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

Revere Beach State Reservation, Nahant Beach State Reservation & Winthrop Shire Reservation

Bureau of Resource Protection
Coastal Ecology & Shorebird Protection Program

5/20/2020

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1. INTRODUCTION

The Massachusetts Department of Conservation and Recreation is requesting a Certificate of Inclusion (COI) as part of the agency's application to participate in the statewide Piping Plover Habitat Conservation Plan (HCP). DCR is requesting the implementation of the following described under the HCP section 1.2.1 Covered Activities: *"Recreation and Beach Operations Associated with Reduced Symbolic Fencing around Nests", "Use of Roads and Parking Lots in the Vicinity of Unfledged Piping Plover Chicks"; "Recreation and Beach Operations at Piping Plover Nests with Nest Moving" and "Recreation and Beach Operations Associated with Reduced Proactive Fencing of Habitat"*. DCR is requesting up to five (5) nesting territories for inclusion in this covered activity, approximately 21% of the 24 breeding pairs in 2019.

The removal or reduction of symbolic fencing on these sites will help maintain access to the beach, and reduce potential economic impacts as well as conflicts with recreational activities in an area that hosts approximately one quarter million visitors per year.

In 2013, DCR launched a new conservation management plan for Winthrop and Revere Beach approved under *the general conditions of the Conservation and Management Permit # 013-216.dfw; NHESP file #12-30854*, that consisted of impact minimization, habitat enhancement, increased monitoring, elevated and coordinated enforcement, internal DCR 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 Piping Plover nesting at these beaches.

2. GEOGRAPHIC SCOPE

The geographic area to be covered under this application includes Revere Beach State Reservation, Winthrop Shores Reservation and Nahant Beach Reservation (Figure#1). Revere and Winthrop beaches are located about two miles apart, and are connected by public transportation to the Greater Boston Metro Area. Nahant Beach is about 5 miles northeast from the southern part of Revere Beach and is mainly accessible via automobile. However, public transportation options are available nearby via bus, commuter rail, and taxi services. The covered activities permitted under this application include all suitable Piping Plover habitat along the length of Revere Beach, Winthrop Beach and Nahant Beach.

The current DCR management and protection of listed shorebird species assumes that Piping Plovers nesting on Winthrop Beach, Nahant Beach and Revere Beach are represented together as a whole urban population, and that management actions at all three beaches will benefit this entire urban population. Therefore, management efforts to benefit Piping Plovers are applied equally to all three beaches.

3. SITE DESCRIPTION

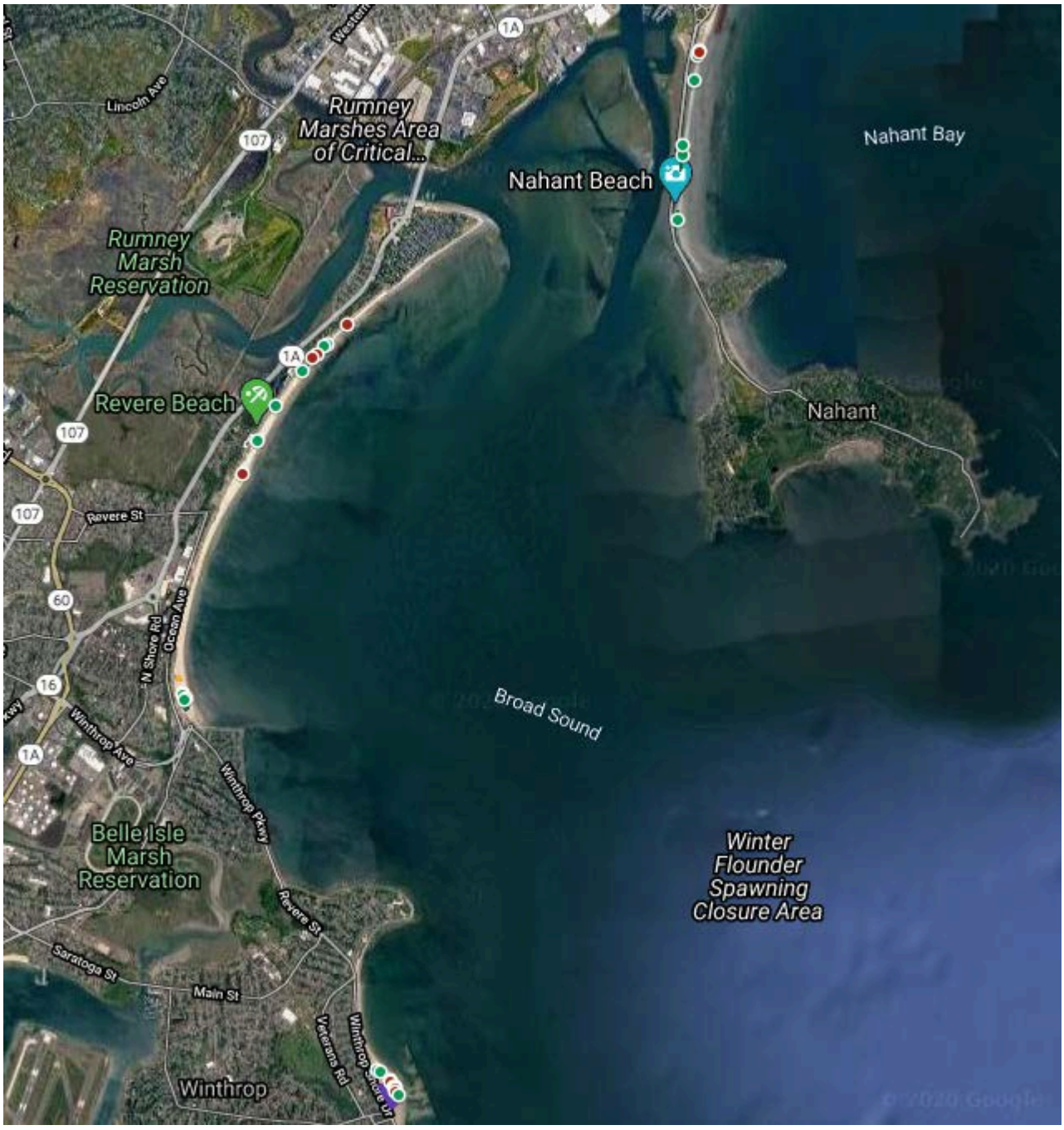
Revere Beach is the oldest public beach in the United States, founded in 1896. Today, this beach boasts almost 3 miles of shoreline with almost a quarter million visitors each summer. Along Revere Beach Boulevard there is a bandstand for summer concerts, a bathhouse and many shade shelters. Revere Beach is accessible by public transportation, making it a popular spot for people from the Boston metro area.

