

Massachusetts Habitat Conservation Plan for Piping Plover

Appendix C: Mitigation Monomoy National Wildlife Refuge

ATTACHMENT A WORK PLAN

Introduction

The U.S. Department of Agriculture (USDA) is authorized to protect American agriculture and other resources from damage associated with wildlife. The primary authority for Wildlife Services (WS) is the Act of March 2, 1931 (46 Stat. 1468; 7 U.S.C.426-426b) as amended, and the Act of December 22, 1987 (101Stat. 1329-331, 7 U.S.C. 426c). Wildlife Services activities are conducted in cooperation with other Federal, State and local agencies; private organizations and individuals.

The WS program uses an Integrated Wildlife Damage Management (IWDM) approach (sometimes referred to as IPM or “Integrated Pest Management”) in which a series of methods may be used or recommended to reduce wildlife damage. IWDM is described in Chapter 1, 1-7 of the Animal Damage Control Program Final Environmental Impact Statement (USDA, 1994). These methods include the alteration of cultural practices as well as habitat and behavioral modification to prevent damage. However, controlling wildlife damage may require that the offending animal(s) are killed or that the populations of the offending species be reduced.

Purpose

To conduct a wildlife damage management project that provides professional services to alleviate avian and mammalian predation and invasive species competition to nesting piping plovers, roseate terns, American oystercatchers, least terns, and common terns on Monomoy National Wildlife Refuge (NWR), Chatham, Massachusetts. This predator and invasive species reduction program will enable the Monomoy NWR nesting beaches to receive necessary operational support to efficiently and effectively reduce wildlife damage adversely impacting federally and state threatened and endangered bird species, or migratory birds of conservation concern and their nesting activities on the refuge.

Planned USDA, APHIS, Wildlife Services Activities

WS program will provide wildlife damage management assistance to alleviate problems caused by avian and mammalian predators and invasive species on Monomoy NWR. The benefits expected from the WS program include WS expertise through evaluation and enhancement of existing damage management strategies; organizational support; and provision of additional predation management activities and equipment through operational assistance to the cooperator experiencing wildlife damage problems.

Conflict resolutions will be sought using an integrated approach. The determination of methods to alleviate damage will depend on considerations of selectivity, humaneness, human safety, effectiveness, practicability, and cost.

- 1) **Damage Management Strategies:** Operational work in authorized areas will be conducted using lethal strategies. WS program personnel will direct operational work toward specific depredating individual animals or local populations by selecting the time, location, technique and specific application of management methods or tools.
- 2) **Damage Management Methods and Techniques:** The basic operational methods incorporated under this project for managing avian and mammalian predation and invasive species will

Inter-agency Agreement between Monomoy NWR and USDA-APHIS-Wildlife Services

include and be limited to: (1) shooting with suppressed weapons and night vision equipment, (2) shooting with shotguns and nontoxic shot, (3) use of BMP approved traps (if permitted) and (4) trapping with bird decoy traps or box traps for avian predators.

Depending on the circumstances at any given time, the use of a particular method may have advantages and disadvantages. Therefore, these methods will be used in various combinations and degrees of intensity depending on local conditions and history of specific damage situations or other circumstances.

Resources Required

The WS State Director or immediate next line supervisor located in Amherst, Massachusetts will provide WS project direction. One primary WS personnel will be assigned the responsibility for conducting the wildlife damage management work at the Monomoy NWR facility and the organization and scheduling of additional assistance when cooperatively determined between WS and Monomoy NWR.

The estimated cost for services to be provided by the WS Massachusetts for the 2016 field season is \$24,800 (\$17,300 from USFWS Bouchard oil spill grant and \$7,500 from MADFW HCP funding). WS will deploy 1 to 2 Wildlife Biologist/Technicians for intervals on the island that corresponds with predation prevention (weather permitting) the island beginning in April 2016 and to be determined collaboratively between Monomoy NWR and WS during the nesting season and as funding allows. A site for a tent will be made available on the island for WS staff on overnight work or permanent structures will be made available.

This project is budgeted for 600 man-hours with some 12-15 hour work days with up to two people on site at a given time. Double time on Sundays and federal holidays is also covered under this agreement. Monomoy NWR agrees to reimburse the WS Massachusetts program the total cost of this project. If the actual cost will exceed \$24,800 then a signed modified agreement will be required by both parties.

