamics of a northern hardwood forest. *Ecol. Appl.* 13(1)98-118.
<https://www.fs.fed.us/ne/warren/aboutus/pdf/Horsley%20et%20al%20-%202003.pdf>.
- Kelly A. and S. Kelly. 2005. Are mute swans with elevated blood lead levels more likely to collide with overhead power lines? *Waterbirds* 28: 331-334.
- Kramer, J.L. and P.T. Redig. 1997. Sixteen years of lead poisoning in eagles, 1980-95: An epizootiologic view. *Journal of Raptor Research*. 31(4): 327-332.
- Liddle, M.J. and H.R.A. Scorgie. 1980. The effects of recreation on freshwater plants and animals: a review. *Biological Conservation* 17: 183-206. [https://doi.org/10.1016/0006-3207\(80\)90055-5](https://doi.org/10.1016/0006-3207(80)90055-5).
- Lomnický, G.A., A.T. Herlihy, and P.R. Kaufmann. 2019. Quantifying the extent of human disturbance activities and anthropogenic stressors in wetlands across the conterminous United States: results from the National Wetland Condition Assessment. *Environmental Monitoring and Assessment*. <https://link.springer.com/article/10.1007/s10661-019-7314-6>.
- O'Halloran, J., A.A. Myers, and P.F. Duggan. 1989. Some sub-lethal effects of lead on mute swan (*Cygnus olor*). *Journal of Zoology* 218: 627-632.
- U.S. Fish and Wildlife Service. 2017. *Banking on Nature: The Economic Contributions of National Wildlife Refuge Recreational Visitation to Local Communities*. 32 pp.
https://www.fws.gov/sites/default/files/documents/USFWS_Banking_on_Nature_2017.pdf

COMPATIBILITY DETERMINATION

USE: Hunting

REFUGE NAME: Wallops Island National Wildlife Refuge

DATE ESTABLISHED: March 11, 1971

ESTABLISHING and ACQUISITION AUTHORITY(IES):

- 1) Migratory Bird Conservation Act (16 U.S.C. § 715d)
- 2) Fish and Wildlife Coordination Act (16 U.S.C. § 667b)

REFUGE PURPOSE(S):

- “... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds” 16 U.S.C. § 715d (Migratory Bird Conservation Act)
- “... particular value in carrying out the national migratory bird management program.” 16 U.S.C. § 667b (Fish and Wildlife Coordination Act)

NATIONAL WILDLIFE REFUGE SYSTEM MISSION:

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

DESCRIPTION OF USE:

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

The use is public hunting of big game (white-tailed deer and turkey), migratory game birds (duck, goose, swan, rail, coot, snipe, gallinule, dove, woodcock, and crow), and upland game (raccoon, opossum, fox, coyote, rabbit, and squirrel) on Wallops Island National Wildlife Refuge (NWR, refuge), which is managed as a satellite refuge of the Chincoteague National Wildlife Refuge Complex (NWRC). Hunting was identified as one of six priority public uses of the Refuge System by the National Wildlife Refuge System Administration Act (NWRSA) of 1966, as amended by the Refuge System Improvement Act of 1997 (Public Law 105-57), when found to be compatible.

(b) Where would the use be conducted?

Wallops Island NWR is located on the mainland, east of Wattsville, VA in Accomack County. The refuge is immediately adjacent to Highway 175, which provides access to the Town of Chincoteague and to Chincoteague NWR. Wallops Island NWR (373 acres) is comprised mainly of salt marsh (195 acres) and forest/shrub (178 acres) and contains habitat for a variety of species, including upland and wetland dependent migratory birds. There is a safety zone (approximately 50

acres) located at the southern end of the unit where hunting will not be allowed.

(c) When would the use be conducted?

Hunting would be permitted from September 16 until March 14. Season dates within this time period will be in accordance with State regulations. The only exception is for spring turkey hunting, which will occur during the State spring season from mid-April through early May. Big game and migratory game bird hunting hours will be in accordance with State regulations and hunters may access the refuge 2 hours before sunrise until 2 hours after sunset. Upland game hunting will only occur during regular refuge access hours for all hunters (2 hours before sunrise to 2 hours after sunset). Night hunting will not be allowed.

(d) How would the use be conducted?

Hunting would be permitted in designated areas of the refuge in accordance with State and refuge-specific regulations. Hunters will read and sign a hunt brochure prior to hunting on the refuge. Hunt brochures are available online on the refuge website or at the Visitor Center.

Big Game

Big game hunting would be permitted for white-tailed deer and wild turkey in accordance with State seasons and methods of take. Spring and fall turkey hunting would be administered via a mentored quota hunt, initially through targeted hunts for youth and apprentice hunters. Providing special hunt opportunities would assist the State with hunter recruitment and retention efforts (commonly referred to as R3). The newly opened turkey hunt would encourage the use of non-lead shot. Daily and seasonal bag limits would follow State regulations.

Upland Game

Upland game hunting for raccoon, opossum, fox, coyote, rabbit, and squirrel would be allowed in accordance with State regulations and during regular refuge hours for all hunters from 2 hours before sunrise to 2 hours after sunset (i.e., no night hunting). Season dates would be concurrent with State seasons from September 16 through March 14. The use of non-lead ammunition would be encouraged for all upland game species.

Migratory Game Birds

Migratory game bird hunting would be permitted for rail, coot, snipe, gallinule, duck, goose, swan, woodcock, dove, and crow. Sunday hunting would be permitted for all migratory game birds. The use of dogs for hunting of migratory birds would be allowed according to State regulations. Hunters must obtain, sign, and have in their possession a signed hunt brochure. Migratory bird hunting would occur within State seasons from September 16 through March 14. The use of non-lead ammunition would be required for all migratory game bird species in addition to the Federal ammunition requirements for duck, goose, swan, and coot.

Hunter Access

The refuge will make reasonable efforts to provide hunter access. The intention is to provide safe, quality hunting opportunities that consider the welfare of refuge wildlife resources. If hunting conditions are deemed unsafe to hunters or refuge staff or negative impacts on resources are discovered, the hunt program procedures and timing are subject to change. All access points and hunter parking lots will be delineated on refuge hunt maps and will be included in the hunt

brochures. Hunters may be permitted to enter refuge lands prior to normal refuge operating hours in order to reach hunt units at the start of State hunting hours for big game, upland game and migratory game bird hunting.

Migratory bird hunters may access hunting by boat via several private and public boat launches within the vicinity of the refuge. No boat launches exist on the refuge. State and municipal boat launches are within a short distance of refuge hunting areas and can be used for the launch and retrieval of boats. Migratory bird hunters may also access areas by foot, but no established trails exist from the parking areas to the marsh.

Non-Lead Ammunition

The use of non-lead ammunition for proposed new hunting opportunities (raccoon, opossum, fox, coyote, rabbit, squirrel, turkey and migratory game birds) will be encouraged upon implementation of this plan in 2022. The use of non-lead ammunition for hunting deer, turkey, and upland game will transition to be required for use after a 4-year phase-in period is implemented (2026). This proposed phase-in period will allow hunters time to adapt to the new regulations without diminishing deer hunting opportunities on the refuge. The refuge staff will provide information to assist in a valuable transition period that benefits fish, wildlife, and people.

(e) Why is the use being proposed?

Hunting is one of the priority public uses defined by the NWRSAA of 1966, as amended by the Refuge System Improvement Act of 1997 (Public Law 105-57). Department of the Interior Secretarial Order 3356 (September 15, 2017) further emphasized identifying opportunities to increase outdoor recreation opportunities for all Americans, including opportunities to hunt and fish. This legitimate and appropriate use of a national wildlife refuge is generally considered compatible as long as it does not materially interfere with or detract from the fulfillment of the Refuge System mission or the purposes of the refuge.

Objectives for the hunting program at the Wallops Island NWR include providing the public with high quality, wildlife-dependent recreational opportunities that align with refuge purposes and management objectives. The FWS has long recognized that hunting is an integral part of a comprehensive wildlife management program and that positive benefits can be attributed to a well-managed hunt.

Hunting is consistent with the refuge's 2015 Comprehensive Conservation Plan's (CCP) larger goal to have "people of all ages and abilities develop a stewardship ethic while enjoying their refuge experience and increasing their knowledge of the FWS, Refuge System, and the refuge." This goal includes a specific objective (Goal 6, Objective 6.1) to "increase level of opportunity (e.g., expansion of hunted species) in the hunt program, such as the fall/winter light goose hunt, through expansion of hunted species, trapping, and new hunting programs." This objective will help provide safe and high-quality big game, small game, and waterfowl hunting opportunities for the public.

AVAILABILITY OF RESOURCES:

Cost analysis for administration and management of the hunt is estimated to be approximately \$24,000. Adequate FWS resources currently exist and can be provided with existing personnel to

properly develop, operate, and maintain the hunt and will not detract from refuge purposes or the Refuge System mission.

Resources involved in management and administration of the hunt include personnel to provide annual updates to the hunt brochure, website information, and hunt kiosk; personnel to maintain boundary markers in the field; staff and equipment to maintain roads and create designated parking and install signage in new units (see Table B-1).

Table B-1. Estimated Costs for Hunting at Chincoteague and Wallops Island NWRs Combined*

Identifier	Cost
Hunt/Fish Program Staff (Maintenance, Biologist, Managers, Visitor Services, Contractors)	\$9,000
Maintain roads, parking lots, trails**	\$13,000
News releases, fact sheets, permitting, reports	\$1,000
Maintain hunt/fish materials and supplies (signs, deer check station)	\$1,000
Total Annual Cost	\$24,000

**Wallops Island NWR is unstaffed and unfunded, and as such, the hunting program would be funded through Chincoteague NWR.*

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

ANTICIPATED IMPACTS OF THE USE:

The following are anticipated impacts for hunting on Wallops Island NWR. For more specific impacts related to all proposed changes detailed in the Hunting Plan, please refer to the Environmental Assessment (Appendix C).

Hunting has been permitted on the refuge since 2002 with no discernible adverse impacts to resources. Hunting provides wildlife-dependent recreational opportunities and can foster a better appreciation and more complete understanding of the wildlife and habitats associated with the southern Delmarva Peninsula landscape. This could result in more widespread and stronger support for wildlife conservation, the refuge, the Refuge System, and the FWS.

This section predicts foreseeable impacts of implementing the hunting program on refuge resources. When detailed information may be deficient or unavailable, we base our evaluation on professional judgment and experience. We usually identify potential impacts within a long-range timeframe (i.e., 15 years) and beyond that timeframe, they become more speculative.

The refuge hunt program is designed to be sustainable through time, given relatively stable conditions, particularly because of close coordination with the Virginia Department of Wildlife Resources (VDWR). Adverse impacts of hunting on big game (white-tailed deer and turkey), upland game (raccoon, opossum, fox, coyote, rabbit, and squirrel), and migratory game birds (rail, coot, snipe, gallinule, duck, goose, swan, woodcock, dove, and crow) on the refuge are expected to be negligible. The proportion of the refuge's harvest of these species would be negligible when

compared to local, regional, and statewide populations and harvest.

Because of the regulatory process for harvest management in place within the FWS, the ability of individual refuge hunt programs to adapt refuge-specific hunting regulations to changing local conditions, and the wide geographic separation of individual refuges, we anticipate no significant impacts on resident wildlife, migratory birds, and non-hunted wildlife as a result of hunting on Wallops Island NWR.

In comparison with the entire Atlantic Flyway, or the breeding ranges of the many birds and wildlife that use it, the hunting area of the refuge comprises a relatively small total land mass. FWS recognizes that the refuge is not isolated ecologically from the land around it; however, we may have overstated positive or negative impacts in that larger geographic context. Nevertheless, many of the actions we propose conform with the 2015 CCP and other regional landscape plans, and provide positive, incremental contributions to those larger landscape goals.

Big Game

Deer hunting on the refuge has been occurring since 2002 and annual harvest numbers on the refuge remain low (e.g., 2020/21: 6 deer reported; 2019/20: 1 deer reported). We anticipate a small increase in the number of deer harvested annually, but this would not meaningfully affect the current overpopulation of deer in the county. Deer may avoid hunting areas due to increased pressure, but this will not create negative impacts to the population.

According to VDWR, the wild turkey population was estimated as 0.45 to 0.61 turkeys per square mile of suitable habitat for the northern Virginia region in the 2016-2017 season. In the refuge's region, the wild turkey density ranges from 0.26 to 0.44 turkeys per square mile. The northern Virginia region population is considered stable to rising. Approximately 20,525 turkeys were harvested during the 2020 spring gobbler season. During the 2020 spring season, 232 of those recorded harvests were made in Accomack County.

Studies examining the direct effects of hunting on turkey behavior and movement are limited. One study conducted in Louisiana tracked the movements of wild turkey during the hunting season and found that distances traveled by wild turkeys were only 8 percent greater during hunting days than non-hunting days (Gross et al. 2015). Although hunting made it more likely for a turkey to change their movement patterns, a small-scale increase in range is not biologically significant.

The refuge will open to a limited quota mentored turkey hunt during the spring and fall seasons. The remainder of the year would allow turkey to rest and recover. The refuge estimates less than two turkey will be harvested annually from Wallops Island NWR due to the small number of turkeys that have been observed on the island through observations by staff. Relative to State harvest numbers, refuge impacts on statewide populations are expected to be negligible.

Upland Game

We anticipate small harvest levels of these species and only minor impacts to their population levels. Most of the land use surrounding the refuge lands consists of Federal, agriculture and residential areas where populations of these species proliferate on the broader surrounding landscape. Any impacts will be short-term and minor and will mostly include changes in habitat use

by individuals.

Migratory game birds

Opening to waterfowl hunting will have some short-term disturbance to the waterfowl resting and feeding in the area. Marsh areas are prone to disturbance and increased foot traffic to access hunting sites will result in trampling of sensitive marsh plants in frequently used areas (Lomnický et al. 2019). There will be few long-term impacts to waterfowl populations since most of the marsh area on the eastern shore is owned by the State and is already open to migratory bird hunting.

We will avoid potential adverse impacts to bald eagles by following management guidelines developed in consultation with the State, including sight and distance setbacks from nests and concentration areas that may develop, and time-of-year restrictions. Bald eagle nesting season starts around December 15 and continues throughout the times of most winter and spring hunts. Hunting activities on the refuge end March 15.

Non-target Species

Wallops Island NWR hosts a wide diversity of both resident and migratory wildlife. The refuges are important stopover sites in the Atlantic Flyway and provide important habitat for resident species in an area with rising development trends. Many common bird species will be in areas adjacent to hunting, in both upland and wetland areas, and they may relocate to other areas of the refuge during hunting.

Thirty-four mammal species are recorded on the lower Delmarva Peninsula and 9 bat species may be found on or around the refuges. Frogs and toads that can be found at Wallops Island NWR include the Northern spring peeper, Southern green frog, Southern leopard frog, Fowler's toad, and Eastern narrow-mouthed toad. The freshwater and estuarine turtles that inhabit the refuge include the Eastern painted turtle, spotted turtle, Eastern mud turtle, Northern red-bellied cooter, Eastern box turtle, Eastern snapping turtle, and the estuarine Northern diamond-backed terrapin. The red-backed salamander is also commonly found.

Finfish of primary importance found near the refuges include the black drum, red drum, bluefish, winter flounder, summer flounder, menhaden, spot, Atlantic croaker, grey trout, mullet, spotted seatrout, and striped bass.

Some disturbance to non-target wildlife species and impacts on vegetation may occur. While not targeted for hunting or fishing, other wildlife may experience disturbance, avoidance of areas, habitat damage, or injury as a result of the use (Cole 1990). Hunting is not likely to adversely affect these species given the time of year the activities take place (September 16 through March 14) and where the uses occur on the refuge. In addition, hunting will not be permitted at night for any species.

Opening the refuge to fox and coyote hunting may result in fewer predator species that have negative impacts on nesting migratory birds on the refuge. Populations of these species prey on eggs and disturb nesting birds resulting in reduced productivity. Allowing harvest of these species will likely result in desirable, positive outcomes of decreased predation on nesting migratory birds.

Threatened and Endangered Species

For Wallops Island NWR, potential impacts were evaluated along with the hunting activities for Chincoteague NWR. Thus, some of the specific locations mentioned in the section may not occur at Wallops Island, but can be applicable.

Piping plover, red knot, roseate tern

In order to protect these shorebird species, staff at Chincoteague NWR close certain critical nesting, foraging, and roosting areas on Assateague, Assawoman, and Metompkin islands to public entry from March 15 through September 15. This timing does not overlap when the overwhelming majority of hunters visit the refuge. For example, deer, waterfowl, and upland game hunting are all conducted outside this date range. In addition, the refuge's hunt zones do not overlap with the preferred habitat of intertidal zone beaches and mudflats.

Regarding the impacts of lead ammunition, specifically for the beach shorebirds (i.e., roseate tern, red knot and piping plover), the deer and sika hunt in the Northern Zone hunt unit is the primary hunting opportunity in which hunters may use lead ammunition (upland game may be hunted at the same time). This hunt only occurs from November to January, in the more forested habitat of the refuge. Thus, it will not occur within, or in close proximity to, areas where those species occur. Even if lead could leach out into the beach habitat these species use, the increase in lead would be extremely minor and dispersed, and therefore insignificant. Because hunting—including the use of lead ammunition, until it is discontinued at the beginning of the fall 2026-2027, is highly unlikely to overlap with piping plovers, red knots or roseate terns in time or space, these species are not likely to be adversely affected by the proposed hunting activities.

Eastern black rail

Because Eastern black rails do not occur on the refuge, the proposed activities are not likely to adversely affect this species. Hunting takes place September 15 through March 15, and would not overlap with breeding season for black rails during May. Any potential effects from disturbance are extremely unlikely to occur and considered discountable because the hunting area is far away from the marshes where Eastern black rail would occur.

The potential for lead impacts to black rails is discountable because of the bird's preferred habitat. Because of the federal ban already in place requiring the use of non-lead ammunition for waterfowl hunting, and that hunting with lead ammunition only occurs in the Northern Hunt zone (an upland area), and because we plan to require the use of non-lead ammunition for hunting all species on the refuges at the beginning of the fall 2026-2027 hunting season, impacts from lead are not likely to adversely affect black rail. In conclusion, the proposed hunting activities are not likely to adversely affect the Eastern black rail.

Northeastern beach tiger beetle

Northeastern beach tiger beetle (*Habroscelimorpha* (formerly *Cicindela*) *dorsalis dorsalis*) is not likely to be adversely affected by the proposed changes because they do not occur on the refuge. Only a subspecies, *Cicindela dorsalis media*, which is not federally protected, is found on Chincoteague's beaches.

Atlantic sturgeon

All proposed hunting changes are inland from the beach, and not near the ocean. Furthermore, all waterfowl hunting currently requires non-lead ammunition. For the next 4 years, lead ammunition is only allowed in the Northern Hunt Zone. Because Atlantic sturgeon also do not occur on the refuge, are separated from the forested areas of the Northern Hunt Zone by Service Road on the west, and distanced by 200 to 300 feet of beach/dune/scrub habitats on the east, the species will not experience any effects from the proposed activities. Therefore, the proposed activities will have no effect on the Atlantic sturgeon.

Northern long-eared bats

Northern long-eared bats (NLEB) may occur in some hunting zones but are not likely to experience any significant disturbance or habitat loss even if bats and hunters may briefly overlap. Firearms hunting is conducted in the Northern Hunt Zone (usually from November 19 through January 7) and archery hunting in the Archery Only Hunt Zone (usually from October 1 to November 18). Bats are typically nocturnal and inactive during most hunting seasons and times, and not present for most of the hunting seasons; therefore, disturbance would be highly unlikely.

Potential disturbances from expanded hunting, such as an increase in gun noise or additional portable tree stands, are expected to be insignificant given the amount of hunting expected to occur on these acres. Noise from firearms or dog barks could disturb roosting bats but it is likely that the bats would remain in the tree during daylight hours. Such noise disturbances are temporary and last only for the duration of the noise, not fundamentally unlike other temporary disturbances that bats may naturally experience, with no long-term effects; therefore, any potential disturbance effects are expected to be insignificant. Other possible disturbances include hunters climbing and placing portable tree stands on trees. However, hunters typically select live trees for safety reasons while bats are most often in dead or dying trees with large slabs of peeling bark. Further, hunting activities would not result in any roost tree destruction as no tree cutting or other habitat alteration is permitted on the refuge.

The potential for lead impacts to bats is discountable due to Northern long-eared bats' diet and foraging habits. Considering the chain of events that are necessary for exposure and the small amount of lead that would contribute to lead concentrations in refuge soils, it seems likely that bats that occur on refuges will not consume lead derived from ammunition fired by hunters on the refuge. Because there have been no known occurrences of NLEB; because the potential for overlap in time or space between hunters and bats is very low; because the expected impacts to roosting bats even if there is overlap are insignificant; and because the potential for lead impacts are discountable, the proposed hunting activities are not likely to adversely affect the NLEB.

Sea turtles: Loggerhead, Green, Hawksbill, Kemp's Ridley, Leatherback

Five species of federally listed sea turtles use Assateague Island's ocean and bay waters. The leatherback sea turtle, Kemp's Ridley sea turtle, and the hawksbill sea turtle are listed as endangered species under the ESA; the loggerhead sea turtle and green sea turtle are listed as threatened. In Virginia, the state status is the same as the Federal status for these species. Of the five sea turtles, only loggerheads are known to nest on the refuge, which is the northern extent of its breeding range. In recent years, crawl and nesting activity (one to three nests) occurs June through August. Because incubation takes longer (90 or more days) at this latitude, the hatch window is August through October. Hunting activities do not occur where loggerhead sea turtles nest. Refuge beaches on

Assateague, Assawoman, and Metompkin Islands will remain closed to hunting during the sea turtle nesting seasons. All waterfowl hunting currently requires non-lead ammunition. Turtles present but not nesting, remain in the water, and thus, will not be impacted by hunting activities. Accordingly, the proposed hunting changes will have no effect on the five listed turtle species because the sea turtles are separated from the proposed hunting activities—including the use of lead ammunition—in space, and therefore, the species do not have the potential to be exposed to the effects of the proposed activities.

Monarch butterfly

Monarch butterflies are observed on nectar plants within beach strand habitat and impoundment management units during their peak migration (last two weeks of September through the first two weeks of October). Monarch butterflies typically concentrate on seaside goldenrod located along the Beach Road corridor and the dunes from Swan Cove Trail south to Toms Cove, which is closed to hunting. Dogs are not allowed on the Assateague Island unit of the refuge to minimize any potential for disturbance in the most sensitive areas of the refuge.

The plants senesce as the butterflies begin their fall migration, usually in October. Before then in, in the fall, hunting activity could result in some trampling of nectar sources available for monarchs, but any potential impact would be concentrated, insignificant, and leave plenty of available nectar sources on other areas of the refuge and unit. Only light foot travel from hunters accessing the area for hunting is expected to occur on these acres. While hunters are walking through habitat used by monarchs, there could be some impacts including flushing while resting or feeding. This disturbance is minimal as the monarchs can easily move to another spot when disturbed, which is a normal behavior response that does not result in long-term effects. Furthermore, hunting does not result in the removal of vegetation, including nectar sources or milkweed, and so it would have negligible impacts to habitat resources important for monarchs.

The potential for lead impacts to monarchs is discountable due to their diets. Adult monarch butterflies feed on nectar. However, as with bats, it relies on the very unlikely occurrence that lead concentrations in the soil from hunting activities reach high enough levels for uptake by plants, and in this case, it would further require uptake by milkweed and the specific plants that monarchs rely on for nectar sources. Given that hunters are not likely to overlap with areas where monarchs and their plants are known to occur; that any potential disturbance is expected to be insignificant; and because bioaccumulation through plants into caterpillars or butterflies is discountable, the proposed activities are not likely to jeopardize the monarch butterfly.

Seabeach amaranth

Seabeach amaranth was federally listed as threatened in 1993 by the Service. Seabeach amaranth is an annual plant species that occurs on the upper beach and sparsely vegetated over wash fans and inter-dune areas. This species appears to require extensive areas of barrier island beaches and inlets functioning in a relatively natural and dynamic manner. This plant has been determined not to occur on the refuge, and any impacts from hunting or the associated use of lead ammunition would be extremely unlikely to occur. Therefore, the proposed activities are not likely to adversely affect seabeach amaranth.