Winthrop Beach was used from the mid-1600s until the late-1800s mostly for utilitarian purposes: clam digging, lobster fishing, and kelp for fertilizer, rocks and gravel for ship ballast. The arrival of public transportation to the north shore in 1875 along with the acquisition of the reservation in 1900 by the Commonwealth of Massachusetts, spurred the popularity of Winthrop Beach as a destination for city dwellers and tourists alike. Today, Revere and Winthrop Beaches are regarded as centerpieces of a year-round community, which has replaced the hotels and cottages of the past.

Nahant Beach, also called Long Beach, is situated along a man-made causeway connecting the town of Nahant to the city of Lynn. The beach is part of DCR's Lynn Shore Reservation, a protected coastal region covering 67 acres with a connected multi-use paved path. The accessibility of this location and presence of a large parking lot along the beach draws in large crowds during the summer season.

In recent years, Revere, Winthrop and Nahant Beaches have also served as nesting habitat for the urban populations of Piping Plovers and Least Terns. Due to the favorable beach conditions, the support of the local communities and recent resource management efforts by DCR, the nesting habitat has improved on these sites. However, portions of the primary nesting habitat continue to be reshaped year after year, influenced by storm wave activity during the winter months and sand drifting during the summer months. This dynamic environment requires DCR to perform maintenance operations to preserve the sand resources on the beach.

Map of DCR Urban Beaches with Breeding Piping Plovers in 2019



4. DCR CONSERVATION MANAGEMENT OF SHOREBIRD SPECIES

Intensive recreational use by local residents and visitors from the Boston Metropolitan Area impacts Revere Beach State Reservation, Winthrop Shores Reservation and Nahant Beach Reservation and their 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 these urbanized coastal habitats with tens of thousands of visitors annually. DCR considers the variety of species in its stewardship efforts with a comprehensive approach for coastal conservation in all coastal habitats of the Boston Metropolitan Area.

The combination of popularity for recreation and importance of habitat has created a unique opportunity for urban 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.

Table 1: USFWS Birds of Conservation Concern at Revere & Winthrop Area

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

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

Table 2: Federal and State listed species at Revere Beach and Winthrop Beach.

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

M.E.S.A: M.G.L c.131A and regulations 321 CMR 10.00; and MGL. 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

In July of 1991 a beach fill project consisting of 600,000 cubic yards of sand was completed on Revere Beach. Following completion of the project a beach monitoring/survey program was implemented by the Army Corp of Engineers (ACOE), and since 1991 surveys have been taken at least every three years, but typically more frequently. The beach fill material had an approximate D_{n50} of 0.45mm which was significantly coarser than the native beach material. The northern one third of the beach has experienced erosion, which is most likely due to end losses at the end of the beach fill project. It is uncertain if this is an issue or not, and would have to be evaluated based on flooding and storm damage impacts. The southern two thirds of the project have been stable or subject to minimal loss of sand since construction. This is likely due to the containment at the southern end of the project by the headland feature, and the relatively coarse sand used in the beach fill project. The overall conclusion is that the beach fill project on Revere Beach has been performing well.

Piping Plovers first arrived on DCR urban beaches in 2007, in search of nesting habitat at Revere Beach, and they have been back every year since. Up until 2011, there was an average of five (5) Piping Plover pairs nesting at Revere Beach and Winthrop Beach combined per year. Thanks to the increased DCR conservation efforts and continued support of visitors and the local residents, in the year 2012, that number grew to thirteen (13) PIPL pairs, an incredible over 250% total increase. The trend has continued from 2012 through 2019.

In 2019, DCR's Revere Beach hosted 12 nesting PIPL pairs; Winthrop Beach hosted 6 pairs, and nearby Nahant Beach hosted 6 pairs. Together, these sites provided a sizable contribution of new birds to support the recovery efforts for the species. DCR has committed funding to promote and improve coastal conservation by developing a staffing plan with five (5) Conservation Biologists to help with protection, monitoring, and development of outreach programs to engage the local urban communities. This level of monitoring and protection represents a five-fold increase in field presence compared to what is required by the guidelines for shorebird protection. If emergency circumstances arise related to public health and safety, details related to the monitoring and public outreach plan may be subject to change with advanced written approval from the Division. However, in all cases, both state and federal guidelines for managing recreational uses of beaches will be adhered to and implemented.

In addition, a seasonal DCR Ranger is hired for 24 weeks 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. Both enforcement and outreach may be subject to change as a result of public health and safety emergency circumstances.

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 these highly populated areas, 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 Plovers at Revere & Winthrop from 2007-2019.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Winthrop Beach	No data	2	2	2	2	3	4	6	6	8	8	7	6
Revere Beach	1	2	1	3	3	10	9	9	16.5	15	16	12	12
Nahant Beach	No data	No data	No data	No data	No data	0	0	1	1	1	0	1	6

Charts - Historical Trends of Breeding Piping Plovers at Revere Beach, Winthrop Beach and Nahant Beach

