dcr
Massachusetts

PIPING PLOVER HABITAT CONSERVATION PLAN CERTIFICATE OF INCLUSION REQUEST 2017

REVERE STATE RESERVATION & WINTHROP SHORES RESERVATION

Bureau of Planning, Design & Resource Protection
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3/15/2017

Photo by Sean Ridley

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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 described under the HCP section 1.2.1 Covered Activities, (2a) *"Recreation and Beach Operations Associated with Reduced Symbolic Fencing"*. DCR is requesting up to four (4) nesting territories for inclusion in this covered activity, aproximately17.5% of the 23 breeding pairs in 2016.

The removal or reduction of symbolic fencing on these sites will help maintain access to the beach; reduce potential economic impacts as well as conflicts with recreational activities to an area that hosts approximately a 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 and Winthrop Shores Reservation (Figure#1), located about two miles apart, and connected by public transportation to the Greater Boston Metro Area. The covered activities permitted under this application include all suitable Piping Plover habitat along the length of Revere Beach and Winthrop Beach.

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

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 which welcomes almost a quarter million visitors every 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 all around 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

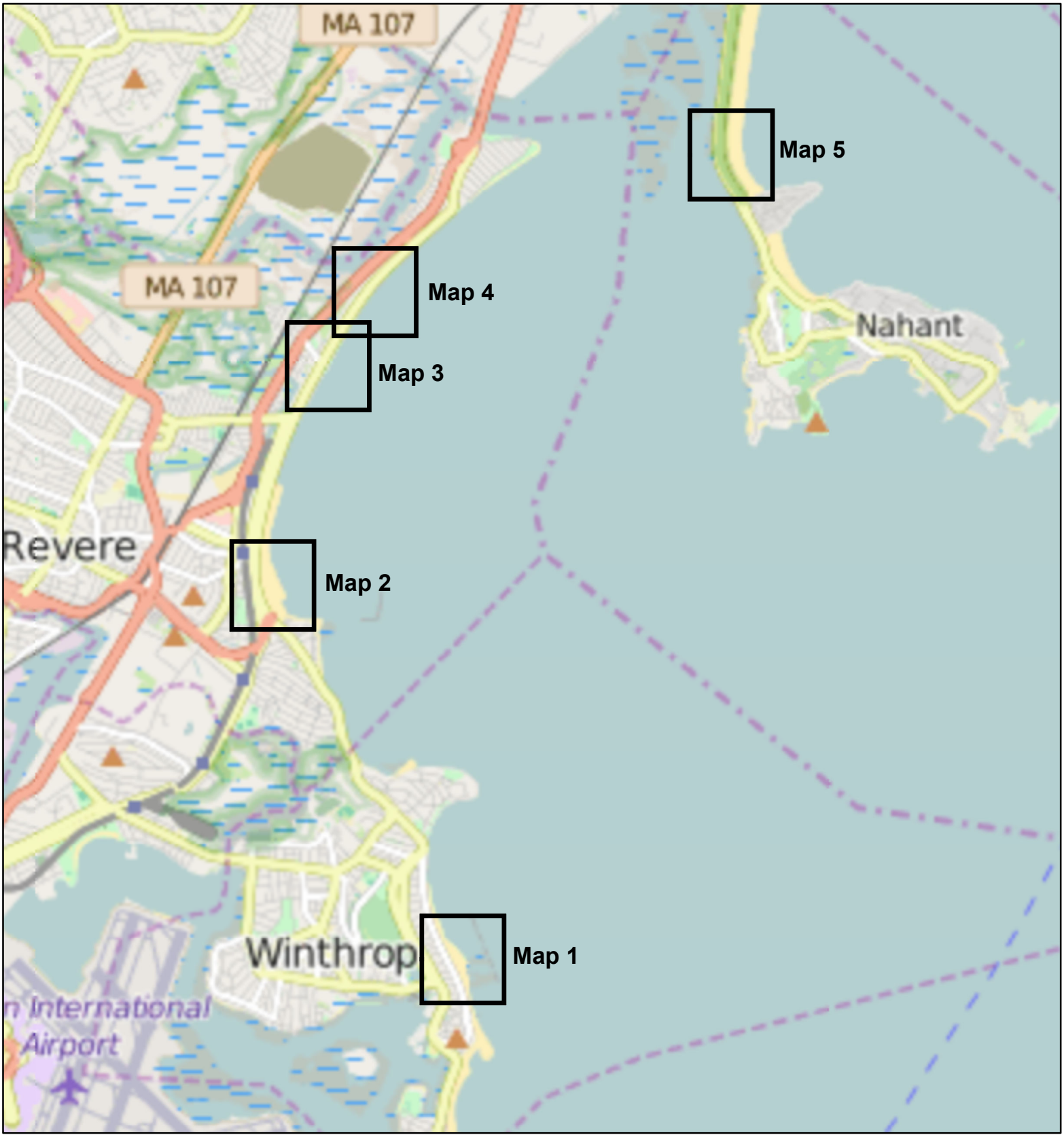
Beach as a destination for city dwellers and tourists alike. Today, Revere and Winthrop Beaches are regarded as centerpieces of a year-round community, which has replaced the hotels and cottages of the past.