All species

The best available science indicates that lead ammunition and tackle may have negative impacts on wildlife and the environment (Golden et al. 2016). Animals can be poisoned by lead in a variety of ways, including “ingestion of bullet fragments and shot pellets left in animal carcasses, spent ammunition left in the field, lost fishing tackle, lead-based paints, large-scale mining, and lead smelting activities. Despite a large body of scientific literature on exposure to lead and its toxicological effects, controversy still exists regarding its impacts at a population level” (Haig et al. 2014). The use of non-lead ammunition will initially be voluntary, and we plan to require non-lead ammunition for all hunting activities starting at the beginning of the fall 2026-2027 hunting season (after a 4-year phase-in period). This planned phase-in period will ensure continuity of visitor opportunities as hunters understand the changes and become more familiar with the availability and use of non-lead alternatives. We will educate hunters about the impacts of lead and strongly encourage non-lead ammunition alternatives for the next 4 years.

The bioaccumulation of lead is a potential concern, but it does not present a significant issue on this refuge, as: 1) non-lead shot is currently required for hunting waterfowl; 2) we plan to require the use of non-lead ammunition on the refuge at the beginning of the fall 2026-2027 hunting season; 3) the refuge will strongly encourage use of non-lead alternatives for hunting deer and sika for the next 4 years; 4) we will educate hunters and the public to the potential adverse impacts of lead; and 5) the proposed hunting activities are not likely to introduce substantially more lead into the environment over existing amounts with the proposed hunting program. Some hunters will also choose non-lead methods of take such as archery. As a result, the proposed hunting activities are not likely to adversely affect any of the above listed species.

For more detail, see the completed Intra-Service Section 7 Evaluation (Appendix D). Hunting activities may affect, but are not likely to adversely affect, any threatened or endangered species at the refuge. However, if there is a potential for hunting activities to have a negative impact on such species, or a new species of concern is identified on refuge lands, we will reevaluate our programs and implement program changes as necessary.

Habitat and Vegetation

Habitat types on Wallops Island NWR include forests, shrub/scrub, and salt marsh. Migratory bird hunting may result in trampling of wetland vegetation, alteration of drainage patterns, and creation of trails (Liddle and Scorgie 1980). Upland game hunters will likely traverse a larger area of the refuge than other hunters. However, all these impacts will be reduced, as vegetation will likely be dormant or entering dormancy during the hunting seasons.

Heavily browsed forest understory and shrub vegetation leaves less food and cover for migratory birds, a resource that the refuge is focused on protecting. Reducing the deer population will decrease the browse effects on vegetation and enable the forest understory to grow and produce more food and cover for migrants (Horsley et al. 2003). This will also provide additional habitat for small mammals, reptiles, and invertebrates.

Visitor Use and Experiences

Wallops Island NWR is not open to any other public uses, therefore the expanded hunting program at Wallops Island NWR is unlikely to cause visitor use conflicts. If conflicts arise among hunters, mitigation efforts can be implemented to ensure that the proposed use will not have significant

impacts to the hunting community. Impacts to individual hunters will be limited to the hunting season and are minimized by time and space zoning that lessens the interactions between hunters.

There is some possibility of negative economic impacts for hunters who must comply with the proposed non-lead requirements beginning in 2026. While non-lead ammunition has become essentially equivalent in price to lead ammunition, certain types of non-lead ammunition can cost more than certain types of lead ammunition. However, the price of non-lead ammunition is the same or less than that of premium lead ammunition. In order to prevent the negative impacts of this switch, the refuge has begun and will continue specific outreach about the requirement to these groups and has put in place measures to mitigate the economic input beyond the proposed phased implementation, which already affords hunters time to gradually transition their supplies of ammunition. The Service will continue educating hunters on the use of non-lead ammunition during the phased in time period, provide resources on companies that produce non-lead ammunition for purchase and work with partner organizations on non-lead ammunition giveaways or exchanges if possible.

PUBLIC REVIEW AND COMMENT:

This Compatibility Determination (CD) is part of the Chincoteague and Wallops Island NWR hunting opening package. The hunting plan was coordinated with all interested and/or affected parties, including VDWR staff. We informed the public through local venues, the refuge website, and social media. We released the draft plan, CDs and EA for public review and comment from May 3 through August 8, 2022, a total of 97 days. A total of eleven comment letters were submitted that offered input to the refuge. Any comments and our responses can be found in the Finding of No Significant Impact (Appendix E).

DETERMINATION (CHECK ONE BELOW):

☐ Use is not compatible

☒ Use is compatible, with the following stipulations

STIPULATIONS NECESSARY TO ENSURE COMPATIBILITY:

To ensure compatibility with refuge purpose(s) and Refuge System mission, hunting can occur at Wallops Island NWR in accordance with State and Federal regulations and special refuge-specific restrictions to ensure that wildlife and habitat management goals are achieved, and that the program is providing a safe, high-quality hunting experience for participants. This hunting program will be monitored and potentially modified or eliminated if any the program's components are found not compatible.

The following stipulations are necessary to ensure compatibility:

- Hunting for any species will be limited between September 16 to March 14 (except for the spring turkey State-managed hunt).

- Hunters may access the refuge from 2 hours before sunrise to 2 hours after sunset (no night hunting).
- Trained dogs may be used for the hunting of migratory game birds only.
- Use of non-lead ammunition for all migratory game birds will be required. We propose that non-lead ammunition will be required for deer, upland game, and turkey hunting after a 4-year phase in period (2026).

JUSTIFICATION:

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

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

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

SIGNATURE:

Refuge Manager

(Signature)

(Date)

CONCURRENCE:

Regional Chief (Acting)

(Signature)

(Date)

MANDATORY 15 YEAR RE-EVALUATION DATE:

(Date)

LITERATURE CITED:

- Cole, D.N. 1990. Ecological impacts of wilderness recreation and their management. In J.C. Hendee, G.H. Stankey, and R.C. Lucas (Eds.), *Wilderness Management* (pp. 425-466). Golden, CO: North American Press.
- Chincoteague and Wallops Island National Wildlife Refuges Comprehensive Conservation Plan (CCP). U.S. Fish and Wildlife Service. October 2015.
- Golden, N.H., S.E. Werner, and M.J. Coffey. 2016. A Review and Assessment of Spent Lead Ammunition and its Exposure and Effects to Scavenging Birds in the United States. P.de. Voogt (ed.), *Reviews of Environmental Contamination and Toxicology* 237:123-191.
- Gross, John, B. Cohen, B. Collier, and M. Chamberlain. 2015. Influences of hunting on movements of male wild turkeys during spring. *Proceedings of the National Wild Turkey Symposium*. 11. 259-268.
- Horsley, S.B., S.L. Stout, and D.S. DeCalesta. 2003. White-tailed deer impact on the vegetation dynamics of a northern hardwood forest. *Ecol. Appl.* 13(1):98-118.
<https://www.fs.fed.us/ne/warren/aboutus/pdf/Horsley%20et%20al%20-%202003.pdf>.
- Kelly A. and S. Kelly. 2005. Are mute swans with elevated blood lead levels more likely to collide with overhead power lines? *Waterbirds* 28: 331-334.
- Kramer, J.L. and P.T. Redig. 1997. Sixteen years of lead poisoning in eagles, 1980-95: An epizootiologic view. *Journal of Raptor Research*. 31(4): 327-332.
- Liddle, M.J. and H.R.A. Scorgie. 1980. The effects of recreation on freshwater plants and animals: a review. *Biological Conservation* 17: 183-206. [https://doi.org/10.1016/0006-3207\(80\)90055-5](https://doi.org/10.1016/0006-3207(80)90055-5).
- Lomnický, G.A., A.T. Herlihy, and P.R. Kaufmann. 2019. Quantifying the extent of human disturbance activities and anthropogenic stressors in wetlands across the conterminous United States: results from the National Wetland Condition Assessment. *Environmental Monitoring and Assessment*. <https://link.springer.com/article/10.1007/s10661-019-7314-6>.
- O'Halloran, J., A.A. Myers, and P.F. Duggan. 1989. Some sub-lethal effects of lead on mute swan (*Cygnus olor*). *Journal of Zoology* 218: 627-632.
- Rattner, B.A., J.C. Franson, S.R. Sheffield, C.I. Goddard, N.J. Leonard, D. Stang, and P.J. Wingate. 2008. Sources and Implications of Lead-based Ammunition and Fishing Tackle to Natural Resources. *Wildlife Society Technical Review*. The Wildlife Society, Bethesda, Maryland, USA
- U.S. Fish and Wildlife Service. 2017. *Banking on Nature: The Economic Contributions of National Wildlife Refuge Recreational Visitation to Local Communities*. 32 pp.

https://www.fws.gov/sites/default/files/documents/USFWS_Banking_on_Nature_2017.pdf

Virginia Department of Wildlife Resources. 2021. Map of Wildlife Turkey Population Status in Virginia. Available online at: <https://dwr.virginia.gov/wp-content/uploads/Virginia-Wild-Turkey-Population-Status.pdf>

Environmental Assessment

Chincoteague and Wallops Island National Wildlife Refuges

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

Proposed Action

The U.S. Fish and Wildlife Service (FWS) is proposing to expand hunting opportunities in accordance with the refuges' 2015 Comprehensive Conservation Plan (CCP). On Chincoteague National Wildlife Refuge (NWR, refuge), small game, big game and migratory bird hunting opportunities would be expanded on the Northern Hunt Zone and Archery-only Zone (which would be combined with the former Toms Cove Hook Hunt Zone). The sign-in/out process for hunting would also be modified. On Wallops Island NWR, migratory bird and small game hunting opportunities would be added to the hunt program and the sign-in/out process would be removed. Both refuges would add a quota turkey hunt. Upon implementation of the proposed hunt plan, both refuges would encourage the use of non-lead ammunition for hunting migratory birds, upland game, and turkey, and by 2026, use of non-lead would be required for hunting all species.

As part of next year's proposed rule, Chincoteague NWR and Wallops Island NWR will propose a non-lead requirement, which will take effect on September 1, 2026. The EA analyzes the impacts of lead ammunition; based on the breadth of comments received on the plan to require non-lead ammunition by 2026, the Service intends to complete additional analysis and provide another opportunity to comment during next year's annual rulemaking.

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, FWS policy, and laws and international treaties. Relevant guidance includes the National Wildlife Refuge System Administration Act (NWRSAA) 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 and FWS Manual.

Chincoteague NWR was established pursuant to the Migratory Bird Conservation Act (16 U.S.C. § 715d), Refuge Recreation Act (16 U.S.C. § 460k-2, 16 U.S.C. § 460k-460k-4, as amended), Emergency Wetlands Resources Act of 1986 (16 U.S.C. § 3901(b)), Fish and Wildlife Act of 1956 (16 U.S.C. § 742f(b)(1)), and the Consolidated Farm and Rural Development Act (7 U.S.C. § 2002).

The primary purposes of Chincoteague NWR are:

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

- “... (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species ...” 16 U.S.C. § 460k- “... the Secretary ... may accept and use ... real ... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors ...” 16 U.S.C. § 460k-2 (Refuge Recreation Act (16 U.S.C. § 460k-460k-4), as amended);
- “... the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions ...” 16 U.S.C. § 3901(b) (Emergency Wetlands Resources Act of 1986);
- “... the development, advancement, management, conservation, and protection of fish and wildlife resources ...” 16 U.S.C. § 742f(a)(4) “... for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude ...” 16 U.S.C. § 742f(b)(1) (Fish and Wildlife Act of 1956); and
- “... conservation purposes ...” 7 U.S.C. § 2002 (Consolidated Farm and Rural Development Act).

Wallops Island NWR was created on July 10, 1975, when 373 acres of land were physically transferred to the FWS from the National Aeronautics and Space Administration (NASA) Wallops Flight Center.

Formally, Wallops Island NWR was established for:

- “... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds” 16 U.S.C. § 715d (Migratory Bird Conservation Act); and
- “... particular value in carrying out the national migratory bird management program” 16 U.S.C. § 667b (Fish and Wildlife Coordination Act).

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

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

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

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

Purpose and Need for the Action

The purpose of the proposed action is to provide compatible wildlife-dependent recreational opportunities on Chincoteague NWR and Wallops Island NWR. The need of the proposed action is to meet the FWS's priorities and mandates as outlined by the NWRSA 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)).

Hunting is consistent with Goal 6 of the refuges' 2015 CCP which aims to have "people of all ages and abilities develop a stewardship ethic while enjoying their refuge experience and increasing their knowledge of the FWS, Refuge System, and the refuge." This goal includes a specific objective (Objective 6.1) to "increase level of opportunity (e.g., expansion of hunted species) in the hunt program, such as the fall/winter light goose hunt, through expansion of hunted species, trapping, and new hunting programs." This objective will help provide safe and high-quality big game, small game, and waterfowl hunting opportunities for the public.

Department of the Interior Secretarial Order 3356 directs the FWS to enhance and expand public access to lands and waters on NWRs for hunting and other forms of outdoor recreation. The proposed action will also promote one of the priority public uses of the Refuge System and provide

opportunities for visitors to hunt in order to promote stewardship of our natural resources and increase public appreciation and support for the refuge.

Alternatives, including the Proposed Action

Alternative A – No Action Alternative

The No Action Alternative would continue the current hunt programs on the refuges. Chincoteague NWR is currently open to white-tailed deer, sika, and migratory bird hunting. Wallops Island NWR is currently open to white-tailed deer hunting only.

Alternative B –Proposed Action Alternative

The refuge hunt plan is presented in this document as the Proposed Action Alternative. On Chincoteague NWR, the hunting would be divided into three zones: the Northern Hunt Zone (firearms and archery), the Archery Only Zone, and the Waterfowl Hunt Areas. In the Northern Hunt Zone, big game and upland game (raccoon, opossum, fox, and coyote) hunting would be permitted during the regular State deer season. The use of firearms would be permitted. The refuge would remove the limit on the number of hunters in the zones, follow the State bag limit for white-tailed deer, and open a quota hunt for turkey.

The current Toms Cove Hook Hunt Zone would be merged into the Archery Only Hunt Zone, removing shotguns as a method of take in this former zone. In the expanded Archery Only Hunt Zone, the refuge would add raccoon, opossum, fox, and coyote hunting during the regular State deer season. Also in the Archery Only Hunt Zone, the limit on the number of hunters in the sign-in/sign-out process would be removed. We would follow the State bag limit for white-tailed deer, and we would open a quota hunt for wild turkey.

The Waterfowl Hunt Areas would open to all migratory game birds during State seasons from September 16 through March 14 to minimize disturbance to migrating shore birds. The beaches on Assawoman Island, Cedar Island and Metompkin Island would remain closed to all public access.

On Wallops Island NWR, the refuge would open to upland game (raccoon, opossum, fox, coyote, rabbit, and squirrel), and all migratory game bird hunting. Hunting for these species would occur during State seasons between September 16 and March 14.

Measures to Avoid Conflicts:

- Hunting is prohibited within 100 feet of any building, road, or trail.
- The refuges would clearly post information on the hunting season at the refuge headquarters, on the website, and on signs throughout the refuges.
- The refuges would encourage all users to wear blaze orange per State regulations during the firearms hunting season to minimize potential safety issues.
- Maps will be provided for hunters to include hunt boundaries, buildings, trails, and parking areas to ensure hunters are aware of safety zone requirements.

- For both refuges, the use of non-lead ammunition will be required upon implementation of this plan in 2022 for migratory birds. The use of non-lead ammunition for hunting deer, upland game, and turkey will initially be voluntary and will transition to be required for use after a 4-year phase-in period is implemented (2026). This proposed phase-in period will allow hunters time to adapt to the new regulations without diminishing deer hunting opportunities on the refuges. The refuge staff will provide information to assist in a valuable transition period that benefits fish, wildlife, and people.

Nationwide, there is concern about the bioavailability of spent lead ammunition (bullets) and sinkers on the environment, endangered and threatened species, birds (especially raptors), mammals, and other fish and wildlife susceptible to biomagnification. Lead shot and bullet fragments found in animal carcasses and gut piles are the most prevalent source of lead exposure (Kelly et al. 2011). Many hunters do not realize that the carcass or gut pile they leave in the field usually contains lead bullet fragments. Research on the effects of lead ammunition and the fragments it can deposit in killed game continues to be conducted. Avian predators and scavengers can be susceptible to lead poisoning when they ingest lead fragments or pellets in the tissues of animals killed or wounded by lead ammunition (the result of lead's brittle quality causing fragmentation upon impact) or pellets in the tissues of animals killed or wounded by lead ammunition (Cade 2007; Church et al. 2006; Craig et al. 1990; Cruz-Martinez et al. 2015; Finkelstein et al. 2012; Herring et al. 2016; Hunt et al. 2006; Pattee et al. 1981; Pauli and Buskirk 2007; Platt 1976; Redig et al. 1980; Rideout et al. 2012; Stroud and Hunt 2009; Warner et al. 2014). Lead poisoning may weaken raptors by reducing their strength and coordination, increasing muscle and weight loss, reducing motor skill function and making them lethargic, which may make them more susceptible to disease, vehicle strikes or power line accidents and increases mortality rates by leaving them unable to hunt (Golden et al. 2016; Kelly and Kelly 2005; Kramer and Redig 1997; O'Halloran et al. 1989). Furthermore, nestlings of raptors have impaired survival and growth when parents bring food that is embedded with lead fragments (Hoffman 1985a, 1985b; Pattee 1984). Recent modeling has even indicated that lead poisoning suppresses population growth in eagles (Slabe et al. 2022). The extent to which elevated levels of lead have been documented in raptors admitted for rehabilitation can be found in a study of bald eagles and golden eagles in the Raptor Rehabilitation Program at the College of Veterinary Medicine at Washington State University from 1991 to 2008, where 48 percent of bald eagles and 62 percent of golden eagles tested had blood lead levels considered toxic by current standards. Of the bald and golden eagles with toxic lead levels, 91 percent of bald eagles and 58 percent of golden eagles were admitted to the rehabilitation facility after the end of the general deer and elk hunting seasons in December (Stauber et al. 2010). The proposed requirement of non-lead ammunition on the refuge after Fall 2026 will help address concerns about the bioavailability of lead on the refuge.

This alternative offers increased opportunities for public hunting and fulfills the FWS's mandate under the NWRSA. The FWS has determined that the hunt plan is compatible with the purposes of Chincoteague and Wallops Island NWRs and the mission of the Refuge System.

Alternatives Considered, But Dismissed from Further Analysis

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

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

Affected Environment and Environmental Consequences

This section is organized by affected resource categories and for each affected resource discusses both (1) the existing environmental and socioeconomic baseline in the action area for each resource and (2) the direct, indirect, and cumulative effects and impacts of the proposed action and any alternatives on each resource. The effects and impacts of the proposed action considered here are changes to the human environment, whether adverse or beneficial, that are reasonably foreseeable and have a reasonably close causal relationship to the proposed action or alternatives. Cumulative impacts are defined as the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. This EA focuses on written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an “affected resource.” Any resources that would not be more than negligibly impacted by the action may be dismissed from further analyses.

Chincoteague NWR encompasses approximately 14,032 acres. All but 418 of those acres are in Accomack County, Virginia. In addition to the Virginia portion of Assateague Island, Chincoteague NWR also includes all 427 acres of Morris Island (located between Chincoteague and Assateague Islands), 546 acres of the northern end of Chincoteague Island (known as Wildcat Marsh), all 1,434 acres of Assawoman Island, 174 acres of the northern end of Metompkin Island, and 2,012 acres of Cedar Island in both fee title and easements.

Wallops Island NWR is located on the mainland, east of Wattsville, Virginia in Accomack County. The refuge is immediately adjacent to Highway 175, which provides access to the Town of Chincoteague and to Chincoteague NWR. Wallops Island NWR (373 acres) is comprised mainly of salt marsh (195 acres) and forest/shrub (178 acres) and contains habitat for a variety of species, including upland and wetland dependent migratory birds.

For more information regarding the general characteristics of the refuge’s environment, please see Chapter 3.2 of the refuge’s CCP.

TABLE C-1. POTENTIAL FOR ADVERSE IMPACTS FROM PROPOSED ACTION AND ALTERNATIVES

Resources	Not Applicable: Resource does not exist in project area	No/Negligible Impacts: Exists but no or negligible impacts	Greater than Negligible Impacts: Impacts analyzed in this EA
Species to Be Hunted/Fished	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Non-Target Wildlife and Aquatic Species	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Threatened and Endangered Species	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Habitat and Vegetation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Geology and Soils	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Air Quality	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Water Quality	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Floodplains	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wilderness	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Visitor Use and Experience	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Cultural Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Refuge Management and Operations	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Socioeconomics and Environmental Justice	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

BIG GAME (white-tailed deer, sika, turkey)**Affected Resource Description**

White-tailed deer are the largest native land mammals on the refuges. They are abundant in wooded areas and upland meadows, but they are also attracted to sites where dead trees have been cleared and tender regenerating forest vegetation is plentiful. The refuge partners with the NPS, Assateague Island National Seashore on monitoring population size on Chincoteague NWR. Some white-tailed deer also use Cedar and Assawoman islands, as evidenced by tracks and scat.

There are an estimated 850,000 to 1,000,000 white-tailed deer in the State of Virginia. Deer densities used to be significantly higher in Virginia, but through regulated hunting and planning, statewide deer densities have become low to moderate. Deer herds are in fair to good physical condition and are below biological carrying capacity (VDWR 2021a). In the entire State in 2020-2021 season, 208,131 total deer were harvested with 3,356 harvested in Accomack County (VDWR 2021b). Approximately 14 percent of the total kills were with archery equipment, 24 percent were with muzzleloader, and 63 percent were with firearms (VDWR 2021b). In the 2020-2021 season, a total of 216 deer (19 white-tailed deer, and 197 sika) were harvested from Chincoteague NWR and 6 white-tailed deer were harvested on Wallops Island NWR.

A small number of sika elk (*Cervus nippon*), a species native to east Asia and Japan, were released

on the northern end of Assateague (MD) in the 1920s when the island was privately owned (Flyger 1960). They increased in number and expanded their range to occupy the entire island, and sika were well established on the Virginia end of the island when Chincoteague NWR was established in 1943. By 1963, the sika population was estimated at 1,300, and a browse line was becoming evident on refuge vegetation, indicating an over-population (Refuge Narratives). Public hunting, started in 1964, has continued to the present with objectives of reducing an exotic animal, preventing habitat degradation, and providing a public recreational opportunity.

The population of sika on the Chincoteague NWR portion of Assateague Island was estimated at 1,000 animals in the mid-1990s using a model combined with spotlight surveys (Bicksler et al. 1995). The minimum population estimate for sika in the fall of 2007 and 2008 was 600 animals based on Chincoteague NWR harvest data and the Downing population reconstruction model (Davis et al. 2007). Each year harvest data and staff observations of habitat conditions are evaluated to determine season lengths, hunt areas, and bag limits needed to control the herd and keep deer and elk from causing resource damage. Sika do not occur on Wallops Island NWR.

The first wild turkeys on Assateague Island were sighted in March 2005 by a refuge law enforcement officer. Coincidentally, the NPS staff reported turkeys on the north end of Assateague Island around the same time. The wild turkey population on both refuges is unknown. However, anecdotal observations suggest a viable population exists, since flocks greater than 30 birds (adults and juveniles) are frequently observed. Turkeys are also frequently sighted on Wallops Island NWR.

There are an estimated 180,000 wild turkeys in Virginia. During the 2020-2021 fall turkey season, 2,092 turkeys were harvested with 11 harvested in Accomack County. Muzzleloader hunters took about 2.7 percent of the total take and firearms hunters took 78.1 percent. Archery and crossbow became a significantly more popular form of take during the last turkey season, making up 7.4 percent and 11.8 percent of the total take, respectively (VDWR 2021c).