CHART 1: Number of breeding Piping Plover pairs in the period of 2007-2019

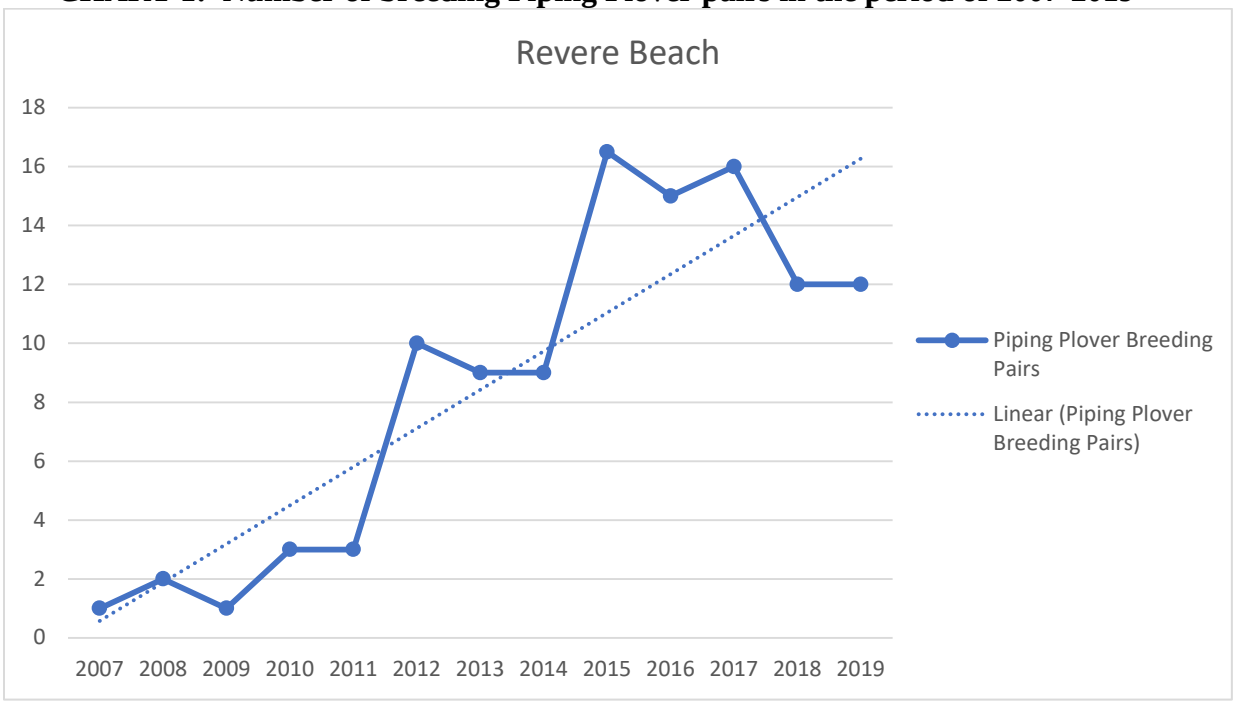


CHART 2: Number of breeding Piping Plover pairs in the period of 2007-2019.

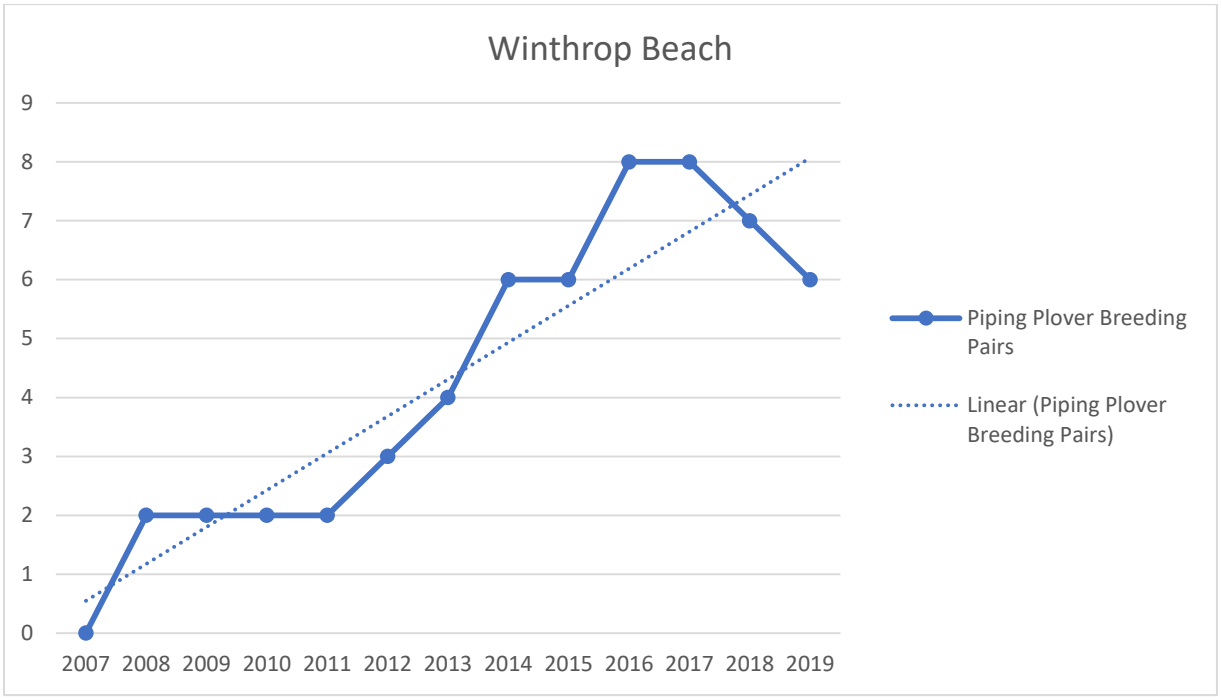
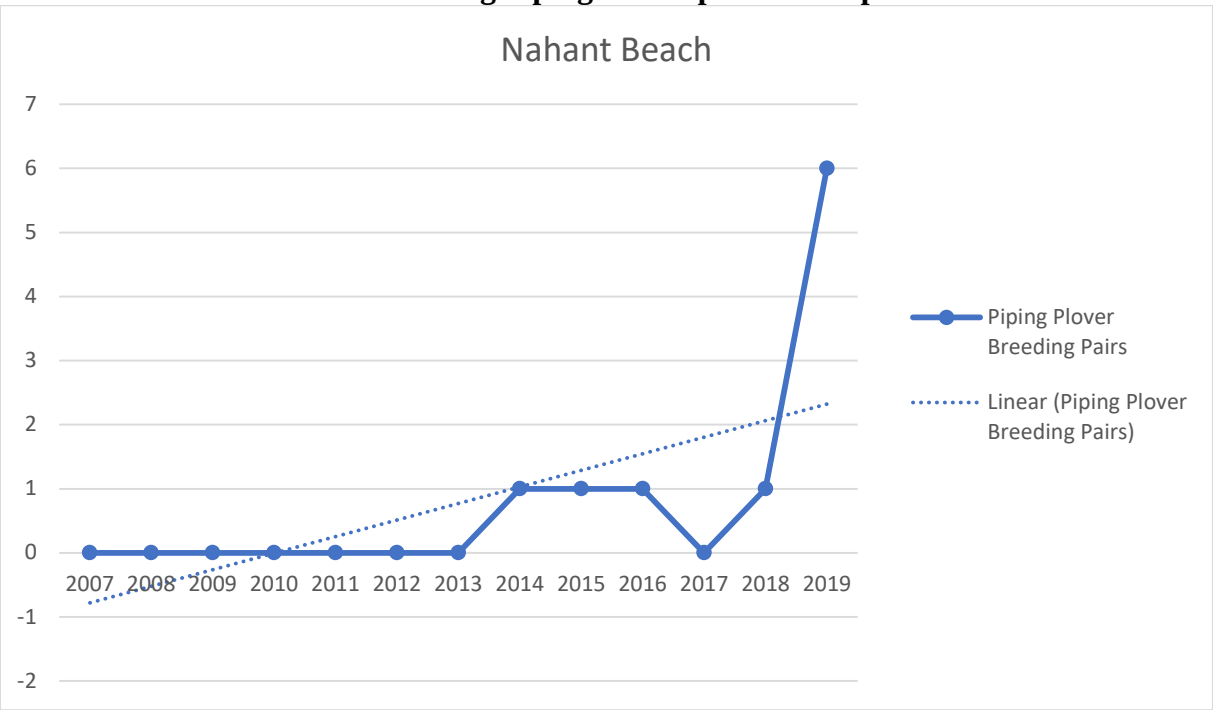