In recent years, Revere and Winthrop Beach has also served as nesting habitat for the urban populations of Piping Plovers and Least Terns. Due to the favorable beach width, the support of the local communities and recent resource management efforts by DCR, the nesting habitat has improved in the upper part of the beach, which provides shelter for the shorebirds. However, portions of the primary nesting habitat continue to be the 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.

FIGURE #1: DCR Urban Beaches with nesting Piping Plovers
Revere, Winthrop & Nahant

Massachusetts Department of Conservation and Recreation

DCR Urban Beaches Map with Breeding Piping Plovers - 2016 Season



0 0.5 1 1.5 Miles

dcr Massachusetts

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OpenStreetMap

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Grid: Decimal Degrees, WGS 1984

Urband Beaches Legend

Map 1: Winthrop Shore Reservation
Map 2: Revere Beach Reservation, South
Map 3: Revere Beach Reservation, North
Map 4: Revere Beach Reservation, North
Map 5: Nahant Beach Reservation

4. DCR CONSERVATION MANAGEMENT EFFORTS OF SHOREBIRD SPECIES

Intensive recreational use by local residents and visitors from the Boston Metropolitan Area impacts Revere Beach State Reservation and Winthrop Shores 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 our 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 Name	Scientific Name	Official Conservation Status
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" with non-official status

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 has been stable since construction or lost minimal sand. 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.

The 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 2016.

In 2016, DCR's Revere Beach hosted 15 nesting PIPL pairs, and nearby Winthrop Beach hosted 8 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 hiring 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 four-fold increase in field presence compared to prior years of coastal bird protection. 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 distributing educational flyers and conducting educational programming. DCR may also install permanent educational panels and boards.

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 2007-2016.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Winthrop Beach	No data	2	2	2	2	3	4	6	6	8
Revere Beach	1	2	1	3	3	10	9	9	16.5	15

