MASSWILDLIFE

DIVISION OF
FISHERIES & WILDLIFE

1 Rabbit Hill Road, Westborough, MA 01581
p: (508) 389-6300 | f: (508) 389-7890
MASS.GOV/MASSWILDLIFE

Request for Certificate of Inclusion for Piping Plover Habitat Conservation Plan
MESA Review Checklist & Application Cover Page

Project Location:

Address/Location	Horseneck Beach State Reservation
City(ies)/Town(s)	Westport

Applicant:

Individual	Priscilla Geigis
Organization	Department of Conservation and Recreation
Mailing address	251 Causeway St, Suite 700, Boston MA 02114
Phone & Email	617-626-1250 / priscilla.geigis@mass.gov

Property Owner(s) Information (if different from Applicant): ***Provide separate sheet if multiple landowners***

Individual(s)	
Organization(s)	
Mailing address	
Phone & Email	

Representative (if any):

Individual	Jorge J. Ayub
Organization	Department of Conservation and Recreation
Mailing address	251 Causeway St, Suite 700, Boston MA 02114
Phone & Email	857-214-0207 / jorge.ayub@mass.gov

Has this project previously been issued a NHESP Tracking Number (either by previous NOI Submittal or MESA Information Request Form)? Y/N If yes, Tracking no. 18-37710

Is coverage for Least Terns also being requested? (Y/N)	Yes			
List additional MESA-listed species in project area (if known):	Least Terns			

REQUESTED ACTIVITIES FOR PIPING PLOVER

Covered activity:	*Use of roads and parking lots in the vicinity of unfledged chicks*	*Recreation and beach operations*	*Oversand vehicle use in vicinity of unfledged chicks*	*Total**
Mitigation ratio (mitigation credits: exposures)	*3:1*	*2.5: 1*	*2.5: 1*	
Mitigation fee (per pair, nest, brood, or territory)	*$6150*	*$5800*	*$5800*	
*No. requested take exposures**	2	2	0	4
Max. % of total pairs at site to be exposed				

Specific activities requested: (mark with "X")				
· Reduced proactive symbolic fencing	☒	☒	☐	
· Reduced fencing around the nest	☒	☒	☐	
· Beach raking	☒	☒	☐	
· Chick herding	☒	☒	☐	
· Nest moving	☒	☒	☐	
· Other	☒	☒	☐	
Acreage affected				4 acres
Max. % of total nesting acreage affected at site				20%

* As beach operators may not be able to predict precisely which combination of Covered Activities may be carried out in a given year, a range of values for *No. requested take exposures* may be presented for individual Covered Activities; however, the *Total* should be a single not-to-exceed value.

PROPOSED MITIGATION

Type	**Y/N**	**Total amount**	**Pairs to benefit/Credits**
Pay fee for offsite mitigation ($5800 - $6150 per take exposure; see above)	No	$	
Applicant-implemented activities:			
· Selective predator management	Yes	Submit details in IAMP (see below)	11
· Increased education & outreach	Yes		*
· Increased law enforcement	Yes		*
· Habitat management	Yes		*
· Other	Y/N		*

* MassWildlife will determine value (credits) for non-selective predator management options

OTHER REQUIRED ELEMENTS OF REQUEST FOR COI

(Please attach. Additional guidance is available to applicants; contact Coastal.Waterbirds@mass.gov.)

☑ Site map – showing boundaries and provide proof of ownership

☐ Written assent of landowner(s) to request coverage, if applicant is not landowner

☑ Site-specific Impact Avoidance and Minimization Plan (IAMP)

☑ Mitigation plan, including budget

☑ MA Endangered Species Act filing fee
($300 payable to "**Comm of MA – NHESP**"; https://www.mass.gov/how-to/how-to-file-for-a-mesa-project-review)

☑ Conservation and Management Permit fee
($600 payable to "**Comm of MA – NHESP**"; https://www.mass.gov/how-to/apply-for-a-conservation-management-permit)

☐ Draft Escrow/Mitigation Fund Agreement, with applicant-specific edits in Track Changes/redline (if mitigation fee will be paid)
Contact: Coastal.Waterbirds@mass.gov for template agreement.

SUBMITTAL

☑ Mail a hard copy of entire application (including signed cover sheet) with checks, to:
Environmental Review-HCP, MassWildlife-NHESP, 1 Rabbit Hill Rd., Westborough, MA 01581.

☑ Also email entire application to: **Coastal.Waterbirds@mass.gov**.

REQUIRED SIGNATURES

Provide separate sheet if multiple landowners

I hereby certify under the penalties of perjury that the foregoing HCP/MESA filing and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge.

Signature of Property Owner/Record Owner of Property — Date: 03/16/2021

Signature of Applicant (if different from Owner) — Date

MASSACHUSETTS - DEPARTMENT OF CONSERVATION AND RECREATION

DCR Application for Inclusion in the Massachusetts Piping Plover Habitat Conservation Plan

Horseneck Beach State Reservation

Shorebird Protection Program
Natural Resources Office
Bureau of Resource Protection
Department of Conservation and Recreation
251 Causeway Street, Suite #700
Boston, MA 02114

03/22/2021

Table of Contents

1. INTRODUCTION

The Massachusetts Department of Conservation and Recreation (DCR) is requesting a Certificate of Inclusion (COI) for Horseneck Beach State Reservation as part of the agency's application to participate in the statewide Piping Plover Habitat Conservation Plan (HCP). DCR is requesting the implementation described under the HCP section 1.2.1 Covered Activities:

- (1) "Use of Roads and Parking Lots in the Vicinity of Unfledged Piping Plover Chicks",
- (2a) "Recreation and Beach Operations Associated with Reduced Symbolic Fencing", and
- (2b) "Recreation and Beach Operations Associated with Reduced Proactive Fencing of Piping Plover Habitat".

DCR is requesting up to four (4) Piping Plover (PIPL) nesting territories or breeding pairs for inclusion in the covered activities or approximately 30% of the past three (3) years average of nesting pairs. Additionally, DCR is requesting up to ten (10) Least Tern (LETE) nesting territories or breeding pairs for inclusion in these covered activities, or approximately 35% of the past three (3) years average of nesting pairs. DCR is proposing as mitigation to fund a selective predator control program as approved by the Division of Fish & Wildlife (DFW).

The removal or reduction of symbolic fencing on this site will help maintain access to the beach, and reduce potential economic impacts as well as conflicts with recreational activities in a public state beach that can host tens of thousands of visitors annually, and sometimes up to eight (8) thousand visitors in a single day.

In 2016, DCR executed an ecological habitat restoration around the main plaza and its administrative facilities that created and restored 103,000 square feet of new nesting habitat for listed shorebird species. The new restored habitat has been utilized every year since by PIPL and LETE. Last nesting season, three (3) pairs of piping plovers and seven (7) pairs of least terns successfully nested in the restored habitat. In 2020, DCR removed additional impervious surfaces and around the main plaza and its administrative facilities to increase nesting habitat and better protect listed shorebirds from potential disturbances presented by visitors and the nearby access road and parking lot. The project will be increasing in 2021 nesting habitat by approximately 21,300 square feet. The newly restored areas will be monitored and permanently fenced off from pedestrian and vehicular traffic.

DCR will continue to pursue improvements that will increase protection and provide impact minimization, habitat enhancement, increased monitoring, coordinated enforcement, internal DCR staff training, and expanded public education. DCR intends with this application to utilize the HCP as an additional conservation management tool to enhance the success of the piping plovers and least terns nesting at Horseneck Beach.

2. GEOGRAPHIC SCOPE

The geographic area covered under this application is located along the western shore of Buzzards Bay. Horseneck Beach is a barrier beach that protects the Westport River estuary from the open ocean. The specific area within Horseneck Beach maintains a half-mile of approximately 200-foot-wide sandy beach, as well as a mile and a half of primary dune habitat. The covered activities permitted under this application include all suitable piping plover habitat along and around the described length of beach (Figure 1).

3. SITE DESCRIPTION

Horseneck Beach has been a popular recreational area since 1893, when the Westport River Bridge connecting Westport Point to the barrier beach was constructed. The Commonwealth of Massachusetts acquired the property in 1956 after The Hurricane of 1938 and Hurricane Carol of 1954 destroyed most of the homes along the beachfront. In 1957, Horseneck Beach became the first public beach in southeastern Massachusetts and has hosted thousands of visitors each year since. The reservation is an attractive destination for visitors from eastern Massachusetts and nearby Rhode Island, as it offers warmer than average water temperatures than most other Massachusetts beaches.

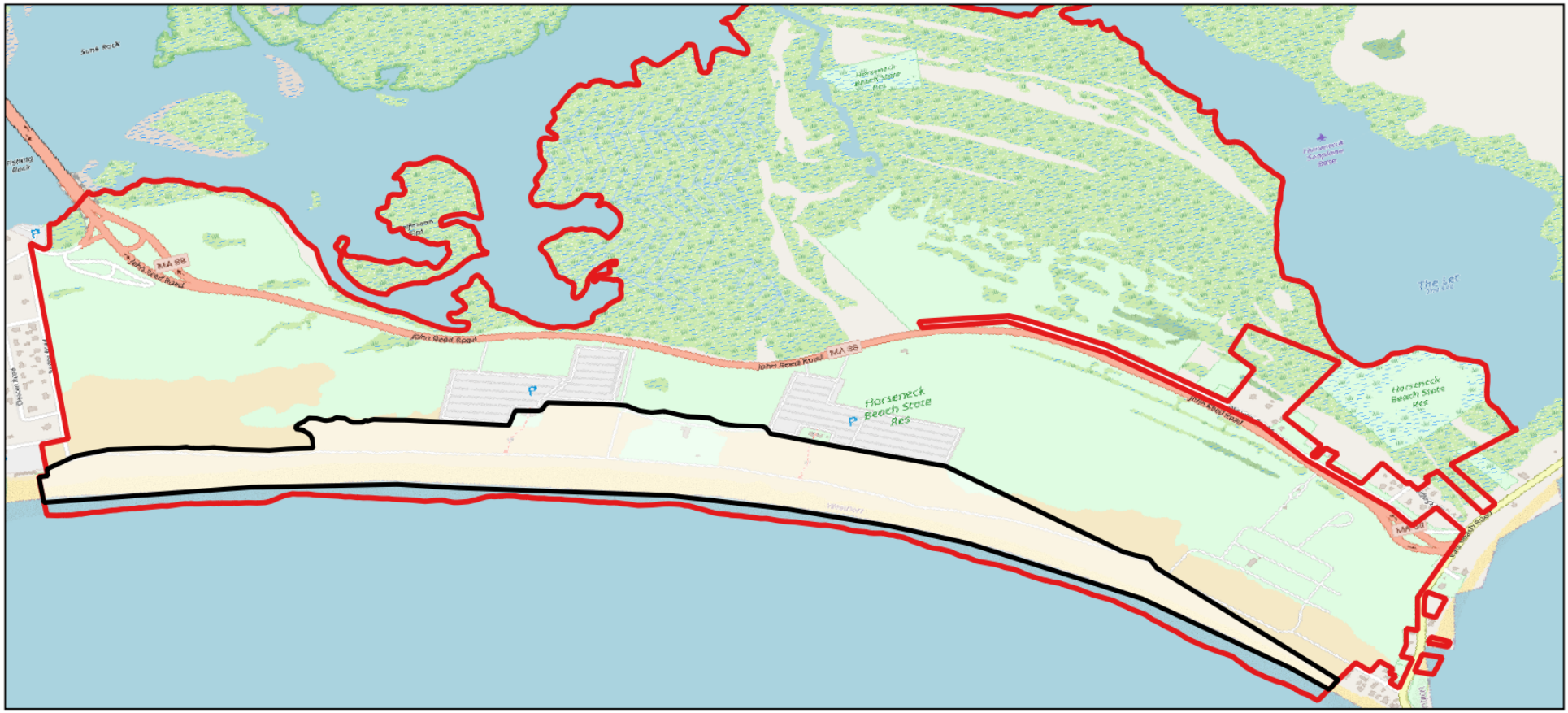
Historically, Horseneck Beach has served as refuge and nesting habitat for populations of piping plovers and least terns benefiting from the availability of favorable habitat including the dunes and overwashes. The nesting habitat has improved along the entire beach due to recent stewardship and enhancement efforts by DCR. However, portions of the primary nesting habitat continue to be reshaped annually by storm wave activity and high winds during the winter months. This dynamic environment requires DCR to perform yearly maintenance operations to preserve the sand resources on the beach.