Anticipated Impacts to Big Game (white-tailed deer, sika, turkey)

Alternative A

Under the No Action Alternative, the big game hunting program on the refuges would not change from the current white-tailed deer and sika hunts. Deer hunting (white-tailed and sika) on Chincoteague NWR has been occurring since 1964 and on Wallops Island (white-tailed only) since 2002. During the 2020-2021 hunting seasons, 216 deer were harvested on Chincoteague NWR. On Wallops Island NWR, 6 white-tailed deer were reported harvested during the season. Graph 1. Illustrates the deer harvest on Chincoteague NWR for the past 20 years. We anticipate a similar number of deer would continue to be harvested annually if hunt parameters do not change and this harvest would not meaningfully affect the current population of white-tailed deer.

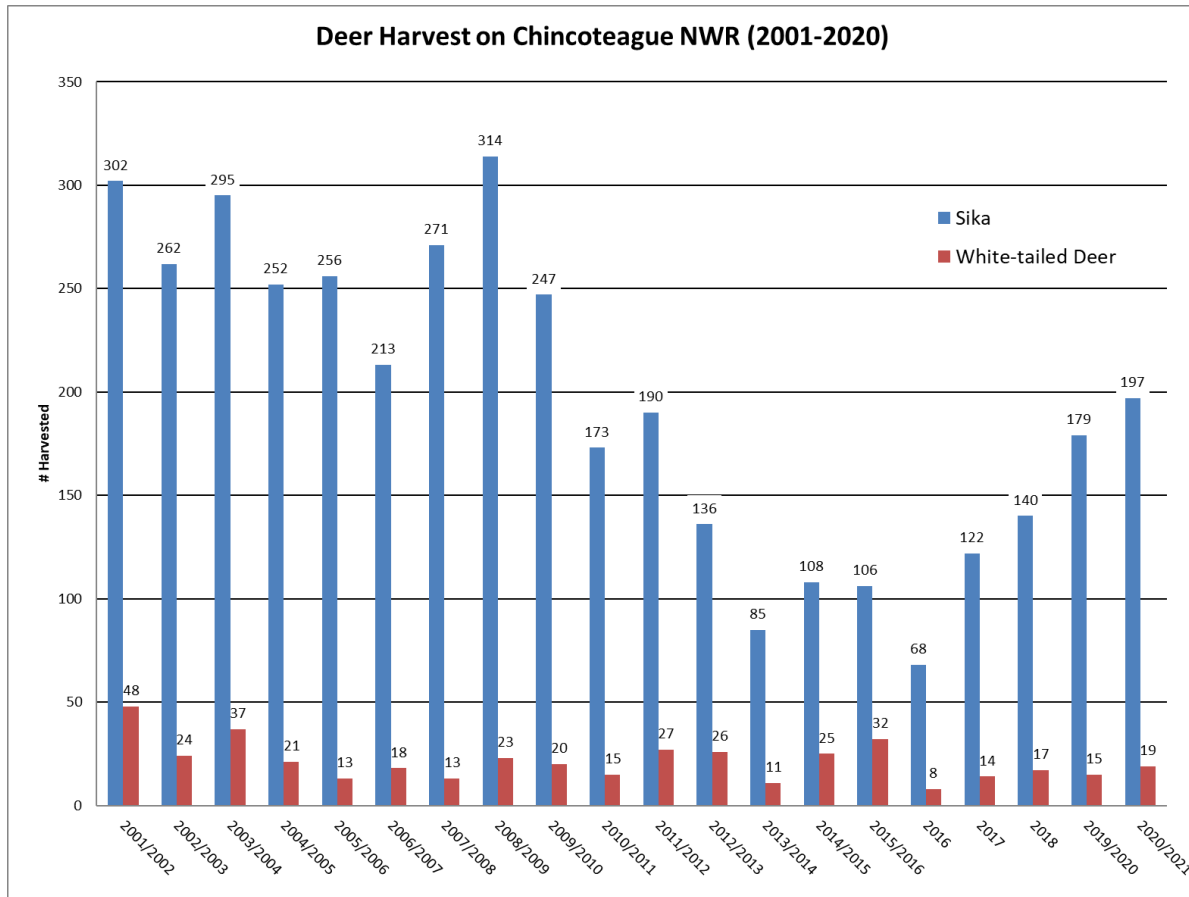


Figure C-1. Deer Harvest on Chincoteague NWR (2001-2020)

In the 2020-21 season, hunters visited Chincoteague NWR 1,907 times, while Wallops Island NWR received 107 hunter visits within the hunt seasons. Deer may avoid hunting areas due to hunting pressure, but current level of pressure would remain similar to past years and would not lead to negative impacts to the white-tailed deer population. Sika populations are estimated using the Downing Population Reconstruction and are managed through the State harvest regulations for the Deer Population Reduction Program (DPOP). Under this alternative, the sika population on the refuge would continue to be suppressed to minimize competition with white-tailed deer.

The current hunting program on refuge lands and waters carries the potential for adverse health impacts to huntable wildlife species from discarded lead in the environment and the potential for adverse human health impacts from lead in game meat. There is potential for the presence of discarded lead in the environment to have adverse impacts on wild game species in addition to the inherent impacts of intentional harvest from hunting. Some wild game species are susceptible to direct ingestion of lead and/or bioaccumulation of lead from their food sources. These types of species that are susceptible to these circumstances are discussed in detail in the non-target wildlife and aquatic species section but are applicable to similar species that are hunted including predators and big game.

Alternative B

Under the Proposed Action Alternative, we would allow the use of muzzleloaders for big game in

the Northern Hunt Zone, remove shotgun as a method of take in the Toms Cove Hook Zone by combining this unit with the Archery Only Zone, remove limits on the number hunters, and follow State bag limits for white-tailed deer on Chincoteague. In recent years, annual hunter limits have never been reached. Given the addition of muzzleloaders in the Northern Hunt Zone will be offset by the removal of shotguns on Toms Cove Hook, we do not anticipate a significant change in hunt visits, or the number of deer harvested annually that would meaningfully affect the current population of white-tailed deer. Deer may avoid hunting areas due to increased pressure, but this would not lead to negative impacts to the population. On Wallops Island NWR, no changes are being proposed and we do not anticipate meaningful changes in annual harvest or impacts to the deer population. As under Alternative A, the sika population on the Chincoteague NWR would continue to be managed to reduce competition with white-tailed deer. The proposed conversion to non-lead ammunition will be phased in for deer hunting over the next 4 years on both refuges. The transition to non-lead ammunition is not expected to impact harvest of big game species.

Under the Proposed Action Alternative, quota turkey hunts would be opened on Chincoteague and Wallops Island NWRs. According to VDWR, the wild turkey population was estimated as 0.45 to 0.61 turkey per square mile of suitable habitat for the northern Virginia region in the 2016-2017 season. The northern Virginia region population is considered stable to rising. Approximately 20,541 turkeys were harvested during the 2021 spring gobbler season, 211 harvests were made in Accomack County.

Studies examining the direct effects of hunting on turkey behavior and movement are limited. One study conducted in Louisiana tracked the movements of wild turkey during the hunting season and found that distances traveled by wild turkeys were only 8 percent greater during hunting days than non-hunting days (Gross et al. 2015). Although hunting made it more likely for a turkey to change their movement patterns, a small-scale increase in range is not biologically significant.

The refuge would open to a limited quota mentored turkey hunt during the spring and fall seasons. The remainder of the year would allow turkey to rest and recover. The refuge estimates less than 10 turkeys will be harvested annually from Chincoteague NWR and 2 from Wallops Island NWR. Annual harvest quotas would be set to ensure only minimal impacts to the refuges' populations. Relative to State harvest numbers, refuge hunting impacts on statewide or county populations are expected to be negligible.

Refuges, including Chincoteague and Wallops Island NWRs, conduct the refuge hunting program within the framework of State and Federal regulations. VDWR sets hunting frameworks based on species' populations and monitored harvests. The proposed refuge hunting regulations will be the same as, or more restrictive than, hunting regulations throughout the State. By maintaining hunting regulations that are the same as or more restrictive than the State, the refuge can ensure that they are maintaining seasons that are supportive of management on a more regional basis. Such an approach also provides consistency with large-scale population status and objectives.

MIGRATORY GAME BIRDS

Affected Resource Description

Waterfowl populations throughout the U.S. are managed through an administrative process known

as flyways and the refuges are located in the Atlantic Flyway. In North America, the process for establishing waterfowl hunting regulations is conducted annually. In addition, public hearings are held, and the proposed regulations are published in the Federal Register to allow public comment.

Waterfowl populations have remained relatively stable along the Atlantic Flyway in Virginia (Roberts 2019). The total number of ducks and geese harvested in the Atlantic Flyway has also remained relatively stable in recent years (USFWS 2019). The proportion of the national waterfowl harvest that occurs on refuges is only 6 percent and there are no waterfowl populations that exist wholly and exclusively on refuges (USFWS 2013).

Liberal duck seasons (60 days, 6-bird bag limit) and resident goose seasons have resulted in high waterfowl harvests in Virginia during the past 10 years. Harvest has averaged approximately 133,300 ducks and 51,700 Canada geese from 2016 to 2019, compared to 114,770 ducks and 25,000 geese during the 1990's (VDWR 2020). Waterfowl hunter numbers in Virginia have been generally stable since the late 1990s. Since 1999, the Harvest Information Program (HIP) has been used to estimate hunter effort and harvest. The average number of duck and goose hunters over the past 3 years, as measured by HIP, was 16,700 and 13,900 respectively (VDWR 2020).

Anticipated Impacts to Migratory Game Birds

Alternative A

Under the No Action Alternative, on Chincoteague NWR, migratory game bird hunting would continue to be permitted for only rail, coot, duck, goose, and swan in the designated Migratory Bird Hunt Zones (see Figure 1). Hunting for snipe, gallinule, woodcock, dove, and crow would not be permitted. Wallops Island NWR would remain closed to migratory game bird hunting. Access for migratory game bird hunting on Chincoteague NWR would be by boat only and hunting from refuge beaches would remain prohibited after March 15. Sunday hunting would be permitted, and the use of non-lead ammunition would be required for all migratory game bird species. Most of the marsh area on the eastern shore is owned by the State and is already open to migratory bird hunting. Continuing migratory game bird hunts on less than 40 percent of Chincoteague NWR would have some short-term disturbance to the migratory game birds resting and feeding in the area. There will be few long-term impacts to migratory game bird populations with harvest levels anticipated to remain similar to previous years.

Lead shot was banned for hunting waterfowl and coots in North America in 1991 and exposure for these birds from spent lead shot in wetlands has declined (Anderson et al. 2000; Lewis et al. 2021; Samuel et al. 1992; Samuel and Bowers 2000). However, exposure to lead has not broadly declined in this manner for game birds in uplands where lead shot and ammunition are still used (Fisher et al. 2006; Franson et al. 2009; Haig et al. 2014; Kendall et al. 1996; Larsen et al. 2007; Rattner et al. 2008). For birds, this typically occurs through direct ingestion of lead through soil, sediment or directly from food items (Rattner et al. 2008). Upland game birds and waterfowl may be exposed to lead when they ingest spent shot or ammunition fragments along with grit or pebbles, they need to fill their gizzards, a specialized organ involved in breaking down food (Anderson 1975; Bellrose 1959; Clark and Scheuhammer 2003; Franson et al. 2009; Kreager et al. 2008).

Alternative B

Under the Proposed Action Alternative, on Chincoteague NWR, woodcock, dove, snipe, gallinule,

and crow would be added to the species of migratory game birds that may be hunted. On Wallops Island NWR, migratory game bird hunting would be permitted for rail, coot, snipe, gallinule, duck, goose, swan, woodcock, dove, and crow. Sunday hunting would be permitted in accordance with State regulations. Migratory game bird hunting would occur within State seasons from September 16 through March 14. The use of non-lead ammunition would be required for all migratory game bird species.

The proposed expansion of migratory game bird hunting to include additional species on Chincoteague NWR and opening Wallops Island NWR to migratory bird hunting for the first time is anticipated to result in only minimal take of newly hunted species and negligible increases in take for those species already hunted. Impacts from hunters would continue to be restricted to occur on less than 40 percent of the total acreage at Chincoteague NWR, with only a minor increase in hunted acreage on Wallops Island NWR. As a result, we anticipate a similar but minimal short-term disturbance to the migratory game birds resting and feeding in the hunted area as under Alternative A. There would continue to be few long-term impacts to migratory game bird populations considering the small increase in huntable acreage on Wallops Island. The Assateague Island portion of Chincoteague NWR would remain closed to migratory game bird hunting and would continue to serve as relatively undisturbed habitat. The combined impact of the proposed migratory game bird hunts on both refuges would not result in significant impacts.

UPLAND GAME (raccoon, opossum, fox, coyote, rabbit, squirrel)

Affected Resource Description

Statewide trend data indicates coyote and red fox populations are rising while gray fox populations are falling (VDWR 2018). During the 2015-2016 season, an estimated 32,811 coyotes, 7,944 red foxes, and 8,289 gray foxes were harvested by hunters Statewide (Fies 2020, Pers. comm.).

Rabbit and squirrel are common and abundant species in Virginia. During the 2013-2014 season, an estimated 554,630 squirrels and 215,288 rabbits were harvested in the State (VDWR 2014). Raccoon and opossum are also common species. During the 2013-2014 season, an estimated 72,657 raccoons were harvested Statewide (VDWR 2014).

While population levels of upland game are not known, these species are also common and abundant in and around the refuges. Consequently, an active predator control program for raccoon, opossum, fox, and coyote is in place to minimize predation on priority management species, especially nesting migratory birds.

Anticipated Impacts to Upland Game (raccoon, opossum, fox, coyote, rabbit, squirrel)

Alternative A

Under the No Action Alternative, upland game hunting would remain closed on Chincoteague NWR and Wallops Island NWR. There would be no anticipated impacts under this alternative. Removal of predatory species would continue at current levels under the existing predator control program only and without the potential benefit of removals of raccoon, opossum, fox, and coyote by hunters.

Alternative B

Under the Proposed Action Alternative, upland game hunts would be opened on Chincoteague and Wallops Island NWRs. On the Chincoteague NWR Assateague Island Unit, Northern Hunt and Archery Only Zones, upland game hunting for raccoon, opossum, fox, and coyote would be allowed during regular refuge hours only (no night hunting, access from 2 hours before sunrise to 2 hours after sunset) and would be concurrent with the deer season (approximately October through early January). Upland game hunting will not be permitted on Sundays on Chincoteague NWR but allowed at Wallops Island NWR. On Wallops Island NWR, upland game hunting for raccoon, opossum, fox, coyote, rabbit, and squirrel would be allowed during regular refuge hours only (no night hunting, access from 2 hours before sunrise to 2 hours after sunset) and would be concurrent with State seasons from September 16 through March 14. The required use of non-lead ammunition would be proposed on both refuges by 2026.

Refuge staff anticipate only small harvest levels of these species and only minor impacts to their population levels. Restricting upland game hunts to the deer season on Chincoteague NWR would likely further limit most take of these species to occur opportunistically by deer hunters. Most of the land use surrounding the refuges consists of agriculture and residential areas where populations of these species proliferate on the broader surrounding landscape. Any impacts would be short-term and minor and would mostly include changes in habitat use by individuals. A small reduction in active predator control may be realized as hunters harvest raccoon, opossum, fox, and coyote.

NON-TARGET WILDLIFE AND AQUATIC SPECIES

Affected Resource Description

Habitat conservation and management is the highest priority of the refuges, consistent with the original establishment purposes for the protection of migratory birds. More than 320 species of birds are known to use the refuges regularly for nesting and brood rearing, feeding, resting and staging during migration, or wintering.

Thirty-four mammal species are recorded on the lower Delmarva Peninsula and 9 species of bats may be found on or around the refuges. Frogs and toads that can be found at Chincoteague NWR include the Northern spring peeper, Southern green frog, Southern leopard frog, Fowler's toad, and Eastern narrow-mouthed toad. The freshwater and estuarine turtles that inhabit the refuge include the Eastern painted turtle, spotted turtle, Eastern mud turtle, Northern red-bellied cooter, Eastern box turtle, Eastern snapping turtle, and the estuarine Northern diamond-backed terrapin. The red-backed salamander is also commonly found.

Finfish of primary importance found near the refuges include the black drum, red drum, bluefish, winter flounder, summer flounder, menhaden, spot, Atlantic croaker, grey trout, mullet, spotted seatrout, and striped bass.

The best available science indicates that lead ammunition and tackle have negative impacts on wildlife. This broad potential for adverse impacts to non-target wildlife and aquatic species and the overall environment is not inherent to the activities of hunting and fishing, but specifically to the use of lead ammunition and tackle. Those potentially adverse impacts can be prevented by requiring non-lead ammunition and tackle for hunting and fishing activities. Currently there are

manufacturers that offer non-lead ammunition and fishing tackle, and some states have either implemented restrictions on the use of lead or offer incentives to use non-lead ammunition or fishing tackle (Arizona Game and Fish Department 2018; Center for Biological Diversity 2007; U.S. Fish and Wildlife Service 1999; Washington Department of Fish and Wildlife 2022). In areas where non-lead ammunition and tackle are used, there have been declines in adverse effects to wildlife (Anderson et al. 2000; Kelly et al. 2011; Lewis et al. 2021; Samuel and Bowers 2000; Sieg et al. 2009).

A more comprehensive discussion of the diversity of species found on the two refuges can be found in their respective CCPs.

Anticipated Impacts to Non-Target Wildlife and Aquatic Species

Alternative A

While this alternative likely results in some short-term but negligible negative impacts to small mammals, birds, and other wildlife due to disturbance in areas where human access for hunting activities occur, no significant impacts of the current hunting programs on non-target and aquatic wildlife species have been documented on either refuge. We do not anticipate the likelihood of significant impacts in the future with no changes to hunting.

Alternative B

While not targeted for hunting, impacts to non-target wildlife species including disturbance, avoidance of areas, habitat damage, or injury as a result of the use (Cole 1990) may occur, but such impacts are anticipated to be minimal and not significantly different from current levels. Hunting is not likely to adversely affect these species given the time of year the activities take place (September 16 through March 14) and where the uses occur on the refuge. For example, refuge beaches on Assateague, Assawoman and Metompkin Islands will remain closed to hunting during the migratory bird nesting season and much of the migration season. In addition, hunting would not be permitted on Sunday for big and upland game at Chincoteague NWR but allowed at Wallops Island NWR. Night hunting would be prohibited, providing periods without any hunting disturbances. Prohibiting the use of hunting dogs on the Assateague Island Unit of Chincoteague NWR will ensure minimal impacts to the Delmarva fox squirrel, shorebirds and other non-target species. Rabbit and squirrel hunting on Chincoteague will also remain closed and will prevent the take of Delmarva fox squirrels.

Opening the Northern Hunt Zone and Archery Only Zone to fox, opossum, raccoon and coyote hunting will result in fewer predator species that have negative impacts on nesting migratory birds on the refuge. These species prey on eggs and disturb nesting birds, resulting in reduced productivity. Allowing harvest of these species would result in desirable, positive outcomes of decreased predation on nesting migratory birds and might reduce the need to conduct predator control.

The use of non-lead ammunition for deer hunting will initially be voluntary and will be required after a 4-year phase-in period. This proposed phase-in period will allow hunters time to adapt to the new regulations without diminishing deer hunting opportunities on the refuges. The amount of lead introduced to the environment as a result of hunting activities will be negligible, given the restriction on lead ammunition for all upland, migratory game bird, and turkey hunting. The

bioaccumulation of lead is a potential concern, but it does not present a significant issue for these activities as the refuge complex encourages use of non-lead alternatives for deer hunting and will educate hunters and the public to the potential adverse impacts of lead. Some hunters will choose non-lead methods of take such as archery.

THREATENED AND ENDANGERED SPECIES, AND OTHER SPECIAL STATUS SPECIES

Affected Resource Description

Species that may be found on or nearby the refuge include seabeach amaranth, Northeastern beach tiger beetle, piping plover, red knot, roseate tern, black rail, Northern long-eared bat, Atlantic sturgeon, monarch butterfly, bald eagle, and five species of sea turtles. Piping plover, loggerhead sea turtle, red knot, and seabeach amaranth are the current federally threatened or endangered species managed on the refuges. These species grow on, nest on or use refuge beaches during summer and during spring and fall migration seasons. We analyzed the alternatives for impacts to these four endemic focal species, which would exemplify the impacts for all other listed species that may be found on the refuge.

While not federally listed as a threatened or endangered species, bald eagles can be found nesting on or near the refuges and are protected by the Bald and Golden Eagle Protection Act.

Seabeach amaranth was federally listed as threatened in 1993 by the Service. Seabeach amaranth is an annual plant species that could occur on the upper beach and sparsely vegetated over wash fans and inter-dune areas. This species appears to require extensive areas of barrier island beaches and inlets functioning in a relatively natural and dynamic manner. In the absence of over wash and storms, other plants less tolerant of disturbance colonize the sparsely vegetated areas and ultimately outcompete amaranth. Threats include beach stabilization efforts (particularly the use of beach armoring, such as sea walls and riprap), intensive recreational use, and herbivory (grass eating) by white-tailed deer, sika, and Chincoteague ponies.

Anticipated Impacts to Threatened and Endangered Species

Alternative A

No impacts of the current hunting programs on threatened, endangered, and other special status species have been documented on either refuge. Most hunting occurs from September through the end of January, with the most participation from October through early December, when eagles are not nesting. Current management adheres to guidelines set forth in previous recovery plans and biological opinions. Under Alternative A, continuing the current hunting program will not result in any new or significant adverse impacts to threatened or endangered species.

Alternative B

Piping plover

The piping plover, a Federal- and State-threatened species since January 1986, nests on sandy beaches and overwash areas. In order to protect this species, staff at Chincoteague NWR close certain critical nesting, foraging, and roosting areas on Assateague, Assawoman, and Metompkin islands to public entry from March 15 through September 15. This timing does not overlap when the overwhelming majority of hunters visit the refuge. For example, deer, waterfowl, and upland game

hunting are all conducted outside this date range. In addition, the refuge's hunt zones do not overlap with the plover's preferred habitat of intertidal zone beaches and mudflats.

Regarding the impacts of lead ammunition, specifically for the beach shorebirds (i.e., roseate tern, red knot and piping plover), the deer and sika hunt in the Northern Zone hunt unit is the primary hunting opportunity in which hunters may use lead ammunition (upland game may be hunted at the same time). This hunt only occurs from November to January, in the more forested habitat of the refuge. Thus, it will not occur within, or in close proximity to, areas where those species occur. Even if lead could leach out into the beach habitat these species use, the increase in lead would be extremely minor and dispersed, and therefore insignificant. Because hunting—including the use of lead ammunition, until it is discontinued at the beginning of the fall 2026-2027, is highly unlikely to overlap with piping plovers, red knots or roseate terns in time or space, these species are not likely to be adversely affected by the proposed hunting activities.

Red knot

Red knots use Chincoteague NWR beaches during spring and fall migration (April to September), with peak spring numbers occurring in the last half of May and peak fall numbers occurring in August (Smith et al. 2008), as confirmed by refuge data. Since the Chincoteague NWR closes certain critical piping plover nesting areas to public entry from March 15 through September 15, migrating red knots are also protected. Any potential effects from disturbance are discountable and extremely unlikely to occur because the hunting area is far away from the beach where red knots occur. As discussed above, because hunting—including the use of lead ammunition, until it is discontinued in 2026—is highly unlikely to overlap with red knots in time or space, the species is not likely to be adversely affected by the proposed hunting activities.

Roseate tern

Because roseate terns do not occur on the refuge, the proposed activities are not likely to adversely affect this species. If roseate terns arrive on their breeding grounds in late April or early May, they would begin nesting one month later. Migration begins in late summer. With no hunting allowed from March 15 to September 15, and no hunting on the beach, it is highly unlikely that hunting would overlap with roseate terns in time or space. As noted above, any potential effects from disturbance are discountable and extremely unlikely to occur because the hunting area is far away from the beach where roseate terns would occur. Thus, the species is not likely to be adversely affected by the proposed hunting activities.

