MASSWILDLIFE

DIVISION OF
FISHERIES & WILDLIFE

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

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

Project Location:

Address/Location	Revere Beach State Reservation, Winthrop Shores Reservation, Nahant Beach State Reservation, Wollaston Beach, Carson Beach, M Street Beach
City(ies)/Town(s)	Revere, Winthrop, Nahant, Quincy, Boston

Applicant:

Individual	Priscilla Geigis
Organization	Department of Conservation and Recreation
Mailing address	10 Park Plaza, Suite 6620, Boston MA 02116
Phone & Email	617-626-1250 / priscilla.geigis@mass.gov

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

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

Representative (if any):

Individual	Jorge J. Ayub
Organization	Department of Conservation and Recreation
Mailing address	45 Mill St. Foxborough, MA 02035
Phone & Email	857-214-0207 / jorge.ayub@mass.gov

Has this project previously been issued a NHESP Tracking Number (either by previous NOI Submittal or MESA Information Request Form)? Yes. If yes, Tracking no. 17-36391

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

REQUESTED COVERED ACTIVITIES FOR PIPING PLOVER

Covered activity:	***Use of roads and parking lots in the vicinity of unfledged chicks***	***Recreation and beach operations***	***Oversand vehicle use in vicinity of unfledged chicks***	***Total****
*No. requested take exposures**	5-8	8-12	2-4	15
Max. % of total pairs at site to be exposed				50%
Acreage affected				4
Max. % of total nesting acreage affected for this species at site				20%

* The Total *No. requested take exposures* should be a maximum number of exposures for all Covered Activities combined in a given year (i.e., a not-to-exceed value). As beach operators may not be able to predict which Covered Activities will be implemented in a given year, a range of values or maximum value may be presented for each individual activity. For instance, requested exposures under each of the three activities might be 2 while the Total might be less than 6.

REQUESTED COVERED ACTIVITIES FOR LEAST TERN OR OTHER AVIAN SPECIES (identify species): Least Tern

Covered activity:	*Use of roads and parking lots in the vicinity of unfledged chicks*	*Recreation and beach operations*	*Oversand vehicle use in vicinity of unfledged chicks*	*Total**
*No. requested take exposures**	0	1-5	0	5
Max. % of total pairs at site to be exposed				25%
Acreage affected				2
Max. % of total nesting acreage affected for this species at site				10%

* The Total *No. requested take exposures* should be a maximum number of exposures for all Covered Activities combined in a given year (i.e., a not-to-exceed value). As beach operators may not be able to predict which Covered Activities will be implemented in a given year, a range of values or maximum value may be presented for each individual activity. For instance, requested exposures under each of the three activities might be 2 while the Total might be less than 6.

REQUESTED SPECIFIC METHODS ASSOCIATED WITH IMPLEMENTING COVERED ACTIVITIES (check all that apply)

	Piping Plover	Least Tern	Other (identify): _____
Reduced proactive symbolic fencing	X	☐	☐
Reduced fencing around the nest	X	X	☐
Beach raking	X	X	☐
Physical deterrents (coverboards, flagging, etc.)	X	X	☐
Chick herding	X	☐	☐
Barriers	X	☐	☐
Nest moving	X	☐	☐
Other (briefly identify) Barriers	X	☐	☐

PROPOSED PIPING PLOVER MITIGATION (Mitigation for other species should be proposed in the IAMP; see below.)

Type	Y/N	Total amount	Pairs to benefit (credits)
*Pay fee for offsite mitigation**	No	$	
Applicant-implemented activities (in lieu of fee):			
· Selective predator management	Yes	Submit details in IAMP (see below)	41.5
· Increased education & outreach	No		MassWildlife will determine value (credits) for these activities
· Increased law enforcement	No		
· Habitat management	No		
· Other	No		

* Mitigation ratios (mitigation credits:exposure) and fees (per pair, nest, brood, or territory) are: Use of Roads and Parking Lots (vehicular, 3:1 or $6,150; non-vehicular, 2.5:1 or $5,800); Recreation & Beach Operations, Oversand Vehicle Use (2.5:1 or $5,800)

OTHER REQUIRED ELEMENTS OF REQUEST FOR COI

*(Please attach. See a*dditional guidance available to applicants; contact coastal.waterbirds@mass.gov.)

[X] Site map – showing parcel boundaries and provide proof of ownership

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

[X] Site-specific Impact Avoidance and Minimization Plan (IAMP) in format specified by MassWildlife in available guidance

[X] Mitigation plan, including budget

[X] MA Endangered Species Act filing fee

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

[X] Conservation and Management Permit fee

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

[X] Draft Escrow/Mitigation Fund Agreement, with applicant-specific edits in TrackChanges/redline (if mitigation fee will be paid)

Contact: Coastal.Waterbirds@mass.gov for template agreement.

SUBMITTAL

[X] Mail a hard copy of entire application (including signed cover sheet) with checks, to:

Environmental Review-HCP, MassWildlife-NHESP, 1 Rabbit Hill Rd., Westborough, MA 01581.

[X] Also email entire application to: **Coastal.Waterbirds@mass.gov**.

REQUIRED SIGNATURES

Provide separate sheet if multiple landowners

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

Signature of Property Owner/Record Owner of Property Priscilla Geigis Date 12/15/2023

Signature of Applicant (if different from Owner) Date

MASSWILDLIFE

MASSACHUSETTS
PROJECT REVIEW CHECKLIST

Massachusetts Endangered Species Act M.G.L. c.131A and Regulations (321 CMR 10.00)

Project Details

***Project or Site Name:** Urban Coast HCP COI Application

***Street Address/Location:** 1 Eliot Circle, Revere MA

***Town(s):** Revere, Winthrop, Nahant, Quincy, South Boston

***Total Site Acreage:** _____ ***Acreage of Disturbance**[1]**:** 11

Parcel/lot number: _____ **Assessors map/plat number:** _____

Project Description (If necessary, a project/site description can also be provided as an attachment)**:** _____

DCR Request for HCP COI for Urban Coast Sites (Revere Beach, Winthrop Beach, Nahant Beach, Wollaston Beach, Carson Beach, M Street Beach, Pleasure Bay)

Registry of deeds information[2]

Registry: _____ **Certificate #** (if registered land)**:** _____

Book: _____ **Page Number:** _____

Do you have a previous NHESP Tracking number? (Yes / No) If yes, please provide: 17-36391

Will this project require a filing with the Conservation Commission and/or DEP pursuant to the Wetlands Protection Act (WPA)? (Yes / No)

Map

***Required:** Enclose a map with the site location clearly marked and centered on the page.

Landowner Info

***Are you the Record Owner**[3] **of the property? (Yes / No)**

***If No, are you a representative of the Record Owner or do you have permission from the Record Owner to submit this request or filing?**[4] **(Yes / No)**

Department of Conservation and Recreation			
***Landowner Name**			
10 Park Plaza, Suite 6620	Boston	MA	02116
***Street Address/Location**	***City/Town**	***State**	***Zip Code**
	617-626-1250		
Email	**Telephone**		

Comments/Purpose of request[5]**:**

[1] Please disclose the full acreage of disturbance associated with the project, including areas outside of Priority Habitat.
[2] If your project contains more than one registered property, please attach a document listing the Registry information for each.
[3] Record Owner means any person or entity holding a legal or equitable interest, right or title to real property, as reflected in a written instrument or recorded deed, or any person authorized in writing by such person.
[4] If you are not the record owner, a statement or proof that you are authorized by the record owner must be attached.
[5] Provide the authorization you have to submit this request if you are not the record owner and not a representative of the record owner.

Applicant Info

Priscilla Geigis			
Applicant Name (if different from Landowner)			
10 Park Plaza, Suite 6620q	Boston	MA	02116
Street Address/Location	**City/Town**	**State**	**Zip Code**
priscilla.geigis@mass.gov		617-626-1250	
Email (if available)		**Telephone**	

Representative Info

Jorge J. Ayub			
Applicant Name (if different from Landowner)			
45 Mill St.	Foxborough	MA	02035
Street Address/Location	**City/Town**	**State**	**Zip Code**
jorge.ayub@mass.gov		857-214-0207	
Email (if available)		**Telephone**	

**Required Documents*

- [X] USGS map (1:24,000 or 1:25,000) with property boundary clearly outlined
- [ ] Project plans for entire site (including wetland Resource Areas, showing existing and proposed conditions, existing and proposed tree/vegetation clearing line, and clearly demarcated limits of work)
- [X] Assessor's map or right-of-way plan of site
- [X] Statement/proof that applicant is the Record Owner or that applicant is a person authorized in writing by the record owner to submit this filing
- [X] Photographs representative of the site

Projects altering 10 or more acres, must also submit:

- [X] A vegetation cover type map of the site
- [X] Project plans showing Priority Habitat boundaries

The Division will notify you within 30 days if the materials submitted do not satisfy the filing requirements under 321 CMR 10.20. The Division may request additional information, such as, but not limited to, species and habitat surveys. A request for additional information would come within 30 days of receiving a complete filing.

**Filing Fee*

Fee schedule is available at https://www.mass.gov/how-to/how-to-file-for-a-mesa-project-review

***Total MESA Fee Enclosed:** $900.00 Payable via check to **Comm. of MA - NHESP**

**Required Signatures*

I hereby certify under the pains and penalties of perjury that the information contained is true and complete to the best of my knowledge.

Priscilla Geigis — 12/15/2023

Signature of Property Owner/Record Owner of Property — Date

Signature of Applicant (if different from Owner) — Date

Please mail this completed form, with the required document and fee to:
NHESP Regulatory Review | MassWildlife Field Headquarters | 1 Rabbit Hill Road | Westborough, MA 01581

MASSACHUSETTS – DEPARTMENT OF CONSERVATION AND RECREATION

DCR Request for Certificate of Inclusion in the Massachusetts Habitat Conservation Plan for Piping Plover

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Revere Beach State Reservation, Winthrop Shore Reservation, Nahant Beach State Reservation, Wollaston Beach State Reservation, Carson Beach State Reservation, M Street State Reservation & Pleasure Bay State Reservation

Shorebird Recovery Program
Bureau of Resource Protection
Department of Conservation & Recreation
10 Park Plaza, Suite 6620
Boston, MA 02116

December 15, 2024

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INTRODUCTION

The Massachusetts Department of Conservation and Recreation (DCR) 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 covered activities as described under the HCP section 1.2.1 Covered Activities:

- **1**. Use of Roads and Parking Lots in the Vicinity of Unfledged Piping Plover Chicks
- **2a**. Recreation and Beach Operations Associated with Reduced Symbolic Fencing Around Piping Plover and Least Tern Nests
- **2b**. Recreation and Beach Operations Associated with Reduced Proactive Symbolic Fencing of Piping Plover Habitat
- **2c**. Recreation and Beach Operations at Piping Plover Nest Sites with Nest Moving
- **3**. OSV Use in the Vicinity of Unfledged Piping Plover Chicks

DCR is requesting up to fifteen (15) nesting territories or pairs for inclusion in these covered activities, or approximately 50% of the average 31.5 breeding pairs of Piping Plovers that have nested in the Urban Coast sites annually between 2021-2023. DCR is also requesting up to five (5) nesting territories or pairs of Least Terns for inclusion in; **2a.** Recreation and Beach Operations Associated with Reduced Symbolic Fencing Around Nests, or no more than 25% of the colony, whichever is less. The impacted territories would not exceed a maximum of 4 acres or 20% of the total Piping Plover nesting habitat across the seven (7) sites listed in the application, nor would the covered area exceed 2 acres or 10% of the total Least Tern nesting habitat on Winthrop Beach and Revere Beach. The removal or reduction of symbolic fencing, OSV use, and the use of major recreational areas and pathways at the state's popular urban sites will help maintain public access to the beach and reduce potential conflict with recreational activities in an area that hosts over 2.5 million visitors per year.

Since 2016 DCR has maintained annual participation in the HCP for three (3) of its Urban Coast sites – Revere Beach, Winthrop Beach, and Nahant Beach –, and is applying to include coverage on four (4) additional urban sites – Wollaston Beach, Carson Beach, M Street Beach, and Pleasure Bay – beginning in 2025. DCR's current management and protection of listed shorebird species assumes that Piping Plovers nesting on Revere Beach, Winthrop Beach, Nahant Beach, Wollaston Beach, Carson Beach, M Street Beach, and Pleasure Bay are represented together as a whole urban population, and that management actions at all seven (7) beaches will benefit this entire population. Therefore, management efforts to benefit Piping Plovers are applied equally to all the included beaches.

Intensive recreational use by residents and visitors from the Boston Metro Area impacts these seven (7) sites as well as contiguous salt marsh habitat. The presence of breeding Piping Plovers, state-listed terns, and other coastal bird species of conservation concern share these urban coastal habitats with hundreds of thousands of visitors annually. The combination of popularity for recreation and importance of habitat has created a unique opportunity for urban wildlife conservation, enabling DCR to proactively educate residents and visitors from the nearby communities about coastal conservation goals and statutory protections for priority species.

IMPACT AVOIDANCE AND MINIMIZATION PLAN (IAMP)

I. Site Descriptions

Revere Beach is the oldest public beach in the United States, founded in 1896 and today hosts up to a quarter million visitors each week during the peak of the summer.

Winthrop Beach was used from the mid-1600s until the late-1800s mostly for utilitarian purposes: clam digging, lobster fishing, 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 is part of DCR's Lynn Shore Reservation and is located east of Nahant Road which is the only connection between the towns of Lynn and Nahant.

Wollaston Beach is an urban beach in Quincy, located directly in front of Quincy Shore Drive and a part of the Quincy Shores Reservation.

DCR's Carson M Street, and Pleasure Bay Beaches are busy public beaches located along a roughly 1.5- mile segment of sandy shoreline bordered by William J. Day Boulevard in South Boston, collectively referred to as Old Harbor Reservation. The City of Boston owns and manages KLM Street Beach, a 0.25-mile portion of this continuous shoreline situated between Carson Beach to the west and M Street Beach to the east.

A. Acreage

Revere Beach consists of approximately 120 acres of coastal habitat with approximately 60 acres of viable and historic nesting habitat for Piping Plovers and Least Terns.

Winthrop Beach consists of approximately 26 acres of coastal habitat with 18 acres of viable and historic nesting habitat for Piping Plovers and Least Terns

Nahant Beach consists of approximately 67 acres of coastal habitat with 35 acres of viable and historic nesting habitat for Piping Plovers and Least Terns.

Wollaston Beach consists of approximately 80 acres of coastal habitat with 18 acres of viable and historic nesting habitat for Piping Plovers and Least Terns.

Carson, M Street, and Pleasure Bay Beaches are a part of Old Harbor Reservation which consists of approximately 153 acres of coastal habitat. Carson holds 12 acres, M Street holds 3 acres, and Pleasure Bay holds 10 acres of viable nesting habitat for Piping Plover.

B. Infrastructure

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. Nahant Beach, also called Long Beach, is situated along a human-made causeway connecting the town of Nahant to the city of Lynn 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. The landward perimeter of Wollaston Beach is delineated by a seawall next to the sidewalk, with several entrances extending the length of the beach. There are two pier structures extending across the beach at its midpoint that serve two private yacht clubs, as well as access ramps for boat trailers associated with the clubs to access the water with vessels. The waterfronts of Old Harbor Reservation are about a half-mile from the city's public train system and have become a popular after-work and summer weekend destination for both locals and visitors from the Greater Boston area, including large numbers of students.