Stipulations and Restrictions

All WS operations shall have the joint concurrence of WS and Monomoy NWR and shall be under the direct supervision of WS. WS will conduct its activities in accordance with its established operating policies and with the laws, regulations, and ordinances of the United States, the Commonwealth of Massachusetts and other concerned government agencies. Monomoy NWR is responsible for obtaining all required federal and state depredation permits for the activities covered under this agreement.

The obligations of both Parties herein are subject to the availability of funding, and nothing contained herein shall be construed as binding either Party to expend in any one fiscal year any sum in excess of available private dollars, State or congressional appropriations, or to involve either Party in any contract or other obligation for further expenditure of money in excess of such appropriations or private allocations.

Effective Dates

The interagency agreement shall become effective on the date of final signature and shall expire on July 31, 2016.

Inter-agency Agreement between Monomoy NWR and USDA-APHIS-Wildlife Services

**ATTACHMENT B
FINANCIAL PLAN**

Personnel Costs.....	\$11,255.00
Travel.....	\$4,500.00
Vehicle Fuel.....	\$800.00
Supplies.....	\$1,000.00
Equipment.....	\$1,170.00
Services.....	<u>\$780.00</u>
 Subtotal (Direct Costs).....	 \$17,952.00
 Pooled Job Costs.....	 \$2,145.00
 Indirect Costs.....	 \$3,150.00
 TOTAL	 \$24,800.00

Housing may be available from the refuge. The distribution of the budget from this Financial Plan may vary as necessary to accomplish the purpose of this agreement, but may not exceed **\$24,800.00**.

Financial Point of Contact

Cooperator:	<u>Molly Sperduto</u> USFWS	<u>(603) 227-6415</u> Phone
APHIS, WS	<u>Dawn Wanczyk</u> Budget Analyst	<u>(413) 253-2403, ext.3</u> Phone

Inter-agency Agreement between Monomoy NWR and USDA-APHIS-Wildlife Services

Prepared December 1, 2015

ATTACHMENT B

Proposed Plan of Work: Brian Beals Predator Control

Background

The US Fish & Wildlife Service at Monomoy National Wildlife Refuge has been contracting with Brian Beals Predator Control of Winchendon, MA for 10 years. The Refuge intends to hire this company to perform predator control services in April 2016. Working with this company in the past has yielded great success. Funding in most years, including 2016, has been obtained through partners. During work on the refuge, Brian Beals Predator Control has been responsible for taking a large number of coyotes from the island which has positively affected nesting birds. Working with Mr. Beals and his team has helped us to achieve some significant results in recent years (see table).

Year	Coyotes Taken by Brian Beals PC	Coyotes taken by other means*	Total Coyotes Removed
2015	14	0	14
2014	3	3	6
2013	8	1	9
2012	5	9	14
2011	5	7	12
Total	35	20	55

*Includes predator control work by USDA Wildlife Services and Refuge staff

Planned Activities and Timeline

Brian Beals Predator Control will be hired for approximately 1 week of active predator control activities. Hunting dogs (running walkers with GPS tracking devices) will be deployed to locate and remove any denning coyotes that have established territories throughout the refuge over the winter. Any coyotes that are captured will be humanely dispatched on-site with non-lead ammunition.

If funded, work will be conducted during two weekends in April, prior to nest initiation by piping plovers. Four personnel and four dogs will be transported to the Monomoy Keeper's house for four day stints. Performing two separate stints of predator removal allows specialists to remove additional coyotes in the same amount of time. Typically after running the hounds on the islands for a few days, any coyotes that have not been removed are in hiding and are hard to get close to. By taking a break for a week or two, coyotes resume normal activities on the island and are unsuspecting when the hunters return to the island to perform additional removal activities.

Proposed Dates: April 1-4, 2016 and April 18-21, 2016

Budget:

Travel Costs - \$100

Supplies and Ammunition - \$400

Personnel Time - \$2000

Total: \$2500.00



United States Department of the Interior

FISH AND WILDLIFE SERVICE



New England Field Office
70 Commercial St, Suite 300
Concord, NH 03301-5087
<http://www.fws.gov/newengland>

Subject: 2016 Statewide Mitigation Plan
MADFW HCP for Piping Plover

August 25, 2016

Jon Regosin
Natural Heritage & Endangered Species Program
Massachusetts Division of Fisheries & Wildlife
1 Rabbit Hill Road
Westborough, Massachusetts 01581

Dear Mr. Regosin:

This letter responds to your email, dated August 8, 2016, requesting that we review and approve the Massachusetts Division of Fisheries and Wildlife's (MADFW) 2016 statewide mitigation plan for MADFW's Habitat Conservation Plan for Piping Plover (HCP). Unique to the first year of HCP implementation, MADFW funded predator control work prior to final approval of the HCP and issuance, on July 8, 2016, of the incidental take permit (ITP). The mitigation occurred at Monomoy National Wildlife Refuge (Refuge) and included efforts by the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) and Brian Beals Predator Control (Beals). You clarified in an email dated August 9, 2016 to Susi von Oettingen of our office that you are requesting that the U.S. Fish and Wildlife Service (Service) review and approve MADFW to apply this "pre-mitigation" on the Refuge to MADFW's statewide mitigation obligation under the HCP for 2016. Your request and our response are made pursuant to the obligations of MADFW and the Service described in the HCP and the ITP.

According to sections 5.2.2.1 and 5.2.2.3 of the HCP, the Service has the opportunity to review and approve mitigation plans for site selection, selective predator management work plans, and contractor qualifications. We completed our review of the 2016 statewide plan in light of the mitigation site selection and predator management plan criteria in Table 4-3 of the HCP. After reviewing the work plans attached to your August 8, 2016 email, we approve MADFW's 2016 statewide mitigation plan because:

1. **Site selection:**

- a. The piping plover population on the Refuge includes 49 pairs. MADFW provided 36.6 percent of the funding for the mitigation work, and we consider MADFW's selective predator management to have benefitted 36.6 percent of the plover pairs at the site. Therefore, MADFW can count benefit of 17.9 pairs towards mitigation under the HCP, which is more than adequate to cover MADFW's expected statewide mitigation obligation for 2016 (five pairs benefitted for the Town of Orleans' take exposure of two pairs).
- b. The landowner is willing to allow predator management on the site.
- c. In the absence of predator management, the piping plover population on the Refuge experiences high predation that contributes to low productivity.
- d. The plover predators at the Refuge include avian and mammalian species that are feasible to manage.

2. **Site-specific plans:**

- a. APHIS and Beals are qualified predator management experts with a proven track record of implementing selective predator management on beaches with nesting piping plovers.
- b. The APHIS and Beals plans describe the predators to be targeted, methods, anticipated level of effort, cost, and required reporting. The Beals plan would target coyotes (*Canis latrans*). The APHIS plan broadly describes avian and mammalian predators without identifying specific species. However, APHIS has successfully conducted predator management at the Refuge in the past and is familiar with the predators that may need to be addressed.
- c. MADFW's plan is appropriately modeled after the Scopes of Service that are Attachments A of the USFWS/USDA Interagency Agreements entitled "Predator Control for Piping Plover Restoration."
- d. The APHIS and Beals plans were approved by MADFW.

This approval of MADFW's statewide mitigation plan is valid only for 2016.

We look forward to continued cooperation with MADFW in the implementing of the HCP. If you have any questions regarding this letter, please contact Ms. von Oettingen at 603-227-6418 or at susi_vonoettingen@fws.gov.

Sincerely yours,



Thomas R. Chapman
Supervisor
New England Field Office

**MANAGEMENT OF PREDATORS
AT
MONOMOY NATIONAL WILDLIFE REFUGE
MASSACHUSETTS
FOR THE ENHANCEMENT AND PROTECTION OF THREATENED AND
ENDANGERED SHORE NESTING BIRDS
MAY 2016 - AUGUST 2016 SUMMARY REPORT**

Submitted to
U. S. Fish and Wildlife Service
Monomoy National Wildlife Refuge

Prepared by:
David J. Warren
USDA, APHIS Wildlife Services
463 West Street
Amherst, MA 01002
August 18, 2016

Background

In 2003, U.S. Fish and Wildlife Service (USFWS) at Monomoy National Wildlife Refuge (NWR) requested assistance from United States Department of Agriculture (USDA) Wildlife Services (WS), to assist with the management of predators for the protection of nesting migratory seabirds and shorebirds, including state and federally listed threatened and endangered (T & E) species on South Monomoy Island in Chatham, Massachusetts. The seabird colonies are composed of common terns, least terns, state and federally endangered roseate terns, laughing gulls, herring gulls and great black-backed gulls. Nesting shorebirds included American oystercatcher and the state and federally endangered piping plover. The colony had experienced predation from coyotes and avian species and had been under an integrated predator management program for many years.