Eastern black rail

Because Eastern black rails do not occur on the refuge, the proposed activities are not likely to adversely affect this species. The habitat at these two refuges is getting worse for black rail with each passing year as sea levels rise. It is unlikely that black rails are present on the two refuges and if they are, the numbers are extremely low. The Eastern black rail is a small marsh bird that lives amongst the grasses of salt and freshwater marshes. They are very secretive and often walk or run through the grasses rather than fly. Hunting takes place September 15 through March 15, and would not overlap with breeding season for black rails during May. Any potential effects from disturbance are extremely unlikely to occur and considered discountable because the hunting area is far away from the marshes where Eastern black rail would occur.

The potential for lead impacts to black rails is discountable because of the bird's preferred habitat. Black rails likely eat mostly small invertebrates and seeds, but because they are rarely seen, little is known about their feeding habits. The potential for lead impacts to black rails is discountable because of the bird's preferred habitat. If Black rails were present on the refuge, they would be located in the interior of marshes, where hunting with lead ammunition is not occurring, and any lead ammunition is highly unlikely to be found. Even if lead deposited in uplands could leach out into coastal or wetland habitats that black rails use, the increase in lead would be extremely minor and dispersed, and therefore insignificant. Because of the federal ban already in place requiring the use of non-lead ammunition for waterfowl hunting, and that hunting with lead ammunition only occurs in the Northern Hunt zone (an upland area), and because we plan to require the use of non-lead ammunition for hunting all species on the refuges at the beginning of the fall 2026-2027 hunting season, impacts from lead are not likely to adversely affect black rail.

In conclusion, the proposed hunting activities are not likely to adversely affect the Eastern black rail.

Northeastern beach tiger beetle

Northeastern beach tiger beetle (*Habroscelimorpha* (formerly *Cicindela*) *dorsalis dorsalis*) is not likely to be adversely affected by the proposed changes because they do not occur on the refuge. Only a subspecies, *Cicindela dorsalis media*, which is not federally protected, is found on Chincoteague's beaches.

Atlantic sturgeon

All proposed hunting changes are inland from the beach, and not near the ocean. Furthermore, all waterfowl hunting currently requires non-lead ammunition. For the next 4 years, lead ammunition is only allowed in the Northern Hunt Zone. Because Atlantic sturgeon also do not occur on the refuge, are separated from the forested areas of the Northern Hunt Zone by Service Road on the west, and distanced by 200 to 300 feet of beach/dune/scrub habitats on the east, the species will not experience any effects from the proposed activities. Therefore, the proposed activities will have no effect on the Atlantic sturgeon.

Northern long-eared bats

Northern long-eared bats (NLEB) primarily use mines and caves in the winter to hibernate and use upland forests to forage and roost throughout the rest of the year. The species is most sensitive to disturbance during hibernation and when raising young, which are activities not known to occur on the refuge. Although the refuge has forested areas, there are no caves or mines found on refuge property. Though recordings and mist netting have been conducted in cooperation with USGS's Virginia Cooperative Fish and Wildlife Research Unit, there are no known occurrences of NLEB on the refuge.

The NLEB may occur in some hunting zones but are not likely to experience any significant disturbance or habitat loss even if bats and hunters may briefly overlap. Firearms hunting is conducted in the Northern Hunt Zone (usually from November 19 through January 7) and archery hunting in the Archery Only Hunt Zone (usually from October 1 to November 18). Bats are typically nocturnal and inactive during most hunting seasons and times, and not present for most of the hunting seasons; therefore, disturbance would be highly unlikely.

Potential disturbances from expanded hunting, such as an increase in gun noise or additional portable tree stands, are expected to be insignificant given the amount of hunting expected to occur on these acres. Noise from firearms or dog barks could disturb roosting bats but it is likely that the bats would remain in the tree during daylight hours. Such noise disturbances are temporary and last only for the duration of the noise, not fundamentally unlike other temporary disturbances that bats may naturally experience, with no long-term effects; therefore, any potential disturbance effects are expected to be insignificant. Other possible disturbances include hunters climbing and placing portable tree stands on trees. However, hunters typically select live trees for safety reasons while bats are most often in dead or dying trees with large slabs of peeling bark. Further, hunting activities would not result in any roost tree destruction as no tree cutting or other habitat alteration is permitted on the refuge.

The potential for lead impacts to bats is discountable due to Northern long-eared bats' diet and foraging habits. Lead bullet fragments would have to break down in the soil in order to be taken up by plants near the area in which the fragments fall on or penetrate the soil surface. Typically, however, plants do not take heavy metals up until they have reached critical thresholds in the soil (Sharma and Dubey 2005). If lead is taken up by plants, it is mainly through the root system and partly, in minor amounts through the leaves. Inside the plants lead accumulates primarily in the root, but a part of it is translocated to the aerial portions. Larvae of certain herbivorous insect species could ingest some of the lead when they eat the exposed plants. Some of the insects could then be consumed by bats. Northern long-eared bats' diet is insects such as moths, flies, leafhoppers, caddisflies and beetles, only some of which are herbivorous. In addition, bats are transitory in nature and will not consume their entire diets on the refuge area. Considering the chain of events that are necessary for exposure and the small amount of lead that would contribute to lead concentrations in refuge soils, it seems likely that bats that occur on refuges will not consume lead derived from ammunition fired by hunters on the refuge.

Because there have been no known occurrences of NLEB; because the potential for overlap in time or space between hunters and bats is very low; because the expected impacts to roosting bats even if there is overlap are insignificant; and because the potential for lead impacts are discountable, the proposed hunting activities are not likely to adversely affect the NLEB.

Sea turtles: Loggerhead, Green, Hawksbill, Kemp's Ridley, Leatherback

Five species of federally listed sea turtles use Assateague Island's ocean and bay waters. The leatherback sea turtle, Kemp's Ridley sea turtle, and the hawksbill sea turtle are listed as endangered species under the ESA; the loggerhead sea turtle and green sea turtle are listed as threatened. In Virginia, the state status is the same as the Federal status for these species. Of the five sea turtles, only loggerheads are known to nest on the refuge, which is the northern extent of its breeding range. In recent years, crawl and nesting activity (one to three nests) occurs June through August. Because incubation takes longer (90 or more days) at this latitude, the hatch window is August through October. Hunting activities do not occur where loggerhead sea turtles nest. Refuge beaches on Assateague, Assawoman, and Metompkin Islands will remain closed to hunting during the sea turtle nesting seasons. All waterfowl hunting currently requires non-lead ammunition. Turtles present but not nesting, remain in the water, and thus, will not be impacted by hunting activities. Accordingly, the proposed hunting changes will have no effect on the five listed turtle species because the sea turtles are separated from the proposed hunting activities—including the use of lead ammunition—in

space, and therefore, the species do not have the potential to be exposed to the effects of the proposed activities.

Monarch butterfly

Assateague Island is a critical stopover point for southbound migrating monarchs (a candidate for federal listing) that use the refuge's resources to rest, refuel, and roost. Monarch butterflies are observed on nectar plants within beach strand habitat and impoundment management units during their peak migration (last two weeks of September through the first two weeks of October). Monarch butterflies typically concentrate on seaside goldenrod located along the Beach Road corridor and the dunes from Swan Cove Trail south to Toms Cove, which is closed to hunting. Dogs are not allowed on the Assateague Island unit of the refuge to minimize any potential for disturbance in the most sensitive areas of the refuge.

The plants senesce as the butterflies begin their fall migration, usually in October. Before then in, in the fall, hunting activity could result in some trampling of nectar sources available for monarchs, but any potential impact would be concentrated, insignificant, and leave plenty of available nectar sources on other areas of the refuge and unit. Only light foot travel from hunters accessing the area for hunting is expected to occur on these acres. While hunters are walking through habitat used by monarchs, there could be some impacts including flushing while resting or feeding. This disturbance is minimal as the monarchs can easily move to another spot when disturbed, which is a normal behavior response that does not result in long-term effects. Furthermore, hunting does not result in the removal of vegetation, including nectar sources or milkweed, and so it would have negligible impacts to habitat resources important for monarchs.

The potential for lead impacts to monarchs is discountable due to their diets. Adult monarch butterflies feed on nectar. Nectar typically carries less lead contaminants than other parts of the plant if lead is absorbed through the plant. Larvae consume the leaves and stems of milkweeds, where higher concentrations of lead could be present, if lead is absorbed through the plant. Lead absorption by plants typically occurs first through roots and only makes its way into other plant parts if concentrations are high enough. This means that, as with bats, bioaccumulation through the plant to the monarch butterfly or larvae could potentially occur. However, as with bats, it relies on the very unlikely occurrence that lead concentrations in the soil from hunting activities reach high enough levels for uptake by plants, and in this case, it would further require uptake by milkweed and the specific plants that monarchs rely on for nectar sources.

Given that hunters are not likely to overlap with areas where monarchs and their plants are known to occur; that any potential disturbance is expected to be insignificant; and because bioaccumulation through plants into caterpillars or butterflies is discountable, the proposed activities are not likely to jeopardize the monarch butterfly.

Seabeach amaranth

Seabeach amaranth was federally listed as threatened in 1993 by the Service. Seabeach amaranth is an annual plant species that occurs on the upper beach and sparsely vegetated over wash fans and inter-dune areas. This species appears to require extensive areas of barrier island beaches and inlets functioning in a relatively natural and dynamic manner. In the absence of over wash and storms, other plants less tolerant of disturbance colonize the sparsely vegetated areas and ultimately

outcompete amaranth. Threats include beach stabilization efforts (particularly the use of beach armoring, such as sea walls and riprap), intensive recreational use, and herbivory (grass eating) by white-tailed deer, sika, and Chincoteague ponies.

Seabeach amaranth is native to Atlantic coast barrier island beaches from Massachusetts to South Carolina (USFWS 2008). Although seabeach amaranth generally grows in sparse to very sparse distribution, the existing population on the refuge is greatly dissipated. No known plants were observed in the 2021 census of the refuge.

Sharma and Dubey (2005) found that excess lead in plants causes a variety of toxic symptoms including stunted growth, chlorosis, blackening of root systems, inhibited photosynthesis, disrupted mineral nutrition and water balance, and altered plant hormones. Rattner et al. (2008) found that migration of lead from soil to roots and other parts of plants generally is considered to be minimal (Sorvari et al. 2006). Studies have documented elevated lead levels in plants in the vicinity of shooting ranges (Peterson et al. 1993, Mellor and McCartney 1994, Rooney et al. 1999, Hui 2002), but as proposed in this plan, hunters will not be concentrated or reach the numbers you would see at a shooting range. Impacts from lead on these species is highly unlikely since hunters would be dissipated throughout the refuge, there are no known occurrences of this species on the refuge, and the migration of lead from soil to roots and other parts of the plant is minimal.

This plant has been determined not to occur on the refuge, and any impacts from hunting or the associated use of lead ammunition would be extremely unlikely to occur. Therefore, the proposed activities are not likely to adversely affect seabeach amaranth.

All species

The best available science indicates that lead ammunition and tackle may have negative impacts on wildlife and the environment (Golden et al. 2016). Animals can be poisoned by lead in a variety of ways, including “ingestion of bullet fragments and shot pellets left in animal carcasses, spent ammunition left in the field, lost fishing tackle, lead-based paints, large-scale mining, and lead smelting activities. Despite a large body of scientific literature on exposure to lead and its toxicological effects, controversy still exists regarding its impacts at a population level” (Haig et al. 2014). The use of non-lead ammunition will initially be voluntary, and we plan to require non-lead ammunition for all hunting activities starting at the beginning of the fall 2026-2027 hunting season (after a 4-year phase-in period). This planned phase-in period will ensure continuity of visitor opportunities as hunters understand the changes and become more familiar with the availability and use of non-lead alternatives. We will educate hunters about the impacts of lead and strongly encourage non-lead ammunition alternatives for the next 4 years.

The bioaccumulation of lead is a potential concern, but it does not present a significant issue on this refuge, as: 1) non-lead shot is currently required for hunting waterfowl; 2) we plan to require the use of non-lead ammunition on the refuge at the beginning of the fall 2026-2027 hunting season; 3) the refuge will strongly encourage use of non-lead alternatives for hunting deer and sika for the next 4 years; 4) we will educate hunters and the public to the potential adverse impacts of lead; and 5) the proposed hunting activities are not likely to introduce substantially more lead into the environment over existing amounts with the proposed hunting program. Some hunters will also choose non-lead methods of take such as archery. As a result, the proposed hunting activities are not likely to

adversely affect any of the above listed species.

We understand that reinitiation of consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law), and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action.

HABITAT AND VEGETATION

Affected Resource Description

Chincoteague NWR is a dynamic area with constant fluctuations in its shoreline boundaries and habitat acreage. Current vegetation cover is strongly associated with a certain habitat and is so described in this section. There are five major habitat types found on the refuge (which include three smaller divisions: Assawoman Island, Metompkin Island, and Cedar Island). They are Beach-Dune habitat (approximately 1,800 acres); Shrub-Early Successional habitat (approximately 2,900 acres); Forested Uplands habitat (approximately 1,800 acres); Impoundments and Freshwater Wetlands habitat (approximately 2,000 acres); and over 5,800 acres of salt marshes.

The most dominant vegetation on Assateague Island is the loblolly pine and loblolly pine/hardwoods maritime forest, encompassing much of the upland habitat, with salt marsh grasses encompassing much of the lowland habitats. Associated upland plant species include southern red oak, sweetgum, and sassafras. Understory associates include wild grape, Japanese honeysuckle, greenbriar, and American holly. The predominant vegetation in the open areas includes a variety of grasses, wax myrtle, and groundsel tree. Common fresh marsh vegetation consists of dwarf spike rush, smartweed, fleabane, swamp rose mallow, American three-square, umbrella-grass, saltgrass, beggartick, cattail, and eastern baccharis. Salt marsh vegetation consists mainly of salt marsh cord grass and salt meadow hay.

Salt marsh habitat covers approximately 95 percent (406 acres) of the Morris Island Unit and approximately 87 percent (485 acres) of the Wildcat Marsh Unit. Salt marsh cord grass, salt meadow cordgrass, and saltwort are the major vegetation species. Upland vegetation on Morris Island is limited to a few scattered sites (21 acres) of loblolly pine, wax myrtle, black cherry, and sassafras. Approximately 13 percent (73 acres) of the southern part of Wildcat Marsh is an upland forest consisting of loblolly pine, oak, and typical understory associates. Wax myrtle is scattered throughout the area.

Assawoman and Metompkin islands are barrier islands with habitat types consisting of beach, dunes, and extensive salt marshes to the west of the islands. The predominant species in the marsh include salt marsh cordgrass and salt meadow hay. On Metompkin, the marsh extends to the mainland, although it is intersected by numerous creeks and channels. The remainder of the island is predominantly sparse grasslands with little woody growth. Assawoman Island also contains extensive salt marshes, particularly in the northern half of the island. A cobble-laden wash over area, located at the northern tip and formed by the sealing of Assawoman Inlet, provides good

habitat for nesting birds. Pockets of woody shrubs occur in depressions between the beachfront and the westward marshes. Plants found here include wax myrtle, bayberry and groundsel bush.

Cedar Island is dominated by beach and dune habitats on the ocean side and a brackish marsh dominated by salt meadow cordgrass on the bay side. A small thicket dominated by eastern red cedar and poison ivy occurs on the north end of the island. It is adjacent to the beach and is eroding rapidly. The north end also supports most of the islands' other plant diversity. Dead shrubs and some low-growing vegetation are present in over wash areas. Other habitat types found on Cedar Island include a salt flat to the south and mudflats that are exposed at low tide. Wallops Island NWR is composed of 195 acres of salt marsh, 121 acres of forest, and 57 acres of old-field/early successional forests. Loblolly pine is the dominant species in the forest habitat and secondary components include tulip poplar, red maple, southern red oak, wild cherry, dogwood, sassafras, and sweet gum. Understory includes American holly, spicebush, Devil's walkingstick, and greenbrier. Transition zones between the marsh and woodland are dominated by groundsel tree and wax myrtle. The salt marsh is dominated by cordgrasses.

A Simoneaston Bay sea-level fen, named the Lucky Boy Fen, is found on Wallops Island NWR. Sea level fens are nutrient-poor, maritime seepage wetlands, confined to a few sites within the mid-Atlantic region that have an unusual combination of environmental conditions. The sea level fen is a globally significant (ranked as "G1" or critically imperiled) community type (Fleming and Patterson 2010); only four occur in Virginia, all of them in Accomack County (Fleming and Patterson 2021). Lucky Boy Fen is located just above highest tide levels, at the base of a slope where abundant groundwater discharges. It is less than ½-acre in size but supports six rare plant species.

For more information regarding and the general characteristics of the refuge's environment, please see Chapter 3.3 of the refuge's CCP.

Anticipated Impacts to Habitat and Vegetation

Alternative A

Deer hunting would continue to occur in upland and, to a lesser extent, wetland habitats on the refuges. Reducing the exotic sika population on Chincoteague NWR would have a beneficial impact for vegetation, especially for the endangered seabeach amaranth, of which sika is a documented herbivore. The grazing habits of sika have led to overgrazing of certain habitat types on the refuge, mainly in the impoundments and forested areas. Continuation of sika harvest to reduce their numbers would help maintain positive increases in regeneration.

Heavily browsed forest understory and shrub vegetation leaves less food and cover for migratory birds, a resource that the refuge is focused on protecting. Maintaining current deer population levels will limit the browse effects on vegetation and enable the forest understory to grow and produce more food and cover for migrants (Horsley et al. 2003). This will also provide additional habitat for small mammals, reptiles, and invertebrates.

Direct impacts of hunters to wildlife habitat would continue to be minimal as most species impacted would have already undergone senescence (aging or dying process) or become dormant during the hunting seasons. Further impacts are minimized by not permitting hunters to cut vegetation for

shooting lanes or camouflage, and by not permitting the use of permanent hunting structures attached by nails, wire, and other materials that could adversely affect vegetation. No significant impacts would result on the refuge from these visitor services, but current monitoring efforts would continue (USFWS 2007).

Waterfowl hunting would continue in tidal marshes on Chincoteague NWR. Marsh areas are prone to disturbance, and foot traffic to access hunting sites will result in trampling of sensitive marsh plants in frequently used areas (Lomnický et al. 2019). However, limiting access to hunting areas to access by boat only minimizes trampling impacts. Furthermore, in upland areas, hunters tend to park in improved lots and along refuge roads and disperse across large areas in low density, resulting in minimal trampling of vegetation. As currently implemented, very little damage to habitat and vegetation by hunters occurs.

Alternative B

Proposed hunting program changes on the refuges would see a marginal increase in hunting opportunities through the addition of wild turkey and upland game hunting, and expansion of migratory game bird hunting. However, these opportunities are anticipated to result in only minimal increases in visitation, and thus, an insignificant increase in visitor trampling potential or vegetation habitat disturbance. As under Alternative A, reducing the sika population will continue to benefit wildlife habitats by reducing overgrazing.

Because migratory game bird hunters would still be restricted to accessing hunting areas from a boat on Chincoteague marshes, and only low numbers of hunters are expected to hunt on the marshes of Wallops Island NWR, disturbance and foot traffic in marsh areas that results in trampling of sensitive marsh plants is not anticipated to result in significant new marsh habitat and vegetation damage.

VISITOR USE AND EXPERIENCE

Affected Resource Description

Chincoteague NWR is open to all six priority public uses of the Refuge System, which are wildlife observation, wildlife photography, hunting, fishing, environmental education and environmental interpretation. Wallops Island NWR is open only to the current white-tailed deer hunt.

In 2021, there were 1,408,451 total visitors to Chincoteague NWR, most of them (98 percent) being for non-consumptive uses. Hunting is a traditional outdoor pastime and remains a popular form of wildlife-dependent recreation on the refuge and a vital part of the cultural, social, and economic fabric of communities near the refuge. Hunting visits made up less than 1 percent (2,074) of the total visits on Chincoteague NWR. On Wallops Island NWR, 107 hunter visits occurred.

Anticipated Impacts to Visitor Use and Experience

Alternative A

Refuge lands open to hunting would continue to take place within the regulatory framework established by the FWS and the VDWR and would continue to allow the public to enjoy hunting at no or little cost in a region where private land is leased for hunting, often costing a person several hundred to several thousand dollars per year for membership. Hunting provides opportunities to

experience a wildlife-dependent recreational activity and an increased awareness of the refuge and the Refuge System. Hunting instills an appreciation for and understanding of wildlife, the natural world and the environment, and promotes a land ethic and environmental awareness. Visitors interested in hunting would continue to find high quality opportunities to engage in their favored pastime.

The refuge would continue promoting a wildlife-oriented recreational opportunity that is compatible with the purpose for which the refuge was established. The hunting program would continue to provide an administratively simple program that balances other public use activities. The program supports Presidential Executive Order 13443: Facilitation of Hunting Heritage and Wildlife Conservation, regional directives, and parallels State hunting regulations. In addition, it provides seasonal closures to avoid conflicts with other uses while continuing to offer disabled hunting opportunities.

On Chincoteague NWR, because most hunting takes place outside of the major public use areas and occurs after the high visitation summer season, there is little conflict with other refuge visitors. However, limited hunting will occur within the major public use area, at times, requiring the closing of some trails to the general public. In order to minimize conflicts, select hunting zones will be limited to archery only. To accommodate hunters confined to wheelchairs, certain areas may be closed to general public access during the firearm season. All closures within the major public use area will be signed and patrolled to alert non-hunters of the ongoing big game hunt. In addition, the Northern Hunt Zone is closed to general public access during the firearm season and deer hunting is not allowed on Sundays, further reducing conflicts with other refuge visitors.

Maintaining current hunting policy on Wallops Island NWR would continue to minimize direct conflict between white-tailed deer populations and humans, particularly when human safety is an issue (e.g., reduce number of vehicle deer collision along Route 175).

Alternative B

With the proposed expanded hunting program at Chincoteague NWR, the likelihood for conflicts between hunters and non-consumptive users may increase but likely not significantly. Only a minimal increase in hunter numbers is anticipated with most impacts to other users being limited to the fall and winter; hunting will not be allowed during the spring and summer seasons when visitation on the refuge is the greatest. During the hunting season, public outreach, zoning (e.g., continuing closure of the Northern Hunt Zone to other uses during the firearm hunting season), and hunting restrictions in some locations including archery only areas, no-hunting zones and no-hunting setbacks from buildings, roads, and trails will minimize conflicts with other user groups. If conflicts arise, additional mitigation efforts will be implemented to ensure that hunting use will not have significant impacts. In addition, maintenance of hunter information stations will allow timely communication with hunters in order to provide updates throughout the hunting season regarding other refuge visitor service activities and management projects.

Non-hunting visitation to the Toms Cove Hook unit of Chincoteague has been increasing during the hunting season in recent years. Removing shotguns as a method of take on the Toms Cove Hook unit and adding this area to the Archery Only Hunt Zone will reduce conflicts with non-hunters and promote safety.

No impacts or conflicts with non-hunters on Wallops Island NWR are anticipated, as the refuge will remain closed to other public uses.

CULTURAL RESOURCES

Affected Resource Description

On Chincoteague NWR, a number of broad historical studies were produced around the time the Assateague Island National Seashore was established. Several studies of more limited scale have also been performed for individual projects on the refuge. A 1989 overview study of the refuge (Fehr et al. 1989) and a subsequent maritime-focused overview of the Seashore (Langley 2002) provide the most comprehensive summaries of current knowledge regarding cultural resources on Assateague Island. Other units of Chincoteague NWR to include Morris, Assawoman, Metompkin, and Cedar Islands as well as Wildcat Marsh on Chincoteague Island have not been studied as intently, mainly because of the dynamic changes to the shoreline and the natural process of island movement. Pre-Contact Period evidence is rare, possibly due to the dynamic nature of the island's geomorphology and the fact that the lower third of current day Assateague Island did not exist during this period. Historic Period resources include: two marked cemeteries, the remnants of the Assateague Village, multiple fish and hunt camps, numerous shipwrecks, the site of an 1848 lifesaving station, a U.S. Coast Guard Station (owned by the NPS and included in the National Register of Historic Places (NRHP), and the Assateague Lighthouse (also listed in the NRHP). The refuge is also the grazing range for the internationally known herd of Chincoteague Ponies owned by the Chincoteague Volunteer Fire Company.