CHART 1: Number of breeding Piping Plover pairs in the period of 2007-2016

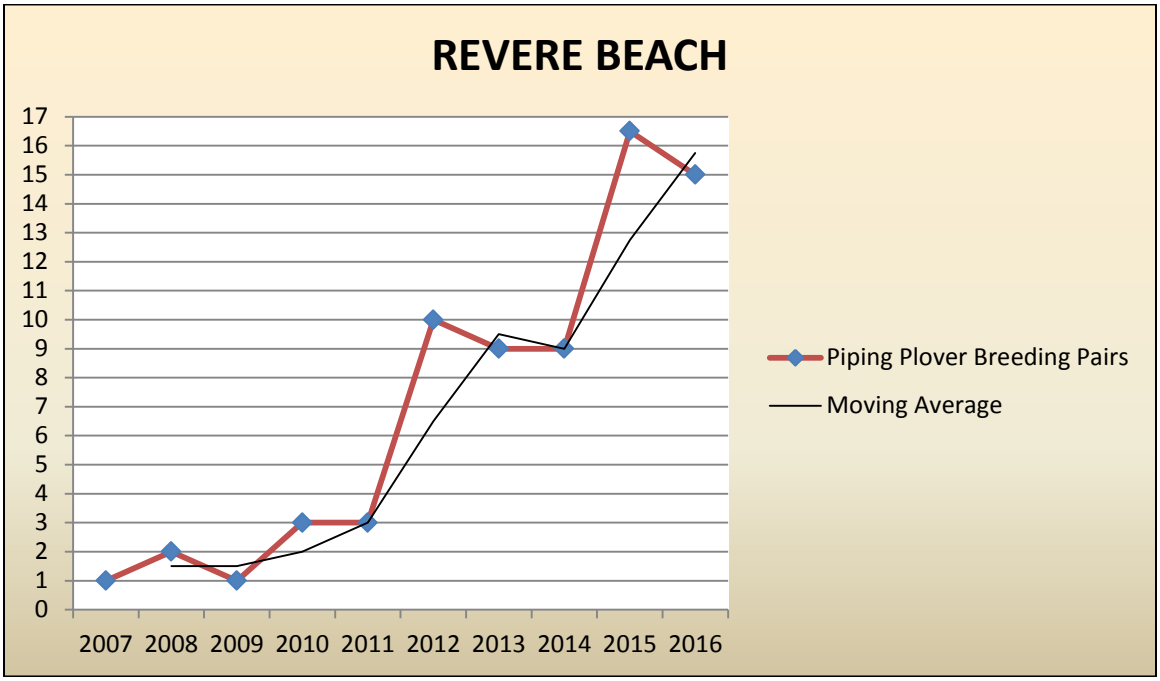

CHART 2: Number of breeding Piping Plover pairs in the period of 2007-2016

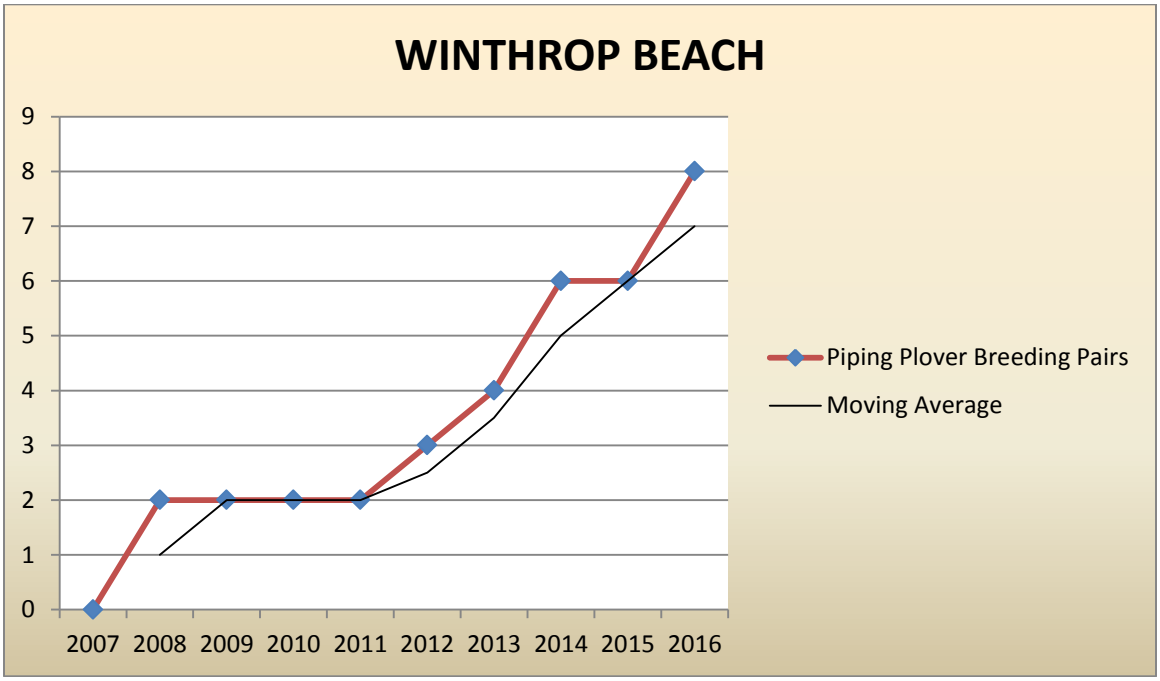

FIGURE #2: Maps of Piping Plover and Least Tern Nesting Areas at Revere and Winthrop - 2016 Nesting Season.