C. Access Points

All seven (7) urban sites have open access from their connecting public streets and in addition to the public on-street parking available at all sites Nahant and Carson also feature large, dedicated parking lots. All the urban sites have regularly spaced walking entrances along their lengths maintained to provide pedestrian access from sidewalks, recreational paths, and the seawall.

D. Types of Habitat and Key Natural Features

In recent years Revere, Winthrop, and Nahant Beaches have also served as nesting habitat for a large portion of 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. In particular, the dune habitat at the northern ends of the Revere Beach and Nahant Beach sites are susceptible to significant erosion from winter storms, which may have a cumulative diminishing effect on available nesting habitat each year. The main extent of Wollaston Beach substrate is a mixture of fine sand,

small gravel, and small cobble, and the beach became a nesting site for Piping Plovers in 2020. The southernmost portion of the beach is a condensed rocky area, with a mixture of shells and small-medium sized rock. The northernmost portion of the beach is a salt marsh. There is no primary dune structure at the site, and vegetation – primarily American Beachgrass – occurs in disparate swathes between mostly flat, sandy sections. Healthy wrack deposits occur regularly, and the site appears to provide substantial foraging and staging habitat for wading birds as well as breeding and migrating shorebirds. No true dune system exists for Old Harbor Reservation's sandy shoreline, as it is bordered entirely by urban infrastructure. Piping Plover nesting was confirmed in 2024 on Carson and Pleasure Bay. The nesting pairs benefitted from the low tidal action of the harbor for increased foraging availability and relied on bordering beach vegetation and rip-rap for brooding refuge.

E. Site Maps

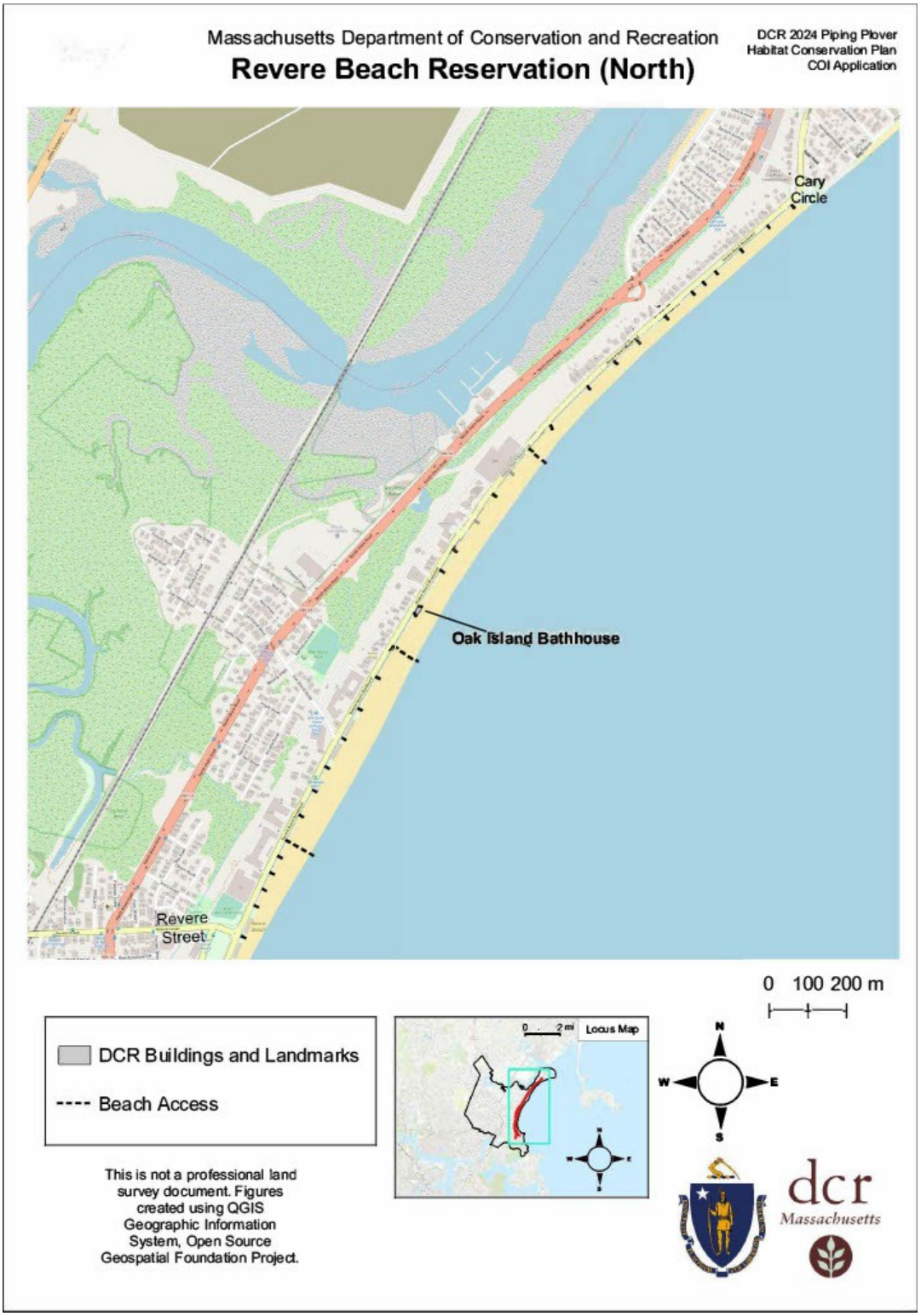

Figure 1: Revere Beach (North) Site Map.

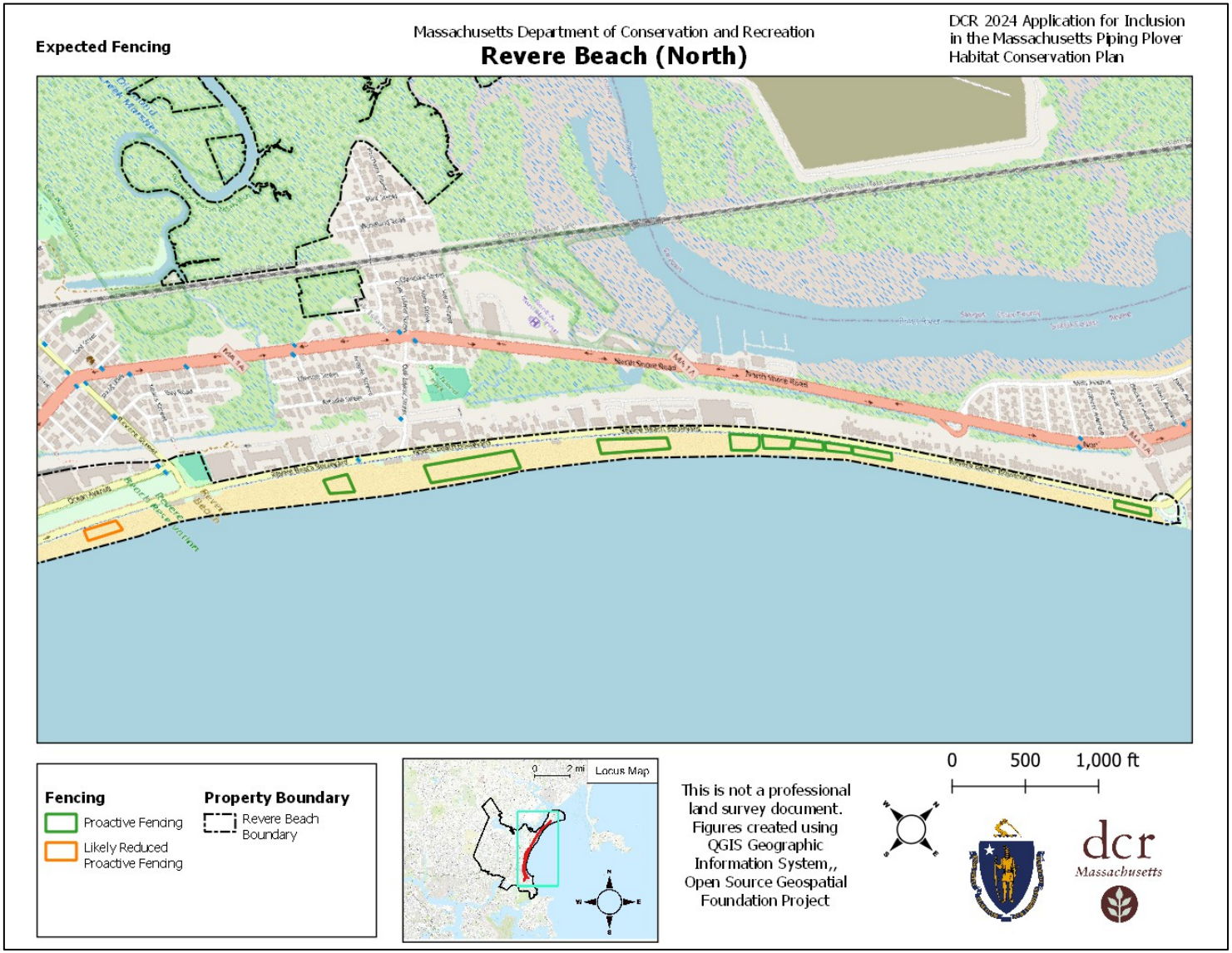

Figure 2: Revere Beach (North) Expected Fencing

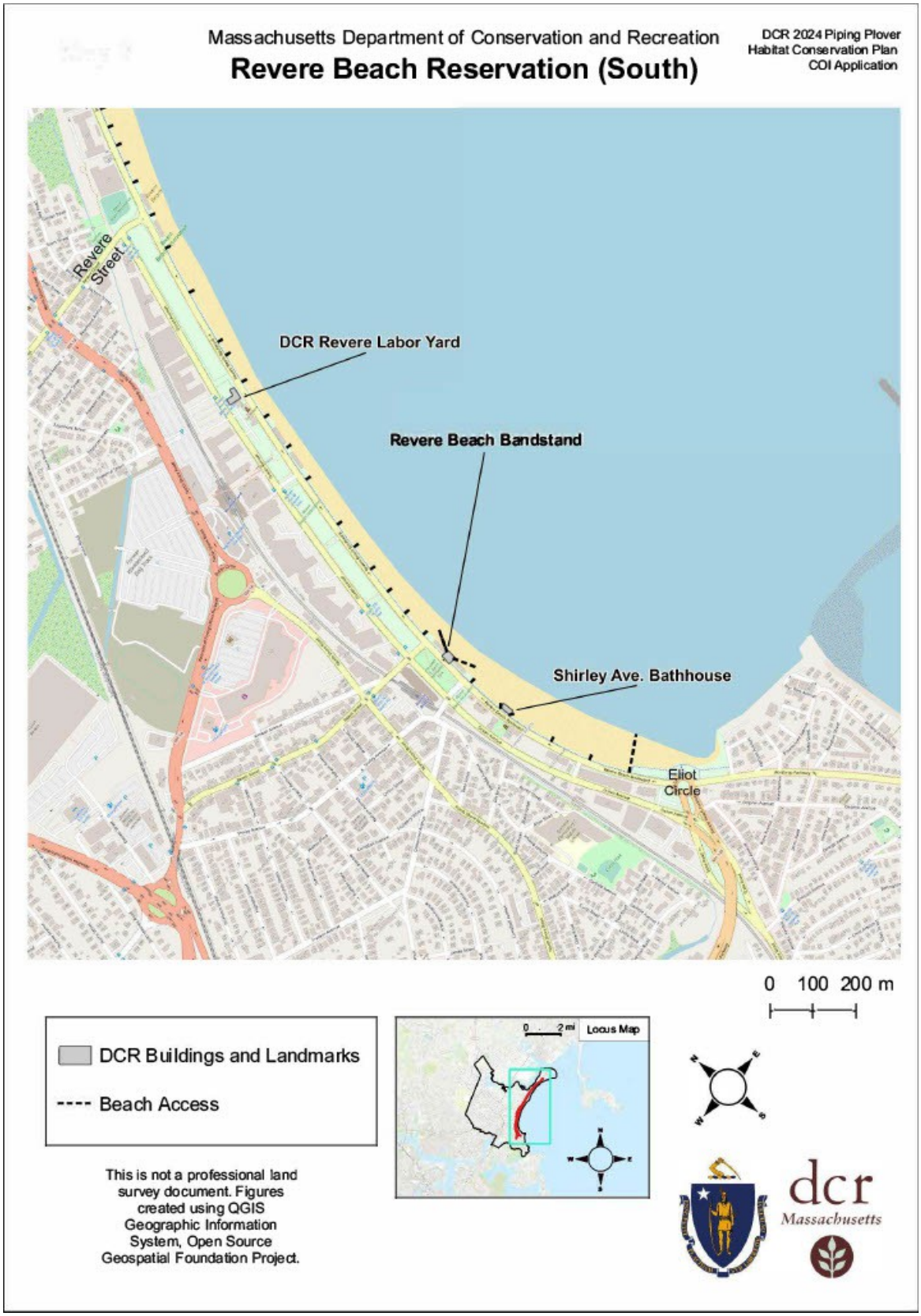

Figure 3: Revere Beach (South) Site Map.