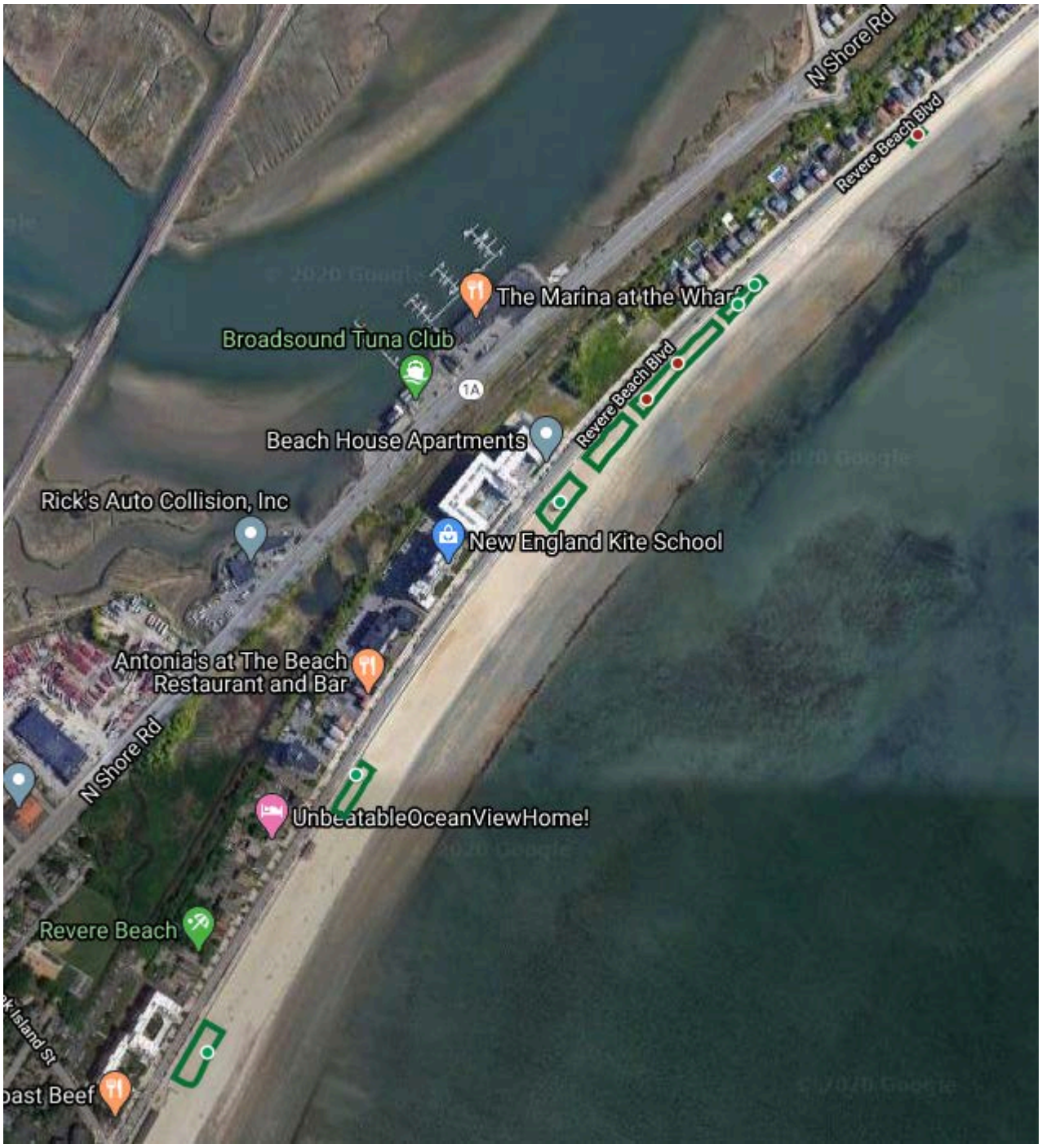
CHART 3: Number of breeding Piping Plover pairs in the period of 2007-2019.



Maps – Breeding Piping Plovers at Revere Beach, Winthrop Beach and Nahant Beach - 2019