Figure 1

Massachusetts Department of Conservation and Recreation

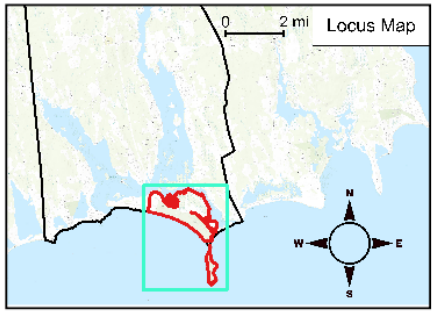
Horseneck Beach State Reservation

DCR 2020 Application for Inclusion in the Massachusetts Piping Plover Habitat Conservation Plan



Horseneck Beach Property

Horseneck Beach Public Beach



This is not a professional land survey document. Figures created using QGIS Geographic Information System, Open Source Geospatial Foundation Project.

N
W
E
S

0 0.125 0.25 mi

dcr
Massachusetts

4. DCR CONSERVATION MANAGEMENT OF SHOREBIRD SPECIES

Intensive recreational use by visitors from Massachusetts and Rhode Island communities impact Horseneck Beach and the nearby salt marsh habitat. The presence of breeding piping plovers, state-listed terns and other coastal bird species of conservation concern, including fifteen (15) focal species identified under [1] "Birds of Conservation Concern of 2008" (BCC 2008), share this valuable coastal habitat with tens of thousands of visitors annually. DCR considers the variety of species in our stewardship efforts with a comprehensive approach for conservation at this coastal reservation.

The combination of popularity for recreation and importance of habitat protection has created a unique opportunity for wildlife conservation, to proactively educate local residents and visitors from the nearby communities about the coastal conservation goals and statutory protections for focal priority species. In the tables below are listed some of the species of conservation concern in the reservation.

Table 1. USFWS Birds of Conservation Concern at Horseneck Beach State Reservation*****

American Oystercatcher	Least Bittern	Short-billed Dowitcher
Black Skimmer	Least Tern	Short-eared Owl
Buff-breasted Sandpiper	Peregrine Falcon	Snowy Egret
Greater Shearwater	Pied-billed Grebe	Whimbrel
Hudsonian Godwit	Semipalmated Sandpiper	Wilson's Plover

**Species list compiled from BCC 2008-list 30, table 28 BCR - New England/Mid Atlantic Coast*

Table 2. Federal and State listed species at Horseneck Beach State Reservation

Common Name	Scientific Name	Official Conservation Status
American Oystercatcher	*Haematopus palliatus*	Considered as "Species of High Concern"
Common Tern	*Sterna hirundo*	Threatened under MESA
Least Tern	*Sterna antillarum*	Threatened under MESA
Piping Plover	*Charadrius melodus*	Threatened under MESA & ESA
Rufa Red Knot	*Calidris canutus rufa*	Threatened under ESA

M.E.S.A: M.G.L. c.131A and regulations 321 CMR 10.00; and M.G.L. c.131 S5, 74 & Title 50 CFR Federal E.S.A: Act of 1973, as amended, 16 U.S.C §§ 1531 et seq.

1 The Fish and Wildlife Conservation Act mandates the U.S. Fish and Wildlife Service (USFWS) to identify species, subspecies, and populations of all migratory nongame birds that without additional conservation actions are likely to become candidates for listing under the Endangered Species Act (ESA)

5. DCR CONSERVATION MANAGEMENT OF PIPING PLOVERS

Historically, piping plovers have nested on Horseneck Beach, benefitting from the availability of favorable habitat including dunes and overwashes. As recently as 2012, an average of seven (7) piping plover pairs had been recorded nesting on the beach per year. The numbers have since increased over the last eight years due to the improved conservation management and habitat restoration performed by DCR. Most recently, Horseneck Beach has provided nesting habitat for up to 15 pairs of piping plover, as documented during the 2017 and 2018 nesting seasons. The 2020 nesting season observed 11 nesting pairs (Table 3).

DCR has committed funding to promote and improve coastal conservation by hiring Conservation Biologists to help with the protection, monitoring, and development of outreach programs to engage visitors. This level of monitoring and protection represents a two-fold increase in field presence compared to prior years of coastal bird protection. In addition to the conservation staff, one seasonal DCR Ranger is hired to increase enforcement of the guidelines and protection of nesting shorebirds. DCR provides outreach to visitors by conducting formal and informal educational programming. DCR may also install permanent educational panels and boards.

Emergency circumstances related to public health and safety may arise as observed with the Covid-19 pandemic in 2020. Details related to the monitoring and public outreach plan, as well as the enforcement and education programming may be subject to change to comply with health and safety policy adjustments. However, every effort will be made to adhere to and implement both state and federal guidelines for managing recreational uses of beaches.

Symbolic fencing is installed in late-March on known breeding territories to prepare for the start of pair bonding and territory establishment in early-April. For this highly visited area, symbolic fencing stakes are made of fiberglass of light gray color, which is less visually intrusive than wood- stakes or metal poles. Twine is strung between the poles. Materials and signs are made of light blue and white colors that blend in with the local beach environment.

Table 3. Numbers of Breeding Piping Plover Pairs and Fledglings at Horseneck Beach from 2008 - 2020

Site	2008	2009	2010	2011	2012	2013	2014
Breeding Pairs	6	7	7	7	7	10	10
Fledglings	3	6	9	3	4	2	15
[redacted]	2015	2016	2017	2018	2019	2020	
Breeding Pairs	12	10	15	15	13	11	
Fledglings	23	24	23	9	10	14	

CHART 1: Number of Breeding Piping Plover Pairs, Fledglings, and Productivity from 2008 – 2020 at Horseneck Beach State Reservation .

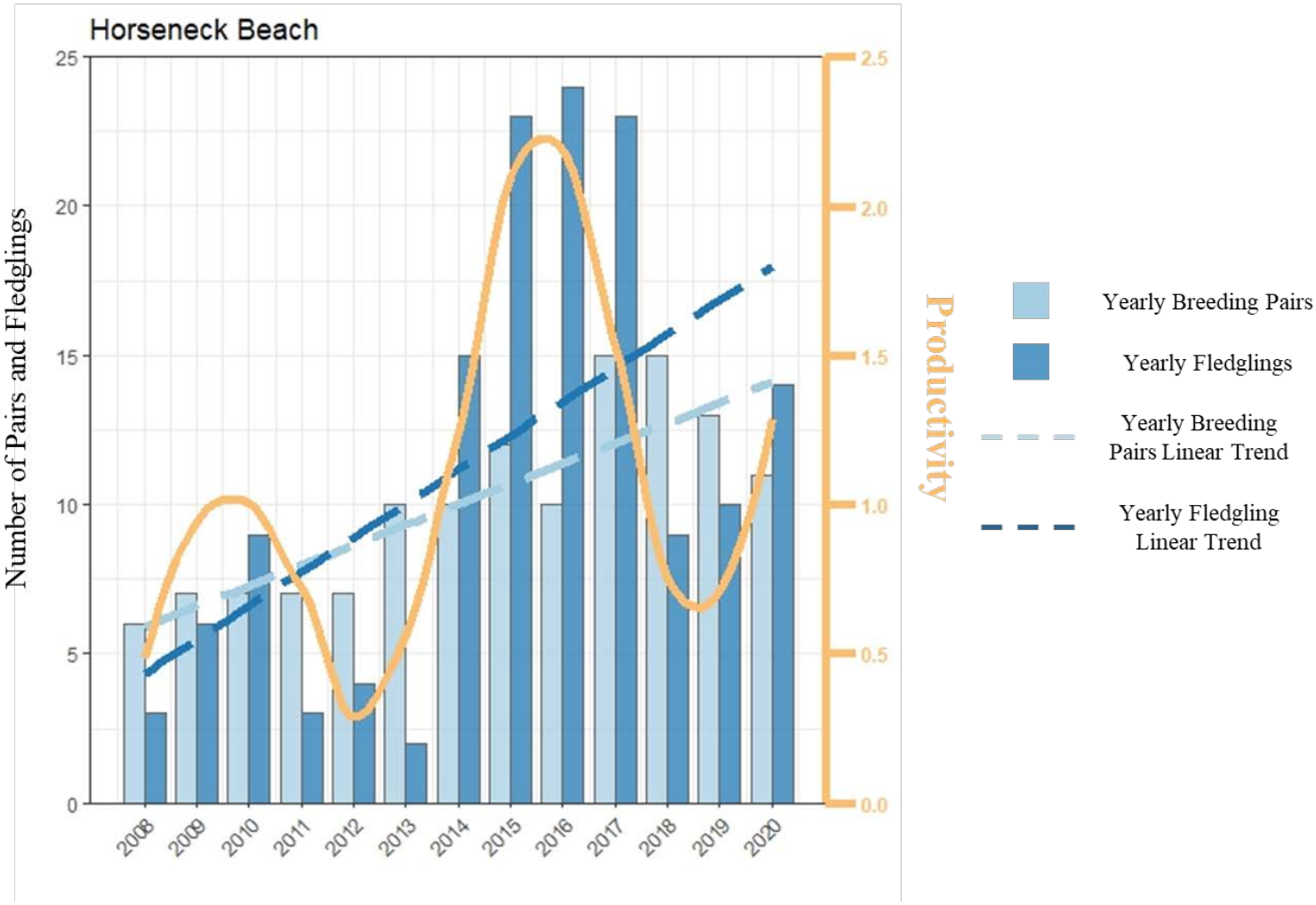


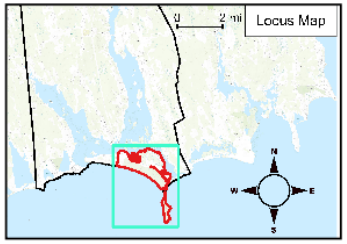
Figure 2

Massachusetts Department of Conservation and Recreation

Horseneck Beach State Reservation (East)

DCR 2020 Application for Inclusion in the Massachusetts Piping Plover Habitat Conservation Plan

- DCR Buildings
- Parking
- Beach Access
- Emergency Services Beach Entrance
- Recreational/ OSV Path
- 2020 PIPL Fencing
- 2020 PIPL/LETE Fencing



This is not a professional land survey document. Figures created using QGIS Geographic Information System, Open Source Geospatial Foundation Project.