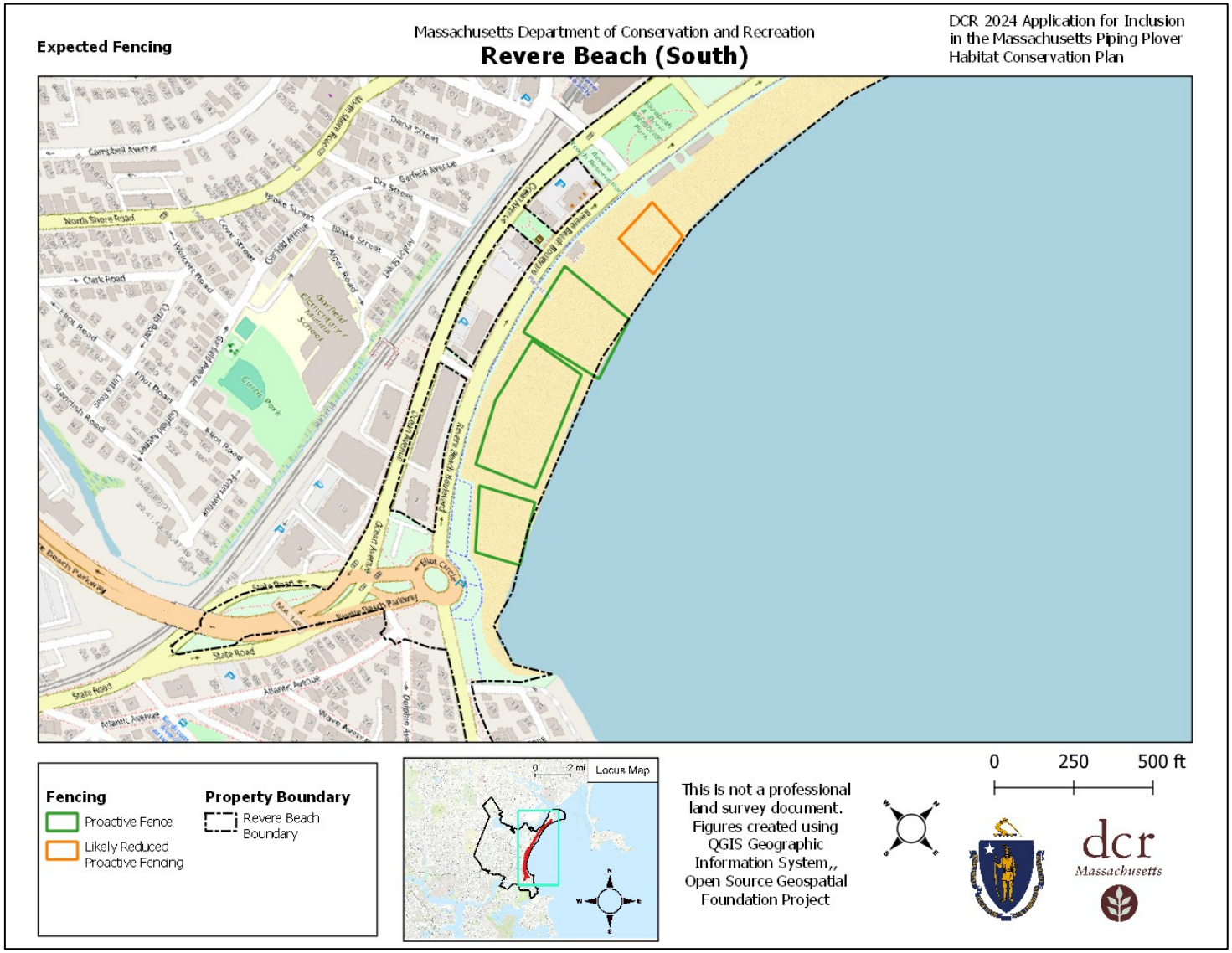

Figure 4: Revere Beach (South) Expected Fencing

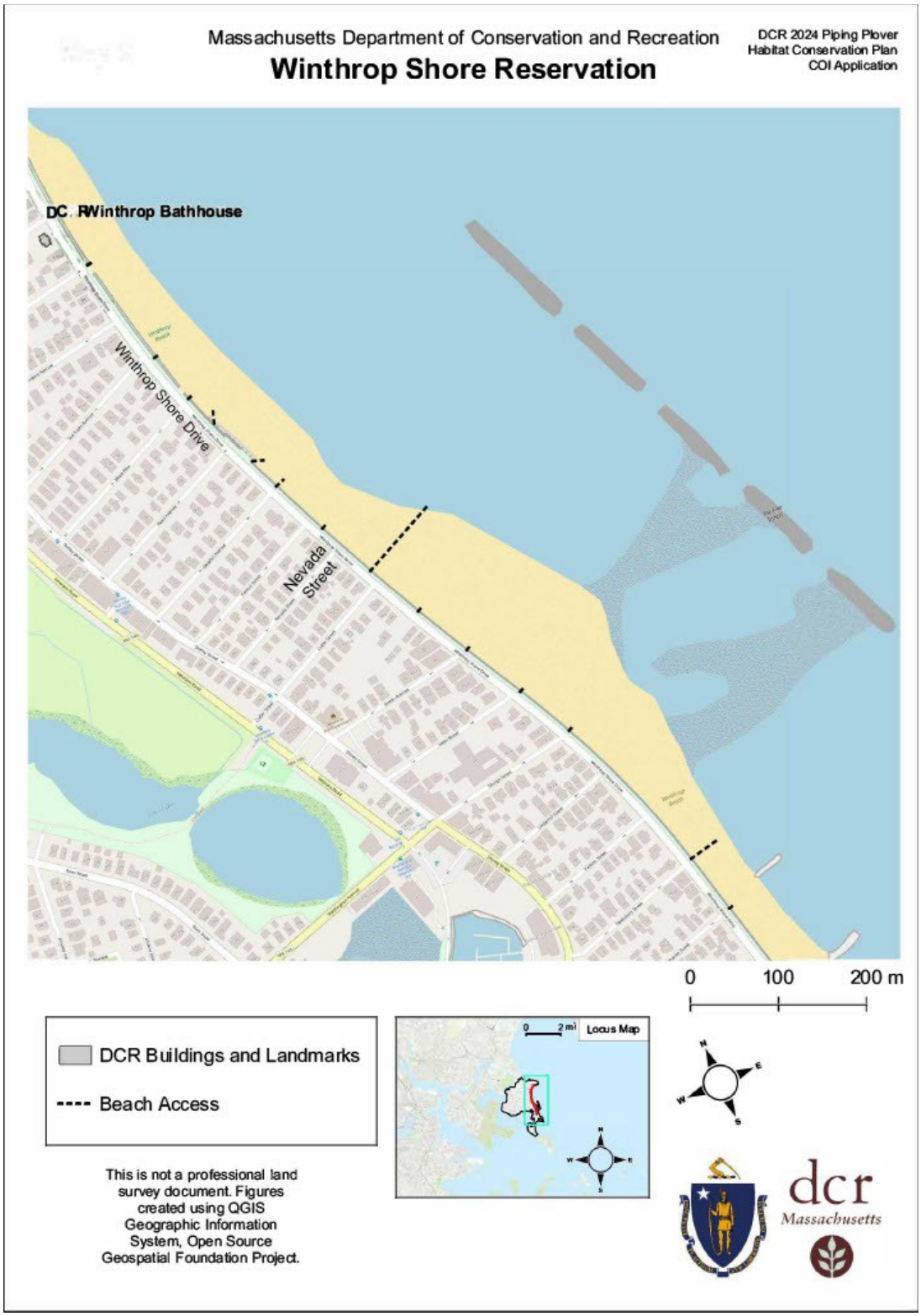

Figure 5: Winthrop Beach Site Map.

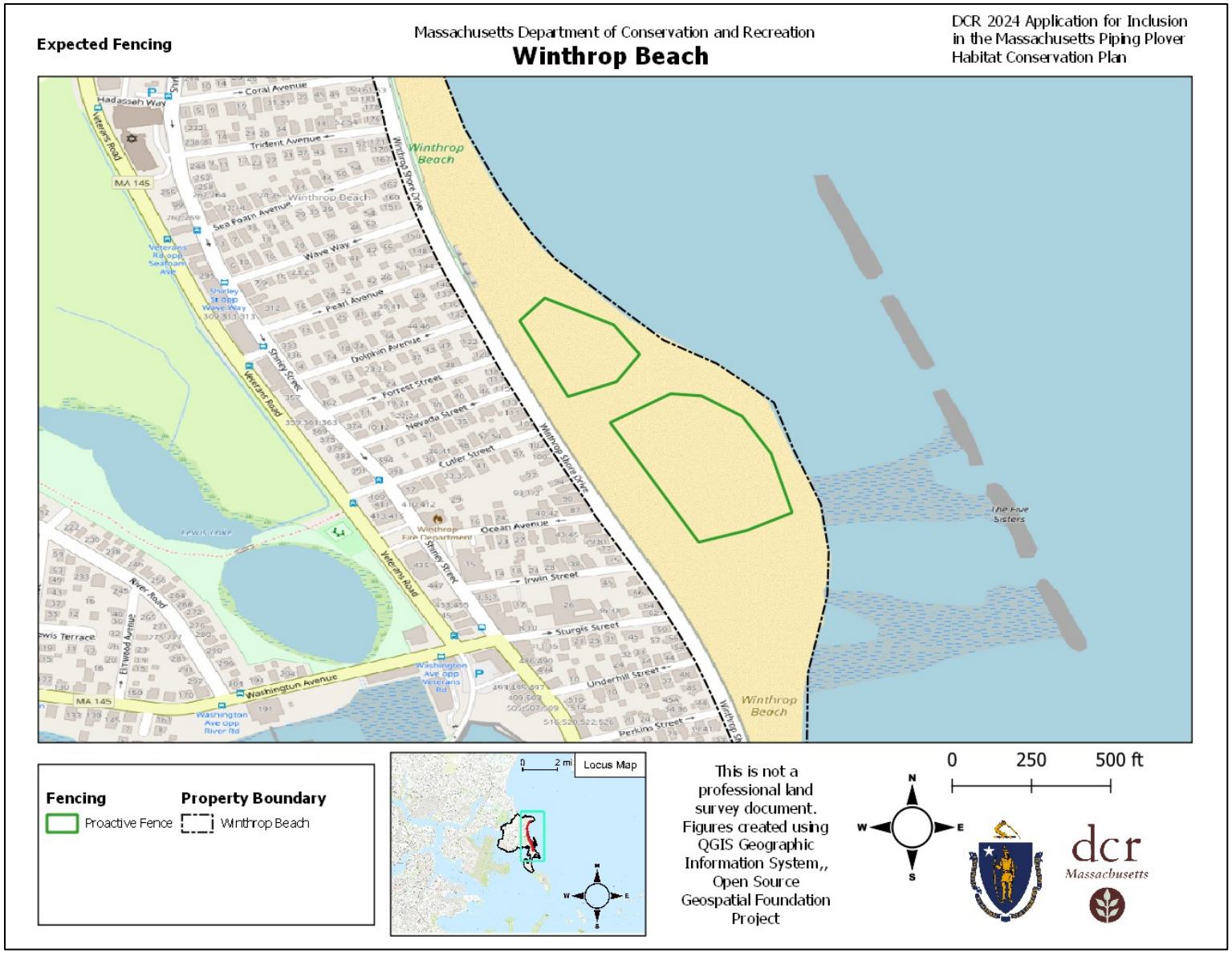

Figure 6: Winthrop Beach Expected Fencing

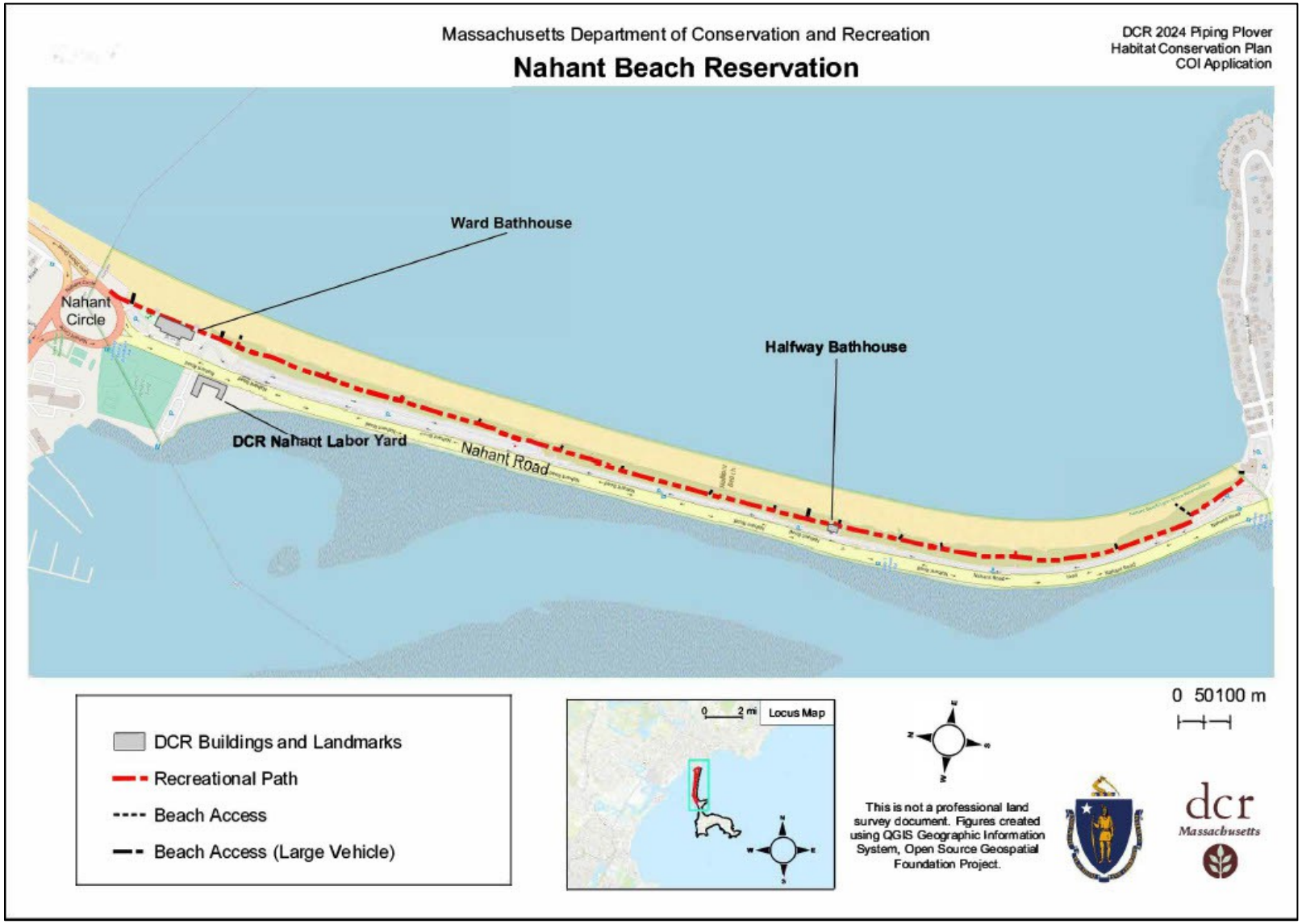

Figure 7: Nahant Beach Site Map.