Massachusetts Department of Conservation and Recreation

DCR Revere Beach Reservation North
Piping Plover Breeding Season 2019

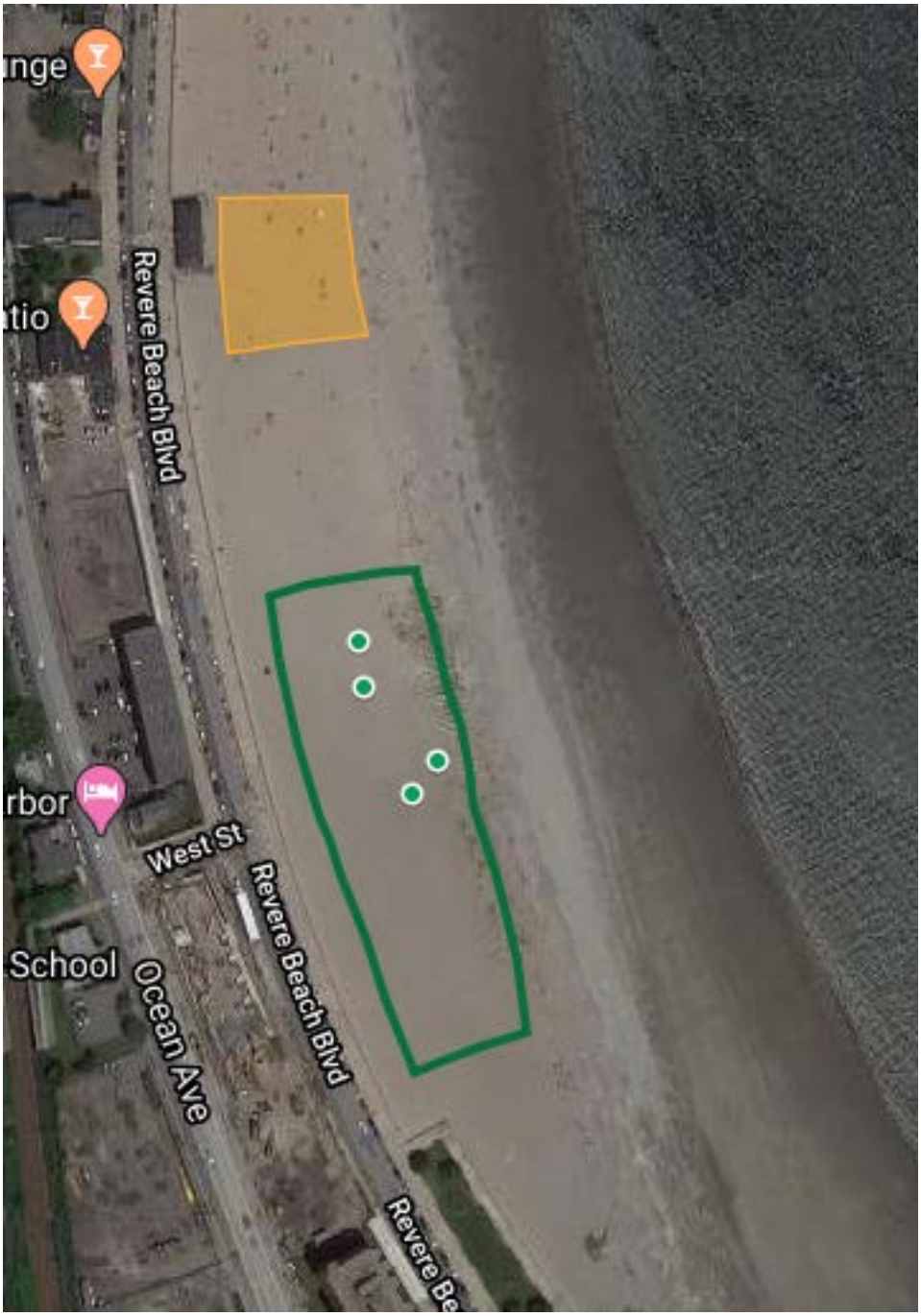


N

dcr
Massachusetts

PIPL Nest - Successful
PIPL Nest - Unsuccessful
PIPL, HCP Area
PIPL Fencing
PIPL/LETE Fencing
LETE Nesting Areas

DCR Revere Beach Reservation South
Piping Plover Breeding Season 2019



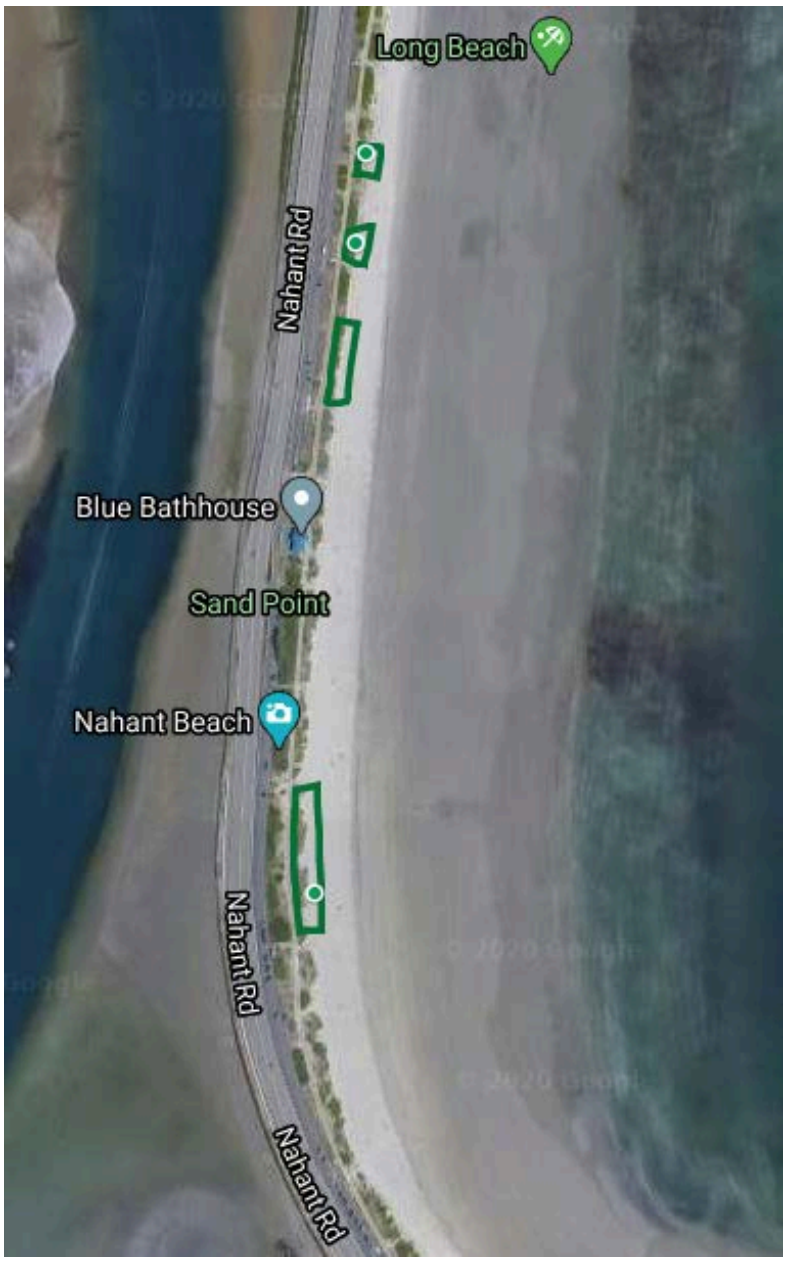
N

dcr Massachusetts

PIPL Nest - Successful
PIPL Nest - Unsuccessful
PIPL, HCP Area
PIPL Fencing
PIPL/LETE Fencing
LETE Nesting Areas