N W E S

0 150 300 ft

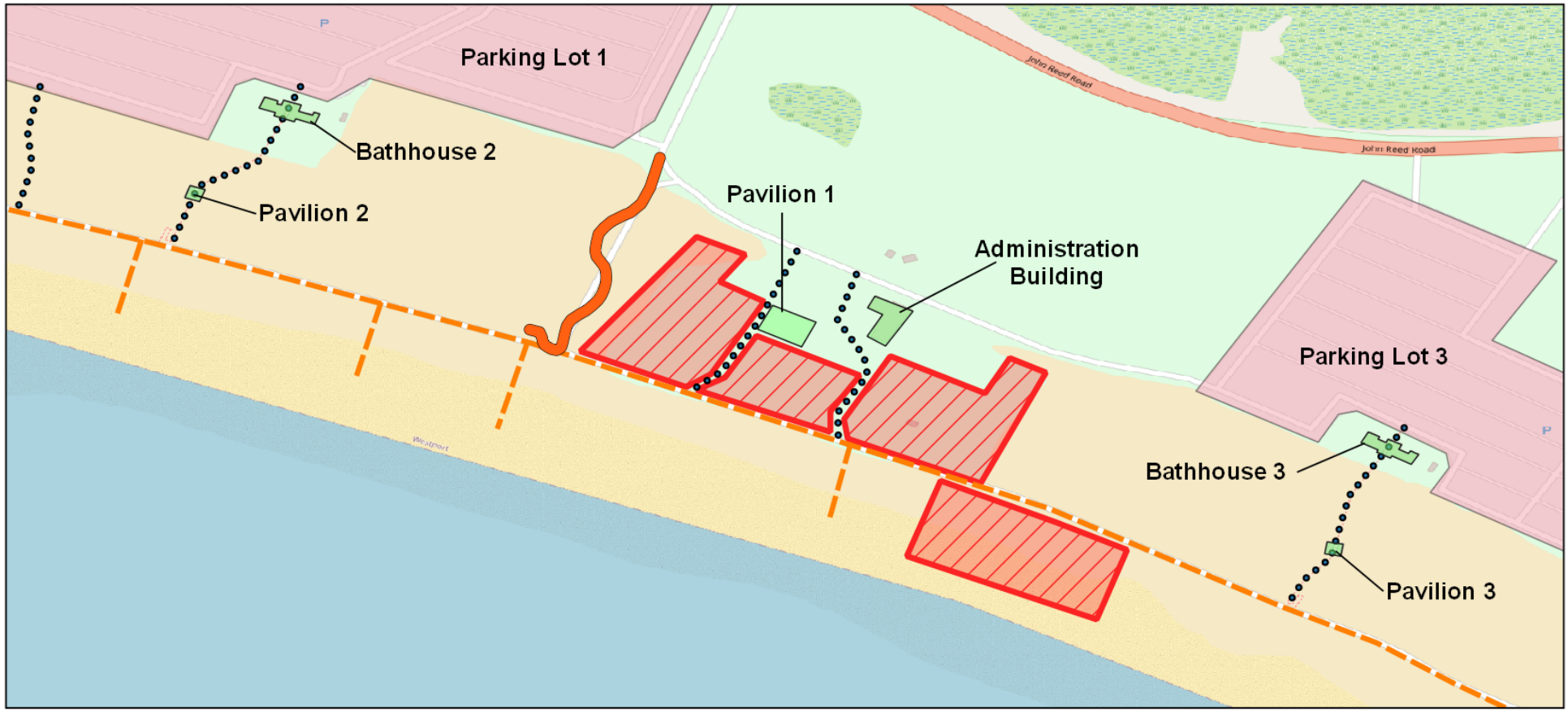
dcr Massachusetts

Figure 3

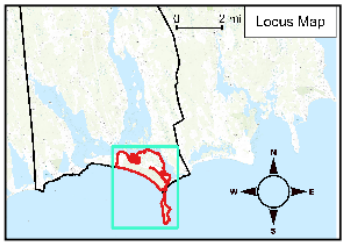
Massachusetts Department of Conservation and Recreation

Horseneck Beach State Reservation (East)

DCR 2020 Application for Inclusion in the Massachusetts Piping Plover Habitat Conservation Plan



DCR Buildings
Parking
Beach Access
Emergency Services Beach Entrance
Recreational/ OSV Path
2021 Expected Fenced Area



This is not a professional land survey document. Figures created using QGIS Geographic Information System, Open Source Geospatial Foundation Project.

N
W
E
S

0 150 300 ft

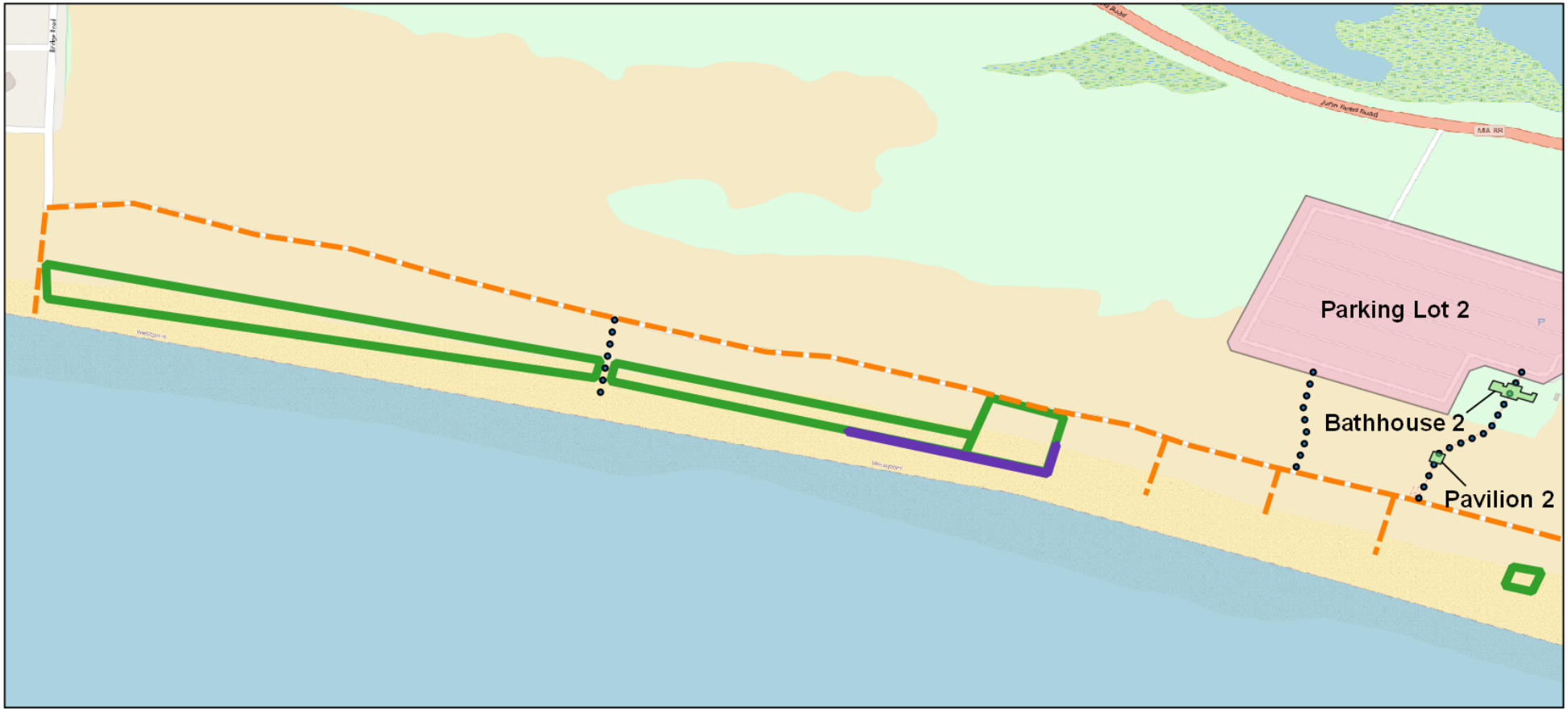
dcr Massachusetts

Figure 4

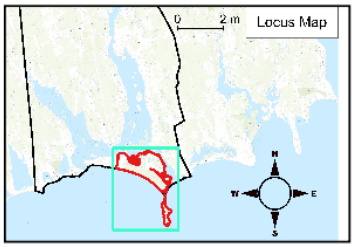
Massachusetts Department of Conservation and Recreation

Horseneck Beach State Reservation

DCR 2020 Application for Inclusion in the Massachusetts Piping Plover Habitat Conservation Plan



- DCR Buildings
- Parking
- Beach Access
- Recreational/ OSV Path
- 2020 PIPL Fencing
- 2020 PIPL/LETE Fencing



This is not a professional land survey document. Figures created using QGIS Geographic Information System, Open Source Geospatial Foundation Project.

N W E S

0 200 400 ft

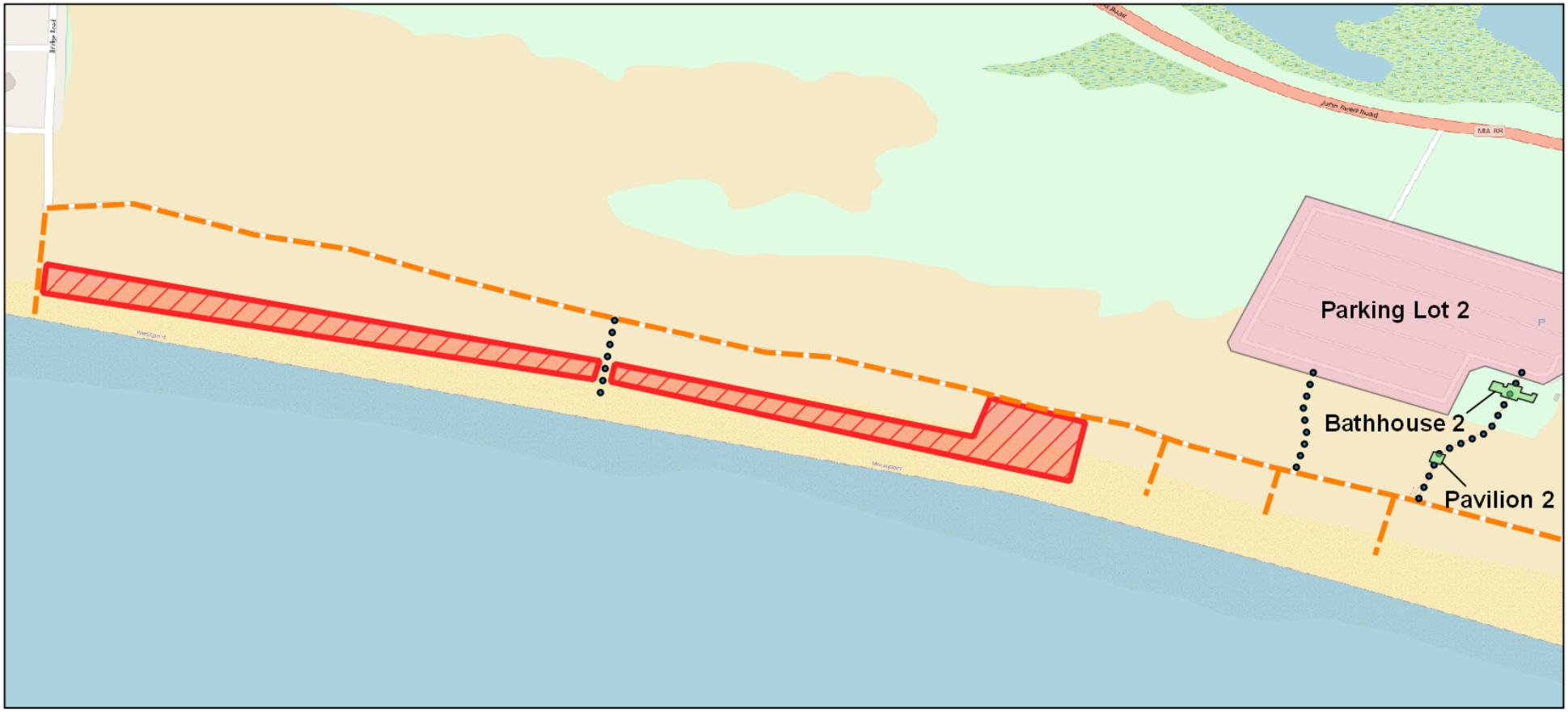
dcr Massachusetts

Figure 5

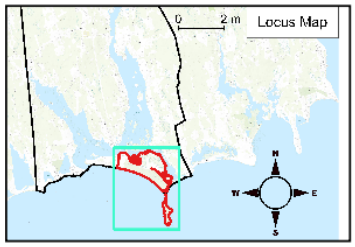
Massachusetts Department of Conservation and Recreation

Horseneck Beach State Reservation

DCR 2020 Application for Inclusion in the Massachusetts Piping Plover Habitat Conservation Plan



DCR Buildings
Parking
Beach Access
Recreational/ OSV Path
2021 Expected Fenced Area



This is not a professional land survey document. Figures created using QGIS Geographic Information System, Open Source Geospatial Foundation Project.