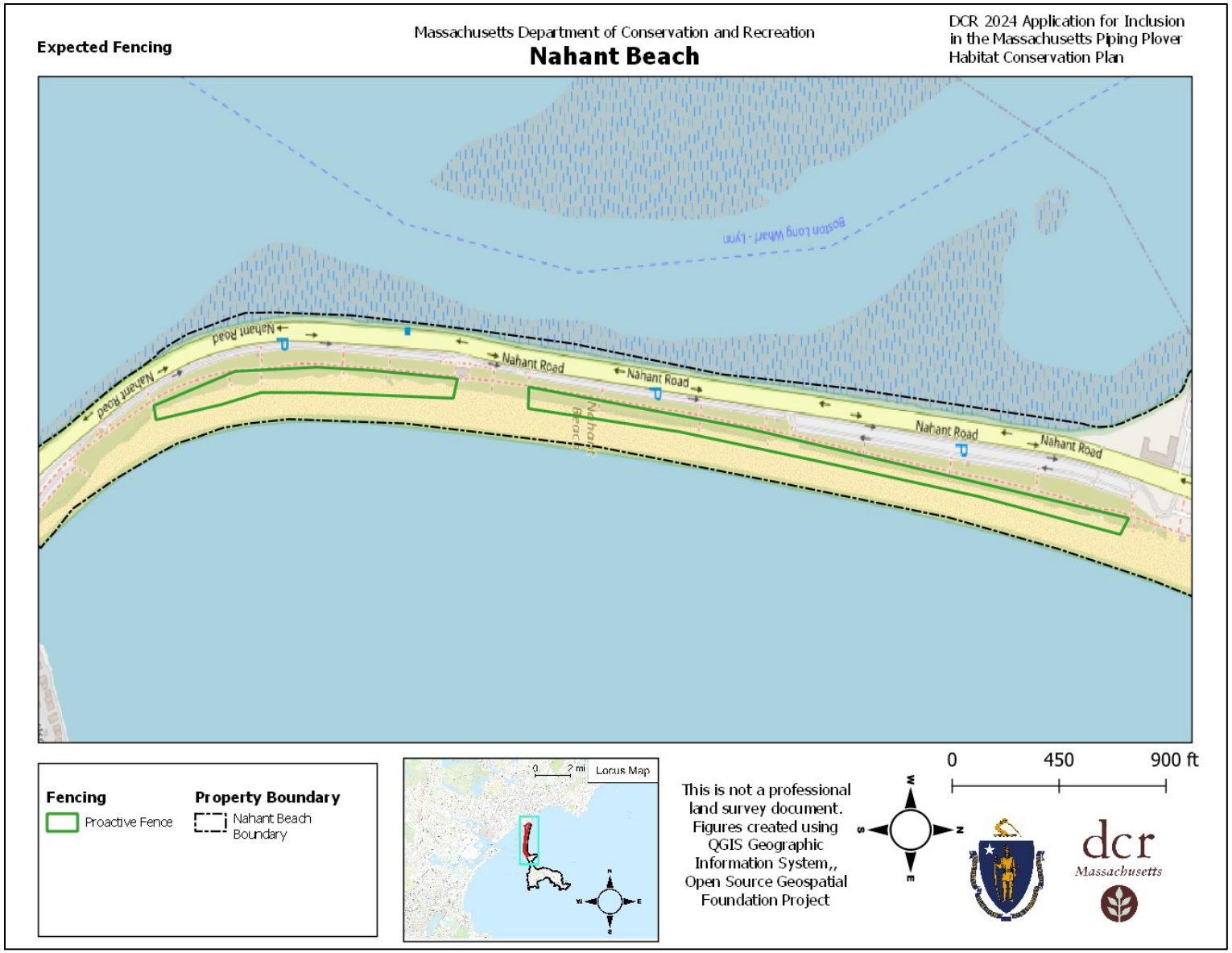

Figure 8: Nahant Beach Expected Fencing

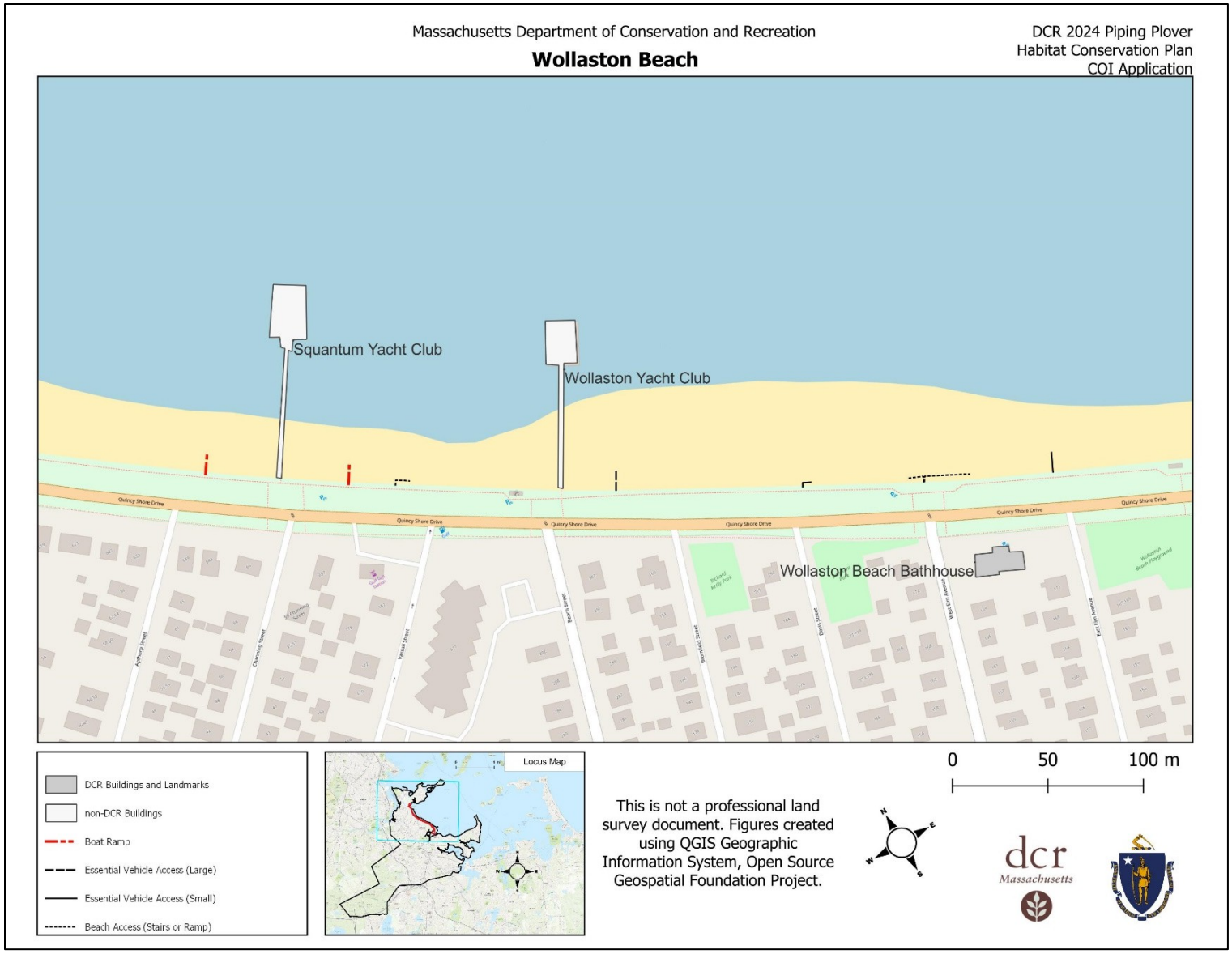

Figure 9: Wollaston Beach Site Map.

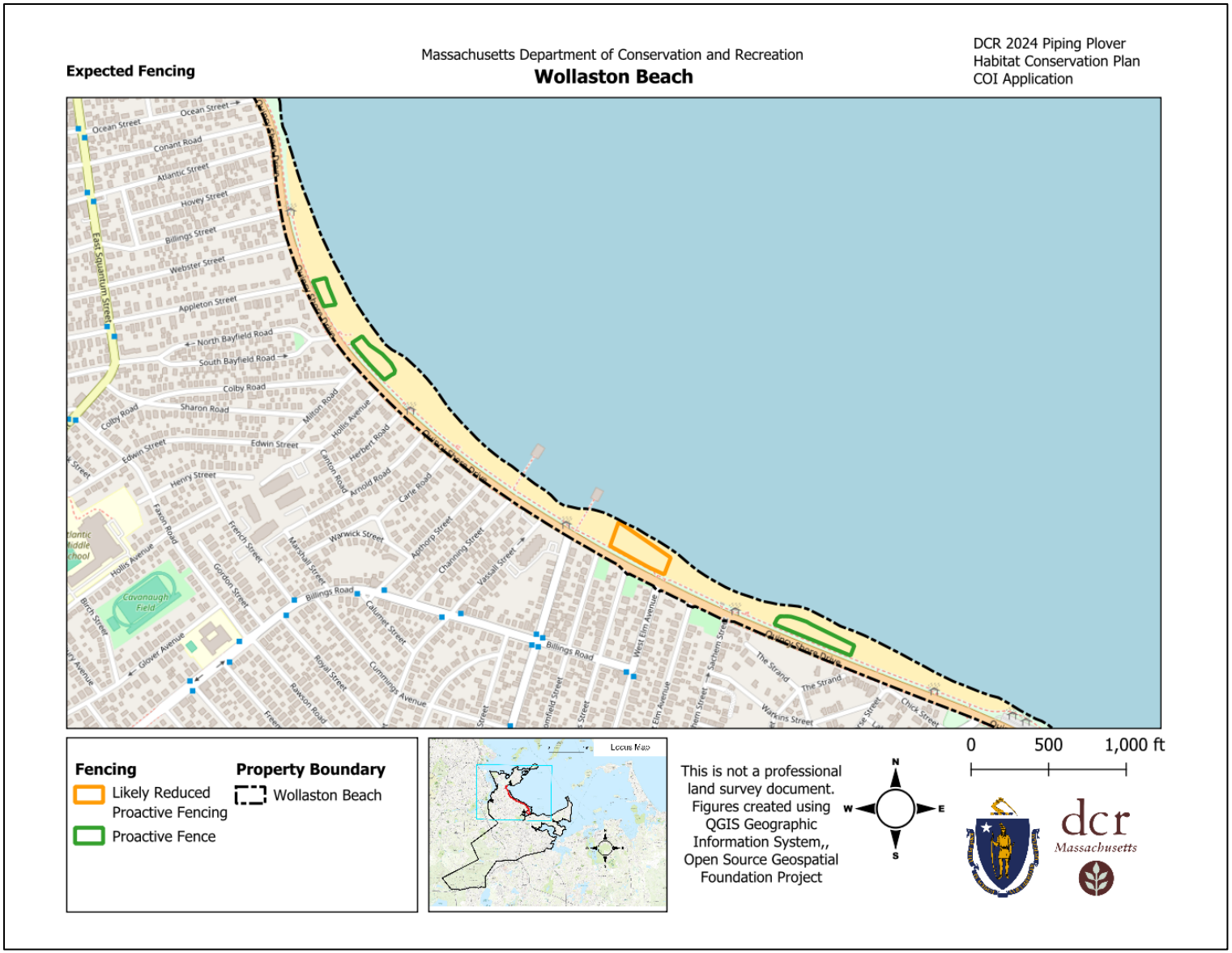

Figure 10: Wollaston Beach Expected Fencing

Figure 11: Carson Beach Site Map.