Massachusetts Department of Conservation and Recreation

DCR Nahant Beach Reservation
Piping Plover Breeding Season 2019



N

dcr Massachusetts

PIPL Nest - Successful

PIPL Nest - Unsuccessful

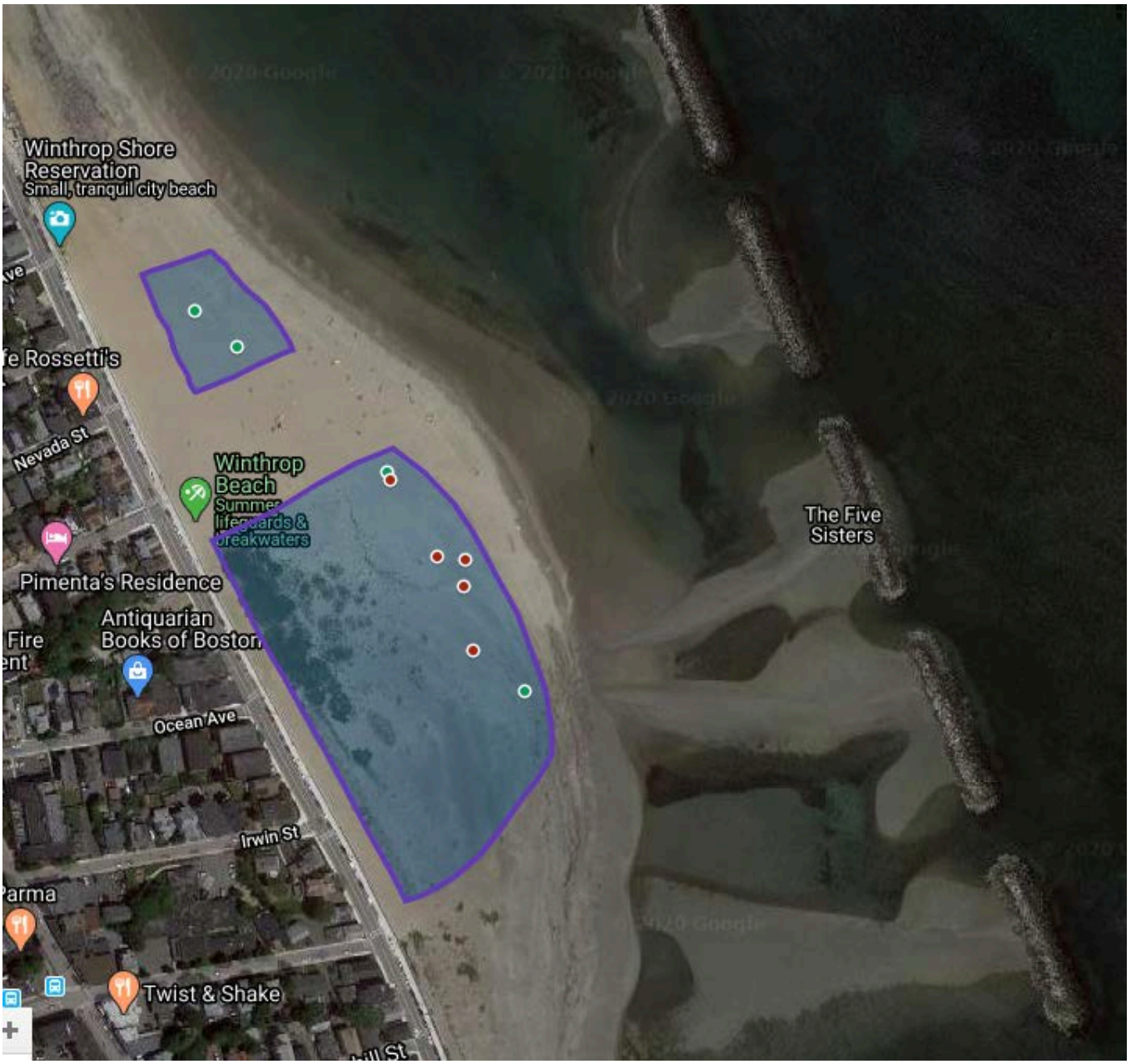
PIPL, HCP Area

PIPL Fencing

PIPL/LETE Fencing

LETE Nesting Areas

DCR Winthrop Shore Reservation
Piping Plover & Least Tern Breeding Season 2019



6. PREDATOR MANAGEMENT

Impacts to productivity on Winthrop Beach Reservation in 2019 were attributed to the presence of a resident skunk. DCR staff repeatedly observed skunk tracks moving from the street access points onto the beach and into the large fenced in vegetated area. Members of the community had informed the DCR Conservation Biologists that a skunk was seen crossing the street and entering the beach in the early mornings. DCR Conservation Biologists determined this skunk to be the probable cause of nest losses within the main protective fencing for both PIPL and the Least Tern colony. Additionally, Red Tailed Hawks, Ospreys, domestic cat tracks, and Eastern Coyote tracks were observed by biologists. However, there was no probable cause observed to assume predation occurred by these species on the beach.

Impacts to PIPL productivity on the North area of Revere Beach in 2019 were a consequence of resident American Crows. DCR staff observed a full clutch destroyed by Crows within the sand fence area in early May. This was determined by the presence of tracks and eggshells around the nest after the predation event, and by prior observations of Crows within the area. A second full clutch nest was lost within the same area in early June, but no tracks or evidence were found during this event. Multiple American Crow sightings were documented along the Northern stretch of beach throughout the entire breeding season, sometimes with three individuals present on the beach at once. DCR Conservation Biologists monitored the area closely and had at least one staff member present at all times during working hours to watch for further crow activity and predation. No control measures were pursued as the PIPL pairs appeared to already be aware of crow presence after the June nest loss and re-nested in less conspicuous locations.

7. ADDITIONAL CONSERVATION EFFORTS

a. Beach Nourishment Projects: DCR has implemented beach nourishment projects both at Revere Beach (1991) and most recently at Winthrop Beach (2014). These projects have helped restore and protect the shoreline and the limited sand resources that are utilized both by the public for recreational activities and the listed shorebirds for nesting.

b. Vegetation Management Plan (VMP): DCR is currently developing a new VMP for Winthrop Beach, and has conducted vegetation surveys in the fall of 2018 to initiate the analysis and evaluation process. Invasive plants are removed manually every year by DCR-coordinated volunteers.

c. Least Tern Monitoring Program: DCR adheres to the state guidelines provided under Massachusetts Endangered Species Act (MESA), and currently protects and monitors a Least Tern colony at Winthrop 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 five (5) 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 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 September 1st.