N
W
E
S

0 200 400 ft

dcr Massachusetts

6. PREDATOR MANAGEMENT

Impacts to productivity on Horseneck Beach in 2020 were attributed to the presence of mammalian predators, predominantly coyote. DCR Conservation Biologists determined coyote to be the probable cause of nest losses within the main protective fencing for both piping plover and the least tern colony. Additionally, fox, gulls, and American crow were observed in areas where incubating and brooding shorebird species were present likely causing additional stresses and limiting their individual seasonal success.

Since 2013, DCR has implemented a predator management program through approved personnel and protocols provided by the United States Department of Agriculture – Animal and Plant Health Inspection Service (USDA-APHIS) Wildlife Services. The program allows for Wildlife Services to conduct site visits consisting of nighttime monitoring with Forward Looking Infrared (FLIR) equipment, spotlights, and lethal sharpshooting once a target predator is confirmed. Target predators present at Horseneck include; coyote, red fox, and American crow.

7. ADDITIONAL CONSERVATION EFFORTS

a. Ecological Restorations: DCR implemented a large-scale ecological restoration in 2016 to create nesting habitat for listed shorebird species and create resiliency against storm surge. The project helped create, restore and protect the natural habitat by removing and merging 103,000 square feet of impervious surface and restoring the natural substrate to sand. Last nesting season, three (3) pairs of piping plovers and seven (7) pairs of least terns successfully nested in the restored habitat. In 2020, DCR removed additional impervious surfaces and around the main plaza and its administrative facilities to increase nesting habitat and better protect listed shorebirds from potential disturbances presented by visitors and the nearby access road and parking lot. The project will be increasing in 2021 nesting habitat by approximately 21,300 square feet. The newly restored areas will be monitored and permanently fenced off from pedestrian and vehicular traffic.

b. Horseneck Beach's main parking lots are connected by a 1,000 foot, 16-foot-wide service/access road. This area is approximately 3.5 acres of Roads and Parking lots including nearly 2,800 parking spaces and 40 handicapped accessible spaces. These road and parking lots are in proximity of piping plover broods habitat. To mitigate the financial impact that closures could cause if broods begin to forage in these impervious surfaces, DCR has continued infrastructure projects around the administrative building and adjacent access road and parking lots by permanently installing modified vehicle guardrails that provide safety to the broods by physically separating potential piping plover habitat and the access road and parking lots. The barrier consists of 4x4 inch posts with a 2x8 inch footer spanning the length of the access road. All potential space within the barrier is covered in 1x1 inch stiff plastic fencing. DCR staff will continue to intensively monitor the area to ensure the effectiveness and integrity of the newly installed barrier system throughout the season.

c. Least Tern Monitoring Program: DCR adheres to the state guidelines provided under Massachusetts Endangered Species Act (MESA), and currently protects and monitors one (1) least tern colony at Horseneck Beach.

8. RESPONSIBLE STAFF

Compliance with this plan will be managed by DCR's Bureau of Resource Protection, specifically by the Coastal Ecologist (Appendix A). In addition, the Coastal Ecologist hires, trains and oversees daily operations of four (4) seasonal Conservation Biologists, who provide the biological monitoring, protection and stewardship for the nesting piping plovers and least terns. The qualifications and requirements can be found in Appendix B. In addition, all Conservation Biologists receive additional training from the Mass Audubon Coastal Waterbird Program. Conservation Biologists are hired every year as Long Term Seasonal (LTS) employees from approximately March 15th through August 30th.

9. CURRENT BEACH MANAGEMENT

DCR management and protection protocols of listed shorebirds species, including piping plovers, complies and exceeds state and federal guidelines. DCR has been able to provide this enhanced protection due to the intensive daily biological monitoring provided seven (7) days a week for approximately 8-12 hours a day.

All maintenance operations conducted at the beach during the nesting season are closely coordinated between DCR Park Ops staff and the Conservation Biologists. These activities include beach raking, trash collection and lifeguard ATV operations. DCR's trained monitoring staff escorts any vehicle that requires transiting on the beach near or around piping plover territories. Beach raking is performed 2-3 times a week on average, and the activity is conducted under the guidance of the Conservation Biologist staff.

The following is a list of general beach management activities currently conducted by DCR at Horseneck Beach. For more details or to request a full copy of the current Operations and Maintenance Plan (OMP) for Horseneck Beach, please contact the office of Natural Resources at: dcr.naturalresources@mass.gov

A. **Recreational Activities -** Multiple recreational activities are monitored by DCR staff at Horseneck Beach, including but not limited to swimming, beach games, paddle boarding, kayaking, among others. Most of these activities require DCR staff to be available to guide and direct the recreational use to areas away from protected species and in a way that reduces disturbances created. Other activities, such as volleyball, that has been historically very popular at Horseneck, requires more coordination between recreational groups and DCR staff to anticipate the participation of the activity and to direct the recreational use away from protected areas of the beach to reduce disturbances created.

B. **Biological Monitoring** – DCR staff currently follows the protocol framework outlined by the USFWS NWRS. This framework ensures for consistent, reliable, repeatable, and appropriate data collection to meet survey objectives. The framework prioritizes the monitoring and data collection of species abundance, distribution, reproductive success, limiting factors, and responses to habitat changes and management of nesting piping plovers and least terns at Horseneck Beach. All data is recorded on daily logs that are later analyzed and reported to DFW via PIPLODES and TERNODES. This conservation effort is a daily activity that provides approximately 8- 12 hours of coverage per day. (Appendix B)

C. **Fencing and Signage** – DCR staff helps deploy, adjust, and maintain symbolic fencing to delineate critical shorebird nesting areas at Horseneck Beach. Significant portions of the suitable nesting habitat that have supported nesting piping plovers and least terns regularly are proactively fenced by April 1st. The remainder of the beach is intensively monitored on a daily basis, and symbolic fencing is installed as soon as new territorial pairs are detected.

D. **Public Outreach and Education** – DCR holds formal and informal programming on the beach providing outreach, educational programs, and interpretive signage to educate beach users and divert incompatible beach uses from critical nesting areas. These events mostly occur during popular high use times on the beach like weekends, or in community organized events, such as the Horseneck Half-Marathon and 3.5-mile run. These events and programs may be reduced or eliminated due to emergency public health and safety concerns as has been observed with the Covid-19 pandemic.

E. **Enforcement** – DCR has dedicated one (1) full time (40 hours per week) seasonal Ranger position to the site to request and achieve voluntary compliance to the statutes pertaining to the protection of listed nesting shorebirds. DCR seasonal rangers don't have authority to issue tickets or citations. The position runs from early-April to late-August. Enforcement efforts are timed to coincide with high beach use periods including weekends and holidays. The Ranger schedule varies periodically to interact with as many different beach users as possible, and to provide maximum coverage. The Ranger coordinates all enforcement efforts with the Massachusetts Environmental Police as well as local and State law Enforcement Officers to better manage recreational use of the beach and to effectively acquire compliance of the rules when demanded. Enforcement Officers are present at Horseneck Beach from 8am till sunset almost every day throughout the summer season (approximately May 15th – August 30th) and provide routine patrols at least twice a day during peak visitor hours. The scope of enforcement and scheduling of rangers may be subject to change due to emergency public health and safety concerns as has been observed with the Covid-19 pandemic.

F. **Operations & Maintenance Coordination** – DCR coordinates the type and timing of any beach maintenance operations (e.g. beach raking, trash collection, etc.), with qualified monitors to ensure that shorebirds are not harassed, killed, or injured by these activities. Horseneck Beach has an approved Operations and Maintenance Plan (OMP) in place, approved under the Massachusetts Wetlands Protection Act (WPA), and also reviewed and approved by NHESP. Raking will begin on a regular schedule, 2 – 3 days per week as needed, starting after May 15th and throughout the remainder of the recreation season. Raking will not occur before dawn or during inclement weather when visibility is limited. This includes maintenance of buffers around incubating pairs where no mechanized raking occurs, and monitoring of adult piping plovers and least terns to ensure that raking activities do not result in harassment. The wrack line is also retained in the vicinity of nesting piping plovers and least terns. Once chicks hatch, refuge continues to be provided in symbolically fenced areas, and usually a supplemental buffer where no raking occurs adjacent to the fenced areas. Mechanized raking in the vicinity of chicks may only occur with a qualified shorebird monitor present, who has located roaming chicks prior to raking, and who has the ability to halt the rake, if necessary. Likewise, trash removal is closely coordinated between the trash collection vendor and qualified monitors twice a week when such an activity occurs within 100 meters of any active nest or brood to ensure that the shorebirds within those territories are not harassed, killed, or injured during these activities.

G. **Vegetation Management** – DCR's Coastal Ecologist ensures that any vegetation management plan implemented at Horseneck Beach is compatible with sustaining or improving the protection of the listed shorebirds' nesting habitat.

H. **Predator Control** - Proactive predator control programs consisting of trapping or removing avian or mammalian predators are executed by the United States Department of Agriculture – Animal and Plant Health Inspection Service (USDA-APHIS) Wildlife Services.

I. **Pets:** Pets are not allowed on Horseneck Beach from April 1st through September 15th, and

signage is posted on the access points to the beach. Public outreach is conducted by the Conservation Biologists to educate visitors about the potential unintended impacts created by domestic pets on shorebird nesting and if necessary, the DCR Ranger and/or other law enforcement are utilized to achieve voluntary compliance to the rule.

All activities on property of the Commonwealth under the care, custody, and control of the Department of Conservation and Recreation are governed by ***DCR Parks and Recreation Rules (302 CMR 12.00)***. All rules and regulations applicable to Horseneck Beach can be found at: https://www.mass.gov/regulations/302-CMR-12-parks-and-recreation

10. COVERED ACTIVITIES

DCR implements protection of shorebirds under a management protocol that includes impact minimization to nesting shorebirds, habitat enhancement, increased monitoring, coordinated enforcement, internal DCR training, and expanded public education in an effort to improve the stewardship and conservation of listed shorebirds.