The historical context of Wallops Island is best captured in the Historic Resources Survey and Eligibility Report for Wallops Flight Facility – Accomack County, Virginia completed by URS Group, Inc. and EG&G Technical Services, Inc., in 2004 for NASA. This document provides important historical context over the time period between 1607 and 2004 and identifies several historical items of interest within the 373-acre Wallops Island NWR. A family cemetery with three marked graves is located near the maintenance facilities and two former Navy waste disposal sites are of interest to the Department of Defense.

Anticipated Impacts to Cultural Resources

Alternative A

No impacts of the current hunting programs on cultural resources have been documented on either refuge. We do not anticipate the likelihood of significant impacts in the future with no changes to hunting.

Alternative B

Hunting, regardless of method or target, is a consumptive activity that does not pose any threat to prehistoric or historic properties on or near the refuges. No impacts to cultural resources are anticipated above what may be caused by any refuge visitor. Although hunters would be able to access parts of the refuges that are closed to other visitors, this access alone is not expected to increase vandalism or disturbance to cultural resources by individuals while they are hunting, nor is it likely that hunters would be more likely to engage in vandalism or disturbance than any other refuge visitor. At Wallops Island NWR, hunting would be the only available public use; however,

no adverse impacts to cultural resources are expected.

REFUGE MANAGEMENT AND OPERATIONS

Affected Resource Description

On Chincoteague NWR there are four unpaved trails (Lighthouse Trail, Marsh Trail, Bivalve Trail, and a Service Road trail), four accessible paved trails (Wildlife Loop, Woodland Trail, Black Duck Trail, and Swan Cove Trail), four different parking areas, a kayak launch and three wildlife observation platforms. The primary roads are Beach Road from the Town of Chincoteague to the recreational beach, the Wildlife Loop, and the 9-mile-long Service Road that extends north from the Wildlife Loop. Core infrastructure includes the Herbert H. Bateman Educational and Administration Center, a maintenance shop and compound, the Toms Cove Visitor Center next to the recreation beach, and the historic Assateague Lighthouse.

On Wallops Island NWR, three parking areas located on VA175 and an informational kiosk are available to hunters. No roads or trails are located on the refuge. Infrastructure is limited to a maintenance storage building and a fenced NPS maintenance compound authorized under a Memorandum of Understanding.

Currently, there are 16 permanent refuge employees that oversee the Chincoteague and Wallops Island NWRs. These personnel are stationed on Chincoteague NWR and include the refuge manager, deputy refuge manager, and administrative, biological, visitor services and maintenance staff, and Law Enforcement. Several other term and temporary employees are employed in any given year. The refuge also sometimes hires contractors and has numerous volunteers.

Anticipated Impacts to Refuge Management and Operations

Alternative A

Hunters currently use refuge infrastructure, such as public parking areas, hunter parking areas, and refuge roads and trails, to gain access to refuge lands. There are no adverse impacts to refuge facilities observed under this alternative. No changes to refuge facilities or infrastructure are anticipated under this alternative.

Annual hunt administration costs for Chincoteague and Wallops Island NWRs including salary, equipment, updating brochures, signs, collection of hunt data and analysis of biological information, etc. total approximately \$24,000. Chincoteague NWR funds are used to conduct hunts on the Chincoteague and Wallops Island NWRs. Funding specifically for hunts has not been allocated, although funds are available through recreation fees. Under this alternative, there would be no changes to the administration or budget for the hunt program.

Alternative B

Hunters would continue to use existing refuge infrastructure (parking areas, trails, roadways) to access hunting areas on both refuges. While slightly more hunters are expected to use the refuge under this alternative, no observable impacts to infrastructure or facilities are anticipated and no changes to facilities or infrastructure are planned or needed.

We anticipate hunt program administrative costs would not significantly change under Alternative

B and that funding would continue to be sufficient to administer the hunting program at Chincoteague and Wallops Island NWRs in the future.

SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

Affected Resource Description

Chincoteague and Wallops Island NWRs are located in Accomack County, Virginia near the town of Chincoteague. According to the U.S. Census Bureau, the population of Chincoteague grew 21 percent (from 3,572 to 4,317 individuals) between 1990 and 2000 but declined 32 percent (to 2,941 residents) between 2000 and 2010 (U.S. Census Bureau 2010). In comparison, Accomack County's population declined by 13.4 percent over the same time period.

The town of Chincoteague has several sources of economic activity, including tourism (both refuge-related and other outdoor-based recreation opportunities), commercial fishing and seafood processing, and impacts from the nearby NASA Wallops Island Flight Facility. The three largest employment sectors are accommodation and food services, retail trade, and health care and social assistance. The median household income of Accomack County, Virginia is \$43,210 (Data USA 2019).

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

Anticipated Impacts to Socioeconomics and Environmental Justice

Alternative A

The current hunting program has a minor, long-term beneficial impact to the local economy. Combined, Chincoteague and Wallops Island NWRs average around 2,000 hunter visits a year, but each of those visits represents only a minor contribution to the local economy. Hunters spend money on gasoline, equipment, food, and lodging in the area surrounding the refuge. While positive, the contributions to the local economy are negligible.

There is a possibility of human health impacts from the current hunting program allowing and continuing to allow the use of certain types of lead ammunition for the harvest of certain species. However, minority and/or low-income communities are not disproportionately at risk or impacted. The Service has found these impacts negligible for all opportunities in the current hunting programs, but there is strong scientific evidence of impacts to human health from consuming animals hunted with lead ammunition.

Alternative B

While hunting visitation may slightly increase due to increased opportunities, hunting only accounts for a fraction of expenditures related to the refuge. Expanding hunting programs at Chincoteague and Wallops Island NWR would likely enrich the local economy by attracting additional refuge visitors to the area, but the additional economic impact is expected to be negligible under this action.

The Proposed Action Alternative would have a positive, but negligible, effect on human health. It would eliminate the risk of human health impacts that would follow if the Service continued to allow the use of certain lead ammunition for certain species on current and future Service lands and waters within the authorized boundary of the refuge. The Service has found these impacts negligible for all opportunities in the current hunting programs, which makes the benefit negligible, but there is strong scientific evidence of impacts to human health from consuming animals hunted with lead ammunition or tackle use for fishing such as higher blood lead levels (Fisher et al. 2006; Frank et al. 2019; Grade et al. 2019; Iqbal et al. 2009; Sahmel et al. 2015; Tsuji et al. 2008).

There is, however, some possibility of negative economic impacts for socioeconomically disadvantaged hunters who must comply with the requirements. While non-lead ammunition has become essentially equivalent in price to lead ammunition, certain types can cost more than certain types of lead ammunition. However, the price of non-lead ammunition is the same or less than that of premium lead ammunition. For some calibers and gauges even the difference between cheaper lead ammunition and nonlead ammunition can be less than \$10 per box (State of California 2022). The minor economic burden involved in transitioning between ammunition could be more impactful to low-income hunters. In order to prevent the negative impacts of this switch, the refuge has begun and will continue specific outreach about the proposed requirement to these groups and has put in place measures to mitigate the economic input beyond the phased implementation, which already affords hunters time to gradually transition their supplies of ammunition. In order to mitigate economic impacts to hunters who previously used lead ammunition, in addition to implementing the requirement in phases, the Service will continue educating hunters on the use of non-lead ammunition during the phased in time period, provide resources on companies that produce non-lead ammunition for purchase and work with partner organizations on non-lead ammunition giveaways or exchanges if possible. With these mitigation measures, minority and/or low-income communities are not disproportionately impacted from this alternative.

Monitoring

Game species populations are monitored by Chincoteague NWR staff in cooperation with VDWR. Game harvest reports provide additional means for monitoring overall species populations. Refuge hunters are required to indicate they were hunting on Federal land per State game-check procedures. The State has determined that populations of game species are at levels acceptable to support hunting and these assessments are reviewed and adjusted periodically. In addition, deer hunters on Chincoteague NWR will be required to report their harvest following each hunt. The refuge will be adaptive towards harvest management under the hunt program to ensure species and habitat health. Refuge-specific hunting regulations may be altered to achieve species-specific harvest objectives in the future.

Summary of Analysis

Alternative A – No Action Alternative

Under the No Action Alternative, 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. In addition, this alternative would not meet mandates under the NWRSA and Secretarial Order 3356.

This action is not likely to adversely affect endangered or threatened species or their critical habitat. Effects on other wildlife and habitat would be negligible, although there may be some negative effects as the potential of lead being present and bioavailable for wildlife and aquatic species to consume would continue to occur under this alternative, even if that lead entering the environment from hunting activities is estimated to be small. The refuge would still be able to manage for species of concern and meet the refuge purpose to manage for migratory birds. Water quality and soil impacts are likely negligible from continued use of lead ammunition, as the addition of lead from these activities are small and will not reach levels of contaminating these resources as levels that may affect human and wildlife health. There will be no impacts to special designations of the refuge. There would be no effect to cultural resources and impacts to the socioeconomics of the area are negligible.

This alternative helps meet the purpose and needs as described above, because it provides additional wildlife-dependent recreation opportunities on the refuge meeting FWS priorities and mandates. However, it continues to pose a threat to human health and the environment by continuing to allow use of lead ammunition. There would be no new authorizations under this alternative, but the nature of discarded lead means that continuing to allow use of lead ammunition on refuge lands and waters would mean adding newly deposited lead to the current amount of lead in the environment on refuge lands and waters. This would mean the risk of adverse impacts from lead available in the environment would continue and even increase for natural resources and for human health under the No Action Alternative, as described throughout this document.

Alternative B –Proposed Action Alternative

As described above, this alternative is FWS's preferred action because it offers the best opportunity for public hunting that would reduce the potential impacts on physical and biological resources from lead entering the environment, while meeting the FWS's mandates under NWRSA and Secretarial Order 3356. This action is not likely to adversely affect endangered or threatened species or their critical habitat. Effects on other wildlife and habitat would be negligible and could be slightly positive.

We believe hunting on the refuge will not have a significant impact on local, regional, or Atlantic flyway migratory bird populations because the percentage likely to be taken on the refuges, 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 and future harvests will be adjusted as needed under the existing flyway and State regulatory processes.

Economic impacts to hunters due to required use of non-lead ammunition will be mitigated by the proposed phased in approach and outreach programs. Additional hunting would not add more than slightly to the cumulative impacts stemming from hunting at the local, regional, or Atlantic flyway levels. This alternative best meets the purpose and need stated earlier.

List of Sources, Agencies and Persons Consulted

USFWS – Ecological Services – Virginia Field Office, Gloucester, VA (Section 7 process)

Virginia Department of Wildlife Resources – State Office – Henrico, VA (1/2020 Meeting)

Virginia Department of Wildlife Resources – District Office – Charles City, VA (6/2021 Meeting)

Virginia Department of Conservation and Recreation - Natural Heritage - Richmond, VA (Section 7 process)

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State Coordination

Refuges, including Chincoteague and Wallops Island NWRs, conduct hunting programs within the framework of State and Federal regulations. Virginia refuges met on January 14, 2020, with VDWR to discuss hunting on national wildlife refuges within the State of Virginia. A general overview of current opportunities and where other opportunities exist for the future. We worked with the local State biologist and conservation officers early in the development of the plan. The refuge reached out to VDWR on June 11, 2021, to discuss this Hunting Plan. We asked for review by the State regional office that covers our area to help adjust our plan to align, where possible, with State management goals. We have continued to consult and coordinate on specific aspects of the plan. The State is in agreement with the refuges' hunting program, as it will help meet State objectives. We continue to coordinate with the State to address changes to hunting programs on national wildlife refuges within Virginia. Chincoteague NWR and VDWR will continue to work together to ensure safe and enjoyable recreational hunting opportunities.

Tribal Consultation

Refuge staff will coordinate with federally recognized Tribal governments in areas of mutual interest, including hunting opportunities. Thirteen tribes will be contacted once the draft hunting plan is complete and will include distribution of the draft for review and further coordination if needed.

Public Outreach

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 the hunt will be available at the Chincoteague NWR Visitor Center, on the Chincoteague NWR and Wallops Island NWR websites, and/or posted on hunt information stations. The public will be notified of the availability of the Hunting Plan, EA, and accompanying CDs with no less than a 60-day review and comment period. We will inform the public through local venues, the refuge website, and social media.

Determination

This section will be filled out upon completion of the 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: _____

References

- Anderson, W.L. 1975. Lead poisoning in waterfowl at Rice Lake, Illinois. *The Journal of Wildlife Management* 39(2): 264-270.
- Anderson, W.L, S.P. Havera, and B.W. Zercher. 2000. Ingestion of lead and nontoxic shotgun pellets by ducks in the Mississippi flyway. *The Journal of Wildlife Management* 64(3): 848-857.
- Arizona Game and Fish Department. 2018. Gearing up for the hunt? Don't forget the non-lead ammo. <https://www.azgfd.com/gearing-up-for-a-hunt-dont-forget-the-non-lead-ammo/>. Accessed: February 2, 2022.
- Bellrose, F.C. 1959. Lead poisoning as a mortality factor in waterfowl populations. *Ill. Nat. Hist. Surv. Bull.* 27 (3): 235-288.
- Bicksler, B., C. Diggs, S. Kosman, M. Martell, J. Rebert, and S. Taylor. 1995. The sika study. Unpublished report to Chincoteague NWR by Mount St. Mary's College and National Science Foundation.
- Cade, T.J. 2007. Exposure of California condors to lead from spent ammunition. *Journal of Wildlife Management* 71(1): 2125-2133. doi:10.2193/2007-084.
- Center for Biological Diversity. 2007. Schwarzenegger approves historic condor protection bill. <https://www.biologicaldiversity.org/swcbd/PRESS/condor-lead-10-13-2007.html>. Accessed: February 2, 2022.
- Church, M.E., R. Gwiazda, R.W. Risebrough, K. Sorenson, C.P. Chamberlain, S. Farry, W. Heinrich, B.A. Rideout, and D.R. Smith. 2006. Ammunition is the primary source of lead accumulated by California condors re-introduced to the wild. *Environmental Science and Technology* 40: 6143-6150.
- Clark, A.J. and A.M. Scheuhammer. 2003. Lead poisoning in upland-foraging birds of prey in Canada. *Ecotoxicology* 12: 23-30.
- Cole, D.N. 1990. Ecological impacts of wilderness recreation and their management. In J.C. Hendee, G.H. Stankey, and R.C. Lucas (Eds.), *Wilderness Management* (pp. 425-466). Golden, CO: North American Press.
- Craig, T.H., J.W. Connelly, E.H. Craig, and T.L. Parker. 1990. Lead concentrations in golden and bald eagles. *Wilson Bulletin* 102: 130-133.
- Cruz-Martinez, Luis, Marrett D. Grund, and Patrick T Redig. 2015. Quantitative Assessment of Bullet Fragments in Viscera of Sheep Carcasses as surrogates for White-Tailed Deer. *Human-Wildlife Interactions: Vol. 9: Iss. 2, Article 10*. DOI: <https://doi.org/10.26077/rxm7-x083> Available at:

- Data USA. 2019. Accomack County, VA. Accessed in 2021.
<https://datausa.io/profile/geo/accomack-county-va>.
- Davis, M.L., J. Berkson, D. Steffen, and M.K. Tilton. 2007. Evaluation of accuracy and precision of Downing population reconstruction. *Journal of Wildlife Management* 71: 2297-2303.
- Fehr, April M., Leslie McFaden, Eva Jeanne Harris, and R. Christopher Goodwin. 1989. Archaeological Reconnaissance of the Chincoteague National Wildlife Refuge, Accomack County, Virginia and Worcester County, MD: Final Report. R. Christopher Goodwin & Associates, Inc., Frederick, MD, (for USFWS).
- Fies. 2020. Personal communication in 2020 regarding fox harvests in the State of Virginia.
- Finkelstein, M.E., D.F. Doak, D. George, J. Burnett, J. Brandt, M. Church, J. Grantham, and D.R. Smith. 2012. Lead poisoning and the deceptive recovery of the critically endangered California condor. *Proceedings of the National Academy of Sciences* 109(28): 11449-11454.
- Fisher, I.J., D.J. Pain, and V.G. Thomas. 2006. A review of lead poisoning from ammunition sources in terrestrial birds. *Biological Conservation* 131: 421-432.
- Fleming, G.P. and K.D. Patterson. 2010. Natural Communities of Virginia: Ecological Groups and Community Types. Natural Heritage Technical Report 10-11. Virginia Department of Conservation and Recreation, Division of Natural Heritage, Richmond, VA.
- Fleming, Gary P. and Karen D. Patterson 2021. Natural Communities of Virginia: Ecological Groups and Community Types: a listing with conservation status ranks. Natural Heritage Technical Report 21-15. Virginia Department of Conservation and Recreation, Division of Natural Heritage, Richmond, Virginia. 31 pages.
- Flyger, V. 1960. Sika deer on islands in Maryland and Virginia. *Journal of Mammalogy* 41(1):140.
- Frank, J.J., A.G. Poulakos, R. Tornero-Velez, and J. Xue. 2019. Systematic review and meta-analyses of lead (Pb) concentrations in environmental media (soil, dust, water, food, and air) reported in the United States from 1996 to 2016. *Science of the Total Environment* 694: 133489. Accessed April 14, 2022. Available from:
<https://www.sciencedirect.com/science/article/pii/S0048969719334096>
- Franson, J.C., S.P. Hansen, and J.H. Schulz. 2009 "Ingested shot and tissue lead concentrations in Mourning Doves." *Ingestion of Lead from Spent Ammunition: Implications for Wildlife and Humans. The Peregrine Fund, Boise, Idaho, USA*. DOI 10.4080/ilsa.2009.0202
- Grade, T., P. Campbell, T. Cooley, M. Kneeland, E. Leslie, B. MacDonald, J. Melotti, J. Okoniewski, E. J. Parnley, C. Perry, H. Vogel, and M. Pokras. 2019. Lead poisoning from

- ingestion of fishing gear: A review. *Ambio* 48, 1023–1038. <https://doi.org/10.1007/s13280-019-01179-w>
- Gross, John, B. Cohen, B. Collier, and M. Chamberlain. 2015. Influences of hunting on movements of male wild turkeys during spring. *Proceedings of the National Wild Turkey Symposium*. 11. 259-268.
- Golden, N.H., S.E. Werner, and M.J. Coffey. 2016. A Review and Assessment of Spent Lead Ammunition and its Exposure and Effects to Scavenging Birds in the United States. P.de. Voogt (ed.), *Reviews of Environmental Contamination and Toxicology* 237:123-191.
- Haig, S.M., J. D'Elia, C. Eagles-Smith, J.M. Fair, J. Gervais, G. Herring, J.W. Rivers, and J.H. Schulz. August 1, 2014. The persistent problem of lead poisoning in birds from ammunition and fishing tackle, *The Condor*, Volume 116, Issue 3, Pages 408–428. Available from: <https://doi.org/10.1650/CONDOR-14-36.1>
- Herring, G., C.A. Eagles-Smith, and M.T. Wagner. 2016. Ground Squirrel Shooting and Potential Lead Exposure in Breeding Avian Scavengers. *PLOS ONE* 11 (12): e0167926. <https://doi.org/10.1371/journal.pone.0167926>
- Hoffman, D.J., J.C. Franson, O.H. Pattee, C.M. Bunck, and A. Allen. 1985a. Survival, growth, and accumulation of ingested lead in nestling American kestrels (*Falco sparverius*). *Archives of Environmental Contamination and Toxicology* 14: 89-94.
- Hoffman, D.J., J.C. Franson, O.H. Pattee, C.M. Bunck, and H.C. Murray. 1985b. Biochemical and hematological effects of lead ingestion in nestling American kestrels (*Falco sparverius*). *Comparative Biochemistry and Physiology – Part C* 80: 431-439.
- Horsley, S.B., S.L. Stout, and D.S. DeCalesta. 2003. White-tailed deer impact on the vegetation dynamics of a northern hardwood forest. *Ecol. Appl.* 13(1)98-118. <https://www.fs.fed.us/ne/warren/aboutus/pdf/Horsley%20et%20al%20-%202003.pdf>.
- Hunt, W.G., W. Burnham, C.N. Parish, K.K. Burnham, B. Mutch, and J.L. Oaks. 2006. Bullet fragments in deer remains: Implications for lead exposure in avian scavengers. *Wildlife Society Bulletin* 34: 167-170.
- Iqbal S., W. Blumenthal, C. Kennedy, F.Y. Yip, S. Pickard, W.D. Flanders, K. Loring, K. Kruger, K.L. Caldwell, and M. Jean Brown. 2009. Hunting with lead: association between blood lead levels and wild game consumption. *Environmental Research* 109(8):952-9. doi: 10.1016/j.envres.2009.08.007.
- Kelly A. and S. Kelly. 2005. Are mute swans with elevated blood lead levels more likely to collide with overhead power lines? *Waterbirds* 28: 331-334.
- Kelly, T.R., P.H. Bloom, S.G. Torres, Y.Z. Hernandez, R.H. Poppenga, W.M. Boyce, and C.K. Johnson. 2011. Impact of the California lead ammunition ban on reducing lead exposure in

golden eagles and turkey vultures. PLoS ONE. 6(4): e17656.
doi:10.1371/journal.pone.0017656.

- Kendall, R. J., T. E. Lacher, Jr., C. Bunck, B. Daniel, C. Driver, C. E. Grue, F. Leighton, W. Stanley, P. G. Watanabe, and M. Whitworth. 1996. An ecological risk assessment of lead shot exposure in non-waterfowl avian species: upland game birds and raptors. *Environmental Toxicology and Chemistry* 15: 4–20.
<https://setac.onlinelibrary.wiley.com/doi/abs/10.1002/etc.5620150103>
- Kramer, J.L. and P.T. Redig. 1997. Sixteen years of lead poisoning in eagles, 1980-95: An epizootiologic view. *Journal of Raptor Research*. 31(4): 327-332.
- Kreager, N., B.C. Wainman, R.K. Jayasinghe, and L.J.S. Tsuji. 2008. Lead pellet ingestion and liver-lead concentrations in upland game birds from southern Ontario, Canada. *Archives of Environmental Contamination and Toxicology* 54: 331-336. doi: 10.1007/s00244-007-9020-6.
- Langley, Susan B.M., PhD. May 31, 2002. Draft Archaeological Overview and Assessment of Maritime Resources in Assateague National Seashore, Worcester County, Maryland and Accomack County, Virginia. Maryland Historical Trust (for NPS).
- Larsen, R.T., J.T. Flinders, J.T. Mitchell, and E.R. Perkins, 2007. Grit size preference and confirmation of ingested lead pellets in chukars (*Alectoris chukar*). *Western North American Naturalist* 67(1): 152-155.
- Lewis, N.L., T.C. Nichols, C. Lilley, D.E. Roscoe, and J. Lovy. 2021. Blood lead declines in wintering American black ducks in New Jersey following the lead shot ban. *Journal of Fish and Wildlife Managements* 12(1): 174-182.
- Lomnický, G.A., A.T. Herlihy, and P.R. Kaufmann. 2019. Quantifying the extent of human disturbance activities and anthropogenic stressors in wetlands across the conterminous United States: results from the National Wetland Condition Assessment. *Environmental Monitoring and Assessment*. <https://link.springer.com/article/10.1007/s10661-019-7314-6>.
- O'Halloran, J., A.A. Myers, and P.F. Duggan. 1989. Some sub-lethal effects of lead on mute swan (*Cygnus olor*). *Journal of Zoology* 218: 627-632.
- Pattee, Oliver H., Stanley N. Wiemeyer, Bernie M. Mulhern, Louis Sileo, and James W. Carpenter. 1981. Experimental Lead-Shot Poisoning in Bald Eagles. *The Journal of Wildlife Management*, 45(3), 806–810. <https://doi.org/10.2307/3808728>
- Pattee, O.H. 1984. Eggshell thickness and reproduction in American kestrels exposed to chronic dietary lead. *Archives of Environmental Contamination Toxicology* 13, 29-34.
<https://link.springer.com/content/pdf/10.1007/BF01055643.pdf>
- Pattee, Oliver H., Stanley N. Wiemeyer, Bernie M. Mulhern, Louis Sileo, and James W. Carpenter.