Map 4

Massachusetts Department of Conservation and Recreation

DCR Revere Beach Reservation, North
Piping Plover Breeding Season 2016

0 200 400 600 Feet

dcr Massachusetts

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Revere Beach Reservation North Legend

- Piping Plover Symbolic Fencing (2016)
- Symbolic Fencing Removed 5/6
- Walking Path Added 5/10
- American Beach Grass
- Approximate DCR Property Area

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Sources: OpenStreetMap 2014, DRC
Grid: Decimal Degrees, WGS 1984

OpenStreetMap

Map 3

Massachusetts Department of Conservation and Recreation

DCR Revere Beach Reservation North
Piping Plover Breeding Season 2016

0 200 400 600 Feet

N

dcr Massachusetts

OpenStreetMap

Revere Beach Reservation North Legend

- Piping Plover Symbolic Fencing (2016)
- Approximate DCR Property Area
- Symbolic Fencing Removed 5/18

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Sources: OpenStreetMap 2014, DCR
Grid: Decimal Degrees, WGS 1984

Massachusetts Department of Conservation and Recreation

Map 2

DCR Revere Beach Reservation South
Piping Plover Breeding Season 2016

0 200 400 600 Feet

N

dcr Massachusetts

OpenStreetMap

Revere Beach Reservation South Legend

- Walking Path Added 6/2
- Beach
- Piping Plover Symbolic Fencing (2016)

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Sources: OpenStreetMap 2014, DCR
Grid: Decimal Degrees, WGS 1984

Map 1

Massachusetts Department of Conservation and Recreation

DCR Winthrop Shore Reservation
Piping Plover Breeding Season 2016

0 200 400 600 Feet

dcr Massachusetts

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Sources: OpenStreetMap 2014, DCR
Grid: Decimal Degrees, WGS 1984

OpenStreetMap

Winthrop Shore Reservation Legend

- Piping Plover and Least Tern Symbolic Fencing (2016)
- Beach
- American Beach Grass
- Least Tern Fencing Extended 6/2
- Least Tern Fencing Extended 6/19

6. PREDATOR MANAGEMENT

Impacts to productivity on the south area of Revere Beach in 2016 were a consequence of a resident American Kestrel (Falco sparverius). Earlier observations from 2015 created initial speculation that the Kestrel was the cause of some PIPL chick mortality on site. In 2016, an adult male Kestrel was perching on the symbolic fencing and demonstrating a hunting behavior. Additionally, DCR staff observed and recorded several attempts made at catching PIPL chicks, including one successful chick capture by the adult Kestrel. Images were taken of the kestrel adult and young on fencing, and observational recordings were made of the date and time of chick hunting attempts. The nest location of the Kestrel brood is known to be within 500 meters of PIPL nesting habitat. The Massachusetts Department of Fish and Wildlife Ornithologist was contacted to assist in an attempt to capture and relocate the adult Kestrel, to prevent further depredation of PIPL chicks. The attempts to relocate the individual were unsuccessful. Relocation will be attempted again prior to the next nesting season.

In addition to the Kestrel predation, a PIPL adult was killed on Revere North by an avian predator. Peregrine Falcon and Red Tailed Hawk have both been seen in the area. On Winthrop Beach, a Peregrine Falcon made an appearance in July towards the end of the nesting season, and is suspected of predating on a few Least Tern chicks. Additionally on Winthrop, many domestic cat tracks were found in the last weeks of July.

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 2016 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-Bureau of Planning, Design and 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. 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 personnel are hired every year as Long Term Seasonal (LTS) employees from approximately March 15th through September 1st.

9. CURRENT BEACH MANAGEMENT

Current DCR management and protection 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 can provide this kind of protection thanks to the intensive daily monitoring (7 days a week) that provides coverage from approximately dawn to dusk (12 hours minimum).

All maintenance operations conducted at the beach during the nesting season are strictly coordinated between DCR Ops staff and the Conservation Biologists. These activities include beach raking, trash collection and lifeguard ATV operations. DCR 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 and Winthrop Beach.

A. Recreational Activities - Multiple recreational activities are monitored by DCR staff at Revere and Winthrop Beaches, including but not limited to bathing, 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 Winthrop Beach and Revere Beach. All data is recorded on daily logs that later will be analyzed and reported to MADFW via PIPLODES and TERNODES. This conservation effort is a daily activity that provides approximately 12 hours of coverage per day.

C. **Fencing and Signage** – DCR staff helps deploy, adjust, and maintain symbolic fencing to delineate critical shorebird nesting areas at 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 is detected. In addition, other fencing (e.g. sand fencing) may be used to delineate and protect some of the native vegetation along the upper portion of the beach to help with beach stabilization.