Partial beach closures, due to placement of protective fencing for protection of listed shorebirds continue to be controversial for some visitors. To minimize the collision between recreational interest and conservation, and to enhance public safety, DCR is proposing to implement the following covered activities:

- **Use of Roads and Parking Lots in the Vicinity of Unfledged Piping Plover Chicks** (within the limits set by the HCP): The deployment of barriers could be used to prevent the chicks from accessing roads or parking areas. Signage alerting motorists and beach goers to watch for crossing birds and to obey speed limits may be necessary and strategically deployed. Intensive monitoring will be required when chicks are near roadways and parking lots. DCR may activate this covered activity if a piping plover territory is established in a sandy fracture within an impervious surface like a parking lot or roadway or in the vicinity of those impervious surfaces that may trigger total or partial closure of parking spaces causing financial impacts to the agency.
- **Recreation and Beach Operations Associated with Reduced Symbolic Fencing around Nests**: In areas where beach operations or recreational activities are within 50 yards of the nest, temporary symbolic fencing will be initially placed and then gradually reduced from 50 yards to no less than 10 yards around the nest. Fencing may be reduced to only the extent necessary to achieve specific recreational or beach operations objectives. If there is a path or major access point within 10 yards, DFW may allow less than 10 yards of fencing or rather authorize nest moving.
- **Recreation and Beach Operations Associated with Reduced Proactive Fencing of Habitat:** Under the maximum exemption limits set by the HCP at up to five sites statewide annually, DFW may allow reduced proactive fencing of up to 20% of habitat or 4 acres, whichever is less (see HCP Section 5.2.2.3). This measure will minimize the risk of displacing a breeding pair from a given site or of significantly increasing competition from other PIPL pairs. The four-acre limit per site will also include any reductions to symbolic fencing associated with least terns (see below). Additionally, the covered activity will be limited to a maximum of four (4) piping plover territories or breeding pairs. DCR recognizes that DFW will lower the number of territories that may be affected during a given year of the three-year COI, to ensure that no more than 30% of territories/breeding pairs are affected.

DCR may request implementation of the covered activities in cases where the location or size of

the symbolic fencing for piping plover nests compromises public safety (e.g. inability to deploy lifeguard equipment), or where a nesting location may create a significant economic impact (e.g. parking lot closures), or by cancelling organized community or traditional events (e.g., the Horseneck Half Marathon and 3.5 mile run), or if the available public recreational area within a portion of the site is deemed reduced to such an extent that it is significantly impairing recreational activities. As authorized in the HCP, subject to appropriate impact minimization procedures, some areas of reduced fencing will be mechanically raked, an ongoing management practice at the site (see above). As described in the HCP, in the event that a piping plover nests in an area without symbolic fencing, the nest will be immediately protected with symbolic fencing with a reduced buffer (see impact minimization below).

DCR is also proposing reduced proactive symbolic fencing to impact up to seven (7) pairs of least terns, or no more than approximately 30% of the average nesting colony, whichever is less. This request enhances the scope and impact of covered activities on Horseneck Beach for the recreational benefit and operational capacity. Horseneck Beach has observed nesting least terns consistently for the past three years (Figures 2 and 4). As a practical matter, it may be difficult to accurately count the number of pairs impacted, therefore DCR may perform repeated estimates or counts over the nesting season.

11. IMPACT MINIMIZATION PROCEDURES

The implementation of the proposed minimization procedures is applicable for piping plovers and for least terns at Horseneck Beach unless otherwise noted.

***Intensive Biological Monitoring for Piping Plovers*:** The entire site will be monitored intensively to ensure early detection of territorial and scraping activity, and symbolic fencing will be installed for all nests and territories as described in Section 8. For each instance where DCR identifies an area/territory to be subject to a covered activity, DFW will be notified at least 24 hours in advance of executing (see HCP, Table 4-7). The square footage of the area subject to reduced fencing will be recorded and reported to DFW. The Division has indicated that it reserves the right to "assess" a larger square footage impact in some cases based on considerations of changes in symbolic fencing requirements for a given territory over time resulting from changes in habitat use. Frequent monitoring of the entire site should preclude the possibility of a pair being first detected late in the nesting process (i.e. eggs laid). However, in the event that this circumstance arises, symbolic fencing will be installed immediately and in consultation with DFW that pair or territory may become a candidate for implementation of the covered activities. After implementation of a covered activity, the area or pair will continue to be monitored intensively (at least twice daily for the first five days after implementation, and at least 5-7 times per week thereafter), and information about the presence of piping plovers and their behavior will be recorded. This will include any observations of continues breeding or territoriality in the absence of fencing. In the event that courtship/territoriality is observed, twice daily monitoring will continue until such activity ceases. In the event that nesting occurs in an area of reduced fencing that fencing will remain at a minimum 10-yard radius around the nest (HCP section 3.2.2.1). Portions of beach subject to reduced fencing may be raked in accordance with the monitoring and impact minimization procedures described in Section 8.0.

In the event of hatched and roaming chicks throughout the site, Conservation Biologists will monitor the broods at least twice a day for the duration of the broods' life or until fledging. Monitoring will consist of understanding the movements and preferred territories of the broods and the erection of barriers and signage to reduce the risk of brood movements into extensively recreated areas (e.g., parking lots, access roads, and recreational paths) and to inform the public of the presence of vulnerable chicks. Additional fencing and signs may be installed at the minimum of

three days before expected hatching events and in the unlikely event that a brood is newly discovered, impact minimization procedures will be enacted immediately. Fencing will be sufficient in providing separation of broods from undesirable areas and will not increase the risk of entanglement, predation, or separation of broods from desirable foraging areas. DCR Park Ops staff will work with Conservation Biologists to ensure all OSV operations are conducted under the supervision of a qualified vehicle escort to ensure compliance with the HCP and potential disturbances and Take risks are reduced.

Intensive Biological Monitoring for Least Terns: The entire site will be monitored intensively to ensure early detection of nesting activity. For each instance where DCR identifies an area/territory to be subject to the covered activity, DFW will be notified at least 24 hours in advance. Frequent monitoring of the entire site should preclude the possibility of a pair being first detected late in the nesting process (i.e. eggs laid). However, in the event that this circumstance arises, that territory will not be a candidate for implementation of the covered activity and symbolic fencing will be installed immediately. After removal or non- installation of the fencing occurs, the area will continue to be monitored intensively (at least twice daily for the first five days, and 5-7 times per week thereafter). Information about the presence of least terns and their behavior will be recorded. In the unlikely event that nesting occurs in the area of reduced fencing, fencing will immediately be installed (minimum 5-yard radius around the nest). Portions of beach subject to reduced or non-installation of fencing may be raked in accordance with the procedures described in Section 8.0.

12. MONITORING/COMPLIANCE REQUIREMENT

DCR professional monitoring staff under the supervision of the Coastal Ecologist will expand their current scope of work to cover the permitted activities as required by the HCP. The scope includes necessary monitoring for shorebird presence, collection of environmental and weather data, protection and management practices and coordination with regulatory agencies if necessary. DCR qualified monitoring staff will notify the park supervisor, operations staff, project management staff, contractors and enforcement personnel of changes regarding visitor access restrictions and timeframes.

Horseneck Beach will have four (4) dedicated Conservation Biologists to monitor the site for at least 12 hours a day seven (7) days a week during the nesting season starting May 1st through August 1st. Pre and post season hours will be eight (8) hours a day for five (5) days a week with flexibility to expand coverage for early nesting and/or late brooding. The DCR seasonal Ranger will be hired in early April and will have a schedule to prioritize increased recreational hours to allow for the best opportunity for public interaction. The seasonal Rangers' term will conclude in late August when recreation of the beach is reduced.

If implemented, any covered activities will be monitored daily for the following four (4) weeks or for the duration of the season if necessary. All biological data collected and any other pertinent operations information will be recorded and included in the final annual report due by October 15th. When covered activities are implemented, DCR will report weekly to DFW. All documentation of seasonal activities will be recorded in the field on standardized datasheets and online data collection services (i.e., NestStory). Data collection will follow the standard protocol framework as described by the USFWS NWRS. This protocol prioritizes the streamlined collection of Site-level, Survey-level, and Nest-level attributes. These attributes include but are not limited to; Daily staffing and monitoring effort in hours, Number of adults present, Nest and brood location data, estimated age of nest and brood, Nest Fate, and Brood Fates. (Appendix B)

If emergency circumstances related to public health and safety arises, protocols related to the monitoring plan may be subject to change and new protocols may be developed and implemented

in coordination with DFW. If feasible, DCR will make every effort to ensure that at minimum both state and federal guidelines for managing recreational uses on beaches are implemented.

13. BUDGET

DCR will dedicate existing full-time professional staff to implement the covered activities. Based on the extensive monitoring provided on a daily basis, the agency assumes that additional staff salary allocation will not be required to implement this proposal. The funding provided for mitigation has been secured through the capital budget process and is available prior to the permitted activities. DCR has allocated an annual maximum budget of $50,000 per year to invest on the attached USDA Predator Control Work Plan (Appendix C). The total estimated annual cost of the proposed mitigation of selective predator control at Horseneck Beach State Reservation and Demarest Lloyd State Park is approximately $10,915. The estimated additional cost of implementation including DCR staff time and indirect cost is approximately $26,158.

Table 4. Estimated Total Costs of HCP Implementation on DCR's South Region Beaches

	Monitoring, Implementation, and Reporting Cost	Indirect, Fringe, and Other Associated Cost	Total
Coastal Ecologist	$4,284	$2,276	$6,560
Conservation Biologist	$5,670	$3,013	$8,683
USDA-APHIS	$8,584	$1,386 + $944	$10,915
[redacted]		***Total Cost of Implementation***	$26,158

All amounts rounded to the full dollar

14. MITIGATION PLAN

As set forth in the HCP, DCR is proposing mitigation be provided by funding a selective predator management program as implemented by USDA-APHIS at Horseneck Beach and Demarest Lloyd State Park as a first option, or at other selected DCR sites as described in the attached USDA-APHIS work plan (Appendix C). The mentioned sites are ideal due the number of nesting PIPL pairs (17 pairs in 2020), and two LETE colonies (45 pairs in 2020). The mitigation requirement for exposing four pairs of Piping Plover to the covered activity is 3 x 4 = 12 PIPL pairs to benefit from selective predator management. DCR will fund the cost of the predator management work plan, and to the extent possible any mitigation credits will be carried forward to subsequent years.