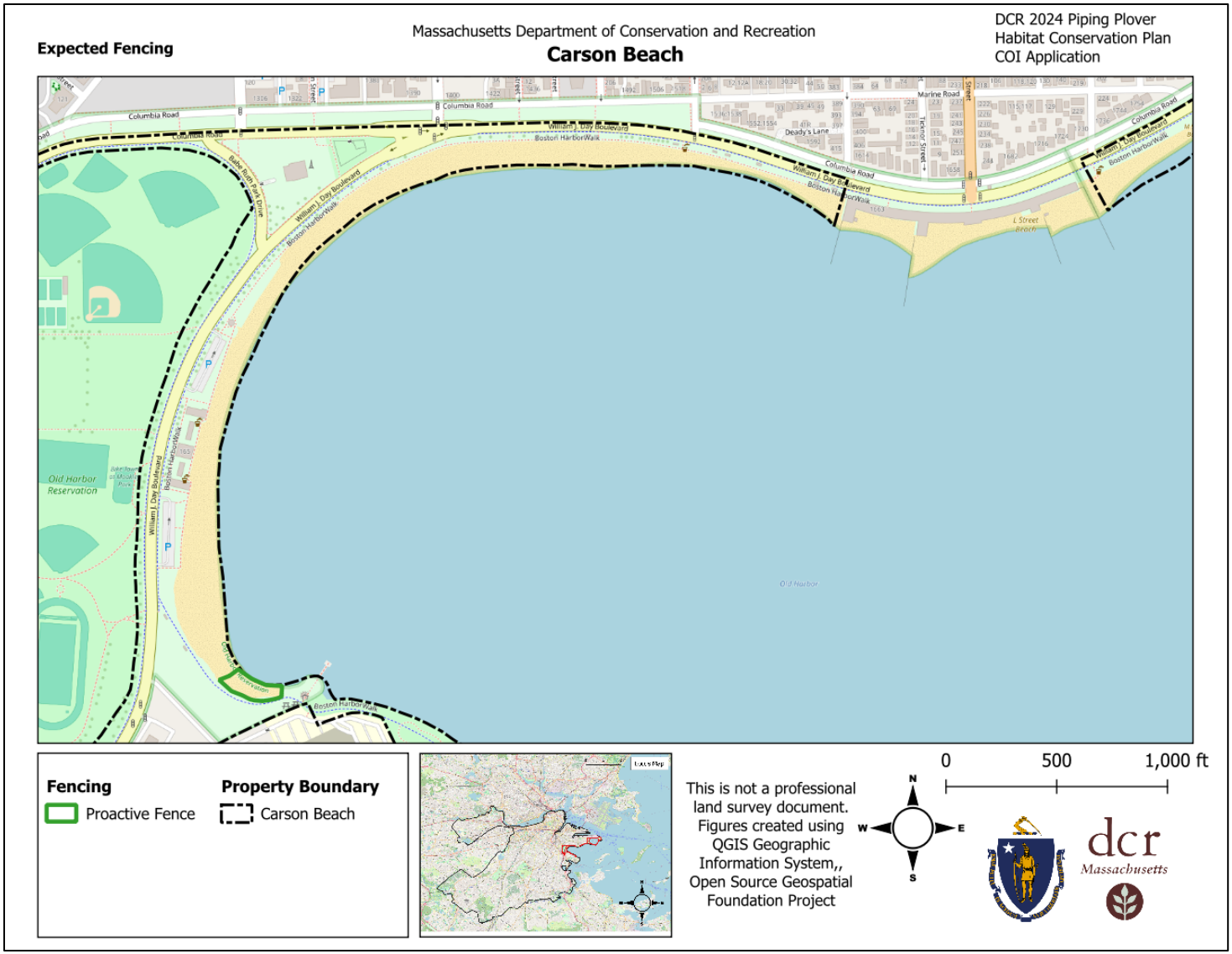

Figure 12: Carson Beach Expected Fencing

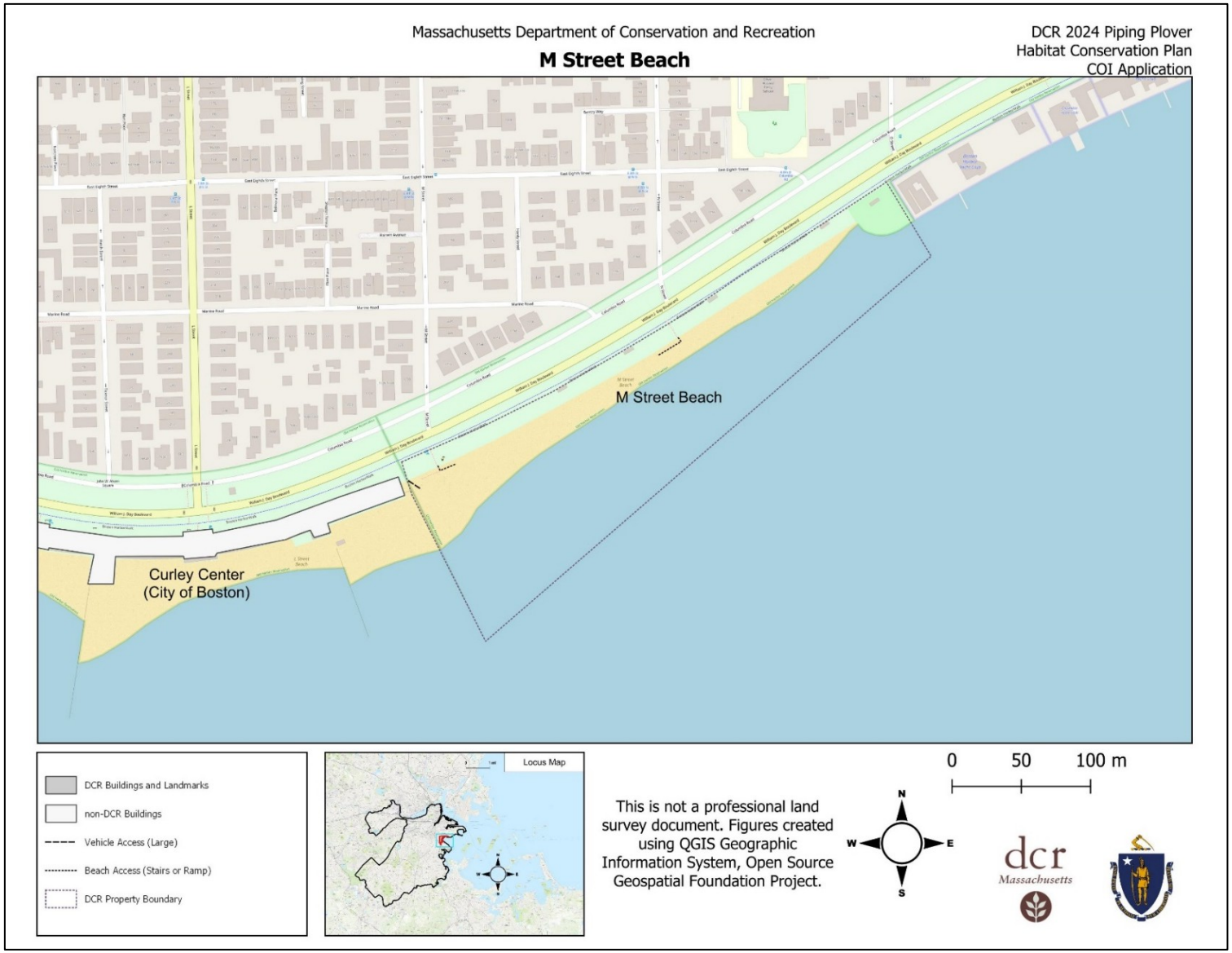

Figure 13: M Street Beach Site Map

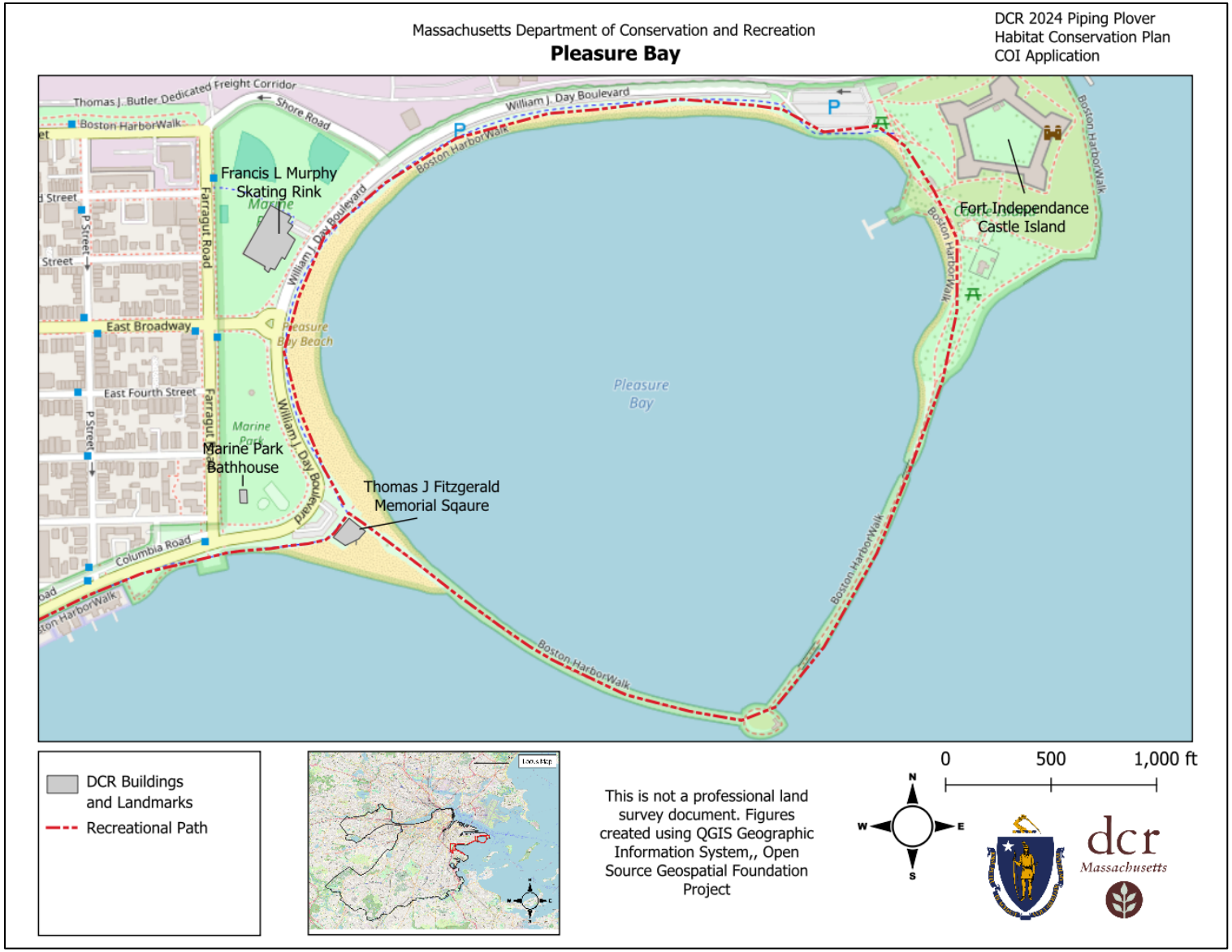

Figure 14: Pleasure Bay Site Map

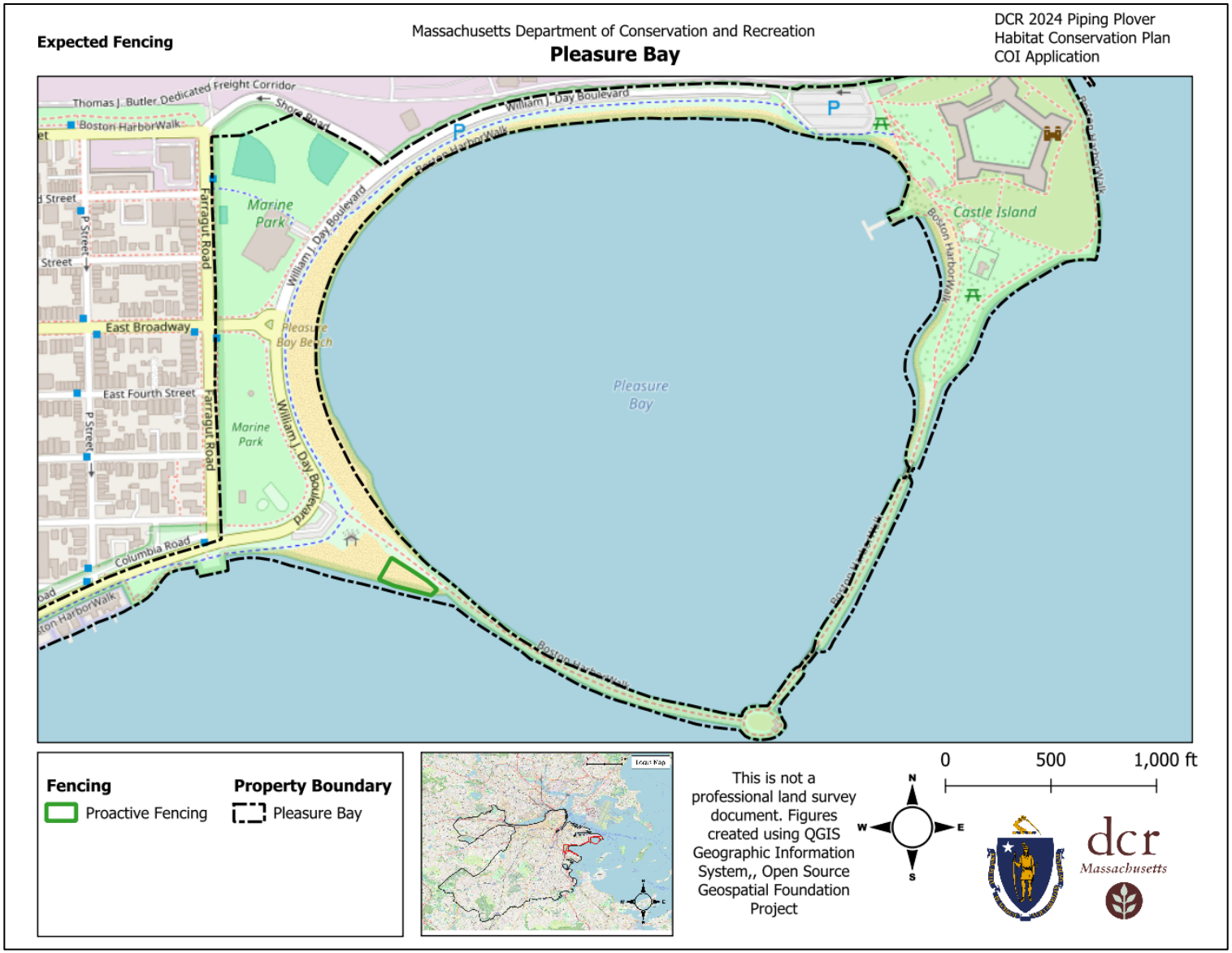

Figure 15: Pleasure Bay Expected Fencing

F. Supporting Photographs

Not applicable.

II. Ownership and Management Entities

Revere Beach, Winthrop Beach, Nahant Beach, Wollaston Beach, Carson Beach, M Street Beach, and Pleasure Bay are all owned and managed by DCR for recreational purposes. All sites are regularly accessed and patrolled by the respective town or city police departments (Revere Police, Winthrop Police, and Nahant/Lynn Police, City of Quincy, and City of Boston) as well as the Massachusetts State Police and Environmental Police (EPO) for enforcement purposes. All activities at the urban sites that may fall under the Wetlands Protection Act are also subject to the review of the respective Conservation Commissions of the City of Revere, Town of Winthrop, Town of Nahant, City of Quincy, and City of Boston.

All enforcement and emergency service personnel are required to patrol on foot during the nesting season and to keep their vehicles within parking lots or other improved roadway areas unless responding to an urgent emergency. Any essential emergency response vehicles are escorted onto the beach and parked in predetermined areas to be present and able to respond to urgent emergencies. These vehicles are escorted off the beach at the end of every day.

III. Responsible Staff

Implementation of the HCP on these sites will be managed by DCR's Office of Natural Resources, with the Senior Coastal Ecologist, Jorge J. Ayub, (Appendix A) responsible for preparing and updating the HCP plan and the conservation management strategies on-site. The Senior Coastal Ecologist is a full-time permanent employee. The management and implementation of the HCP is also aided by two (2) Shorebird Protection Program Coordinators, which are full-time employees working 40 hours/week Monday through Friday and on call through weekends and after hours during the shorebird nesting season. The Senior Coastal Ecologist, aided by the Shorebird Protection Program Coordinators, hires, trains, and oversees the daily operations of ten (10) Conservation Biologists, who are hired every year as Long Term Seasonal (LTS) employees from approximately March 15th through September 1st (see IAMP Section VII and Appendix A for further detail)

IV. Piping Plovers

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 residents, the overall trend in increasing pair numbers on the urban sites has continued from 2012 through 2023 despite some yearly variation, hosting an average of 30 pairs annually over the past five (5) years. In 2023 DCR's urban sites, including Revere, Winthrop, Nahant, and Wollaston, supported a total of 32 nesting pairs of Piping Plovers. Reproductive success of Piping Plovers at the urban sites varies from year to year, and over the last five (5) years site productivity has ranged from 0.53-1.26 (average = 0.78). Together, these sites have provided a sizable contribution of new birds to support the recovery efforts for the species.

Carson Beach and Pleasure Bay supported one pair each during the 2024 season for the first time in recent history. These pairs both were able to fledge chicks with Carson fledging three (3) chicks and Pleasure Bay fledging four (4) chicks. M Street Beach has yet to support nesting Piping Plovers, however portions of both beaches have observed foraging and are reasonable near the Curley Center which has supported four (4) pairs of nesting Piping Plovers in recent years. It is to be expected that as the State population grows, particularly in these urban areas, it is only a matter of time before nesting is confirmed at these sites.