WS assisted in predator control during the 2003 and 2004 nesting seasons. For the 2005 nesting season, the USFWS hired an experienced hunter and trapper as a seasonal biological technician. Predator management was conducted internally by USFWS staff for a number of years. In March 2010, David Brownlie, Monomoy NWR Refuge Manager, requested WS to assist with predator management for the protection of threatened and endangered species and other colonial nesting seabirds on South Monomoy Island, Chatham, MA.

Mute swans, a very large invasive exotic waterfowl species, frequent the shoreline and ponds on South Monomoy Island. These birds damage habitat by overgrazing eel grass beds in salt water and submerged and emergent vegetation in fresh and saltwater ponds. They are also highly aggressive, particularly during nesting season and significantly compete with native waterfowl for food and nesting sites. Federal agencies are required to control the spread of invasive exotic species, such as mute swans, when possible under a Presidential Order.

In 2010 WS started an agreement with USFWS to remove both avian and mammalian predators on all parts of Monomoy NWR. WS continued doing control work in 2011, 2012 also.

During 2013, WS spent approximately 460 hours on Monomoy NWR over five (5) visits. Fewer Eastern coyote observations were made in comparison to the 2011 and 2012 nesting seasons. There was an increase in predation from common grackles in 2013. WS began targeting and trapping them to alleviate predation. WS used both box traps, 18 trap nights, and leg hold traps, 210 leg hold trap nights, during 2013 with no captures. On June 4, 2013 WS removed one (1) male Eastern coyote at dusk on the southern end of Monomoy NWR.

WS also removed a total of five (5) herring gulls, six (6) American crows, 14 Mute swans, 23 great black-backed gulls, and 25 common grackles.

During 2014, WS spent approximately 600 man hours on the project over six (6) visits over a 36 day period. Predator management activities began on May 6, 2014 and ceased on July 28, 2014 after three (3) Eastern coyotes, one (1) mute swan, two (2) American crows, five (5) herring gulls, eleven (11) great black-backed gulls, and 34 common grackles were lethally removed. In addition WS non-lethally dispersed five (5) mute swans from the Island. In 2014, trapping proved to be the most effective method for removal of common grackles throughout the nesting season (See Figure 1).

Figure 1: Common grackles captured in walk-in style decoy trap in 2014.



During 2015, WS spent approximately 543 hours on the project over a 32 day period during 6 visits. Predator management activities began on May 4, 2015 and ceased on July 29, 2015.

WS observed and dispersed two (2) coyotes off North Monomoy Island during the first visit and saw one (1) coyote on two (2) other occasions. Additionally, WS removed two (2) great black-backed gulls, four (4) American crows, and 29 common grackles.

WS did not observe any mute swans on the Refuge during 2015. WS set traps for coyotes and grackles every day they were on site during 2015. WS set and maintained eight (8) grackle decoy traps during 2015.

Methods

During 2016, WS used different methods for control work. WS personnel were equipped with suppressed center fire rifles and shotguns for removal of both mammalian and avian predators. WS also uses padded leg hold, walk-in style grackle decoy traps, and box traps.

2016 Results

In 2016, WS spent approximately 560 hours over a 35 day period on the island during 6 visits. Predator management activities began May 6, 2016 and ended on July 28, 2016. WS returned later to recover supplies and equipment from North Camp and the Lighthouse. WS removed 54 common grackles, 1 American crow, 5 great black-backed gulls, 9 herring gulls, and 2 mute swans during 2016. WS also non-lethally dispersed great black-backed and herring gulls attempting to nest in the tern colony early in the season. WS non-lethally dispersed 2 coyotes on their first visit near Big Station Pond. WS trapped on every trip out on the island for coyotes and grackles. WS ran 8 to 12 leg hold traps for coyotes and 8 cage traps for grackles through out their stay on the island.

Discussion/Recommendations

WS observed a pair of Coyotes traveling back and forth from the main land during 2016. However, they did not appear to cause a predation problem. Later in the season, during mid-July, a single young coyote attempted to predate the tern colony and was dispersed by WS and interns working in the colony.

With the break at the end of South Beach, sand is filling in near North Monomoy Island and making the mud flats an easy walk at low tide for coyotes to cross back and forth. This has resulted in increased coyote activity on North Monomoy during 2016 and WS recommends initiating coyote trapping during late March or early April 2017.