1981. Experimental Lead-Shot Poisoning in Bald Eagles. *The Journal of Wildlife Management*, 45(3), 806–810. <https://doi.org/10.2307/3808728>
- Pauli, Jonathan N., and Steven W. Buskirk. “Recreational Shooting of Prairie Dogs: A Portal for Lead Entering Wildlife Food Chains.” *The Journal of Wildlife Management*, vol. 71, no. 1, 2007, pp. 103–08. *JSTOR*, <http://www.jstor.org/stable/4495149>. Accessed 15 Aug. 2022.
- Platt, J.B. 1976. Bald eagles wintering in a Utah desert. *American Birds* 30: 783-788.
- Rattner, B.A., J.C. Franson, S.R. Sheffield, C.I. Goddard, N.J. Leonard, D. Stang, and P.J. Wingate. 2008. Sources and Implications of Lead-based Ammunition and Fishing Tackle to Natural Resources. Wildlife Society Technical Review. The Wildlife Society, Bethesda, Maryland, USA
- Redig, P.T., C.M. Stowe, D.M. Barnes, and T.D. Arent. 1980. Lead toxicosis in raptors. *Journ. Amer. Vet. Med. Assoc.* 177:941.
- Rideout, B.A., I. Stalis, R. Papendick, A. Pessier, B. Puschener, M.E. Finkelstein, D.R. Smith, M. Johnson, M. Mace, R. Stroud, J. Brandt, J. Burnett, C. Parish, J. Petterson, C. Witte, C. Stringfield, K. Orr, J. Zuba, M. Wallace, and J. Grantham. 2012. Patterns off mortality in free-ranging California condors (*Gymnogyps californianus*). *Journal of Wildlife Diseases* 48(1): 95-112.
- Roberts, A.J. 2019. Atlantic Flyway harvest and population survey data book. U.S. Fish and Wildlife Service, Laurel, MD.
- Sahmel, J., E.I. Hsu, H.J. Avens, E. Beckett, and K.D. Devlin. 2015. Estimation of hand-to-mouth transfer efficiency of lead. *Annals of Work Exposures and Health* 59: 210–220.
- Samuel, M.D. and E.F. Bowers. 2000. Lead exposure in American black ducks after implementation of non-toxic shot. *Journal of Wildlife Management* 64: 947-953.
- Samuel, M.D., E.F. Bowers, and J.C. Franson. 1992. Lead exposure and recovery rates of black ducks banded in Tennessee. *Journal of Wildlife Diseases* 28: 555-561.
- Sieg, R., K.A. Sullivan, and C.N. Parish. 2009. Voluntary lead reduction efforts with the northern Arizona range of the California condor. In: R.T Watson, M. Fuller. M. Pokras, W.G. Hunt (Eds.). *Ingestion of Lead from Spent Ammunition: Implications for Wildlife and Humans*. The Peregrine Fund, Boise, Idaho, USA, pp. 341-349.
- Slabe, V.A., J.T. Anderson, B.A. Milsap, J.L. Cooper, A.L. Harmata. M. Resatni, R.H. Crandall, B. Bodenstein, P.H. Bloom, T. Booms, J. Buchweitz, R. Culver, K. Dickerson, R. Domenech, E. Dominguez-Villegas, D. Driscoll, B.W. Smith, M.L. Lockhart, D. McRuer, T.A. Miller, P.A. Ortiz, K. Rogers, M. Schwartz, N. Turley, B. Woodbridge, M.E. Finkelstein, C.A. Triana, C.R. DeSorbo, and T.E. Katner. 2022. Demographic implications of lead poisoning for eagles across North America. *Science*. 375: 779-782.

- State of California. 2022. Nonlead Ammunition in California. Accessed April 14, 2022. Available from: <https://wildlife.ca.gov/Hunting/Nonlead-Ammunition#250462358-ive-heard-nonlead-costs-twice-as-much-where-can-i-find-a-good-deal-on-ammo>.
- Stauber, Erik, Nickol Finch, Patricia A. Talcott, and John M. Gay. 2010. "Lead poisoning of bald (*Haliaeetus leucocephalus*) and golden (*Aquila chrysaetos*) eagles in the US inland Pacific Northwest region—An 18-year retrospective study: 1991–2008." *Journal of Avian Medicine and Surgery* 24.4 (2010): 279-287.
- Stroud, R.K. and W.G. Hunt. 2009. Gunshot wounds: A source of lead in the environments. In: R.T. Watson, M. Fuller. M. Pokras, W.G. Hunt (Eds.). *Ingestion of Lead from Spent Ammunition: Implications for Wildlife and Humans*. The Peregrine Fund, Boise, Idaho, USA. pp. 119-125.
- Tsuji, L.J., B.C. Wainman, I.D. Martin, C. Sutherland, J.P. Weber, P. Dumas, and E. Nieboer. 2008. The identification of lead ammunition as a source of lead exposure in First Nations: the use of lead isotope ratios. *Science of the Total Environment*. 393 (2–3), 291–298.
- U.S. Census Bureau. 2010 Demographic Profile Data, DP-1. Accessed at <http://www.factfinder2.census.gov> on March 20, 2021.
- U.S. Fish and Wildlife Service (USFWS). 1999. Establishing “lead free fishing area” and the prohibition of the use of certain fishing sinkers and jigs made with lead on specific units of the National Wildlife Refuge system. *Federal Register* 64:17992.
- USFWS. 2007. Chincoteague National Wildlife Refuge Hunt Management Plan.
- USFWS. 2015. Chincoteague and Wallops Island National Wildlife Refuges Comprehensive Conservation Plan.
- USFWS. 2013. Issuance of Annual Regulations Permitting the Hunting of Migratory Birds: Final Supplemental Environmental Impact Statement. Accessed February 2022 at <https://www.fws.gov/media/issuance-annual-regulations-permitting-hunting-migratory-birds-final-supplemental>.
- USFWS. 2017. Banking on Nature: National Wildlife Refuge Data Visualizations (Chincoteague NWR). https://www.fws.gov/sites/default/files/documents/USFWS_Banking_on_Nature_2017.pdf.
- Virginia Department of Wildlife Resources. 2014. Results of the 2013-2014 Virginia Trapper Survey. <https://dwr.virginia.gov/wp-content/uploads/2013-2014-Virginia-Trapper-Harvest-Report.pdf>.
- Virginia Department of Wildlife Resources. 2018. Results of the 2017-2018 Virginia Hunter Survey.

Virginia Department of Wildlife Resources. 2020. Fact Sheet – Waterfowl Hunters and Harvests - 2020. <https://dwr.virginia.gov/wp-content/uploads/media/waterfowlfactsheets.pdf>.

Virginia Department of Wildlife Resources. 2021a. Virginia Deer Management Program. <https://dwr.virginia.gov/wildlife/deer/deer-management-program/>.

Virginia Department of Wildlife Resources. 2021b. 2020-2021 Deer Kill Summary. <https://dwr.virginia.gov/wildlife/deer/harvestsummary/>.

Virginia Department of Wildlife Resources. 2021c. Virginia 2020-2021 Fall Wild Turkey harvest Summary. <https://dwr.virginia.gov/wildlife/turkey/fallharvestsummary/>.

Warner, S.E., E.E. Britton, D.N. Becker, and M.J. Coffey. 2014. Bald eagle lead exposure in the Upper Midwest. *Journal of Fish and Wildlife Management*, 5(2), 208-216.

Washington Department of Fish and Wildlife. 2022. Non-toxic shot requirements. <https://wdfw.wa.gov/hunting/regulations/migratory-waterfowl-upland-game/non-toxic-shot>. Accessed: February 2, 2022.

OTHER APPLICABLE STATUTES, EXECUTIVE ORDERS AND REGULATIONS

Cultural Resources

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

Fish and Wildlife

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

Natural Resources

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

Water Resources

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

INTRA-SERVICE SECTION 7 BIOLOGICAL EVALUATION FORM

Originating Person: Kevin Holcomb

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Date: May 2022

Email: kevin_holcomb@fws.gov

Project Name: Chincoteague and Wallops Island National Wildlife Refuge's Hunting Plan

I. Service Program:

- ☐ Ecological Services
- ☒ National Wildlife Refuge System
- ☐ Federal Aid
- ☐ Clean Vessel Act
- ☐ Coastal Wetlands
- ☐ Endangered Species Section 6
- ☐ Partners for Fish and Wildlife
- ☐ Sport Fish Restoration
- ☐ Wildlife Restoration

II. State/Agency: National Wildlife Refuge System

III. Station Name: Chincoteague National Wildlife Refuge
Wallops Island National Wildlife Refuge

IV. Description of Proposed Action (attach additional pages as needed):

The Service proposes to adjust hunting opportunities at Chincoteague NWR and Wallops Island NWR to better align with State programs where appropriate, while still meeting refuge wildlife and habitat objectives. In summary, we propose the following changes to the existing program:

1) Species Changes

a) Chincoteague NWR:

- Add raccoon, opossum, fox, and coyote hunting during the regular State deer season.
- Add a quota hunt for turkey.
- Add all migratory game bird hunting within existing waterfowl Hunt Areas during State seasons.

b) Wallops Island NWR:

- Add raccoon, opossum, fox, coyote, rabbit, and squirrel, and all migratory game birds.

2) Method of Take Changes

a) Chincoteague NWR:

- In the Northern Hunt Zone, we would allow the use of muzzleloaders for big game hunting.

- The Toms Cove Hook Hunt Zone would merge into the Archery Only Hunt Zone, removing shotguns as a method of take.
 - b) Wallops Island NWR: Follow State regulations for raccoon, opossum, fox, coyote, rabbit, and squirrel, and all migratory game birds.
- 3) Season Dates
- a) Chincoteague NWR: Hunting (mammals) will only occur during the regular State deer season (typically beginning the first Saturday of October through the first Saturday of January). The existing Waterfowl Hunt Areas would open to all migratory game birds during State seasons, from September 16 through March 14.
 - b) Wallops Island NWR: All hunting would occur during State seasons between September 16 and March 14.
- 4) Permits
- a) Chincoteague NWR: Remove the limit on the number of hunters in the sign-in/sign-out process.
 - b) Wallops Island NWR: Eliminate the existing sign-in/out process for all hunts.
- 5) Bag Limits
- a) Chincoteague NWR: Align with State bag limits for white-tailed deer and open a quota hunt for turkey.
 - b) Wallops Island NWR: Align with State bag limits.
- 6) Ammunition
- a) Chincoteague NWR: Non-lead ammunition by 2026.
 - b) Wallops Island NWR: Non-lead ammunition by 2026.
 - c) The use of non-lead ammunition for hunting deer, sika, turkey and upland game will initially be voluntary, and we plan to require non-lead ammunition for all activities after a 4-year phase-in period is implemented then completed in 2026. This phase-in period will allow hunters time to adapt to the new regulations without diminishing deer hunting opportunities on the refuges. The refuge staff will provide information to assist in a valuable transition period that benefits fish, wildlife, and people.
- 7) Hunt Zones
- a) Chincoteague NWR: No change to huntable acres.
 - Northern Hunt Zone (3,869 acres)
 - Archery Only Zone (3,268 acres)
 - Waterfowl Hunt Area (2,703 acres)
 - Morris Island (located between Chincoteague and Assateague Islands); Wildcat Marsh (northern end of Chincoteague Island); Assawoman Island; and Metompkin Island (northern end)
 - b) Wallops Island NWR (373 acres): No change to huntable acres.
 - c) No-hunting zones would include beach areas, the over wash zone on the Assateague Island Unit, the southwest portion of Wildcat Marsh, and a 100-foot buffer area around any building, road or trail. Areas that would require a buffer area include the bunkhouse, visitor center, maintenance buildings, the Wildlife loop trail, headquarters office, lighthouse, Service Road, and the Marsh, Swan Cove, and the Woodland trails.

Summary of Hunting Activities on the Refuge

Hunting would be permitted in designated areas of the refuge in accordance with State and refuge-specific regulations. Hunters will read and sign a hunt brochure prior to hunting on the refuge. Hunt brochures are available online on the refuge website, at the hunt check station, or at the Visitor Center. Hunters on the Assateague Island Unit of the refuge are required to sign-in/sign-out at the hunt check station daily.

Big Game

Big game hunting is permitted for white-tailed deer, sika, and wild turkey in accordance with State seasons and methods of take within respective zones. The Northern Hunt Zone is the firearms zone and includes all methods permitted by the State, and the Archery Zone is restricted to archery equipment only. Turkey hunting would be administered via a mentored quota hunt and initially targeted to hunts for youth and apprentice hunters to assist the State with hunter recruitment and retention efforts (commonly referred to as R3). Big game hunting will not be permitted on Sundays at Chincoteague NWR, but allowed at Wallops Island NWR. Daily sign-in/sign-out procedures will be required for big game hunters to facilitate notification of hunters for current management activities which may impact the hunt zones, collection of harvest data, and to determine hunter participation data for planning of future hunt opportunities. The number of hunters will not be limited within each zone. Daily and seasonal bag limits will follow the State regulations. The sika harvest would be regulated in accordance with the State Deer Population Reduction Program (DPOP).

Upland Game

Upland game hunting for racoon, opossum, fox, and coyote would be allowed during regular refuge hours only (no night hunting, access from sunrise to sunset) and would be concurrent with the deer season (approximately October through early January). We plan to require the use of non-lead ammunition for all upland game species by 2026. Upland game hunting will not be permitted on Sundays.

Migratory Game Birds

Migratory game bird hunting would be permitted for rail, coot, snipe, gallinule, duck, goose, swan, woodcock, dove, and crow in the designated Migratory Bird Hunt Zones (see map). Hunting and access for migratory game bird hunting would be by boat only. Sunday hunting would be permitted for all migratory game birds. The use of retriever dogs would be allowed. Hunters must obtain, sign, and have in their possession a signed hunt brochure. The use of non-lead ammunition would be required for all migratory game bird species in addition to the Federal ammunition requirements for duck, goose, swan, and coot.

Hunter Access

The refuge will make reasonable efforts to allow hunters access to each of the hunt units. The intention is to provide safe, quality hunting opportunities that consider the welfare of the refuge wildlife resources. If hunting conditions are deemed unsafe to hunters or refuge staff or negative impacts on resources are discovered, hunt program procedures and timing are subject to change. All access points and hunter parking areas will be delineated on refuge hunt maps and will be included in the hunt brochures. Hunters may be permitted to enter refuge lands prior to normal refuge operating hours in order to reach hunt units at the start of State hunting hours for big game and

migratory game bird hunting.

Waterfowl hunters may access hunt units by boat via several private and public boat launches within the refuge vicinity. No boat launches exist on the refuge and the waterfowl hunt units are not accessible via land. State and municipal boat launches are within a short distance of refuge hunting areas and can be used for the launch and retrieval of boats.

Non-Lead Ammunition

The use of non-lead ammunition for hunting deer, sika, raccoon, opossum, fox, coyote, and turkey will initially be voluntary, and we plan to require non-lead ammunition for all activities after a 4-year phase-in period is completed in 2026. This phase-in period will allow hunters time to adapt to the new regulations without diminishing deer hunting opportunities on the refuge. The refuge staff will provide information to assist in a transition period that benefits fish, wildlife, and people.

V. Pertinent Species and Habitat:

A. Include species/habitat occurrence map:

B. Complete the following table:

Species/Critical Habitat	Status
Piping plover	T
Red knot	T
Roseate tern	E
Eastern black rail	T
Northern long-eared bat	T
Loggerhead sea turtle	T
Green sea turtle	T
Hawksbill sea turtle	E
Kemp's Ridley sea turtle	E
Leatherback sea turtle	E
Monarch butterfly	C
Atlantic sturgeon	E
Northeastern beach tiger beetle	T
Seabeach amaranth	T

*Status: E= Endangered, T=Threatened, T(s/a)=Threatened by Similarity of Appearance, PE=Proposed Endangered, PT= Proposed Threatened, CH= Critical Habitat, PCH= Proposed Critical Habitat, C=Candidate Species.

VI. Location (attach map):

A. Ecoregion Number and Name:

Northeast Region, Region 5

B. County and State: Accomack County, Virginia

C. Section, Township, and Range (or latitude and longitude)

37.908447°, -75.355937° (CNWR HQ)

D. Distance (miles) and direction to nearest town: Varies, see Hunt Maps

E. Species/habitat occurrence: See map

Chincoteague and Wallops Island NWRs uses IPaC to identify threatened and endangered species, including for purposes of this Biological Evaluation. This is done because the IPaC database is the better of the Service's databases for the refuge and may contain the best available information on species presence. Nevertheless, in order to ensure a thorough review, this Biological Evaluation considers all threatened and endangered species identified by both the IPaC and ECOS databases. Note, however, that these databases are updated regularly, approximately every 90 days, and, thus, it is possible that the specific threatened and endangered species identified as present on or near the refuge may change between the finalization of this Biological Evaluation and its publication and/or between finalization and your reading this document.

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

VII. Determination of Effects:

For each species below, when applicable, we describe the effects of the proposed new hunting opportunities and evaluate the effect of our plan to require non-lead ammunition by 2026.

With the proposed changes in the hunting program, we do not expect measurable increases (i.e., less than 10 hunters). In recent years, annual hunter limits have never been reached and given the addition of muzzleloaders in the Northern Hunt Zone will be offset by the removal of shoguns on Toms Cove Hook, we do not anticipate a significant change in hunt visits or the number of deer harvested annually that would meaningfully affect the current population of white-tailed deer. The refuge would open to a limited quota mentored turkey hunt (October-December). The remainder of the year would allow turkey to rest and recover. The refuge estimates less than 10 turkeys will be harvested annually from Chincoteague NWR and 2 from Wallops Island NWR. The proposed expansion of migratory game bird hunting to include additional species on Chincoteague NWR and opening Wallops Island NWR to migratory bird hunting for the first time is anticipated to result in only minimal take of newly hunted species and negligible increases in take for those species already hunted.

Over the next few years, the refuge will encourage all hunters to adopt lead-free ammunition, prior to the 2026-2027 hunting season, when we plan to require lead-free ammunition to participate in any hunting activity on the refuge. This may result in hunters reducing the amount of lead entering the environment earlier. There may be some effect on all species in the interim as discussed below for each species, but by 2026-2027, there will be no new introduction of lead and the only potential effects would be from the bioaccumulation of lead from previous years.

A. Explanation of effects of the action on species and critical habitats in item V.

Piping plover

The piping plover, a Federal- and State-threatened species since January 1986, nests on sandy beaches and overwash areas. In order to protect this species, staff at Chincoteague NWR close certain critical nesting, foraging, and roosting areas on Assateague, Assawoman, and Metompkin islands to public entry from March 15 through September 15. This timing does not overlap when the overwhelming majority of hunters visit the refuge. For example, deer, waterfowl, and upland game hunting are all conducted outside this date range. In addition, the refuge's hunt zones do not overlap with the plover's preferred habitat of intertidal zone beaches and mudflats.

Regarding the impacts of lead ammunition, specifically for the beach shorebirds (i.e., roseate tern, red knot and piping plover), the deer and sika hunt in the Northern Zone hunt unit is the primary hunting opportunity in which hunters may use lead ammunition (upland game may be hunted at the same time). This hunt only occurs from November to January, in the more forested habitat of the refuge. Thus, it will not occur within, or in close proximity to, areas where those species occur. Even if lead could leach out into the beach habitat these species use, the increase in lead would be extremely minor and dispersed, and therefore insignificant. Because hunting—including the use of lead ammunition, until it is discontinued at the beginning of the fall 2026-2027, is highly unlikely to overlap with piping plovers, red knots or roseate terns in time or space, these species are not likely to be adversely affected by the proposed hunting activities.

Red knot

Red knots use Chincoteague NWR beaches during spring and fall migration (April to September), with peak spring numbers occurring in the last half of May and peak fall numbers occurring in August (Smith et al. 2008), as confirmed by refuge data. Since the Chincoteague NWR closes certain critical piping plover nesting areas to public entry from March 15 through September 15, migrating red knots are also protected. Any potential effects from disturbance are discountable and extremely unlikely to occur because the hunting area is far away from the beach where red knots occur. As discussed above, because hunting—including the use of lead ammunition, until it is discontinued in 2026—is highly unlikely to overlap with red knots in time or space, the species is not likely to be adversely affected by the proposed hunting activities.

Roseate tern

Because roseate terns do not occur on the refuge, the proposed activities are not likely to adversely affect this species. If roseate terns arrive on their breeding grounds in late April or

early May, they would begin nesting one month later. Migration begins in late summer. With no hunting allowed from March 15 to September 15, and no hunting on the beach, it is highly unlikely that hunting would overlap with roseate terns in time or space. As noted above, any potential effects from disturbance are discountable and extremely unlikely to occur because the hunting area is far away from the beach where roseate terns would occur. Thus, the species is not likely to be adversely affected by the proposed hunting activities

Eastern black rail

Because Eastern black rails do not occur on the refuge, the proposed activities are not likely to adversely affect this species. The habitat at these two refuges is getting worse for black rail with each passing year as sea levels rise. It is unlikely that black rails are present on the two refuges and if they are, the numbers are extremely low. The Eastern black rail is a small marsh bird that lives amongst the grasses of salt and freshwater marshes. They are very secretive and often walk or run through the grasses rather than fly. Hunting takes place September 15 through March 15, and would not overlap with breeding season for black rails during May. Any potential effects from disturbance are extremely unlikely to occur and considered discountable because the hunting area is far away from the marshes where Eastern black rail would occur.

The potential for lead impacts to black rails is discountable because of the bird's preferred habitat. Black rails likely eat mostly small invertebrates and seeds, but because they are rarely seen, little is known about their feeding habits. The potential for lead impacts to black rails is discountable because of the bird's preferred habitat. If Black rails were present on the refuge, they would be located in the interior of marshes, where hunting with lead ammunition is not occurring, and any lead ammunition is highly unlikely to be found. Even if lead deposited in uplands could leach out into coastal or wetland habitats that black rails use, the increase in lead would be extremely minor and dispersed, and therefore insignificant. Because of the federal ban already in place requiring the use of non-lead ammunition for waterfowl hunting, and that hunting with lead ammunition only occurs in the Northern Hunt zone (an upland area), and because we plan to require the use of non-lead ammunition for hunting all species on the refuges at the beginning of the fall 2026-2027 hunting season, impacts from lead are not likely to adversely affect black rail.

In conclusion, the proposed hunting activities are not likely to adversely affect the Eastern black rail.

Northeastern beach tiger beetle

Northeastern beach tiger beetle (*Habroscelimorpha* (formerly *Cicindela*) *dorsalis dorsalis*) is not likely to be adversely affected by the proposed changes because they do not occur on the refuge. Only a subspecies, *Cicindela dorsalis media*, which is not federally protected, is found on Chincoteague's beaches.

Atlantic sturgeon

All proposed hunting changes are inland from the beach, and not near the ocean. Furthermore, all waterfowl hunting currently requires non-lead ammunition. For the next 4 years, lead ammunition is only allowed in the Northern Hunt Zone. Because Atlantic

sturgeon also do not occur on the refuge, are separated from the forested areas of the Northern Hunt Zone by Service Road on the west, and distanced by 200 to 300 feet of beach/dune/scrub habitats on the east, the species will not experience any effects from the proposed activities. Therefore, the proposed activities will have no effect on the Atlantic sturgeon.

Northern long-eared bats

Northern long-eared bats (NLEB) primarily use mines and caves in the winter to hibernate and use upland forests to forage and roost throughout the rest of the year. The species is most sensitive to disturbance during hibernation and when raising young, which are activities not known to occur on the refuge. Although the refuge has forested areas, there are no caves or mines found on refuge property. Though recordings and mist netting have been conducted in cooperation with USGS's Virginia Cooperative Fish and Wildlife Research Unit, there are no known occurrences of NLEB on the refuge.