A. Mapped Distribution

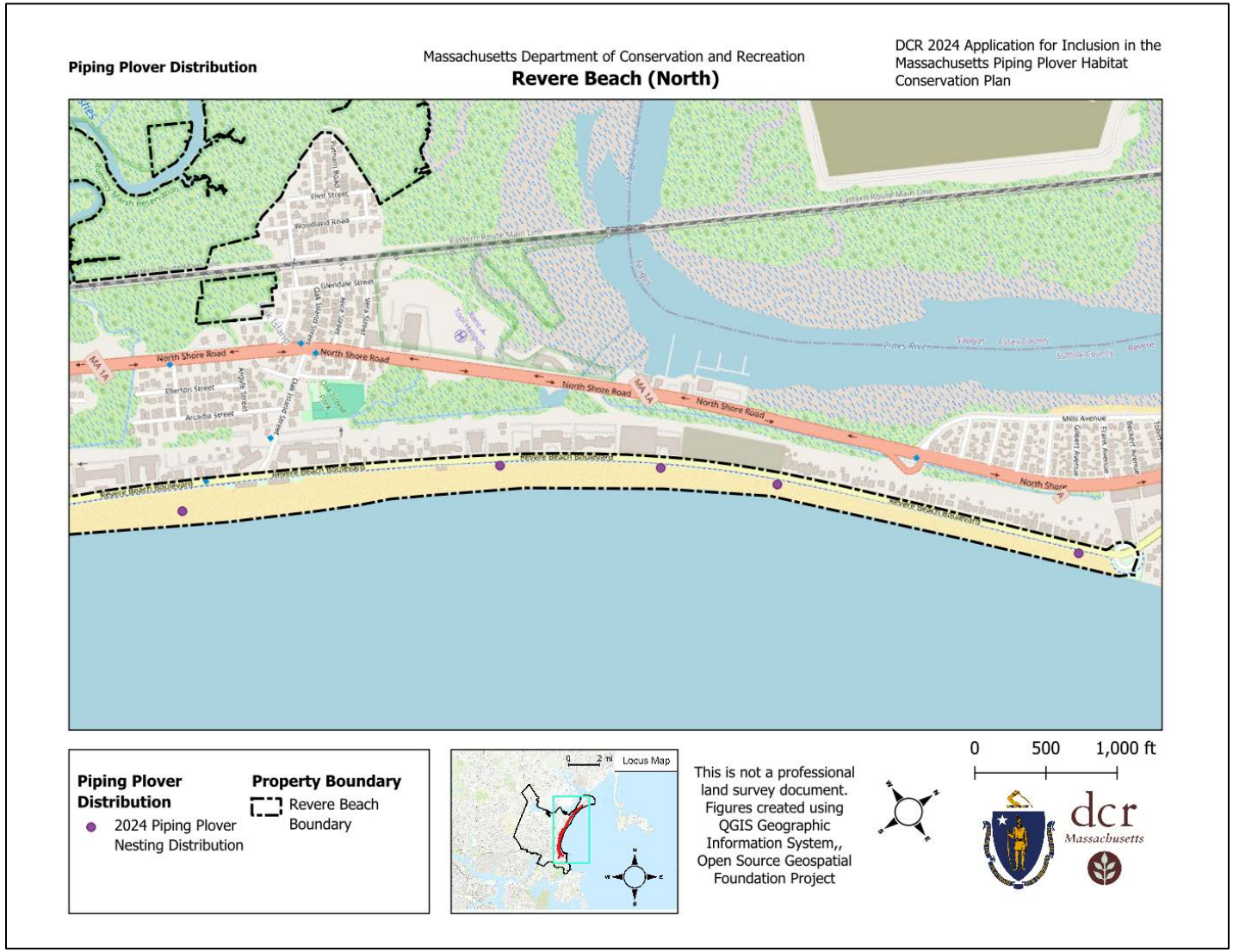

Figure 16: Revere Beach (North) Piping Plover Distribution

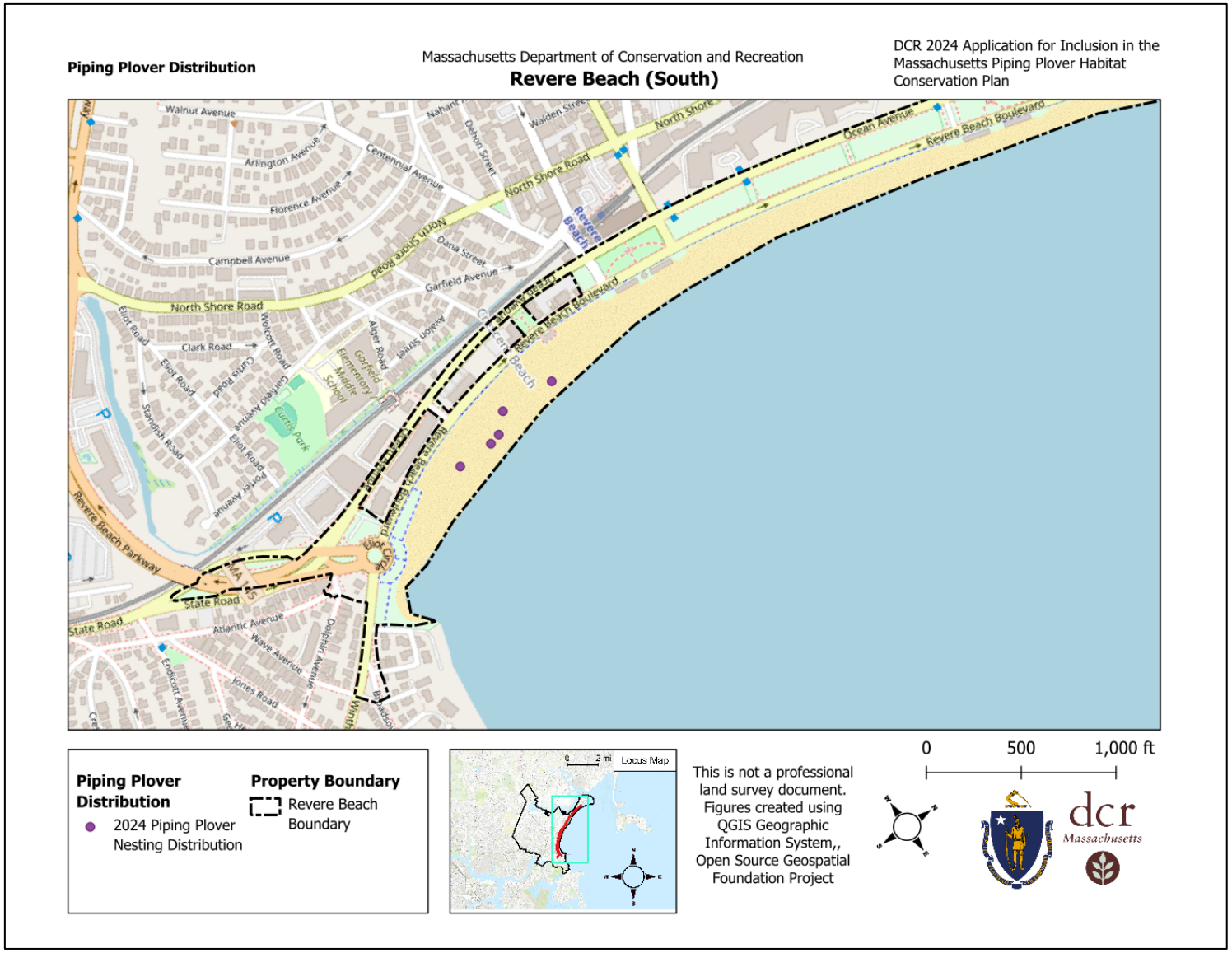

Figure 17: Revere Beach (South) Piping Plover Distribution

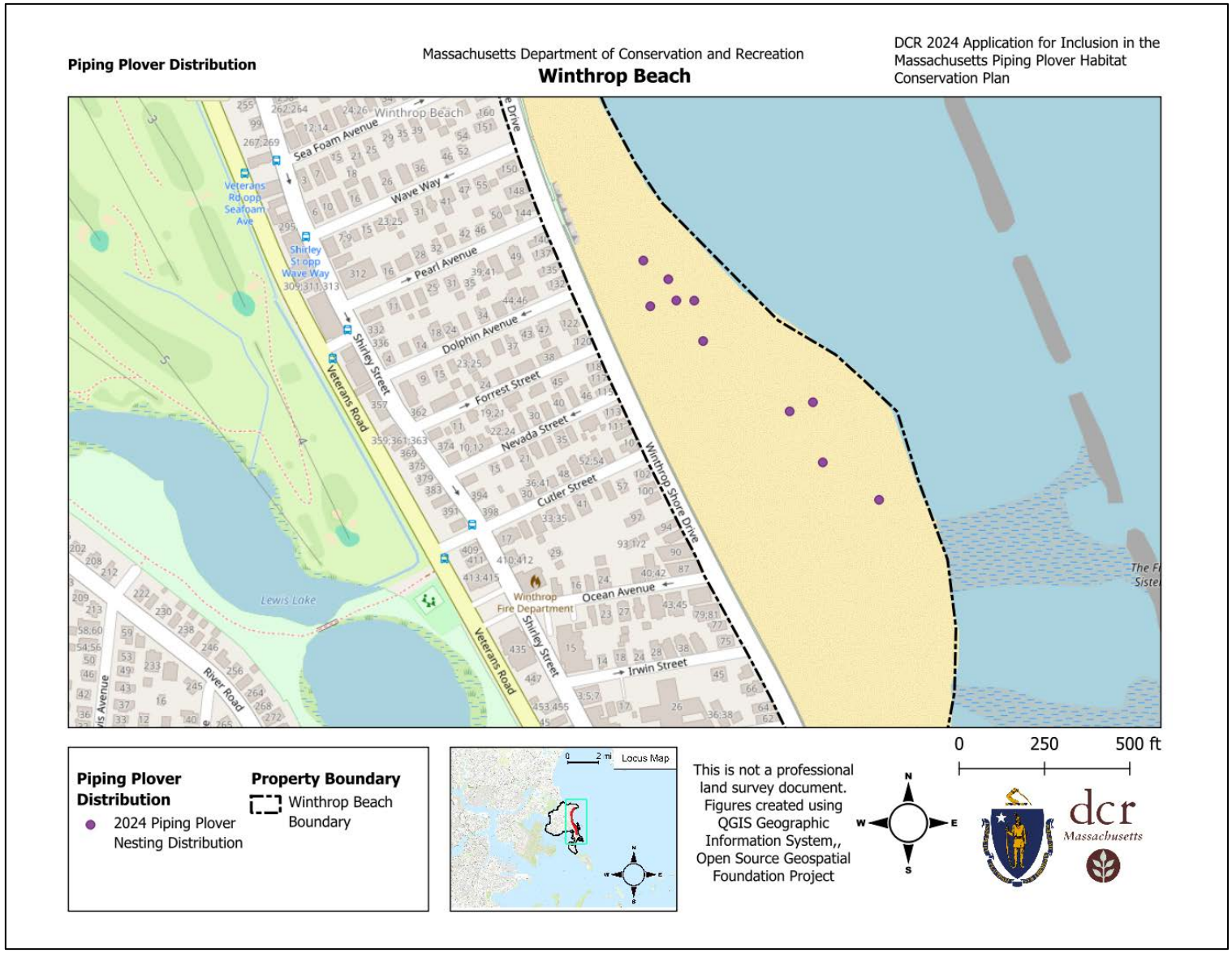

Figure 18: Winthrop Beach Piping Plover Distribution

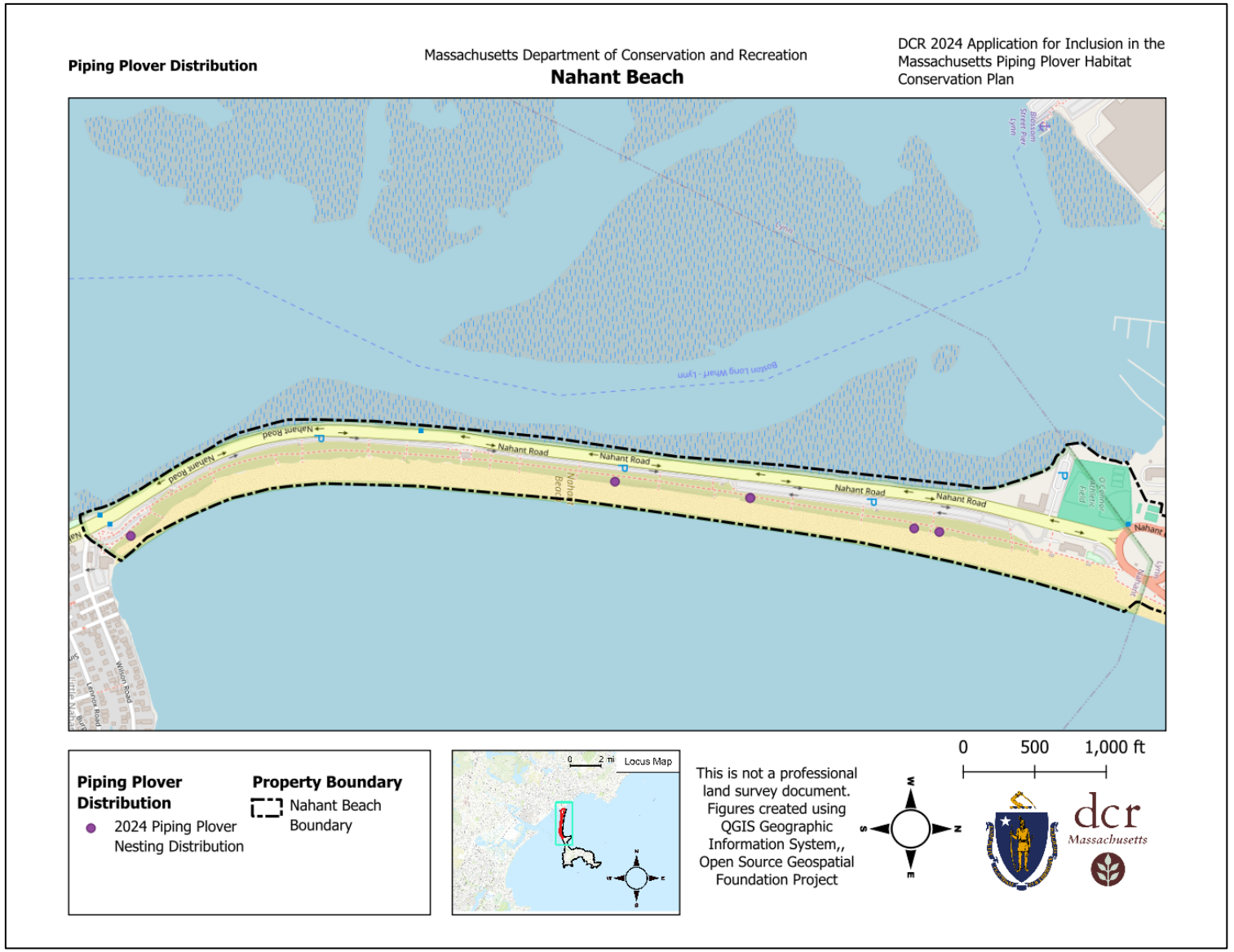

Figure 19: Nahant Beach Piping Plover Distribution

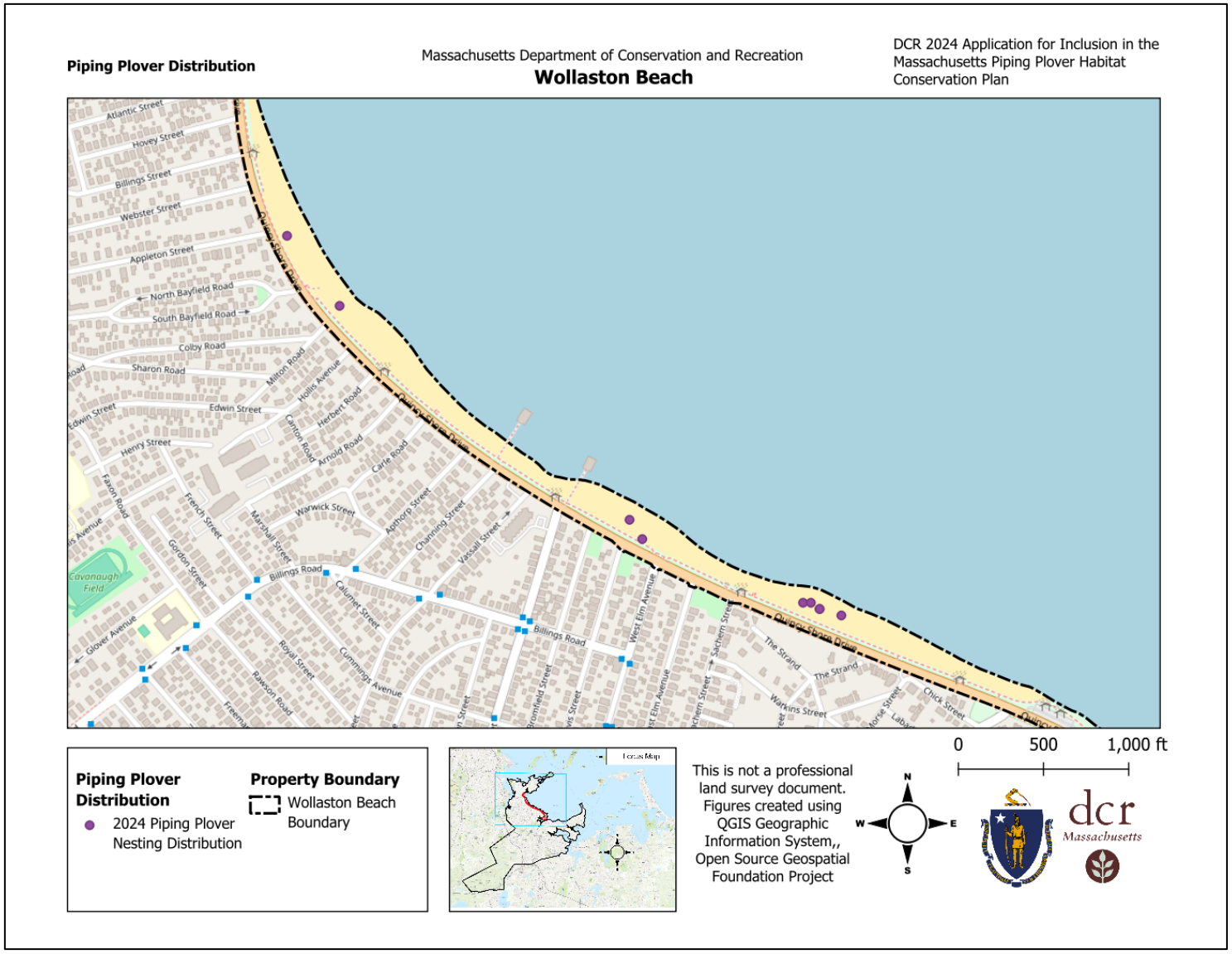

Figure 20: Wollaston Beach Piping Plover

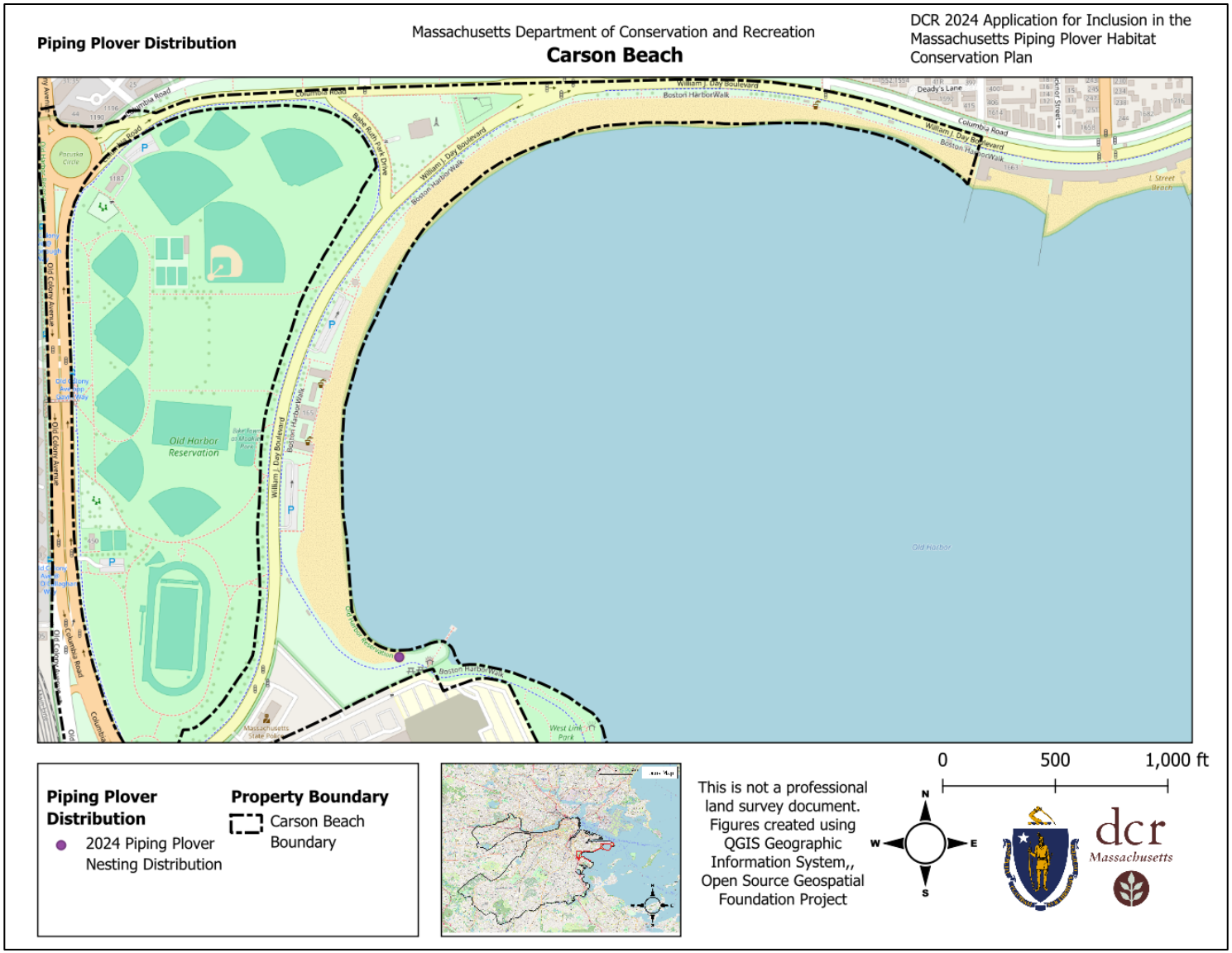

Figure 21: Carson Beach Piping Plover Nesting Distribution

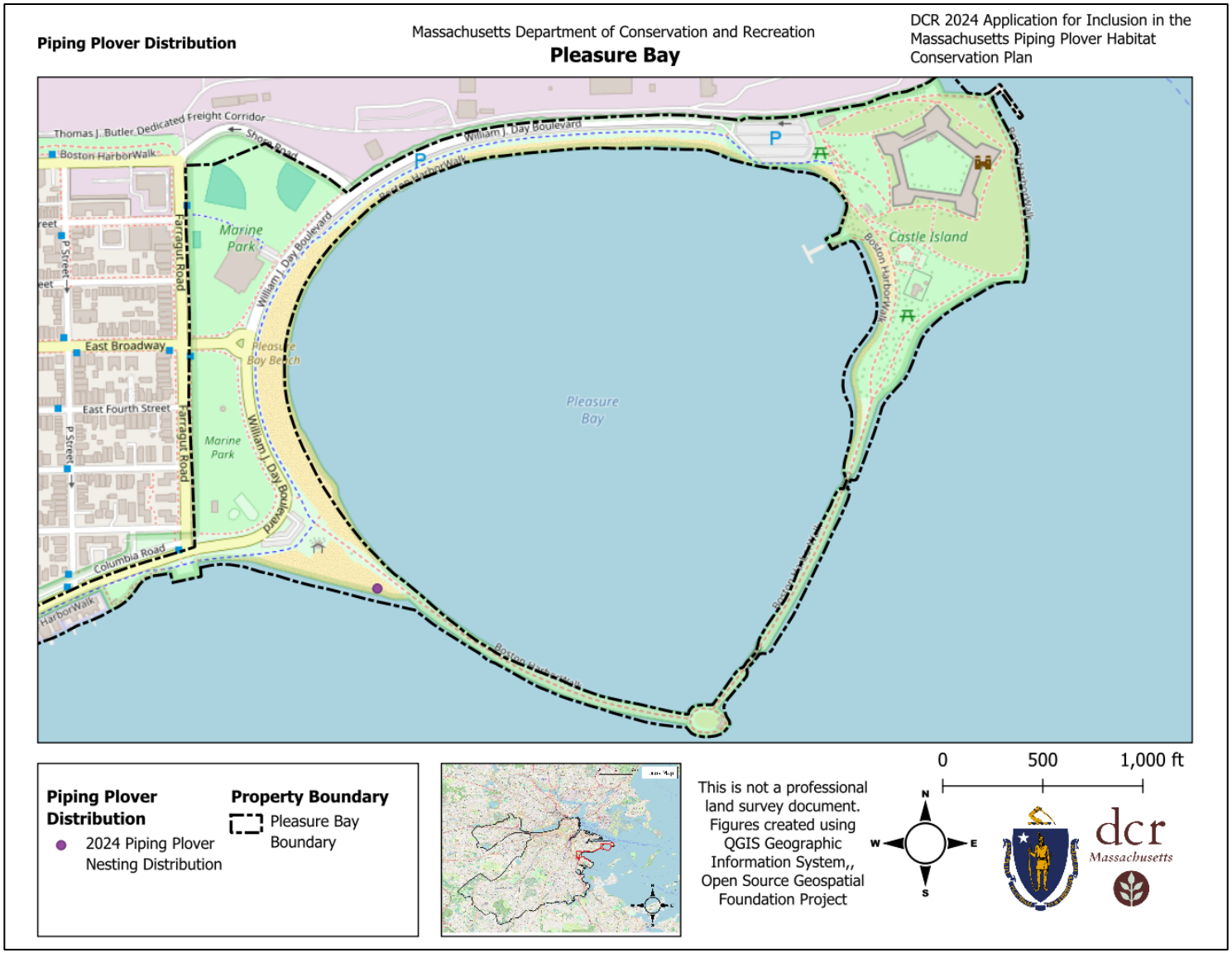

Figure 22: Pleasure Bay Piping Plover nesting Distribution

B. Population Size

The 10-year baseline average of the entire Urban Beach Complex, set between 2009 and 2018, saw an average of 15 breeding pairs of Piping Plover. The most recent 5-year average, set between 2019 and 2023, saw an average of 29 breeding pairs or an increase of 93% above the 10-year baseline. This increase in breeding pairs may be attributed to the improved conservation management performed by DCR. Most recently the Urban Complex provided nesting habitat for 31 pairs of Piping Plovers.