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.

E. **Enforcement** – DCR has dedicated a seasonal Ranger position to these sites, providing a suitable level of law enforcement on the beach to deter and enforce statutes pertaining to the protection of listed nesting shorebirds, and ensure that they are not harassed. The maximum presence of law enforcement activities on the beaches runs from early-April to late-August. The DCR Ranger follows an enforcement protocol in coordination with the DCR Coastal Ecologist, the Conservation Biologists and the local police to improve compliance and protection of the listed shorebird species. Law enforcement efforts by the Seasonal Ranger are timed to coincide with high beach use periods

including weekends and holidays; as well some lower use periods. The law enforcement schedule varies from day to day, week to week to be unpredictable, to interact with as many different beach users as possible, and to provide maximum coverage.

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 both Winthrop Beach and Revere Beach. Both sites have 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 adults plovers and terns to ensure that raking activities are not resulting 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 sometimes 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. Please see attached the approved Order of Conditions.

G. **Vegetation Management** – DCR's Coastal Ecologist ensures that any vegetation management plan implemented at Winthrop Beach and Revere Beach is compatible with Piping Plover and Least Tern habitat protection. Every year since 2012, DCR leads 2 major volunteer programs that include participation of over 150 people, to manually remove invasive species. The programs take place around the month of September. DCR is currently developing a vegetation and management plan for Winthrop Shores Reservation, to help improve the priority nesting habitat.

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

I. **Pets:** Pets are not allowed on Winthrop Beach or Revere Beach from April 1st through September 15th. Public outreach and use of educational materials to educate residents and visitors about domestic pets on the beach during the nesting season is an ongoing effort.

10. COVERED ACTIVITIES

DCR launched a new plan in 2012 for Winthrop Beach and Revere Beach that consists of impact minimization to nesting shorebirds, habitat enhancement, increased monitoring, elevated and coordinated enforcement, internal DCR training, and expanded public education in an effort to improve our stewardship of Piping Plovers. 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 covered activity, "Recreation and Beach Operations Associated with Reduced Proactive Fencing of Habitat," within the limits set by the HCP. In no event will the covered activity reduce symbolically fenced areas in Revere and Winthrop by more than 20% or two (2) acres, whichever is less. The two acre cumulative limit across the site (Revere and Winthrop beaches, collectively) will also include any reductions to symbolic fencing associated with Least Terns (see below).

In addition the covered activity will be limited to a maximum of four 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), 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 of 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. Based on the consistent historical boundaries of the Least Tern Colony, an overlaid with the location of the Least Tern colony in 2016 (Figure #3), could help determine the size of the potential impact area.

11. IMPACT MINIMIZATION PROCEDURES

The implementation of the proposed minimization procedures is applicable for Piping Plovers and potentially for Least Terns at both Revere and Winthrop, 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 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.

Ecological Habitat Restoration: At Winthrop Beach, portions (approximately 25%-30%) of the surficial tombolo where the listed shorebirds nested have been degraded by accretion of sediments consisting of gravel and cobble ridges that do not provide ideal conditions for nesting. The proposed work will help to enhance and maintain this area, and will be executed in accordance to the implementation of the special conditions provided under the permit *DEP File # 082-0379*, under special *Condition number 47*, and referred in *Section 3 of the Winthrop Beach Management Plan*, and in accordance to the conditions of the *Conservation Permit #. 013-216DFW, NHESP files #. 12-30854, Condition 15*, maintenance activities would be implemented by DCR in a manner that enhances and minimizes long-term impacts to the federally and state priority shorebird habitat. Additionally and as stated under *Condition 47*: *"Maintenance conditions are ongoing and do not expire at the end of one year or with the issuance of the Certificate of Compliance."* DCR is proposing to collect and screen the surface material in the designated work area by utilizing a modified excavator bucket with an attached single 1.5-inch screen while grading the work area before moving on to another location. If needed, a tractor pulling a beach rake and a grading board will be utilized to grade the work area at the end of separation of materials. The coarse-grained material derived from the screening process will be placed back immediately within the work area and the excess cobble will be transported and placed on the seaward face of the berm above the high tide line between Tewksbury Street and Moore Street, to help restore an eroded portion of the previously constructed shore protection berm. While conducting this maintenance work, DCR will monitor and ensure prevention of erosion, siltation, sedimentation, and chemical contamination does not occur at the site.