The NLEB may occur in some hunting zones but are not likely to experience any significant disturbance or habitat loss even if bats and hunters may briefly overlap. Firearms hunting is conducted in the Northern Hunt Zone (usually from November 19 through January 7) and archery hunting in the Archery Only Hunt Zone (usually from October 1 to November 18). Bats are typically nocturnal and inactive during most hunting seasons and times, and not present for most of the hunting seasons; therefore, disturbance would be highly unlikely.

Potential disturbances from expanded hunting, such as an increase in gun noise or additional portable tree stands, are expected to be insignificant given the amount of hunting expected to occur on these acres. Noise from firearms or dog barks could disturb roosting bats but it is likely that the bats would remain in the tree during daylight hours. Such noise disturbances are temporary and last only for the duration of the noise, not fundamentally unlike other temporary disturbances that bats may naturally experience, with no long-term effects; therefore, any potential disturbance effects are expected to be insignificant. Other possible disturbances include hunters climbing and placing portable tree stands on trees. However, hunters typically select live trees for safety reasons while bats are most often in dead or dying trees with large slabs of peeling bark. Further, hunting activities would not result in any roost tree destruction as no tree cutting or other habitat alteration is permitted on the refuge.

The potential for lead impacts to bats is discountable due to Northern long-eared bats' diet and foraging habits. Lead bullet fragments would have to break down in the soil in order to be taken up by plants near the area in which the fragments fall on or penetrate the soil surface. Typically, however, plants do not take heavy metals up until they have reached critical thresholds in the soil (Sharma and Dubey 2005). If lead is taken up by plants, it is mainly through the root system and partly, in minor amounts through the leaves. Inside the plants lead accumulates primarily in the root, but a part of it is translocated to the aerial portions. Larvae of certain herbivorous insect species could ingest some of the lead when they eat the exposed plants. Some of the insects could then be consumed by bats. Northern long-eared bats' diet is insects such as moths, flies, leafhoppers, caddisflies and beetles, only some of which are herbivorous. In addition, bats are transitory in nature and will not

consume their entire diets on the refuge area. Considering the chain of events that are necessary for exposure and the small amount of lead that would contribute to lead concentrations in refuge soils, it seems likely that bats that occur on refuges will not consume lead derived from ammunition fired by hunters on the refuge.

Because there have been no known occurrences of NLEB; because the potential for overlap in time or space between hunters and bats is very low; because the expected impacts to roosting bats even if there is overlap are insignificant; and because the potential for lead impacts are discountable, the proposed hunting activities are not likely to adversely affect the NLEB.

Sea turtles: Loggerhead, Green, Hawksbill, Kemp's Ridley, Leatherback

Five species of federally listed sea turtles use Assateague Island's ocean and bay waters. The leatherback sea turtle, Kemp's Ridley sea turtle, and the hawksbill sea turtle are listed as endangered species under the ESA; the loggerhead sea turtle and green sea turtle are listed as threatened. In Virginia, the state status is the same as the Federal status for these species. Of the five sea turtles, only loggerheads are known to nest on the refuge, which is the northern extent of its breeding range. In recent years, crawl and nesting activity (one to three nests) occurs June through August. Because incubation takes longer (90 or more days) at this latitude, the hatch window is August through October. Hunting activities do not occur where loggerhead sea turtles nest. Refuge beaches on Assateague, Assawoman, and Metompkin Islands will remain closed to hunting during the sea turtle nesting seasons. All waterfowl hunting currently requires non-lead ammunition. Turtles present but not nesting, remain in the water, and thus, will not be impacted by hunting activities. Accordingly, the proposed hunting changes will have no effect on the five listed turtle species because the sea turtles are separated from the proposed hunting activities—including the use of lead ammunition—in space, and therefore, the species do not have the potential to be exposed to the effects of the proposed activities.

Monarch butterfly

Assateague Island is a critical stopover point for southbound migrating monarchs (a candidate for federal listing) that use the refuge's resources to rest, refuel, and roost. Monarch butterflies are observed on nectar plants within beach strand habitat and impoundment management units during their peak migration (last two weeks of September through the first two weeks of October). Monarch butterflies typically concentrate on seaside goldenrod located along the Beach Road corridor and the dunes from Swan Cove Trail south to Toms Cove, which is closed to hunting. Dogs are not allowed on the Assateague Island unit of the refuge to minimize any potential for disturbance in the most sensitive areas of the refuge.

The plants senesce as the butterflies begin their fall migration, usually in October. Before then in, in the fall, hunting activity could result in some trampling of nectar sources available for monarchs, but any potential impact would be concentrated, insignificant, and leave plenty of available nectar sources on other areas of the refuge and unit. Only light foot travel from hunters accessing the area for hunting is expected to occur on these acres. While hunters are walking through habitat used by monarchs, there could be some impacts

including flushing while resting or feeding. This disturbance is minimal as the monarchs can easily move to another spot when disturbed, which is a normal behavior response that does not result in long-term effects. Furthermore, hunting does not result in the removal of vegetation, including nectar sources or milkweed, and so it would have negligible impacts to habitat resources important for monarchs.

The potential for lead impacts to monarchs is discountable due to their diets. Adult monarch butterflies feed on nectar. Nectar typically carries less lead contaminants than other parts of the plant if lead is absorbed through the plant. Larvae consume the leaves and stems of milkweeds, where higher concentrations of lead could be present, if lead is absorbed through the plant. Lead absorption by plants typically occurs first through roots and only makes its way into other plant parts if concentrations are high enough. This means that, as with bats, bioaccumulation through the plant to the monarch butterfly or larvae could potentially occur. However, as with bats, it relies on the very unlikely occurrence that lead concentrations in the soil from hunting activities reach high enough levels for uptake by plants, and in this case, it would further require uptake by milkweed and the specific plants that monarchs rely on for nectar sources.

Given that hunters are not likely to overlap with areas where monarchs and their plants are known to occur; that any potential disturbance is expected to be insignificant; and because bioaccumulation through plants into caterpillars or butterflies is discountable, the proposed activities are not likely to jeopardize the monarch butterfly.

Seabeach amaranth

Seabeach amaranth was federally listed as threatened in 1993 by the Service. Seabeach amaranth is an annual plant species that occurs on the upper beach and sparsely vegetated over wash fans and inter-dune areas. This species appears to require extensive areas of barrier island beaches and inlets functioning in a relatively natural and dynamic manner. In the absence of over wash and storms, other plants less tolerant of disturbance colonize the sparsely vegetated areas and ultimately outcompete amaranth. Threats include beach stabilization efforts (particularly the use of beach armoring, such as sea walls and riprap), intensive recreational use, and herbivory (grass eating) by white-tailed deer, sika, and Chincoteague ponies.

Seabeach amaranth is native to Atlantic coast barrier island beaches from Massachusetts to South Carolina (USFWS 2008). Although seabeach amaranth generally grows in sparse to very sparse distribution, the existing population on the refuge is greatly dissipated. No known plants were observed in the 2021 census of the refuge.

Sharma and Dubey (2005) found that excess lead in plants causes a variety of toxic symptoms including stunted growth, chlorosis, blackening of root systems, inhibited photosynthesis, disrupted mineral nutrition and water balance, and altered plant hormones. Rattner et al. (2008) found that migration of lead from soil to roots and other parts of plants generally is considered to be minimal (Sorvari et al. 2006). Studies have documented elevated lead levels in plants in the vicinity of shooting ranges (Peterson et al. 1993, Mellor and McCartney 1994, Rooney et al. 1999, Hui 2002), but as proposed in this plan, hunters

will not be concentrated or reach the numbers you would see at a shooting range. Impacts from lead on these species is highly unlikely since hunters would be dissipated throughout the refuge, there are no known occurrences of this species on the refuge, and the migration of lead from soil to roots and other parts of the plant is minimal.

This plant has been determined not to occur on the refuge, and any impacts from hunting or the associated use of lead ammunition would be extremely unlikely to occur. Therefore, the proposed activities are not likely to adversely affect seabeach amaranth.

All species

The best available science indicates that lead ammunition and tackle may have negative impacts on wildlife and the environment (Golden et al. 2016). Animals can be poisoned by lead in a variety of ways, including “ingestion of bullet fragments and shot pellets left in animal carcasses, spent ammunition left in the field, lost fishing tackle, lead-based paints, large-scale mining, and lead smelting activities. Despite a large body of scientific literature on exposure to lead and its toxicological effects, controversy still exists regarding its impacts at a population level” (Haig et al. 2014). The use of non-lead ammunition will initially be voluntary, and we plan to require non-lead ammunition for all hunting activities starting at the beginning of the fall 2026-2027 hunting season (after a 4-year phase-in period). This planned phase-in period will ensure continuity of visitor opportunities as hunters understand the changes and become more familiar with the availability and use of non-lead alternatives. We will educate hunters about the impacts of lead and strongly encourage non-lead ammunition alternatives for the next 4 years.

The bioaccumulation of lead is a potential concern, but it does not present a significant issue on this refuge, as: 1) non-lead shot is currently required for hunting waterfowl; 2) we plan to require the use of non-lead ammunition on the refuge at the beginning of the fall 2026-2027 hunting season; 3) the refuge will strongly encourage use of non-lead alternatives for hunting deer and sika for the next 4 years; 4) we will educate hunters and the public to the potential adverse impacts of lead; and 5) the proposed hunting activities are not likely to introduce substantially more lead into the environment over existing amounts with the proposed hunting program. Some hunters will also choose non-lead methods of take such as archery. As a result, the proposed hunting activities are not likely to adversely affect any of the above listed species.

We understand that reinitiation of consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law), and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action.

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

Expansion of hunting under this alternative is not likely to adversely affect threatened, endangered, and other special status species given the time of year the activities take place (September 16 through March 14) and where the uses occur on the refuge. For example, refuge beaches on Assateague, Assawoman, and Metompkin Islands will remain closed to hunting during the piping plover and sea turtle nesting seasons and much of the migratory bird migration season.

VIII. Effects Determination and Response Requested:

Species/Critical Habitat	Determination	Response Requested
Piping plover	NL	Concurrence
Loggerhead sea turtle	NE	
Red knot	NL	Concurrence
Seabeach amaranth	NL	Concurrence
Eastern black rail	NL	Concurrence
Northern long-eared bat	NL	Concurrence
Roseate tern	NL	Concurrence
Hawksbill sea turtle	NE	
Green sea turtle	NE	
Kemp's Ridley sea turtle	NE	
Leatherback sea turtle	NE	
Monarch butterfly	NJ	Concurrence
Atlantic sturgeon	NE	
Northeastern beach tiger beetle	NL	Concurrence

Determination/Response Requested:

NE= no effect. This determination is appropriate when the proposed action will not directly, indirectly, or cumulatively impact, either positively or negatively, any listed, proposed, candidate species or designated/proposed critical habitat. Response requested is optional, but A Concurrence is recommended for a complete Administrative Record.

NL= not likely to adversely affect. This determination is appropriate when the proposed action is not likely to adversely impact any listed, proposed, candidate species or designated/proposed critical habitat or there may be beneficial effects to these resources. Response requested is A Concurrence.

NJ= not likely to jeopardize. This determination is appropriate when the proposed action is not likely to jeopardize the continued existence of a candidate species. No critical habitat has been designated for this candidate species; therefore, none will be affected. Response requested is A Concurrence.

AA= likely to adversely affect. This determination is appropriate when the proposed action

is likely to adversely impact any listed, proposed, candidate species or designated/proposed critical habitat. Response requested for listed species A Formal Consultation. Response requested for proposed or candidate species is A Formal Consultation.

References

This determination is based upon the science referenced in the environmental assessment associated with the proposed action described in this analysis. Where there is not an overlap in literature cited, specific references have been included.

Biological Opinion on the Effects of the National Park Service's "Fire Island Short-term Protection Projects" for the Fire Island National Seashore, Suffolk County, New York, on the Piping Plover (*Charadrius melodus*) and Seabeach Amaranth (*Amaranthus pumilus*). September 2008. Prepared by USFWS, Long Island Field Office.

Golden, N.H., S.E. Werner and M.J. Coffey. 2016. A Review and Assessment of Spent Lead Ammunition and its Exposure and Effects to Scavenging Birds in the United States. P.de. Voogt (ed.), Reviews of Environmental Contamination and Toxicology 237:123-191.

Hui, Clifford A. 2002. Lead distribution throughout soil, flora, and an invertebrate at a wetland skeet range, Journal of Toxicology and Environmental Health, Part A, 65:15, 1093-1107, DOI: 10.1080/152873902760125246

Mellor, Antony, and C. McCartney. The effects of lead shot deposition on soils and crops at a clay pigeon shooting site in northern England." Soil Use and Management 10.3 (1994): 124-129.

Peterson, S., R. Kim, and C. Moy. 1993. Ecological risks of lead contamination at a gun club: waterfowl exposure via multiple dietary pathways. 14th Annual Meeting of the Society of Environmental Toxicology and Chemistry. Abstract.

Rattner, B.A., J.C. Franson, S.R. Sheffield, C.I. Goddard, N.J. Leonard, D. Stang, and P.J. Wingate. Sources and Implications of Lead-based Ammunition and Fishing Tackle to Natural Resources. Wildlife Society Technical Review. The Wildlife Society, Bethesda, Maryland, USA. 2008.

Rooney, C.P., McLaren, R.G. & Cresswell, R.J. Distribution and Phytoavailability of Lead in a Soil Contaminated with Lead Shot. Water, Air, & Soil Pollution 116, 535–548 (1999). <https://doi.org/10.1023/A:1005181303843>

Sharma, P. and Dubey R.S. March 2005. Lead toxicity in plants. Brazilian Journal of Plant Physiology 17 (1). <https://doi.org/10.1590/S1677-04202005000100004>

Smith, F.M., A.E. Duerr, B.J. Paxton, and B.D. Watts. 2008. An investigation of stopover ecology of the red knot on the Virginia barrier islands. Center for

Conservation Biology Technical Report Series, CCBTR-07-14, College of William and Mary, Williamsburg, VA.

Sorvai, J., R. Anitikainen, and O. Pyy. 2006. Environmental contamination at Finnish shooting ranges — the scope of the problem and management options. *Science of the Total Environment* 366:21-31.

Signature (Originating Station)

Date

Title

IX. Review Ecological Services Office Evaluation

A. Concurrence _____ Nonconcurrence _____

B. Formal consultation required

C. Conference required

D. Informal conference required

E. Remarks (*attach additional pages as needed*):

Signature

Date

Title

Office

Endangered Species Act (ESA) Section 7 Determination Table

Project Name: Chincoteague NWR and Wallops Island NWR Hunting Plan

Date: 6/16/2022

Consultation Code: 2022-0054948

Species / Resource Name	Habitat/Species Presence in Action Area	Sources of Info	ESA Section 7 Determination	Project Elements that Support Determination
<i>Insert name of species or resource as listed on Official Species List.</i>	<i>Indicate if suitable habitat and species are present in the Action Area (see examples in Step 5).</i>	<i>Explain what info suitable habitat/species presence is based on.</i>	<i>Using reasoning and decision tables in Step 5, select determination for each species (e.g., no effect, not likely to adversely affect, or likely to adversely affect).</i>	<i>Explain which project elements may impact the habitat or individuals of each species and any Avoidance and Minimization Measures being implemented.</i>
Critical habitat not present		VAFO CH Map Tool	No effect	N/A
Northern Long-eared Bat	Suitable habitat present; species not present	Dkey	Covered by 4(d) Rule	See Evaluation Form
Eastern Black Rail	Suitable habitat present; species not present	Refuge Inventory & Monitoring	NLAA	See Evaluation Form
Piping Plover	Suitable habitat present; species not present	Refuge Inventory & Monitoring	NLAA	See Evaluation Form
Red Knot	Suitable habitat present; species not present	Refuge Inventory & Monitoring	NLAA	See Evaluation Form
Roseate Tern	Suitable habitat present; species not present	Refuge Inventory & Monitoring	NLAA	See Evaluation Form
Green Sea Turtle	Suitable habitat present; species not present	Refuge Inventory & Monitoring	No effect	See Evaluation Form
Hawksbill Sea Turtle	Suitable habitat present; species not present	Refuge Inventory & Monitoring	No effect	See Evaluation Form
Kemp's Ridley Sea Turtle	Suitable habitat present; species not present	Refuge Inventory & Monitoring	No effect	See Evaluation Form

Species / Resource Name	Habitat/Species Presence in Action Area	Sources of Info	ESA Section 7 Determination	Project Elements that Support Determination
Leatherback Sea Turtle	Suitable habitat present; species not present	Refuge Inventory & Monitoring	No effect	See Evaluation Form
Loggerhead Sea Turtle	Suitable habitat present; species present	Refuge Inventory & Monitoring	No effect	See Evaluation Form
Monarch Butterfly	Suitable habitat present; species present	Refuge Inventory & Monitoring	NJ	See Evaluation Form
Seabeach Amaranth	No suitable habitat present	Refuge Inventory & Monitoring	NLAA	See Evaluation Form
Atlantic sturgeon	No suitable habitat present	Refuge Inventory & Monitoring	No effect	See Evaluation Form
Northeastern beach tiger beetle	No suitable habitat present	Refuge Inventory & Monitoring	NLAA	See Evaluation Form



United States Department of the Interior

FISH AND WILDLIFE SERVICE



Virginia Field Office
6669 Short Lane
Gloucester, VA 23061

Date: August 12, 2022

Self-Certification Letter

Project Name: Chincoteague NWR and Wallops Island NWR Hunting Plan

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Ecological Services online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA conclusions. These conclusions resulted in:

- “no effect” determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR § 17.40(o) [as determined through the Information, Planning, and Consultation System (IPaC) northern long-eared bat assisted determination key]; and/or
- “may affect, not likely to adversely affect” determinations for proposed/listed species and/or proposed/designated critical habitat.

We certify that use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the “no effect” or “may affect, not likely to adversely affect” determinations for proposed and listed species and proposed and designated critical habitat. Additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of proposed or listed species, proposed or designated critical habitat becomes available, this determination may be reconsidered. This certification letter is valid for 1 year.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available at our website http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html. If you have any questions, please contact Troy Andersen of this office at (804) 824-2428.

Sincerely,

A handwritten signature in blue ink, reading "Cynthia A. Schulz". The signature is written in a cursive style and is positioned above the printed name and title.

Cindy Schulz
Field Supervisor
Virginia Ecological Services

Enclosures - project review package

**FINDING OF NO SIGNIFICANT IMPACT
ENVIRONMENTAL ASSESSMENT OF HUNTING PLAN**

**CHINCOTEAGUE NATIONAL WILDLIFE REFUGE AND
WALLOPS ISLAND NATIONAL WILDLIFE REFUGE
*CHINCOTEAGUE, VIRGINIA***

The U.S. Fish and Wildlife Service (Service) is expanding hunting opportunities for big game (white-tailed deer, sika, and turkey), upland game (raccoon, opossum, fox, coyote, rabbit, and squirrel), and all migratory game birds on Chincoteague National Wildlife Refuge (NWR) and Wallops Island NWR in accordance with the refuge's 2022 Hunting Plan and the 2015 Comprehensive Conservation Plan (CCP).

Selected Action

Alternative B - Proposed Action Alternative

New proposed changes for Chincoteague NWR include the following:

- In the Northern Hunt Zone, we would add raccoon, opossum, fox, and coyote as huntable species for hunting during the regular State deer season. Also in the Northern Hunt Zone, we would allow the use of muzzleloaders for big game hunting, remove the limit on the number of hunters in the sign-in/sign-out process, follow the State bag limit for white-tailed deer, and open a quota hunt for turkey.
- The current Toms Cove Hook Hunt Zone would be merged into the Archery Only Hunt Zone, removing shotguns as a method of take.
- In the expanded Archery Only Hunt Zone, we would add raccoon, opossum, fox, and coyote as huntable species for hunting during the regular State deer season. Also in the Archery Only Hunt Zone, we would remove the limit on the number of hunters in the sign-in/sign-out process, we would follow the State bag limit for white-tailed deer, and we would open a quota hunt for wild turkey.
- The Waterfowl Hunt Areas would open to all migratory game birds during State seasons, from September 16 through March 14.

New proposed changes for Wallops Island NWR include the following:

- The refuge would open for the first time to hunting for upland game (raccoon, opossum, fox, coyote, rabbit, and squirrel), and all migratory game birds. Hunting for these species would occur during State seasons between September 16 and March 14.
- The refuge would eliminate the existing sign-in/out process for all hunts.

For both refuges, the use of non-lead ammunition for proposed new hunting opportunities

(raccoon, opossum, fox, and coyote, plus rabbit, squirrel, and migratory game birds at Wallops Island NWR) will be encouraged upon implementation of this plan in 2022. The use of non-lead ammunition for all hunting will initially be voluntary. After a 4-year phase-in period, we propose to require non-lead ammunition for all hunting on the two refuges in fall 2026.

As part of next year's proposed rule, Chincoteague NWR and Wallops Island NWR will propose a non-lead requirement, which will take effect on September 1, 2026. The EA analyzes the impacts of lead ammunition; based on the breadth of comments received on the plan to require non-lead ammunition by 2026, the Service intends to complete additional analysis and provide another opportunity to comment during next year's annual rulemaking.

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

Hunting is consistent with Goal 6 of the refuges' 2015 CCP which aims to have "people of all ages and abilities develop a stewardship ethic while enjoying their refuge experience and increasing their knowledge of the FWS, Refuge System, and the refuge." This goal includes a specific objective (Objective 6.1) to "increase level of opportunity (e.g., expansion of hunted species) in the hunt program, such as the fall/winter light goose hunt, through expansion of hunted species, trapping, and new hunting programs." This alternative will help provide safe and high-quality big game, small game, and waterfowl hunting opportunities for the public.

Department of the Interior Secretarial Order 3356, signed in 2017, directs the Service to enhance and expand public access to lands and waters on national wildlife refuges for hunting, fishing, recreational shooting, and other forms of outdoor recreation. The selected alternative will also promote one of the priority public uses of the Refuge System and providing opportunities for visitors to hunt will promote stewardship of our natural resources and increase public appreciation and support for the refuges.

Other Alternatives Considered and Analyzed

Alternative A - No Action Alternative

The No Action Alternative would continue the current hunt programs on the refuges. Chincoteague NWR is currently open to white-tailed deer, sika, and migratory bird hunting. Wallops Island NWR is currently open to white-tailed deer hunting only.

This action is not likely to adversely affect endangered or threatened species or their critical habitat. Effects on other wildlife and habitat would be negligible, although there may be some negative effects as the potential of lead being present and bioavailable for wildlife and aquatic

species to consume would continue to occur under this alternative, even if lead entering the environment from hunting activities is estimated to be small. The refuge would still be able to manage for species of concern and meet the refuge purpose to conserve wetlands and manage for migratory birds.

This alternative helps meet the purpose and needs because it provides additional wildlife-dependent recreation opportunities on the refuge meeting the Service's priorities and mandates. However, it continues to pose a threat to human health and the environment by continuing to allow the use of lead ammunition. There would be no new authorizations under this alternative, but the nature of discarded lead means that continuing to allow the use of lead ammunition on Service lands and waters would mean adding newly deposited lead to the current amount of lead in the environment on Service lands and waters. This would mean the risk of adverse impacts from lead available in the environment would continue and even increase for natural resources and for human health under the No Action Alternative. This alternative was not selected, because it would not fulfill the Service's mandate under the NWRSA to expand compatible priority uses as well as the proposed action.

Summary of Effects of the Selected Action

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

We have updated the EA to include additional information, primarily for threatened and endangered species. While our conclusions have not changed, we wanted to utilize the latest research and best available information with regards to the potential impacts of lead ammunition.

Under the preferred action alternative, although a great many hunters are already voluntarily making the switch to non-lead ammunition, the refuge would propose required use of non-lead ammunition by the 2026-2027 hunting season for all species. This will allow the continued use of lead ammunition for hunting activities until the full phased in approach is completed. In the interim, the refuge will encourage hunters to voluntarily transition to non-lead ammunition through outreach ahead of the proposed 2026-2027 requirement deadline.