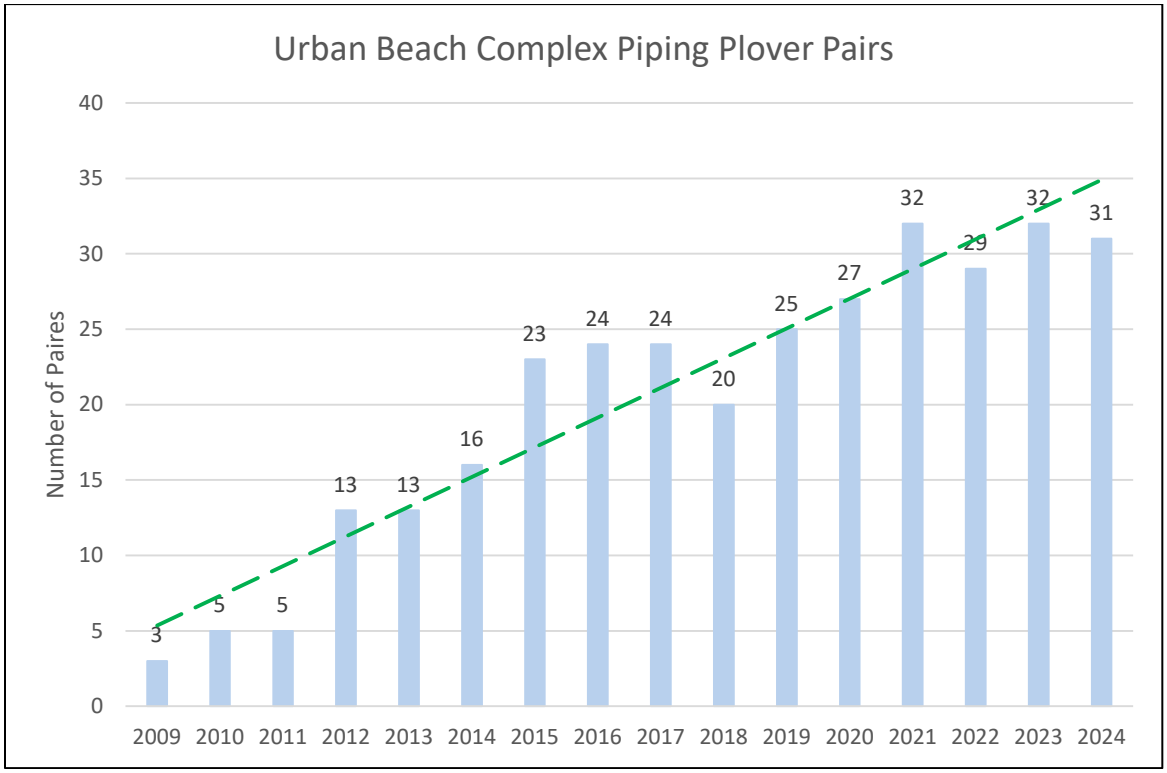

Figure 23: Urban Beach Complex Piping Plover Population

The 10-year baseline average at Revere Beach, set between 2009 and 2018, saw an average of 9 breeding pairs of Piping Plover. The most recent 5-year average, set between 2019 and 2023, saw an average of 14 breeding pairs or an increase of 56% above the 10-year baseline. This increase in breeding pairs may be attributed to the improved conservation management performed by DCR. Most recently, Revere Beach provided nesting habitat for 10 pairs of Piping Plovers.

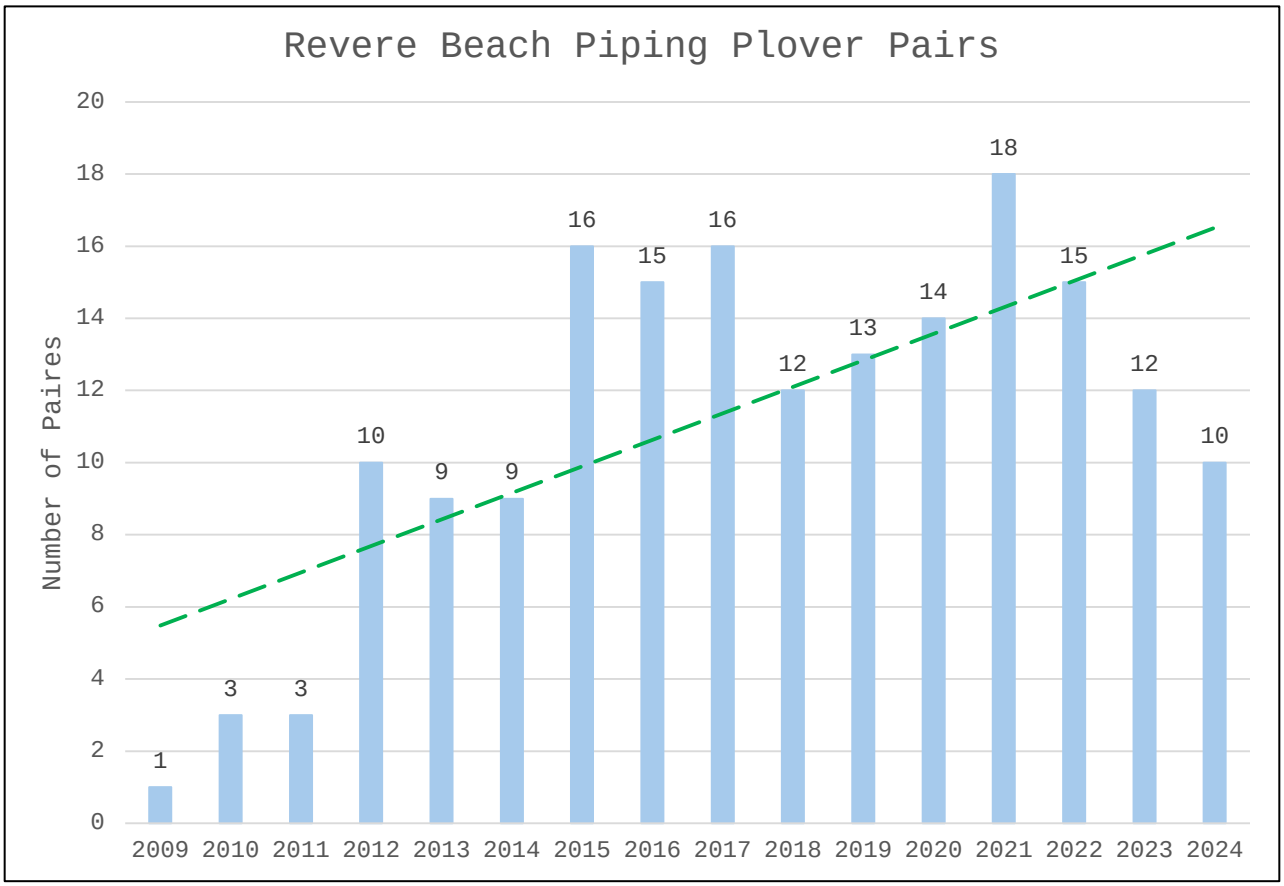

Figure 24: Revere Beach Piping Plover Population

The 10-year baseline average at Winthrop Beach, set between 2009 and 2018, saw an average of 5 breeding pairs of Piping Plover. The most recent 5-year average, set between 2019 and 2023, saw an average of 7 breeding pairs or an increase of 40% above the 10-year baseline. This increase in breeding pairs may be attributed to the improved conservation management performed by DCR. Most recently, Winthrop Beach provided nesting habitat for 7 pairs of Piping Plovers.