15. APPENDIX SECTION

Appendix A

J O R G E J. AY UB

PROFFESIONAL OBJECTIVE

Advance the position of Coastal Ecologist for the Massachusetts Department of Conservation & Recreation, by utilizing my professional experience and extensive training on ecology, wildlife management, habitat restoration and natural resources protection

HIGHLIGHTS OF PROFESSIONAL SKILLS

- Advance knowledge and experience of wetlands and environmental permitting, biological monitoring, wildlife management, environmental interpretation and ecological habitat restoration
- Strong communication, interpersonal, management and leadership skills
- Detail-oriented and committed to quality
- Ability to learn quickly to improve and achieve goals
- Creative and capable of working in a fast-paced environment
- Environmental Justice Liaison
- Advance bilingual skills, English/Spanish

AREAS OF KNOWLEDGE

Ecology	Biology	Ornithology	Sustainability
Wetlands Science	Botany	Vegetation Sampling	Environmental Science
Earth Science	Soil Science	Plant taxonomy	Natural Resource Mgmt.
Monitoring	Ecological Restoration	Habitat Management	Environmental Justice
Land Use & Zoning	Habitat Assessment	Environmental Impacts	Public Outreach

EDUCATION

University of Massachusetts - UMass — Boston, Massachusetts
Graduate Degree Certificate Candidate — Pending Graduation
Sustainability & Clean Energy — GPA: 3.5/4.0

Johnson & Wales University - JWU — Providence, RI
M.B.A. Global Leadership — Degree, 05/2012
Professional Internship: Maritime Environmental Impacts — GPA: 3.8/4.0

National State University - UNED — San Jose, Costa Rica
B.Sc. Management of Natural Resources — Degree, 12/2004
Emphasis: Ecology — Cum Laude, GPA 8.5/10

OTHER EDUCATION

Latin-American University of Science and Technology - ULACIT — San Jose, Costa Rica
General Science & Biology Program — GPA 9.2/10

Columbus State University - CSU — Columbus, Georgia.
Core Courses & ESL Program — GPA: 3.5/4.0

WORK EXPERIENCE

April, 2012-Current: **Coastal Ecologist, Department of Conservation & Recreation, Massachusetts**

- Coordinates rare species protection and habitat restoration at state coastal properties
- Statewide Project Manager for coastal and wetland ecological restoration projects
- Prepares and review scientific reports, studies and analytical data on environmental impacts and processes including those associated with resource protection and baseline operations
- Review and summarize environmental data pertaining to biological research, habitat protection and wetland mitigation measures
- Actively representing DCR in ecological partnerships and task forces, related to protection of key habitats including wetlands, salt marshes, barrier beaches, and other ecological communities
- Writing grant proposals and applications associated with wildlife and resource protection
- Maintain ongoing liaison with staff from other state, federal, or non-governmental organizations
- Conducts ecological assessments including GIS data gathering, baseline inventories and monitoring
- Conducts ecological assessments for potential new land acquisition
- Assists in the preparation of scientific data for agency public hearings
- Assists in development and maintenance of tracking programs for environmental data
- Inspects and supervises contractors' filed work

Jan, 2012 – March, 2012: **Maritime Environmental Analyst, Executive Advisor, Professional Internship Moran Maritime Industries, Providence-RI**

- Prepared environmental impacts assessments on maritime ballast water systems (BWS)
- Analyzed project feasibility for joint ventures, strategies and future investments
- Developed communication strategies for collaborations with government agencies

2004 – 2008: **International Program Coordinator, Environmental Consultant Walking Connection, Phoenix, AZ**

- Coordinated international environmental programs for non-profit organizations
- Developed environmental interpretation programs at the Grand Canyon National Park
- Partnered with the Grand Canyon Institute on habitat assessments
- Trained & supervised 20+seasonal staff on biological interpretation
- Supervised, develop and implemented operational strategies
- Interacted with 8,000+ participants
- Helped raise over 10 million dollars

2002 – 2010: **Environmental Education & Conservation Professional Consultant/ Tour Director, EF –Cambridge, MA**

- Led environmental interpretation and conservation field programs for educational groups
- Created college graded workshops and classroom content for natural resources management courses
- Performed environmental presentations for New England schools with graded content

OTHER WORK EXPERIENCE

1999-2008 Naturalist Guide, C.R. Expeditions – Costa Rica
1997-1999 Research & Coordinator, Rain Forest Aerial Tram – Costa Rica

MEMBERSHIPS & COMMUNITY SERVICE

- Member of National Association of Environmental Professionals (NAEP)
- Member of Massachusetts Association of Conservation Commissions (MACC)
- Soccer coach for U10, U12 and U14 with Challenger Sports, Providence, RI
- Certified Wilderness First Aid and CPR, National Safety Council , USA

REFERENCES AVAILABLE UPON REQUEST

Appendix B

Last name, first name:

POSITION DESCRIPTION, DPA-Form 30-State
Commonwealth of Massachusetts

POSITION TITLE CODE

1. POSITION TITLE
Conservation Biologist I – Shorebird Monitor

AGENCY

2. APPROPRIATION/AGENCY CODE	POSITION NO.	REQUISITION NO.	SALARY	DATE PREPARED

3. GENERAL STATEMENT OF DUTIES AND RESPONSIBILITIES

Incumbents of positions in this series collect, analyze, and review biological data through field, and literature work on endangered and threatened species and other features of biological diversity; provide technical assistance and information to public and/or private groups; help the agency in maintaining liaison with various public and private agencies; and perform related work as required.

The basic purpose of this work is to provide professional scientific services regarding the biological monitoring and the protection and management of the state's endangered and threatened species of shorebirds and their habitats.

4. SUPERVISION RECEIVED (Name and title of person from whom incumbent receives direction)
Jorge J. Ayub, Coastal Ecologist

5A. DIRECT REPORTING STAFF	5B. THEIR STAFF

6. DETAILED STATEMENT OF DUTIES AND RESPONSIBILITIES

1. Analyzes data from a variety of sources on endangered and threatened species to assess population trends or to make management recommendations regarding courses of action for the protection and management of these species.
2. Collects and reviews biological data through field work to obtain information relative to population trends and environmental impacts in order to make appropriate recommendations.
3. Provides biological technical assistance and information on such matters as endangered and threatened species conservation, management and research to the agency, for distribution to various local, state and federal agencies and the scientific community.
4. Supports the agency in maintaining liaison with various private, local, state and federal agencies in order to exchange information or to resolve issues related to the biological protection of the state's endangered and threatened species of shorebirds and their habitats.
5. Performs related duties such as preparing general and technical reports and maintaining data and other scientific records.

Incumbents of positions at the Conservation Biologist I level or higher also:
1. Design and implement field research studies relative to endangered and threatened species, including the selection of sampling design, frequency of sampling, and scientific equipment to be used, among others to accomplish research objectives.
2. Review field studies and research projects for compliance with procedures and scientific standards.

7. QUALIFICATIONS REQUIRED AT HIRE (List knowledge, skills, abilities)

1. Knowledge of the principles of ecology and population biology.
2. Knowledge of a specific area of biology (i.e. ornithology) or other conservation science related to assigned responsibilities.
3. Knowledge of research methods and techniques followed in conservation biology.
4. Knowledge of the characteristics and habits of endangered and threatened species.
5. Knowledge of the principles and techniques of endangered and threatened species habitat management.
6. Knowledge of the types and uses of equipment used in conservation biology research and management.
7. Knowledge of the methods used in the preparation of charts, graphs and tables.
8. Ability to read, interpret, apply and explain the policies, procedures, guidelines, laws, rules and regulations governing agency operations and assigned unit activities.
9. Ability to gather information by examining records and documents.
10. Ability to assemble items of information according to established procedures.
11. Ability to determine the proper format and procedure for assembling items of information.
12. Ability to analyze and determine the applicability of conservation biology data, to draw conclusions and make appropriate recommendations.
13. Ability to follow oral and written instructions.

14. Ability to perform arithmetic and statistical computations (addition, subtraction, multiplication and division; and calculate mean, mode, median and standard deviation).
15. Ability to communicate effectively in oral and written expression.
16. Ability to prioritize work assignments.
17. Ability to prepare general and technical reports.
18. Ability to prepare and use charts, graphs and tables.
19. Ability to maintain accurate records.
20. Ability to deal tactfully with others.
21. Ability to establish and maintain professional and harmonious working relationships with others.
22. Ability to exercise sound judgment.
23. Ability to work independently.
24. Ability to operate a motor vehicle.

8. QUALIFICATIONS ACQUIRED ON JOB (List knowledge, skills, abilities)

1. Knowledge of the laws, rules, regulations, policies, and procedures governing assigned activities.
2. Knowledge of the types and uses of state or agency forms.
3. Knowledge of electronic data processing techniques used in solving environmental science problems.
4. Knowledge of the methods and techniques followed in the inspection of environmental, monitoring equipment and projects.

Additional qualifications acquired on job in Conservation Biologist I positions:
1. Ability to coordinate the efforts of others in accomplishing assigned work activities.

Based on assignment, the following additional qualification may be acquired on job in Conservation Biologist I positions:
1. Knowledge of the principles, practices and techniques of supervision.

Additional qualifications acquired on job in Conservation Biologist I and higher positions:
1. Ability to accomplish work objectives when few precedents or guidelines are available.

9. MINIMUM ENTRANCE REQUIRMENTS

Conservation Biologist I**:**
Applicants must have at least (A) one year of full- time, or equivalent part-time or seasonal, professional or technical experience in work involving the protection, conservation and/or management of endangered and protected species, or (B) any equivalent combination of the required experience and/or the substitution below.
Substitutions:

I. Bachelors or higher degree with a major in biology, ecology, zoology, ornithology and conservation science, or a related field, may be substituted for the required experience.*Education toward such a degree will be prorated on the basis of the proportion of the requirements actually completed.

10. LICENSE AND/OR CERTIFICATION REQUIRMENTS
Based on assignment, possession of a current and valid Massachusetts Class 3 Motor Vehicle Operator's License.

REMARKS:

SIGNATURE OF APPOINTING AUTHORITY

TITLE

AGENCY

PREPARED BY

SIGNATURE OF INCUMBENT

DATE

SIGNATURE OF SUPERVISOR

DATE

USFWS NWRS Data Collection Framework Protocol

Table SOP 2.1. List of site-level attributes to be entered into PIPLweb at the beginning of the season.

Attribute Name	Description	Required
Site Name	Name of site	Y
Site Code	3-7 letter code for each site Note that NWR sites use three-letter LIT code, with 2-4 letters added to each site if there is more than one site per Refuge	Y
Site Boundary	Shapefile or digitized map of site	Y (required for NWRS only)
Predator Management	Yes or No	N

Table SOP 2.3. List of survey-level attributes collected during each survey event.

Attribute Name	Description	Required
Site Name	Name of site	Y
Date	Date of survey	Y
Start time	Time monitor starts the survey	Y
End time	Time monitor ends the survey	Y
Number of monitors	Number of monitors conducting the survey	Y
Number adults	Total number of adults observed at the site during the survey	N
Number of territorial pairs	Number of pairs displaying territorial behavior plus number of pairs with current nests	N
Banded birds	Band combinations for each bird, if applicable. Note band information is only stored in PIPLweb for birds associated with established nests (Table SOP 2.4).	N
Comments	Can include comments on ORV use, dog presence, and human disturbance here or any other important observations from the survey	N

Table SOP 2.4. List of nest-level attributes collected during each survey event. Attributes in bold are only entered once on the data sheet at the top of Nest/Brood Survey Form (SM2).

Attribute Name	Description	Required
Site Name	**Name of site**	**Y**
Nest ID	**Identifier for nest; Pair # coupled with letter; A=first nest, B=second nest, etc. Ex. 01A**	**Y**
GPS coordinates	**x- and y-coordinates for nest location (or brood if nest never found). Can be taken in decimal degrees or UTM.**	**Y**
Coordinate system	**Name or EPSG code of the coordinate reference system used when recording GPS coordinates.**	**Y**
Estimated hatch date	**Estimated date nest hatched (observed or unobserved)**	**N**
Actual hatch date	**Enter Yes if nest hatch observed.**	**N**
Estimated age	**Estimated age of chicks if nest was never found**	**Y**
Brood fate	**Fledged, Lost, Unknown**	**Y**
Band combinations for adult(s) 1 and 2	**Band combinations for pair if applicable (see *Reporting Banded Birds*)**	**N**
Exclosure type	**Standard (defined as circular structure with a 10' diameter and netting top) or Non-standard**	**N**
Exclosure description	**Exclosure description if not standard**	**N**
Date	Date of nest check	Y
Observer	Observer initials	Y
Nest status	Active, Hatched, Abandoned, Depredated, Flooded/ Buried, Unknown Fate, Unknown Cause of Failure, Other Cause of Failure	Y
Number adults	Number of adults near or at the nest	Y
Number of eggs	Number of eggs (if observed; do not need to check every time)	Y
Number of chicks	Number of chicks observed; NA if unhatched	Y
Incubating adult observed	Yes or No	Y
Exclosure	Yes or No	Y
Comments	Comments especially on predator activity and evidence of nest/ brood loss	N

Nest Attempt Form DCR 2020 (RBN/RBS/WB/NHT)

Site:_____ **Town:**_____ **Pair Number**_____

Nest Attempt: 1st__ 2nd ___ 3rd ___ 4th ___ (known/suspected/unknown) Lat/Long: _____

Observer Name: _____

Dates

Nest 1st Located: _____ (known___ suspected___ unknown___)

1st Egg Laid: _____ (known___ suspected___ unknown___)

Clutch Completed: _____ (known___ suspected___ unknown___)

Estimated Hatch Date: _____

Banded Adults?