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

Table E-1. Summary of Impacts

Affected Environment	Potential Impacts of the Selected Action
Big game (white-tailed deer, sika, wild turkey)	Negligible short-term impacts to this species. Annual hunter levels for deer have never been reached in recent years. We anticipate a small increase in the number of deer

Affected Environment	Potential Impacts of the Selected Action
	<p>harvested annually, but this would not meaningfully affect the current overpopulation of deer in the county. Sika hunting continues to reduce competition for deer. Northern Virginia region turkey populations are stable to rising. We estimate less than 10 turkeys will be harvested annually from Chincoteague NWR, and 2 from Wallops Island NWR. Relative to State harvest numbers, refuge impacts on statewide populations are expected to be negligible.</p>
<p>Upland game (raccoon, opossum, fox, coyote, rabbit, squirrel)</p>	<p>Minor impacts to these species. These animals proliferate on bordering agriculture and residential areas. Any impacts are anticipated to be short-term and minor during the concurrent deer hunting season. Harvest of fox, opossum, raccoon and coyote would result in desirable, positive outcomes of decreased predation on nesting migratory birds and might reduce the need to conduct predator control.</p>
<p>Migratory game birds (rail, coot, snipe, gallinule, duck, goose, swan, woodcock, dove, and crow)</p>	<p>Negligible to minor short-term impacts. Chincoteague NWR would add woodcock, dove, snipe, gallinule, and crow to the species of migratory game birds that may be hunted. On Wallops Island NWR, migratory game bird hunting would be permitted for rail, coot, snipe, gallinule, duck, goose, swan, woodcock, dove, and crow. The combined impact on both refuges is a slight increase of the current total acreage, which stands at less than 40 percent.</p>
<p>Non-target wildlife and aquatic species</p>	<p>Minimal short-term adverse impacts. Some beaches will remain closed during migratory bird nesting season and much of the migration season. Prohibited night hunting minimizes impacts to Delmarva fox squirrels.</p>
<p>Threatened and endangered species and other special status species</p>	<p>For more detail, see the completed Intra-Service Section 7 Evaluation (Appendix D). Opening the refuge to additional hunting opportunities in the Chincoteague and Wallops Island areas are not likely to adversely affect species of concern due to the time of year and locations within the refuge. In addition, dogs will not be allowed on the Assateague Island unit of the refuge to minimize the potential for disturbance in the most sensitive areas of the refuge.</p> <p>We anticipate the amount of lead introduced on the refuge to eventually and slightly decline with our proposed measures. The proposed phased transition to non-lead</p>

Affected Environment	Potential Impacts of the Selected Action
	ammunition for all hunting will minimize the inadvertent exposure and subsequent lethal or sub-lethal impacts to bald and golden eagles, as well as other scavenging species.
Vegetation and habitat	Minimal adverse impacts. Proposed hunting program changes on the refuges would see a marginal increase in hunting opportunities. However, these opportunities are anticipated to result in only minimal increases in visitation, and thus, an insignificant increase in visitor trampling potential or vegetation habitat disturbance.
Visitor use and experience	<p>Minimal adverse impacts to other public uses. Non-hunting visitation to the Toms Cove Hook unit of Chincoteague has been increasing during the hunting season in recent years. Removing shotguns as a method of take on the Toms Cove Hook unit and adding this area to the Archery Only Hunt Zone will reduce conflicts with non-hunters and promote safety.</p> <p>No impacts or conflicts with non-hunters on Wallops Island NWR are anticipated, as the refuge will remain closed to other public uses.</p>
Cultural resources	<p>No adverse impacts expected. No impacts to cultural resources are anticipated above what may be caused by any refuge visitor.</p> <p>At Wallops Island NWR, hunting would be the only available public use; however, no adverse impacts to cultural resources are expected.</p>
Refuge management and operations	No observable impacts to infrastructure or facilities are anticipated. While slightly more hunters are expected, no changes to facilities or infrastructure are planned or needed.
Socioeconomics and environmental justice	<p>Negligible impacts expected. Expanding hunting programs would likely enrich the local economy by attracting additional refuge visitors.</p> <p>We expect a positive, but negligible, effect on human health. Phasing out the use of lead ammunition would help to eliminate the risk of human health impacts that would follow if the Service continued to allow the use of certain</p>

Affected Environment	Potential Impacts of the Selected Action
	<p>lead ammunition for certain species on current and future Service lands within the authorized boundary of the refuge.</p> <p>There is some possibility of negative economic impacts for socioeconomically disadvantaged hunters who must comply with the proposed non-lead ammunition requirements after 2026. While non-lead ammunition has become essentially equivalent in price to lead ammunition, certain types of non-lead ammunition can cost more than certain types of lead ammunition. The minor economic burden involved in transitioning between ammunition could be more impactful to low-income hunters. In order to prevent the negative impacts of this switch, the refuge has begun and will continue specific outreach about the requirement to these groups and has put in place measures to mitigate the economic input beyond the proposed phased implementation, which already affords hunters time to gradually transition their supplies of ammunition. The Service will continue educating hunters on the use of non-lead ammunition during the phased in time period, provide resources on companies that produce non-lead ammunition for purchase and work with partner organizations on non-lead ammunition giveaways or exchanges if possible. With these mitigation measures, minority and/or low-income communities are not disproportionately impacted from this alternative.</p>

Measures to mitigate and/or minimize adverse effects have been incorporated into the selected action. Specific regulations for the Proposed Action Alternative were designed to prevent conflicts and negative impacts on refuge habitat and resources while expanding hunting opportunities on the refuge. Careful oversight by refuge staff will mitigate impacts of implementing expanded hunting programs. The refuge manager reserves the right to close a unit to hunting or completely stop hunting should any adverse effects occur.

Conflicts can arise between sportsmen/women and other public users, but it is not a substantial issue at the current or proposed levels of use. Some trail users, birdwatchers, and photographers may be impacted by the presence of hunters or noise, but public outreach and signs at trailheads are used to address possible conflicts. Overall, refuge hunting is expected to have a continued positive impact by increasing community participation of distinct user groups at the refuge.

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:

- In the context of local/State/refuge hunting programs, the proposed action will only result in minimal additional deer and turkey harvested. The Service works closely with the State to ensure that additional species harvested on a refuge are within the limits set by the State 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.
- The Refuge System uses an adaptive management approach to all wildlife management on refuges, monitoring and re-evaluating the hunting opportunities on the refuge on an annual basis to ensure that the hunting program continues to contribute to the biodiversity and ecosystem health of the refuge. They also monitor to ensure these opportunities do not contribute to any cumulative impacts to habitat or wildlife from climate change, population growth and development, or local, State, or regional wildlife management.
- 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 designated wilderness areas because there are none within the refuge.
- There is no scientific controversy over the impacts of this action. 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.

Additionally, the following stipulations are necessary to ensure compatibility:

- Hunting is prohibited within 100 feet of any building, road, or trail.

- The refuges would clearly post information on the hunting season at the refuge headquarters, on the website, and on signs throughout the refuges.
- The refuges would encourage all users to wear blaze orange per State regulations during the firearms hunting season to minimize potential safety issues.
- Maps will be provided for hunters to include hunt boundaries, buildings, trails, and parking areas to ensure hunters are aware of safety zone requirements.
- For both refuges, the use of non-lead ammunition for hunting deer, upland game, and turkey will initially be voluntary, and will transition to be required for use after a 4-year phase-in period is implemented (2026). This proposed phase-in period will allow hunters time to adapt to the new regulations without diminishing deer hunting opportunities on the refuges. The refuge staff will provide information to assist in a valuable transition period that benefits fish, wildlife, and people.

These measures to mitigate and/or minimize adverse impacts have been incorporated into the proposal. The proposal is compatible with the purposes of the refuges and the mission of the Refuge System (see the Compatibility Determinations, Appendix A and B in the Hunting Plan).

Public Review

The plan has been thoroughly coordinated with all interested and/or affected parties. Refuge staff coordinated with State agency staff in preparation of the Hunting Plan, Compatibility Determinations, and EA, and incorporated their comments into the documents. We released the draft plan and EA for public review and comment from May 3 through August 8, 2022, a total of 97 days. We distributed a press release to news organizations and alerted visitors to the plan's availability on the refuge websites.

A total of 11 comment letters were submitted that offered input to the refuge:

Commenters

1. Grant Harter
2. "ghret3"
3. Jason Atkins
4. Ann Foster
5. Tyler Chen
6. Adam Rudacille
7. Ryan Brown, Executive Director, VDWR
8. Hardy Kern (submitted with signatures for American Bird Conservancy, National Wildlife Refuge Association, Association of Zoos and Aquariums, National Wildlife Rehabilitators Association, Maryland Ornithological Society, Center for Biological Diversity, Audubon Mid-Atlantic, and EarthJustice)
9. Susan Stout
10. Lewis Harrison

11. Christopher Matranga

We grouped similar substantive comments together and summarized and organized them by subject in the discussion below.

Comment – Two commenters suggest to not change or merge the Toms Cove Hunt Zone from Firearms to an Archery Only Hunt Zone. A higher yield from firearms as compared to archery would help keep deer populations lower and improve understory habitat (1) The archery-only zone is already too large, and thick vegetation and recent pine beetle damage has made bow hunting on the island almost impossible (3) Two commenters are in favor of the proposed change in that zone from firearms to archery (2, 6)

Response: Non-hunting visitation to the Toms Cove Hook unit of Chincoteague has been increasing during the hunting season in recent years. Removing shotguns as a method of take on the Toms Cove Hook unit and adding this area to the Archery Only Hunt Zone will reduce conflicts with non-hunters and promote safety. While these changes might result in fewer deer being harvested on the Hook, ensuring a safe experience for all visitors, hunters and nonhunters alike, takes priority.

Comment – Three commenters suggest opening big game hunting on Sundays on refuge lands (1, 7, 11). What is the refuge’s reasoning behind not allowing Sunday hunting (with the exception of migratory bird hunting)? (1) VDWR notes that the state law regarding hunting on Sunday has recently changed, and the refuges should consider permitting Sunday hunting for big game and upland game (7).

Response: The Assateague Island unit of Chincoteague NWR receives 1.4 million visits annually and is one of the most visited refuges in the country. Given a high proportion of refuge visitors come to Chincoteague to enjoy recreational activities other than hunting (bird watching, pony watching, hiking, biking, etc.), maintaining one day per week (Sunday) during the hunting season will provide nonhunters that may be concerned with recreating in an active hunting zone opportunities to participate in other environmental recreation activities without competition or regard for any safety conflicts they may perceive. However, because Wallops Island NWR is closed to other public uses, we agree that allowing hunting on Sundays on Wallops Island NWR will not create conflicts with other users or result in any additional significant impacts. We have amended the hunt plan and compatibility determination to allow hunting for big game and upland game on Sundays on Wallops Island NWR.

Comment – “How long will the ‘mentored quota hunts for youth and apprentice hunters’ last before being open to regularly licensed hunters?” (1)

Response: The proposed quota hunts apply only to hunting turkey. At this time, given the small population of turkey on refuge lands, these hunts will not be offered to regularly licensed hunters.

Comment – “Would the refuge consider opening a section or sections of the mainland refuge to

migratory bird hunting? Perhaps mimic the mentored quota hunts for youth and/or apprentice like that of turkey hunting.” (1)

Response: Wallops Island NWR is the only mainland portion of refuge lands, and it is already proposed to be opened for migratory game bird hunting.

Comment – Commenter would like to see more law enforcement assigned to the hunts, to better monitor those who are permitted to hunt (2, 5)

Response: We agree that more law enforcement presence could be beneficial. However, because of the limited number of available law enforcement officers, other competing visitor uses, and the zone structure of the Service’s Law Enforcement program (Chincoteague and Wallops Island refuges are in a LE zone that includes portions of Virginia, North Carolina, Maryland and Delaware), it is not always possible to have officers available to conduct hunting specific patrols. We will continue to participate in the development of a zone Annual Law Enforcement Management Plan to identify priority enforcement needs that includes hunting seasons and opening days.

Comment – Commenter opposed to duck hunting, as ducks used to be abundant but no longer are (4)

Response: Waterfowl populations throughout the U.S. are managed through an administrative process known as flyways and the refuges are located in the Atlantic Flyway. In North America, the process for establishing waterfowl hunting regulations is conducted annually. Waterfowl populations have remained relatively stable along the Atlantic Flyway in Virginia (Roberts 2019). Similarly, waterfowl hunter numbers in Virginia have been generally stable since the late 1990s. The proposed expansion of migratory game bird hunting to include additional species on Chincoteague NWR and opening Wallops Island NWR to migratory bird hunting for the first time is anticipated to result in only minimal take of newly hunted species and negligible increases in take for those species already hunted. Impacts from hunters would continue to be restricted to occur on less than 40 percent of the total acreage at Chincoteague NWR, with only a minor increase in hunted acreage on Wallops Island NWR.

Comment – Commenter concerned with “*taking away the numbers per day. I have been coming to the refuge for the past 10 years and have seen an increase in hunters in the last 3 years. With this I have personally experienced issues with encounters with other hunters walking through my hunts that in the past have never been an issue before. At times my safety has been a concern especially during the firearms season...*” (5) Commenter concerned about lack of greater law enforcement presence the last three years (5)

Response: We recognize the concern and desire to have a safe and quality hunt. In recent years, limits on the numbers of hunters have not been reached and maintaining them is not necessary. Our hunting programs are consistent with State regulations and, where necessary, use more stringent refuge-specific regulations to ensure that hunting is carried out in a safe, responsible manner.

Comment – Commenter concerned that the quality of the experience of the sika and whitetail hunt will be impacted due to higher pressure from other forms of hunting (5).

Response: We recognize the desire for a quality deer hunt. Secretarial Order 3356 directs the Service to enhance and expand public access to lands and waters on national wildlife refuges for hunting and other forms of outdoor recreation. While we will open hunting opportunities for raccoon, opossum, fox and coyote during the deer season, we do not anticipate large numbers of hunters will participate in these new hunts.

Comment – Commenter states that *“deer drives have been an issue these last two years. I have witnessed large groups of hunters push big blocks of land and kill more sika than what I believe is ethical.... I believe the best thing for this is to make deer drives illegal in the refuge”* (5).

Response: Thank you for your comment regarding deer drives. Organized deer drives are prohibited on the refuges. Law enforcement will continue to be on the lookout for this and other illegal hunting activities.

Comment – Commenter notes that *“sign-in during the gun season is a bit messy and could be cleaned up due to hunters signing in their buddies.... (would prefer to) access the island through the gate a bit earlier than 5:00 am after the time change”* (6).

Response: We appreciate your comments regarding the sign-in/sign-out process and hunter entry times. All hunters are required to sign-in at the refuge self-check station prior to hunting and sign out no later than two hours after the end of legal shooting hours. Refuge staff and law enforcement monitor compliance but we understand that not all hunters always sign-in and out as they should. We continue to educate hunters regarding signing in and out and include text in our hunting brochure/permit to specifically highlight the requirement.

Regarding morning access, we generally allow hunters to access hunting areas two hours before sunrise. A 5:00 a.m. entrance gate opening is at least two hours before sunrise throughout most of the hunting season. For a few days in early November, a 5:00 a.m. opening leaves somewhat less than two hours for access; however, we do not believe that this has resulted in reduced harvest success.

Comment – VDWR suggests the Service consider allowing dogs for uses other than retrieving (i.e., pointing and flushing) as it is an integral part of woodcock and rabbit hunting. VDWR also requests that tracking dogs maintained and controlled on a lead be used for retrieval of wounded deer and turkey (7) Commenter suggests consideration of adding a clause for use of tracking/recovery dogs of any wounded big game (i.e., sika and white-tailed deer) that would help with recovery (1)

Response: To prevent the potential of disturbance to sensitive species of concern, including the Delmarva Fox Squirrel and a variety of shorebirds including the Federally listed piping plover, all pets (including hunting dogs) are prohibited year-round on the

Assateague Island unit of the Chincoteague NWR. Extending the prohibition to hunting dogs ensures that our hunting program will remain compatible with the purpose of the refuge and the mission of the Refuge System as is required by the National Wildlife Refuge System Improvement Act.

Wallops Island NWR is small (373 acres) with Highway 175 located immediately adjacent to its entire northwestern boundary. The use of dogs on the uplands of the refuge will inevitably lead to trespass issues on adjacent properties and potential collisions on the highway, creating a safety issue for motorists.

On both Chincoteague and Wallops Island NWRs, we intended migratory game bird hunters to be able to use dogs in accordance with state regulations. We have revised the plan to clarify the use of dogs. The stipulation will now read as: “Trained dogs may be used for the ~~retrieval~~ **hunting** of migratory birds only. Dogs are prohibited on Assateague Island.”

Comment – VDWR “...recognizes the documented detrimental impacts of lead on various wildlife and the overarching wildlife health/habitat considerations sought to be promoted on NWR lands specifically.... The increased cost of non-lead ammunition and current limitations on its availability also serve as impediments to constituents who may wish to hunt on the refuges should a prohibition or phase out be adopted”. VDWR recommends that phase outs of lead ammunition be determined on a refuge-specific basis, and limited to those circumstances where science dictates that they are necessary. VDWR “...further understands situations where the Service may feel it appropriate to allow new hunting opportunities not currently available so long as non-lead ammunition is utilized due to refuge-specific concerns, and supports the addition of new opportunities for constituents understanding that limitations on those new opportunities may be necessary”. (7)

Response: In the Draft EA, on page C-5, we stated “For both refuges, the use of non-lead ammunition will be required upon implementation of this plan in 2022 for migratory birds, upland game, and turkey. The use of non-lead ammunition for hunting deer will initially be voluntary and will transition to be required for use after a 4-year phase-in period is implemented (2026). This phase-in period will allow hunters time to adapt to the new regulations without diminishing deer hunting opportunities on the refuges....”

This has caused some confusion. The use of lead ammunition may only be used for hunting white-tailed deer, sika, upland game, and turkey in the designated Northern Hunt Zone (3,869 acres) during the appropriate season (usually November to January), or on Wallops Island NWR. The use of non-lead ammunition for hunting deer, sika, turkey and upland game will initially be voluntary, and will transition to be required for use after a 4-year phase-in period is implemented (2026). We think the four-year timeline is necessary to educate hunters and ease the transition to non-lead alternatives. This phase-out period will provide hunters time to gradually transition their supplies of ammunition to non-lead alternatives, lessening the impact of the change.

Comment – VDWR requests that outreach and education materials regarding lead ammunition “...minimally include the following information: (1) the potential benefits to wildlife health of

non-lead alternatives and (2) hunter voluntary best management practices that can reduce lead exposure to wildlife...” (7)

Response: We agree. We will provide hunters with this information and will do so through our existing informational and educational materials for hunters, as appropriate.

Comment – VDWR stated that while Service limitations on the use of lead are not intended to be applied system-wide, this topic has been a source of much discussion among the states, and VDWR would recommend further conversations between the Service and the state wildlife management agencies through forums such as the Northeast Association of Fish and Wildlife Agencies and the Association of Fish and Wildlife Agencies. (7)

Response: We agree that further conversations between the agencies are beneficial, needed, and welcomed. As correctly noted, our proposed 2026 phase-out of lead ammunition on the two refuges is not a systemwide ban, nor even statewide. Virginia has a steady hunting community, and of Virginia’s 27.4 million acres, huntable private and public lands total over 2 million acres (or 7.4 percent) of the State. Chincoteague NWR allows hunting on 10,213 acres. This represents one-half of 1 percent of the hunting areas in Virginia. VDWR also maintains 46 management areas totaling more than 215,000 acres in the state, including 13,853 acres on the Eastern Shore. Furthermore, of the State’s 8.66 million residents, 172,369 (2.0 percent) bought a hunting or combo (hunting and fishing) license in 2021. Chincoteague NWR averages 2,000 hunters annually, or 1.2 percent of the State’s hunters, according to VDWR’s 2021 annual report. Any concern that a phase out of lead ammunition on the refuges in 4 years could impact the State’s hunters or reduce hunter participation is probably unwarranted, with significant opportunities for hunting with lead ammunition readily available on nearby State-managed properties.

Comment – Strong support for lead phase-out proposal (8). *“We urge the manager to accelerate this transition by phasing out lead ammunition over an 18-month period so as to more expeditiously meet the required compatibility” (8)*

Response: We appreciate your support for the proposed phase-out of lead ammunition. We think the four-year timeline is necessary to educate hunters and ease the transition to non-lead alternatives. This phase-out period will provide hunters time to gradually transition their supplies of ammunition to non-lead alternatives, lessening the impact of the change.

Comment – Commenter questions the addition of new species being hunted, including wild turkey. *“I understand that population should drive hunting, not just recreation on a Nation Refuge. Can this information be supplied to the public” (9)*

Response: The Service prioritizes facilitating wildlife-dependent recreational opportunities, including hunting and fishing, on Service land in compliance with applicable Service law and policy. For refuges, the Administration Act, as amended, stipulates that hunting (along with fishing, wildlife observation and photography, and

environmental education and interpretation), if found to be compatible, are a legitimate and priority general public use of a refuge and should be facilitated (16 U.S.C. 668dd(a)(3)(D)). So, we only allow hunting of resident wildlife on national wildlife refuges only if such activity has been determined compatible with the established purpose(s) of the refuge and the mission of the Refuge System as required by the Administration Act. We determined that the proposed actions were compatible or would not have these detrimental impacts.

Each station manager decides regarding hunting and fishing opportunities only after rigorous examination of the available information, consultation and coordination with States and tribes, and compliance with the NEPA, ESA, and other applicable laws and regulations. The many steps taken before a station opens or expands a hunting opportunity on the refuge ensures that the Service does not allow any opportunity that would compromise the purpose of the station or the mission of the agency. Hunting of resident wildlife on refuges generally occurs consistent with State regulations, including seasons and bag limits. Refuge-specific hunting regulations can be more restrictive (but not more liberal) than State regulations and often are more restrictive in order to help meet specific refuge objectives. These objectives include resident wildlife population and habitat objectives, minimizing disturbance impacts to wildlife, maintaining high-quality opportunities for hunting and other wildlife-dependent recreation, eliminating, or minimizing conflicts with other public uses and/or refuge management activities, and protecting public safety.

The word “refuge” includes the idea of providing a haven of safety for wildlife, and as such, hunting might seem an inconsistent use of the Refuge System. However, again, the Administration Act stipulates that hunting, if found compatible, is a legitimate and priority general public use of a refuge. Furthermore, we manage refuges to support healthy wildlife populations that in many cases produce harvestable surpluses that are a renewable resource. As practiced on refuges, hunting does not pose a threat to wildlife populations. It is important to note that taking certain individuals through hunting does not necessarily reduce a population overall, as hunting can simply replace other types of mortality. In some cases, however, we use hunting as a management tool with the explicit goal of reducing a population; this is often the case with exotic and/or invasive species that threaten ecosystem stability. Therefore, facilitating hunting opportunities is an important aspect of the Service's roles and responsibilities as outlined in the legislation establishing the Refuge System, and the Service will continue to facilitate these opportunities where compatible with the purpose of the specific refuge and the mission of the Refuge System.

Comment – Commenter asks that for hunter notification purposes, can the refuge gather emails of individuals that would like to be notified? *“I am two hours away, if the refuge closes due to determined or undetermined reasons, it would be nice to be sure I was notified before I traveled”* (10)

Response: We maintain and distribute information related to current conditions and closures on social media and the refuge website. For the most up to date information

please visit Facebook (<https://www.facebook.com/ChincoteagueNWR>), Twitter (<https://twitter.com/chincoteaguenwr?lang=en>) and <https://www.fws.gov/refuge/chincoteague>,

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 a hunting plan on the Chincoteague NWR and Wallops Island NWR do not constitute a major Federal action significantly affecting the quality of the human environment under the meaning of section 102 (2) (c) of the National Environmental Policy Act of 1969 (as amended). As such, an environmental impact statement is not required.

The Service has decided to select the proposed action as described in the EA and implement the Hunting Plan for Chincoteague NWR and Wallops Island NWR upon publication of the final 2022-2023 Station-Specific Hunting Regulations. This action is compatible with the purposes of the refuges and the mission of the Refuge System and consistent with applicable laws and policies. See attached Compatibility Determinations (Appendix A and Appendix B).

Regional Chief (Acting),
National Wildlife Refuge System

Date