FIGURE #3: Least Tern Colony Area at Winthrop Beach

Massachusetts Department of Conservation and Recreation

DCR Winthrop Shore Reservation
Least Tern Colony 2016

0 100 200 300 Feet

OpenStreetMap

dcr Massachusetts

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DCR Winthrop Shore Reservation Legend

- American Beach Grass
- Beach
- Piping Plover and Least Tern Symbolic Fencing (2016)
- Least Tern Fencing Extended 6/2
- Least Tern Fencing Extended 6/19

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. Formal public outreach programs or meetings may also be conducted if directed by DCR Office of External Affairs.

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.

13. BUDGET

DCR will dedicate existing full time professional staff to implement the covered activities. Based on the extensive monitoring provided in 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 $24,600 per year to invest in the implementation of the HCP. The total current annual cost of the proposed selective predator control at Sandy Point State Reservation (see mitigation plan) is estimated to be $8,300 per year (Appendix C).

	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 (11 pairs in 2016), and a Least Tern Colony (68 pairs in 2016). The mitigation requirement for exposing four pairs of Piping Plover to the covered activity is 4 x 2.5 = 10 Piping Plover pairs to benefit from selective predator management. DCR will fund the entire cost of 2017 predator management at Sandy Point, and to the extent that >10 pairs breed, mitigation credits will be carried forward to 2018.

15. APPENDICES

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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: Environmental Protection — 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 — Georgia, USA. 1997
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 – 2011: **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 – 2011: **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

2002-2010	Operations Coordinators for Destination Management Programs, TAM Corp – Costa Rica
1999-2008	Master Naturalist Interpreter, C.R. Expeditions – Costa Rica
1997-1999	Habitat Management and Interpretation, 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)
- Member of Caribbean Conservation Corporation (CCC)
- 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

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

Agreement No.: 25090
WBS Element:

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

ARTICLE 1

The purpose of this Cooperative Service Agreement is to conduct a wildlife damage management project that provides professional services to alleviate avian and mammalian predation to nesting piping plovers and least terns on Sandy Point State Reservation Ipswich, MA. This predator reduction will enable Massachusetts Department of Conservation and Recreation (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.

ARTICLE 2

APHIS WS has statutory authority under the Act of March 2, 1931 (46 Stat. 1468; 7 U.S.C.426-426b) as amended, and the Act of December 22, 1987 (101Stat. 1329-331, 7 U.S.C. 426c), 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

APHIS WS and MA DCR mutually agree:

The parties' authorized representatives who shall be responsible for carrying out the provisions of this Agreement shall be:

MA DCR:
Jorge J. Ayub
Environmental Analyst and Coastal Ecologist
MA DCR
251 Causeway St, Suite 700
Boston, MA 02114

APHIS WS :
Monte D. Chandler
State Director, MA, CT, and RI
USDA, APHIS, WS
463 West Street
Amherst, MA 01002

To meet as determined necessary by either party to discuss mutual program interests, accomplishments, needs, technology, and procedures to maintain or amend the Work Plan (Attachment A). Personnel authorized to attend meetings under this agreement shall be Jorge J. Ayub or his/her designee, the State Director or his/her designee, and/or those additional persons authorized and approved by Jorge J. Ayub, and the State Director.

APHIS WS shall perform services more fully 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.

ARTICLE 4

MA DCR agrees:

1. To authorize APHIS WS to conduct direct control activities to reduced predation to federally and state listed threatened and endangered species on MA DCR property located at Sandy Point State Reservation, Ipswich, MA. These activities are defined in the Work Plan.

2. These activities are 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 of services provided under this Agreement up to but not exceeding the amount specified in the Financial Plan (Attachment B). MA DCR will begin processing for payment invoices submitted by APHIS WS within 30 days of receipt. MA DCR ensures and certifies that it is not currently debarred or suspended and is free of delinquent Federal debt.

4. To designate to APHIS WS the MA DCR authorized individual whose responsibility shall be the coordination and administration of activities conducted pursuant to this Agreement.

5. 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.
6. APHIS WS shall be responsible for administration and supervision of the program.

7. 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 solely on this project. All other equipment purchased for the program is and will remain the property of APHIS WS.

8. To coordinate with APHIS WS before responding to all media requests regarding this Cooperative Service Agreement and activities conducted by WS under the Work Plan (Attachment A).