Efforts to manage coyotes around the colonies and nest sites during the nesting is important and should continue with the understanding that it requires more time to remove specific individual animals that pose a threat to the birds. WS believes that problem coyotes could be removed on North Monomoy before they reach South Monomoy. Efforts to manage coyote around the colonies and nesting sites during the nesting is also important and should continue.

Managing coyote early in the year is more efficient because there is less food available and less foliage. This makes trapping and sharp-shooting easier. Conversely, efforts to remove coyotes in the late spring and summer is less efficient because high food availability makes trapping more difficult and decreased visibility because foliage and vegetation makes sharp-shooting difficult. Additionally, coyotes are more territorial during late winter and early spring and less territorial once there young are out of the den.

In addition to coyote, common grackles caused predation during the 2016 nesting season. Some pairs of the piping plovers nested near dead seals washed up on the beach. The seal carcasses attracted common grackles, resulting in predation on plover nests. WS recommends that if seal carcasses are located near plover nests, they be buried onsite or relocated away from the nests so that they do not attract grackles.

WS is continuing to research different methods to deter or remove the grackles from nesting areas. One methods WS is considering would be using two New York style starling traps which are effective for capturing grackles. One would be set up near Hospital Pond and the other near Big Station Pond. These are areas where grackles nest. WS would set these traps before or when grackles arrive on the island in March. Figure 2 shows an example of a New York style decoy trap proposed for use. These traps are set with food used as bait, water, and shelter up and are checked regularly.

WS recommends continued monitoring for predation and maintaining current levels of predator management to protect nesting shore birds and increase nesting the refuge. WS recommends meeting with USFWS Refuge personnel to discuss trapping for a week before the nesting birds arrive.

Figure 2: Example of a New York style decoy trap proposed for use on Monomoy NWR during 2017





United States Department of the Interior



FISH AND WILDLIFE SERVICE

Monomoy National Wildlife Refuge
30 Wikis Way, Morris Island
Chatham, MA 02633
(508) 945-0594 phone
January 20, 2017

Natural Heritage & Endangered Species Program
MA Division of Fisheries & Wildlife
1 Rabbit Hill Road
Westborough, MA 01581

To Whom it May Concern:

During April 2016, predator management specialist Brian Beals and his assisting personnel visited Monomoy NWR to perform predator control activities. Due to weather constraints, instead of coming to the refuge for two visits, Brian came to the refuge for a week long period between 18 and 22 April. The following coyotes were taken by Mr. Beals and his personnel. We are very grateful for their effort. Mr. Beals was the only person to remove coyotes from the refuge in 2017.

1. Adult male coyote, 38lbs, shot 4/18/16 near the south end of South Monomoy Island
2. Adult female coyote, 30lbs, shot 4/19/16 northwest of the Monomoy Light
3. Adult male coyote, 50lbs, shot 4/20/16 east of the Monomoy Light
4. Den located on 4/20/16 northeast of Big Station Pond and all pups were killed including 2 males and 6 females Estimated to be approximately 1lb each and about 2 weeks old.
5. Adult male coyote, weight not recorded, shot 4/22/16 on North Monomoy Island

We hope to continue this effort during the 2017 field season.

Sincerely,

Kate Iaquinto, Wildlife Biologist

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Department(s) Searched: FWE

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Address ID: AD001---PO BOX 955683 ST LOUIS, MO				
Payment Number: 324A6000393				
Payment Date: 11/22/2016				
Department	Payment Ref. #	Contract Number	Line Amount	Check Amount
FWE - DEPARTMENT OF FISH AND GAME	BD722516159	USDAAPHISMONOMOYWR17	\$7,500.00	\$7,500.00
Penalty Interest Amount:			-	
Total Amount			\$7,500.00	\$7,500.00
Address ID: AD001---PO BOX 955683 Total:			\$7,500.00	\$7,500.00

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BRIAN S BEALS

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Address ID: AD001---394 MAPLE ST WINCHENDON, MA				
Payment Number: 176A6018514				
Payment Date: 6/27/2016				
Department	Payment Ref. #	Contract Number	Line Amount	Check Amount
FWE - DEPARTMENT OF FISH AND GAME	690601	BEALSPREDMGMONOMOY16	\$2,500.00	\$2,500.00
Penalty Interest Amount:			-	
Total Amount			\$2,500.00	\$2,500.00
Address ID: AD001---394 MAPLE ST Total:			\$2,500.00	\$2,500.00

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