Adult 1: Bands? Y N if yes, enter band info _____

Adult 2: Bands? Y N if yes, enter band info _____

# of Eggs When Nest Found ____ Total # of Eggs ____

Nest Location Information

Nest Location: Oceanside ____ Interdune ____ Bayside ____ Marsh ____

Habitat Type: Open Beach ____ Toe of Dune ___ Dune Slope ____ Overwash ____ Other _____

Substrate Type: Sand ____ Gravel/Sand ____ Gravel ____ Shell/Sand ____ Other _____

Vegetation cover within 1.5m of nest: 0 1-8 9-20 21-72 Over 73 Other _____

Nest Measurements (in meters)

Monthly High Tide _____ Toe of Dune _____ Nearest Vegetation and Type

_____

Actual Hatch Date: _____ # of Eggs Hatched ____ # Unhatched____ # Lost Before Hatch ____

Chick Fledge and Loss

Example Loss Causes: missing/abandonment/depredated/human/vehicle/exposure

	Chick 1	Chick 2	Chick 3	Chick 4
Date of Fledge 25 days or flew 15m				
Date of Loss				
Cause of Loss				
Other comments about chicks				

Estimated Fledge Date _____ Total # of Fledged Chicks ____

Did a Least Tern Colony Form within 15m of Nest? Yes ____ No ____

Predator Occurrence within 10m of Nest (Tally):
Coyote: ____ Fox: ____ Raccoon: ____ Skunk: ____ Crow: ____ Gull: ____ Raptor: ____ Crab: ____ Cat: ____

Unleashed Dogs <50m of Nest? None ____ Light (<5/week) ____ Moderate (5-10/week) ____ Heavy (>10/week) ____

Active Use (Walk\Jogging) <50m of Nest? None ____ Light (<10/day) ____ Moderate (11-50/day) ____ Heavy (>50/day) ____

Passive Use (Sunbathing) <50m of Nest? None ____ Light (<10/day) ____ Moderate (11-50/day) ____ Heavy (>50/day) ____

OSV Use <50m of Nest? None ____ Light(<5 week) ____ Moderate (5-10/week) ____ Heavy (>10/week) ____

Nest Failed Form DCR 2020 (RBN/RBS/WB/NHT)

Site:_____ **Town:**_____ **Pair Number**_____

Nest Attempt: 1st____ 2nd____ 3rd____ 4th____

Discovered by: _____

Date Failed (give range if needed): ____/____/____ - ____/____/____ (known___ estimated___ unknown___)

Time Failed (give range if needed): ____:____ - ____:____ (known___ estimated___ unknown___)

Nest Loss:

Predation-likely
Predation-suspected
Abandonment
Abandonment-suspected
Unknown
Multiple causes
Mortality of both adults
Other:_____

Sanded over
Overwash/flood
Fail to hatch
Vandalism
Trampling
Run over
Substrate collapse

Number of Eggs Found: Abandoned____ Depredated____ Washed____ Buried____ Unhatched____ Missing____

Weather at Site When Nest Loss Found: Temperature_____ Cloud Cover %_____ Precip_____ Wind_____

Weather Over Past 24 Hours: Temperature_____ Cloud Cover %_____ Precip_____ Wind_____

Date/Time Eggs Last Physically Seen: ____/____/____ Time: ____:____

Name of Observer: _____
# of Eggs Seen: ____
Adults Present: _____

Seen with naked eye? Y N

If not, what was used? _____

Nest Logistics:

How long has bird been incubating full time? _____ days

Was double fencing used? Y N
Was triple lining used? Y N
Were predator tracks observed near nest at any point? Y N If yes, when? _____
Predator observed near nest? Y N

If yes, can you identify predator and activity? _____

Tracking Conditions (1= poor, 5=best) 1 2 3 4 5
Has there been a high tide/heavy rain event since nest last observed? Y N
Can vehicles drive near this nest? Y N

Other (please describe any pertinent information):

_____
_____
_____
_____

DCR Interaction Log

Date	Site	Initials	Number of People of Interaction	Positive/Negative/ Neutral	Dog (Y/N)	Enforcement	Duration	Notes

DCR Vehicle Escort Log

Date	Site	Initials of Escort	Driver	Destination	Start Time	End Time	Any Disturbances Caused	Notes

Appendix C

WS WID #s: **25067, 25068, 25069, 25072, 25092, 25093 25094, 25095, 25109, 25110, 25111**

WS Agreement #: 21-7225-5509-RA
WS Accounting Code: AP.RA.RX25.72.0274

COOPERATIVE SERVICE AGREEMENT BETWEEN MASSACHUSETTS DEPARTMENT OF CONSERVATION RECREATION (MA DCR) AND UNITED STATES DEPARTMENT OF AGRICULTURE ANIMAL AND PLANT HEALTH INSPECTION SERVICE (APHIS) WILDLIFE SERVICES (WS)

ARTICLE 1 – PURPOSE

The purpose of this Cooperative Service Agreement is to conduct a wildlife damage management project that provides professional services to alleviate avian and mammal predation to nesting piping plovers and least and common terns on MA DCR's parks and reservations with nesting beaches in Massachusetts. This predator reduction will enable the MA DCR and adjacent nesting beaches to receive necessary operational support to efficiently and effectively reduce wildlife damage adversely impacting federally and state threatened and endangered bird species and their nesting activities on the property. Sites may include, but not be limited to Demarest Lloyd State Park, Horseneck Beach State Reservation, Sandy Point State Reservation, South Cape Beach State Park, Waquoit Bay National Estuarine Research Reserve: Washburn Island, West Island State Reservation, Revere Beach Reservation, Boston Harbor Islands: Lovell's Island, Salisbury State Reservation, Nahant State Beach, and Winthrop Shores State Reservation.

ARTICLE 2 – AUTHORITY

APHIS-WS has statutory authority under the Acts of March 2, 1931, 46 Stat. 1468-69, 7 U.S.C. §§ 8351-8352, as amended, and December 22, 1987, Public Law No. 100-202, § 101(k), 101 Stat. 1329-331, 7 U.S.C. § 8353, to cooperate with States, local jurisdictions, individuals, public and private agencies, organizations, and institutions while conducting a program of wildlife services involving mammal and bird species that are reservoirs for zoonotic diseases, or animal species that are injurious and/or a nuisance to, among other things, agriculture, horticulture, forestry, animal husbandry, wildlife, and human health and safety.

ARTICLE 3 - MUTUAL RESPONSIBILITIES

The cooperating parties mutually understand and agree that:

1. APHIS-WS shall perform services set forth in the Work Plan, which is attached hereto and made a part hereof. The parties may mutually agree in writing, at any time during the term of this agreement, to amend, modify, add or delete services from the Work Plan.

2. MA DCR certifies that APHIS-WS has advised MA DCR there may be private sector service providers available to provide wildlife damage management (WDM) services that the Cooperator is seeking from APHIS-WS.

3. There will be no equipment with a procurement price of $5,000 or more per unit purchased directly with funds from the cooperator for use on this project. All other equipment purchased for the program is and will remain the property of APHIS-WS.

4. The cooperating parties agree to coordinate with each other before responding to media requests on work associated with this project.

ARTICLE 4 - COOPERATOR RESPONSIBILITIES

MA DCR agree:

1. To designate the authorized representative who shall be responsible for collaboratively administering the activities conducted in this agreement.

   MA DCR: Jorge J. Ayub
   Coastal Ecologist
   251 Causeway Street, Suite 700
   Boston, MA 02114-2119

2. To authorize APHIS-WS to conduct direct control activities as defined in the Work Plan. APHIS-WS will be considered an invitee on the lands controlled by MA DCR. MA DCR will be required to exercise reasonable care to warn APHIS-WS as to dangerous conditions or activities in the project areas.

3. To reimburse APHIS-WS for costs, not to exceed the annually approved amount specified in the Financial Plan. If costs are projected to exceed the amount reflected in the Financial Plan, the agreement with amended Work Plan and Financial Plan shall be formally revised and signed by both parties before services resulting in additional costs are performed. MA DCR agree to pay all costs of services submitted via an invoice from APHIS-WS within 30 days of the date of the submitted invoice(s). Late payments are subject to interest, penalties, and administrative charges and costs as set forth under the Debt Collection Improvement Act of 1996.

4. To provide a Tax Identification Number or Social Security Number in compliance with the Debt Collection Improvement Act of 1996.

5. As a condition of this agreement, MA DCR ensure and certifies that it is not currently debarred or suspended and is free of delinquent Federal debt.

6. To notify APHIS-WS verbally or in writing as far in advance as practical of the date and time of any proposed meeting related to the program.

7. MA DCR acknowledge that APHIS-WS shall be responsible for administration of APHIS-WS activities and supervision of APHIS-WS personnel.

8. To obtain the appropriate permits for removal activities for species listed in the Work Plan and list USDA, APHIS, Wildlife Services as subpermittees.

9. MA DCR will not be connected to the USDA APHIS computer network.

ARTICLE 5 – APHIS-WS RESPONSIBILITIES

APHIS WS Agrees:

1. To designate the following as the APHIS-WS authorized representative who shall be responsible for collaboratively administering the activities conducted in this agreement.

   APHIS WS: Donald J. Wilda, Acting State Director
   USDA, APHIS, WS
   463 West Street
   Amherst, MA 01002
   Cell: (413) 345-8091
   Email: Donald.J.Wilda@usda.gov

2. To conduct activities at sites designated by Cooperator as described in the Work and Financial Plans. APHIS-WS will provide qualified personnel and other resources necessary to implement the approved WDM activities delineated in the Work Plan and Financial Plan of this agreement.

3. That the performance of wildlife damage management actions by APHIS-WS under this agreement is contingent upon a determination by APHIS-WS that such actions are in compliance with the National Environmental Policy Act, Endangered Species Act, and any other applicable federal statutes. APHIS-WS will not make a final decision to conduct requested wildlife damage management actions until it has made the determination of such compliance.

4. In accordance with the Work Plan sets forth the objectives, activities, and budget of this project, APHIS-WS will provide MA DCR with an Annual Summary Report by no later than September 30th of each year of the agreement.

5. MA DCR will choose preferred option for payment by checking the appropriate box:

[X] For APHIS-WS to invoice MA DCR **QUARTERLY** for actual costs incurred by APHIS-WS during the performance of services agreed upon and specified in the Work Plan. Authorized auditing representatives of MA DCR shall be accorded reasonable opportunity to inspect the accounts and records of APHIS-WS pertaining to such claims for reimbursement to the extent permitted by Federal law and regulations.