9. To obtain the appropriate permits for removal activities for Eastern coyote, red fox, raccoon, American crow, fish crow, and great horned owl, and list USDA, APHIS, Wildlife Services as subpermittees.

10. To provide an indoor working space to complete necessary paperwork.

ARTICLE 5

APHIS WS Agrees:

1. To conduct activities at Sandy Point State Reservation, Ipswich, MA as described in the Work and Financial Plans.

2. Designate to MA DCR the authorized APHIS WS individual who shall be responsible for the joint administration of the activities conducted pursuant to this Agreement.

3. To bill MA DCR for actual costs incurred by APHIS WS during the performance of services agreed upon and specified in the Work Plan. APHIS WS shall keep records and receipts of all reimbursable expenditures hereunder for a period of not less than one year from the date of completion of the services provided under this Agreement and MA DCR shall have the right to inspect and audit such records.

4. To coordinate with MA DCR before responding to all media requests regarding this Cooperative Service Agreement and activities conducted by WS under the Work Plan (Attachment A).

ARTICLE 6

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

APHIS WS assumes no liability for any actions or activities conducted under this Cooperative Service 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 8

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

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 10

MA DCR certifies that APHIS WS has advised the MA DCR that there may be private sector service providers available to provide wildlife management services that the MA DCR is seeking from APHIS WS.

ARTICLE 11

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.

ARTICLE 12

This Cooperative Service Agreement may be amended at any time by mutual agreement of the parties in writing. 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 120 days prior to effecting such action. Further, in the event the MA DCR 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 Taxpayer Identification Number (TIN) _____

MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION:

BY: _____ _____

Jorge J. Ayub — Date
Environmental Analyst and Coastal Ecologist
MA DCR
251 Causeway Street, Suite 700
Boston, MA 02114

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

BY: _____ _____

Monte D. Chandler — Date
State Director, MA , CT, & RI
USDA, APHIS, WS
463 West Street
Amherst, MA 01002

ATTACHMENT A
WORK PLAN

Introduction

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

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

Purpose

To conduct a wildlife damage management project that provides professional services to alleviate avian and mammalian predation to nesting piping plovers and least terns on Sandy Point State Reservation in Ipswich, MA. 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 threatened and state endangered bird species and their nesting activities on the designated nesting areas. WS will focus on Eastern coyote, red fox, raccoon, American crow, fish crow, and great horned owl for this project. However, other predators may be managed if documented threatening or depredating nesting plovers and terns during the project.

Planned APHIS WS Activities

WS program will provide wildlife damage management assistance to alleviate problems caused by avian and mammalian predators on MA DCR property and nesting beaches. 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. 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 predation will include and not be limited to: (1) placement of DRC-1339 treated eggs for avian nest predators (crows), (2) The use of live traps for capturing mammals and raptors that are having negative effects upon shore nesting birds (3) Using night vision equipment and suppressed rifles and/or shotguns for sharpshooting mammalian and avian predators after day light hours.

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.

WS will deploy 1 to 2 Wildlife Biologist/Technicians for 1 to 2 day intervals to be determined collaboratively between MA DCR and WS prior to and during the nesting season (March to July).

The budget for this agreement is for a minimum of ten (10) WS visits to Sandy Point State Reservation. The MA DCR agrees to reimburse the WS Massachusetts program the total cost of this project. If the actual cost will exceed $8,300.00, then a signed modified agreement will be required by both parties.

Effective Dates

The agreement shall become effective on March 27, 2017, and shall expire on August 28, 2017.

ATTACHMENT B
FINANCIAL PLAN

Personnel Compensation	$4,327.76
Vehicles	$567.00
Other Services	$56.21
Supplies and Materials	$109.50
Equipment	$1,467.25
Subtotal (Direct Charges)	$6,527.72
Pooled Job Costs	$718.05
Indirect Costs	$1,054.23
TOTAL	$8,300.00

The distribution of the budget from this Financial Plan may vary as necessary to accomplish the purpose of this agreement, but may not exceed $**8,300.00**.

Financial Point of Contact

MA DCR:	Jorge J. Ayub Environmental Analyst and Coastal Ecologist	(617) 626-1434 Phone
APHIS WS:	Dawn Wanczyk Budget Analyst	(413) 253-2403 Phone

CC