9. CURRENT BEACH MANAGEMENT

DCR management and protection protocols of listed shorebirds species including PIPL complies and exceeds state and federal guidelines. DCR management includes proactively fencing historical territories by April 1st. In addition, other sections are fenced immediately once additional PIPL pairs demonstrate territoriality or scraping. DCR has been able to provide this kind of protection due to the intensive daily monitoring (7 days a week) that provides coverage from approximately 8-12 hours. However, if emergency circumstances arise related to public health or safety, details related to the monitoring and outreach plan may be subject to change with advanced written approval from the Division. However, in all cases, both state and federal guidelines for managing recreational uses of beaches will be adhered to and implemented.

All maintenance operations conducted at the beach during the nesting season are strictly 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 PIPL 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 the proposed sites of Revere, Winthrop, and Nahant Beach.

A. **Recreational Activities -** Multiple recreational activities are monitored by DCR staff at Revere, Nahant and Winthrop Beaches, including but not limited to swimming, beach games, paddle boarding, kayaking, and kite boarding, among others.

B. **Biological Monitoring** – DCR staff currently monitors abundance, distribution, reproductive success, limiting factors, and responses to habitat changes and management of nesting Piping Plovers and Least Terns at Nahant Beach, Winthrop Beach and Revere 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 per day.

C. **Fencing and Signage** – DCR staff helps deploy, adjust, and maintain symbolic fencing to delineate critical shorebird nesting areas at Nahant Beach, Winthrop Beach and Revere Beach. As stated above, significant portions of the suitable nesting habitat that have supported nesting piping plover and least tern regularly, year after year, are proactively fenced by April 1. The remainder of the beach is intensively monitored on a daily basis, and symbolic fencing is installed as soon as a territorial pair and or scraping 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 occurred during popular high use times on the beach like weekends, or in community organized events like the annual Sand Castle Festival. If emergency situations arise related to public health and safety some forms of public outreach may be reduced or eliminated.

E. **Enforcement** – DCR has dedicated a seasonal Ranger position to these sites to deter and enforce statutes pertaining to the protection of listed nesting shorebirds. 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. If emergency situations arise related to public health and safety, enforcement schedules may be adjusted.

F. **Operations & Maintenance Coordination** – DCR coordinates the type and timing of any beach maintenance operation (e.g. raking for trash collection) with the qualified monitors to ensure that shorebirds are not harassed, killed, or injured by these activities at Nahant Beach, Winthrop Beach and Revere Beach. Each site 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. This includes maintenance of buffers around incubating pairs where no mechanized raking occurs, and monitoring of adult plovers and terns to ensure that raking activities do not result in harassment. The wrack line is also retained in the vicinity of nesting plovers and 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 the chicks prior to raking, and who has the ability to halt the rake, if necessary.

G. **Vegetation Management** – DCR's Coastal Ecologist ensures that any vegetation management plan implemented at Nahant Beach, Winthrop Beach and Revere Beach is compatible with Piping Plover and Least Tern habitat protection. Every September since 2012, DCR leads 2 major volunteer programs that include participation of over 150 people, to manually remove invasive species.

H. **Predator Control** - Proactive predator control programs consisting of trapping or removing avian or mammalian predators have not been initiated but they are under consideration at this time.

I. **Pets:** Pets are not allowed on Nahant Beach, Winthrop Beach or Revere Beach from April 1st through September 15th, and signage reflecting this regulation is posted in every access point in all three beaches. Public outreach is conducted to educate residents and visitors about the potential unintended impacts caused by domestic pets on shorebird nesting.

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 our stewardship of Piping Plovers and other shorebirds. Partial beach closures, due to placement of protective fencing for shorebirds resulting in area restrictions, continue to be controversial for some of the residents and visitors. 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. Intensive monitoring will be required when chicks are near roadways and parking lots. Since Nahant Beach will be cover under this COI, the healthy heart trail (ATV use) and the parking lot could be within 100 yards of a nest and unfledged chicks. Please refer to map in page 14 of this document.

"**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. A fence will be initially placed and then gradually reduced from 50 yards to no less than 10 yards. Fencing will 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 rather than authorize nest moving.

"**Recreation and Beach Operations at Piping Plover Nests with Nest Moving**," within the limits set by the HCP. Nests will not be moved until at least 48 hours after the clutch is completed. Nests will not be moved during inclement weather, in extreme heat, or during evening hours. Nests will be moved gradually to reduce risk of abandonment. Nests will be moved using the cylinder/plate/platform method and visual landmarks are moved with the nest to serve as visual cues. If incubation is not resumed within 1.5 hours, the nest will be moved halfway back to the original nest location and monitored for signs of incubation.

"Recreation and Beach Operations Associated with Reduced Proactive Fencing of Habitat," under the maximum exemptions limits set by the HCP. The HCP allows exceptions whereby 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 pairs of piping plovers. In no event will the covered activity reduce symbolically fenced areas in each site by more than 20% or four (4) acres, whichever is less. 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 five 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 will implement 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 nesting location may negatively impact the local economy by cancelling organized traditional events (e.g. Sand Castle Festival on Revere), 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 and associated economic activity. 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).

We are also proposing reduced proactive symbolic fencing to impact up to 20 pairs of Least Terns, or no more than approximately 20% of the average nesting colony. As a practical matter, it may be difficult to accurately count the number of pairs affected, therefore we will perform repeated estimates over the nesting season.

11. IMPACT MINIMIZATION PROCEDURES

The implementation of the proposed minimization procedures is applicable for Piping Plovers and potentially for Least Terns at Revere, Winthrop and Nahant, 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. The deployment of barriers can 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 must be strategically deployed. 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 of removing the fencing (see HCP, Table 4-7). The square footage of the area subject to reduced fencing will be recorded and reported to DFW. DFW 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, that territory will not be a candidate for implementation of the covered activity and symbolic fencing will be installed. After removal of the fencing, the area will continue to be monitored intensively (at least twice daily for the first five days after fence removal, 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 continued 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 unlikely event that nesting occurs in the area of reduced fencing, fencing will immediately be installed (minimum 10 yard radius around the nest as per 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.