Or

[ ] To deposit $147,720.00 **UPFRONT** as specified in the Financial Plan upon execution of this Cooperative Service Agreement for services agreed upon and specified in the Work Plan. Authorized auditing representatives of MA DCR shall be accorded reasonable opportunity to inspect the accounts and records of APHIS-WS pertaining to such claims for reimbursement to the extent permitted by Federal law and regulations.

ARTICLE 6 – CONTINGENCY STATEMENT

This agreement is contingent upon the passage by Congress of an appropriation from which expenditures may be legally met and shall not obligate APHIS-WS upon failure of Congress to so appropriate. This agreement may also be reduced or terminated if Congress only provides APHIS-WS funds for a finite period under a Continuing Resolution.

ARTICLE 7 – NON-EXCLUSIVE SERVICE CLAUSE

Nothing in this agreement shall prevent APHIS-WS from entering into separate agreements with any other organization or individual for the purpose of providing wildlife damage management services exclusive of those provided for under this agreement.

ARTICLE 8 – CONGRESSIONAL RESTRICTIONS

Pursuant to Section 22, Title 41, United States Code, no member of or delegate to Congress shall be admitted to any share or part of this agreement or to any benefit to arise therefrom.

ARTICLE 9 – LAWS AND REGULATIONS

This agreement is not a procurement contract (31 U.S.C. 6303), nor is it considered a grant (31 U.S.C. 6304). In this agreement, APHIS-WS provides goods or services on a cost recovery basis to nonfederal recipients, in accordance with all applicable laws, regulations and policies.

ARTICLE 10 – LIABILITY

APHIS-WS assumes no liability for any actions or activities conducted under this agreement except to the extent that recourse or remedies are provided by Congress under the Federal Tort Claims Act (28 U.S.C. 1346(b), 2401(b), and 2671-2680).

ARTICLE 11 – NON-DISCRIMINATION CLAUSE

The United States Department of Agriculture prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. Not all prohibited bases apply to all programs.

ARTICLE 12 - DURATION, REVISIONS, EXTENSIONS, AND TERMINATIONS

This agreement shall become effective on March 20, 2021 and shall continue through September 30, 2023, not to exceed five years. This Cooperative Service Agreement may be amended by mutual agreement of the parties in writing. MA DCR must submit a written request to extend the end date at least 10 days prior to expiration of the agreement. Also, this agreement may be terminated at any time by mutual agreement of the parties in writing, or by one party provided that party notifies the other in writing at least 60 days prior to effecting such action. Further, in the event the Cooperator does not provide necessary funds, APHIS-WS is relieved of the obligation to provide services under this agreement.

In accordance with the Debt Collection Improvement Act of 1996, the Department of Treasury requires a **Taxpayer Identification Number** for individuals or businesses conducting business with the agency.

MA DCR' Tax ID No.: 04-6002287 APHIS-WS's Tax ID: 41-0696271

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION AND RECREATION

Priscilla Geigis
Deputy Commissioner for Conservation and
Resource Stewardship
MA Department of Conservation and Recreation
251 Causeway Street, Suite 700
Boston, MA 02114-2119

3-16-21
Date

UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
WILDLIFE SERVICES

DONALD WILDA
Digitally signed by DONALD WILDA
DN: c=US, o=U.S. Government, ou=Department of Agriculture, cn=DONALD WILDA, 0.9.2342.19200300.100.1.1=12001000204753
Date: 2021.03.17 15:48:08 -04'00'

Donald J. Wilda, Acting State Director MA,CT, RI
USDA, APHIS, Wildlife Services
463 West Street
Amherst, MA 01002

3-17-2021
Date

WILLIE HARRIS
Digitally signed by WILLIE HARRIS
Date: 2021.03.17 17:58:07 -04'00'

Willie Harris, Director, Eastern Region
USDA, APHIS, Wildlife Services
920 Main Campus Drive; Suite 200
Raleigh, NC 27606

3-17-2021
Date

ATTACHMENT A
WORK PLAN

Introduction

In accordance with the Cooperative Service Agreement between MA DCR and the United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Wildlife Services (WS), this Work Plan sets forth the objectives, activities and budget of this project during the period of this agreement March 20, 2021 to September 30, 2023.

Program Objective

To conduct a wildlife damage management projects that provide professional services to alleviate avian and mammalian predation to nesting piping plovers, least terns and other nesting sea and shorebirds on MA DCR parks and reservations. Locations of primary concern are Demarest Lloyd State Park, Horseneck Beach State Reservation, Sandy Point State Reservation, South Cape Beach State Park, Waquoit Bay National Estuarine Research Reserve: Washburn Island, and West Island State Reservation. Sites of secondary concern include, but are not limited to Revere Beach Reservation, Boston Harbor Islands: Lovell's Island, Salisbury State Reservation, Nahant State Beach, and Winthrop Shores State Reservation. This predator reduction will enable MA DCR and adjacent nesting beaches to receive necessary operational support to efficiently and effectively reduce wildlife damage adversely impacting federally threatened and state endangered bird species and their nesting activities on the designated nesting areas. WS will focus on, but not limit activities to, American crow, fish crow, common raven, great-horned owl, Eastern coyote, red fox, gray fox, striped skunk, raccoon, and Virginia opossum.

Plan of Action

WS program will provide wildlife damage management assistance to alleviate problems caused by avian and mammalian predators on MA DCR properties. 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.

Damage Management Strategies: Operational work in authorized areas will be conducted using integrated nonlethal and lethal strategies as directed by and in close cooperation with MA DCR staff. 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.

Damage Management Methods and Techniques: The basic operational methods incorporated under this project for managing avian and mammal predation will include and be limited to: (1) shooting with suppressed weapons and night-vision/infrared equipment, (2) shooting with shotguns and non-toxic shot, (3) placement and monitoring of live traps or lethal snap traps (4) using the avicide DRC-1339 COR in and around areas where depredation has

occurred by avian predators, and (5) using the rodenticide Diphacinone-50 in and around areas where depredation has occurred by rats or mice.

WS will assist MA DCR in applying for and maintaining any required state or federal permits for take of predators and WS will be listed as subpermittees. Any animals taken under this agreement will be disposed of at WS discretion based on requirements of applicable permits.

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.

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 each MA DCR facility where MA DCR has requested assistance with predator management. WS will deploy 1 to 2 Wildlife Technicians/Biologist for 1 to 2-day intervals to be determined collaboratively between MA DCR and WS prior to and during the nesting season (February to August) at sites determined to require predator management by MA DCR.

As previously stated, primary concern will be the 6 parks and reservations listed in the Program Objective above which have annual budgets outlined in the Financial Plan below. The organization and scheduling of assistance at a site of secondary concern or at a MA DCR site not discussed in this agreement will only occur at the request of MA DCR. Planning of activities at these sites will be conducted cooperatively between WS and MA DCR. Since no funding for additional sites is outlined in this agreement, funds will come from funding intended for the 6 primary sites and may result in a reduction of control activity at these sites.

On a not-to-exceed basis, the 3-year budget for this agreement is $149,295.00. This is $49,765.00 annually for an estimated 7 to 14 visits at Demarest Lloyd State Park, Horseneck Beach State Reservation, Sandy Point State Reservation, West Island State Reservation, and South Cape Beach State Park, Waquoit Bay National Estuarine Research Reserve: Washburn Island. However, more or fewer visits may be conducted based on the needs to manage predators and available funding.

The actual number of visits will be determined by which sites MA DCR requests WS work at, as well as the species being targeted, the kind of control methods requested, the number of staff required, and number of visits requested. MA DCR agrees to reimburse the WS Massachusetts program the total cost of this project. If the actual cost will exceed $49,765.00 annually and/or $149,295.00 over 3 years, then a signed modified agreement may be required by both parties.

Effective Dates

The cooperative agreement shall become effective on March 20, 2021 and shall expire on September 30, 2023.

FINANCIAL PLANS

Annual Financial Plan Demarest Lloyd State Park and Horseneck Beach State Reservation

Cost Element		Full Cost
Personnel Compensation		$6,220.41
Vehicles		$1,345.34
Other Services		$107.28
Supplies and Materials		$574.92
Equipment		$336.40
Subtotal (Direct Charges)		$8,584.35
Pooled Job Costs [for non-Over-the Counter projects]	11.00%	$944.28
Indirect Costs	16.15%	$1,386.37
Annual Project Total		$10,915.00

Annual Financial Plan Sandy Point State Reservation

Cost Element		Full Cost
Personnel Compensation		$6,594.79
Vehicles		$1,406.16
Other Services		$107.28
Supplies and Materials		$556.55
Equipment		$336.40
Subtotal (Direct Charges)		$9,001.18
Pooled Job Costs [for non-Over-the Counter projects]	11.00%	$990.13
Indirect Costs	16.15%	$1,453.69
Annual Project Total		$11,445.00

Annual Financial Plan South Cape Beach State Park and Waquoit Bay National Estuarine Research Reserve: Washburn Island

Cost Element		Full Cost
Personnel Compensation		$9,953.17
Vehicles		$1,910.41
Other Services		$125.16
Supplies and Materials		$580.29
Equipment		$360.58
Subtotal (Direct Charges)		$12,929.61
Pooled Job Costs [for non-Over-the Counter projects]	11.00%	$1,422.26
Indirect Costs	16.15%	$2,088.13
Annual Project Total		$16,440.00

Annual Financial Plan West Island State Reservation

Cost Element		Full Cost
Personnel Compensation		$6,527.68
Vehicles		$1,005.48
Other Services		$107.28
Supplies and Materials		$621.24
Equipment		$362.00
Subtotal (Direct Charges)		$8,623.68
Pooled Job Costs	11.00%	$948.60
Indirect Costs	16.15%	$1,392.72
Annual Project Total		$10,965.00

Annual Financial Plan MA DCR T&E Predator Management

Cost Element		Full Cost
Personnel Compensation		$29,296.05
Vehicles		$5,667.39
Other Services		$447.00
Supplies and Materials		$2,333.00
Equipment		$1,395.38
Subtotal (Direct Charges)		$39,138.82
Pooled Job Costs	11.00%	$4,305.27
Indirect Costs	16.15%	$6,320.91
Aviation Flat Rate Collection		$0.00
Annual Agreement Total		$49,765.00
The annual distribution of the budget from this Financial Plan may vary as necessary to accomplish the purpose of this agreement, but may not exceed: **$49,765.00**		

3-Year Financial Plan MA DCR T&E Predator Management

Cost Element		Full Cost
Personnel Compensation		$87,888.15
Vehicles		$17,002.17
Other Services		$1,341.00
Supplies and Materials		$6,999.00
Equipment		$4,186.14
Subtotal (Direct Charges)		$117,416.46
Pooled Job Costs	11.00%	$12,915.81
Indirect Costs	16.15%	$18,962.73
Aviation Flat Rate Collection		$0.00
Agreement Total		$149,295.00
The total distribution of the budget from this Financial Plan may vary as necessary to accomplish the purpose of this agreement but may not exceed: **$149,295.00**		

Financial Point of Contact

MA DCR:

Jorge J. Ayub, Coastal Ecologist
Department of Conservation and Recreation
Phone: (617) 626-1434
Cell: (857) 214-0207
Email: jorge.ayub@state.ma.us

APHIS, WS:

Dawn Wanczyk, Budget Analyst
USDA, APHIS, Wildlife Services
463 West Street
Amherst, MA 01002
Phone: (413) 253-2403 ext. 3
Fax: (413) 253-7577
Email: Dawn.M.Wanczyk@usda.gov