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. After removal or non- installation of the fencing, the area will continue to be monitored intensively (at least twice daily for the first five days, and at least 5-7 times per week, thereafter), and 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, coordination with regulatory agencies, DCR project management staff and contractors, pre-season training for DCR staff and enforcement personnel, informal onsite public education and outreach to effectively communicate changes regarding visitor access restrictions and timeframes.

If implemented, any covered activities will be monitored daily for the upcoming 4 weeks or for the duration of the season if necessary. All biological data collected and any other pertinent operations information will be included in the final report due by October 15th. When covered activities are in effect, DCR will report weekly to MADFW.

If emergency circumstances arise related to public health or safety, details related to the monitoring and public outreach plan may be subject to change with advanced written approval from the Division. However, in all cases, both state and federal guidelines for managing recreational uses of beaches will be adhered to and 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 believes 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 $29,635 per year to invest on predator control programs statewide. The total estimated annual cost of the proposed mitigation of selective predator control at Sandy Point State Reservation is approximately $8,300; or 25%-30% of the total cost for the attached USDA Work Plan (Appendix C). The total estimated cost of implementation of the HCP on DCR's urban beaches is $23,543; including staff time and indirect cost.

	Monitoring< Implementation & Reporting Cost	**Indirect, Fringe and Other Associated Cost**	
Coastal Ecologist	$4,284	$2,276	$6,560
Conservation Biologists	$5,670	$3,013	$8,683
USDA-APHIS	$6,526	$1,054 + $718	$8,300
		Total Cost of Implementation	**$23,543**

**All amounts rounded to the full dollar*

14. MITIGATION PLAN

As set forth in the HCP, DCR is proposing that mitigation be provided by funding a selective predator management program as implemented by USDA-APHIS (scope and budget attached), at DCR Sandy Point State Reservation. This site is ideal due the number of nesting PIPL pairs (13 pairs in 2019), and a Least Tern Colony (25 pairs in 2019). As set forth in the HCP, the mitigation for exposing five pairs of Piping Plover to the covered activities is 3:1, requiring DCR to provide up to 15 Piping Plover pairs to benefit from selective predator management. DCR has budgeted to fund the entire cost of 2020 predator management at Sandy Point, and to the extent possible any mitigation credits will be carried forward to 2021.

15. APPENDICES

Appendix A

MASSACHUSSETTS • USA •
617 - 626 - 1434 • JORGE.AYUB@STATE.MA.US

JORGE J. AYUB

PROFFESIONAL OBJECTIVE

Develop and advance the position of Coastal Ecologist for the Department of Conservation & Recreation of the Commonwealth of Massachusetts, by utilizing my professional training and extensive education on ecology, habitat assessment and natural resources management and protection

HIGHLIGHTS OF PROFESSIONAL SKILLS

- Advance knowledge and experience of environmental and biological monitoring, natural resources management, interpretation and biological research
- 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
- Public service experience
- Advance bilingual skills, English/Spanish

AREAS OF KNOWLEDGE

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

EDUCATION

University of Massachusetts - UMass — Boston, Massachusetts
Graduate Degree Certificate Candidate — Expected Graduation, 05/2017
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 Classes & 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 management at state 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 including those associated with 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 of potential and/or recent land acquisition properties
- Assist in the preparation of scientific data for agency testimony
- Assist in development and maintenance of programs to track biological environmental data
- Inspect and supervise agency consultants work/tasks in the field

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

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

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 and
- 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 Master Naturalist, C.R. Expeditions – Costa Rica
1997-1999 Researcher & Habitat Management, 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

Appendix C

WS WID #s: **25067, 25068, 25069, 25072 25092, 25093, 25095**
WS Agreement #: _____
WS Accounting Code: _____

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, Boston Harbor State Park: Lovell's Island, South Cape Beach State Park, Revere Beach Reservation, and West Island 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: Monte Chandler, State Director
USDA, APHIS, WS
463 West Street
Amherst, MA 01002
Phone: (413) 253-2403 ext. 5
Email: Monte.D.Chandler@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. 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 $29,635.00 **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 30, 2020 and shall continue through September 30, 2020, 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.

MA DCR' Tax ID No.: 04-6002287 APHIS-WS's Tax ID: 41-069627

MASSACHUSETTS
DEPARTMENT OF CONSERVATION AND RECREATION

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

3/23/20
Date

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

MONTE CHANDLER Digitally signed by MONTE CHANDLER
Date: 2020.04.28 10:47:20 -04'00'

Monte Chandler
State Director
USDA, APHIS, WS
463 West Street
Amherst, MA 01002

Date

ROBERT HUDSON Digitally signed by ROBERT HUDSON
Date: 2020.04.28 13:27:37 -04'00'

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

4/28/2020
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 30, 2020 to September 30, 2020.

Program Objective

To conduct a wildlife damage management projects that provide professional services to alleviate avian and mammalian predation to nesting piping plovers and least terns on MA DCR parks including, but not limited to Demarest Lloyd State Park, Horseneck Beach State Reservation, Sandy Point State Reservation, Boston Harbor State Park: Lovell's Island, South Cape Beach State Park, Revere Beach Reservation, and West Island 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 nontoxic shot, (3) placement and monitoring of live traps and (4) using the avicide DRC-1339 COR in and around areas where depredation has occurred by avian predators.

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. The organization and scheduling of additional assistance or assistance at additional facilities will be cooperatively determined between WS and MA DCR, at the request of MA DCR.

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 (March to August) at sites determined to require predator management by MA DCR.

The budget for this agreement is for up to 35 control visits to address mammalian and avian predation. The number of visits will be determined by which park or reservation MA DCR requests WS work 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 $29,635.00, then a signed modified agreement will be required by both parties.

Effective Dates

The cooperative agreement shall become effective on March 30, 2020 and shall expire on September 30, 2020.

FINANCIAL PLAN

Cost Element		Full Cost
Personnel Compensation		$18,253.67
Vehicles		$3,118.50
Other Services		$312.90
Supplies and Materials		$546.35
Equipment		$1,075.70
Subtotal (Direct Charges)		$23,307.12
Pooled Job Costs [for non-Over-the Counter projects]	11.00%	$2,563.78
Indirect Costs	16.15%	$3,764.10
Agreement Total		$29,635.00
The distribution of the budget from this Financial Plan may vary as necessary to accomplish the purpose of this agreement, but may not exceed: **$29,635.00**		

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