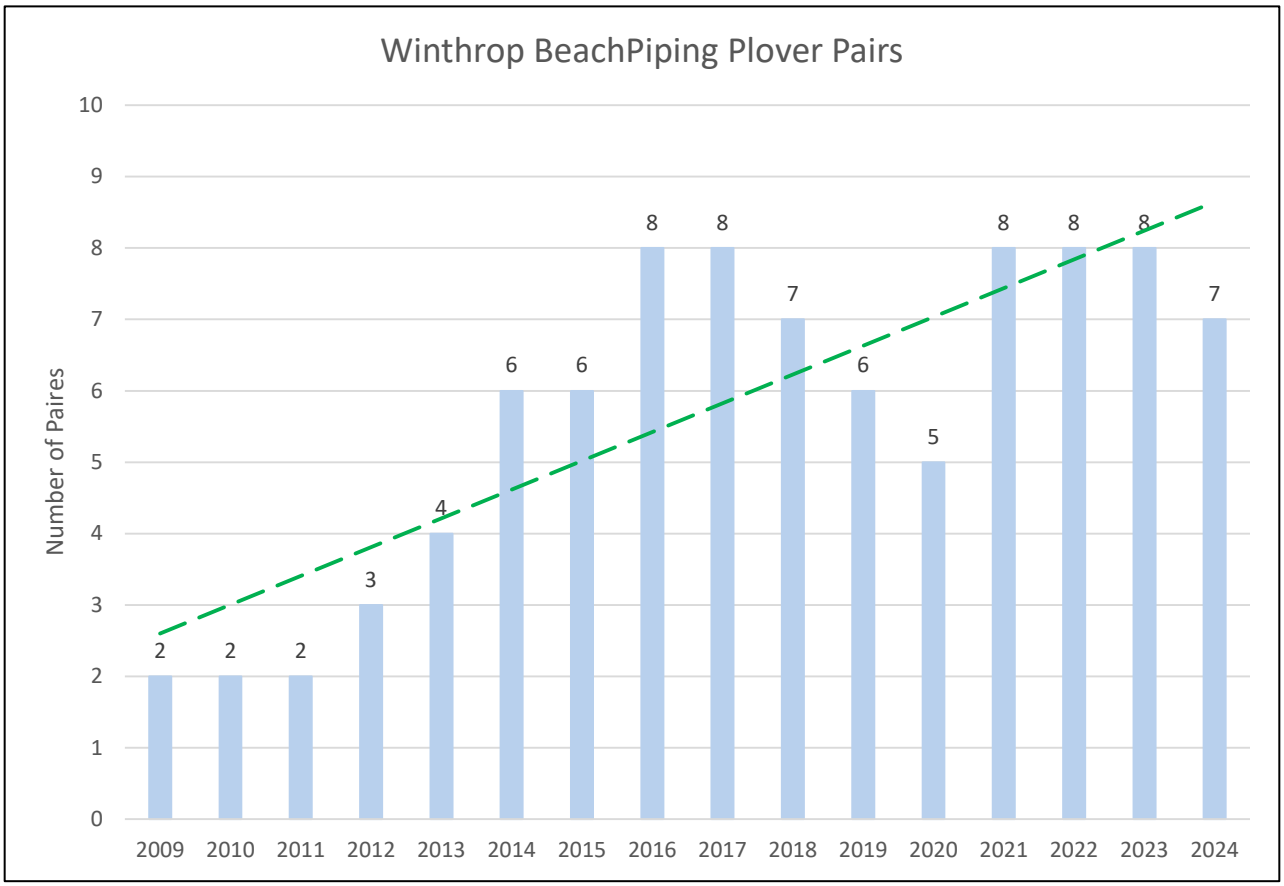

Figure 25: Winthrop Beach Piping Plover Population

The 5-year baseline average at Nahant Beach, set between 2014 and 2018, saw an average of 1 breeding pair of Piping Plover. The most recent 5-year average, set between 2019 and 2023, saw an average of 6 breeding pairs or an increase of 500% above the 5-year baseline. This increase in breeding pairs may be attributed to the improved conservation management performed by DCR. Most recently, Nahant Beach provided nesting habitat for 5 pairs of Piping Plovers.

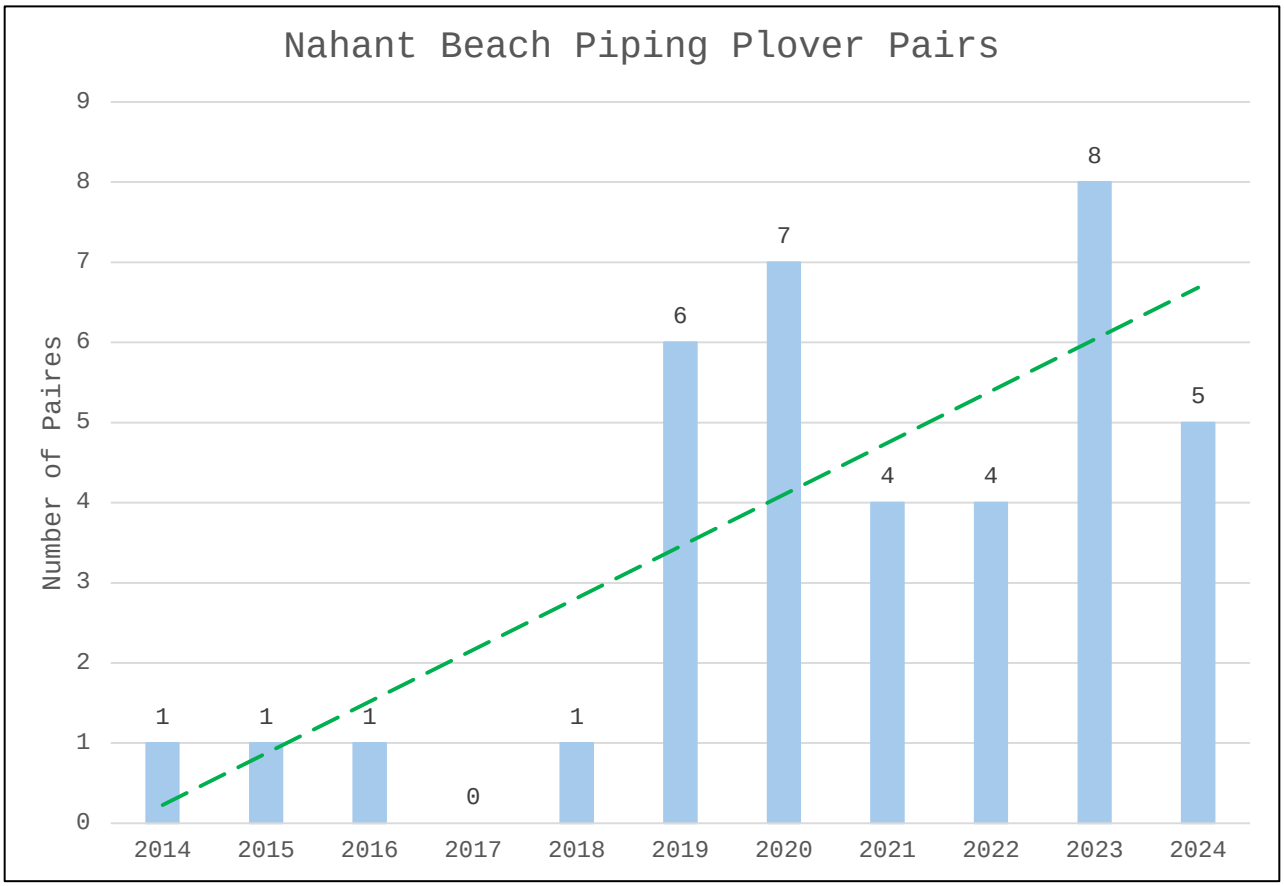

Figure 26: Nahant Beach Piping Plover Population

The 3-year baseline average at Wollaston Beach, set between 2020 and 2022, saw an average of 2 breeding pairs of Piping Plover. The most recent year saw 7 breeding pairs or an increase of 312% above the 3-year baseline. This increase in breeding pairs may be attributed to the improved conservation management performed by DCR.

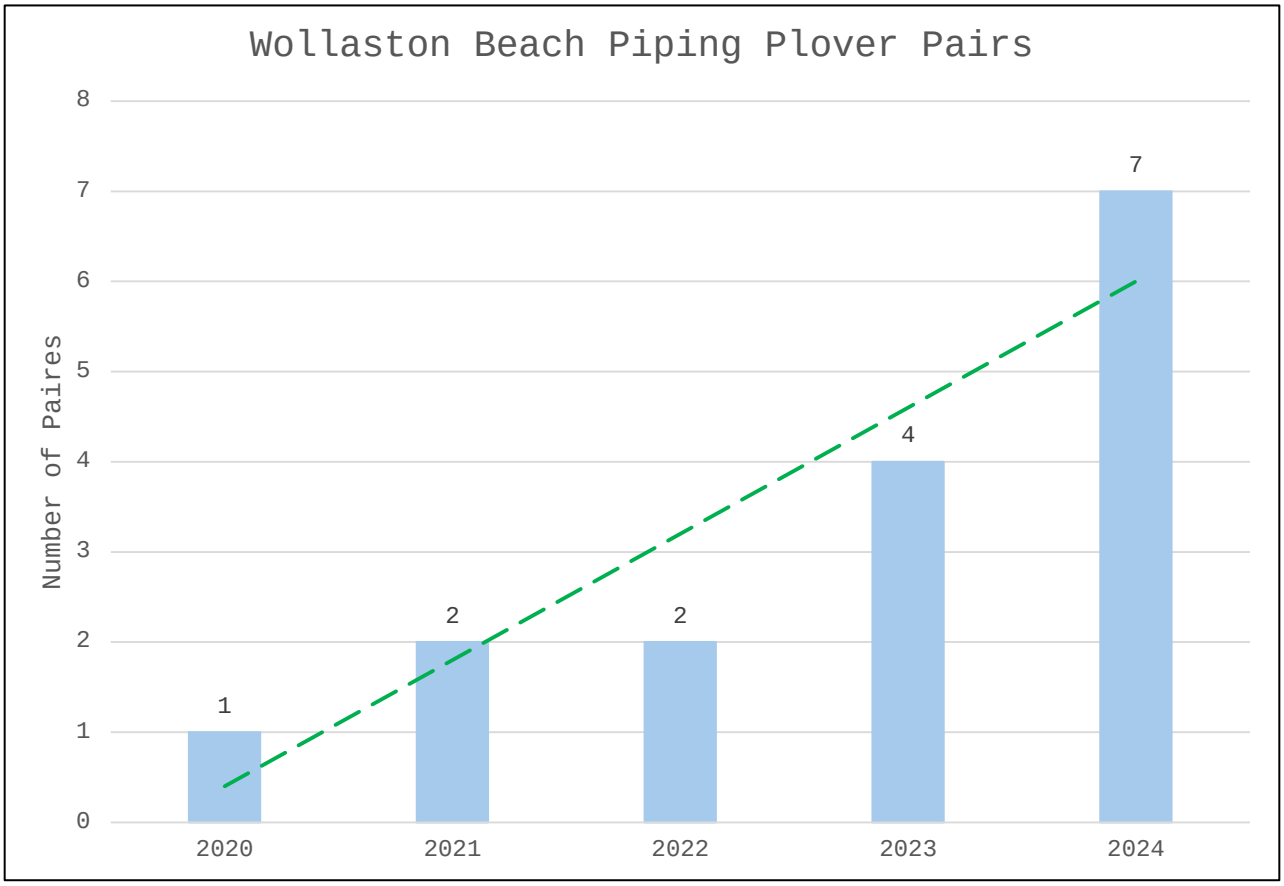

Figure 27: Wollaston Beach Piping Plover Population

2024 was the first year Carson Beach recorded nesting Piping Plovers on site. One (1) breeding pair was confirmed during the 204 nesting season.

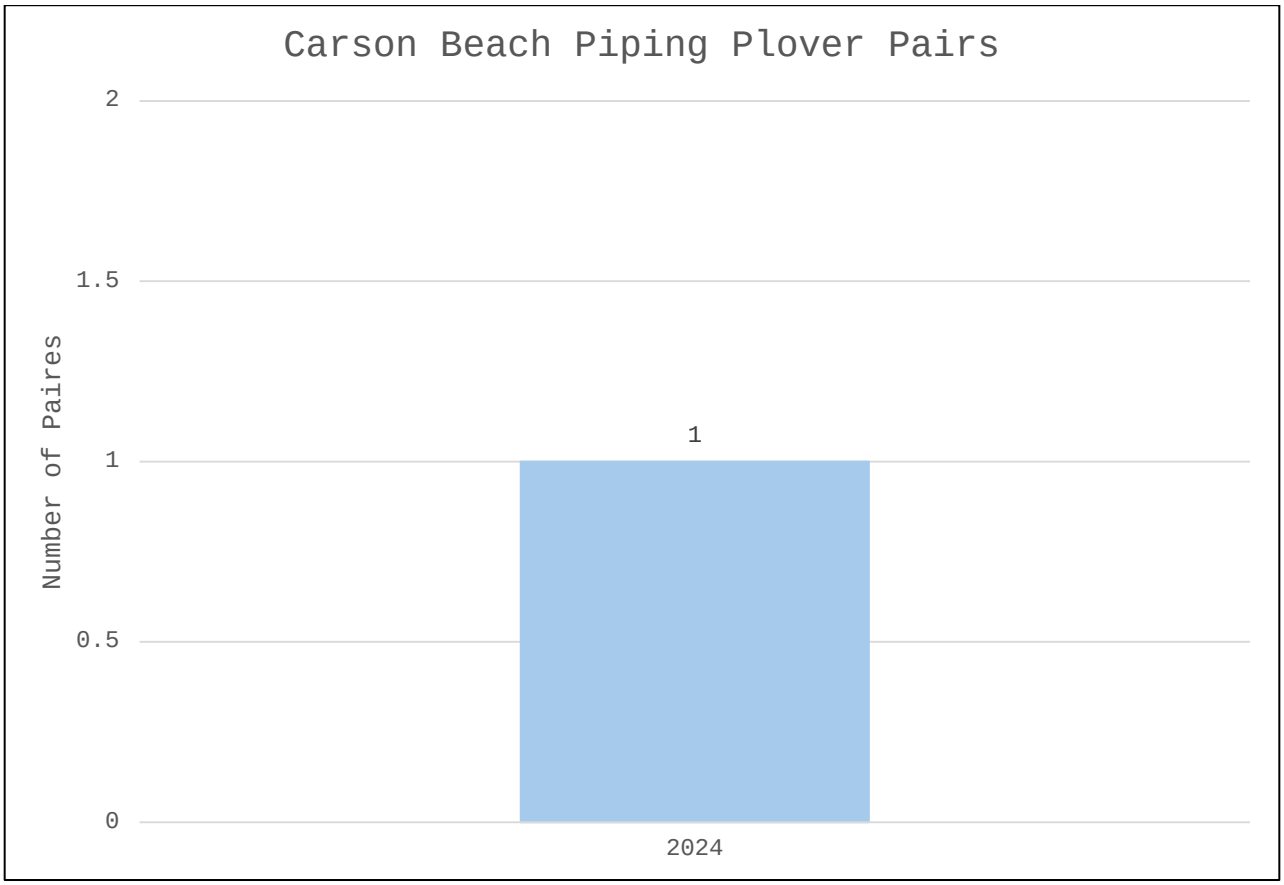

Figure 28: Carson Beach Piping Plover Population

2024 was the first year Pleasure Bay recorded nesting Piping Plovers on site. One (1) breeding pair was confirmed during the 204 nesting season.

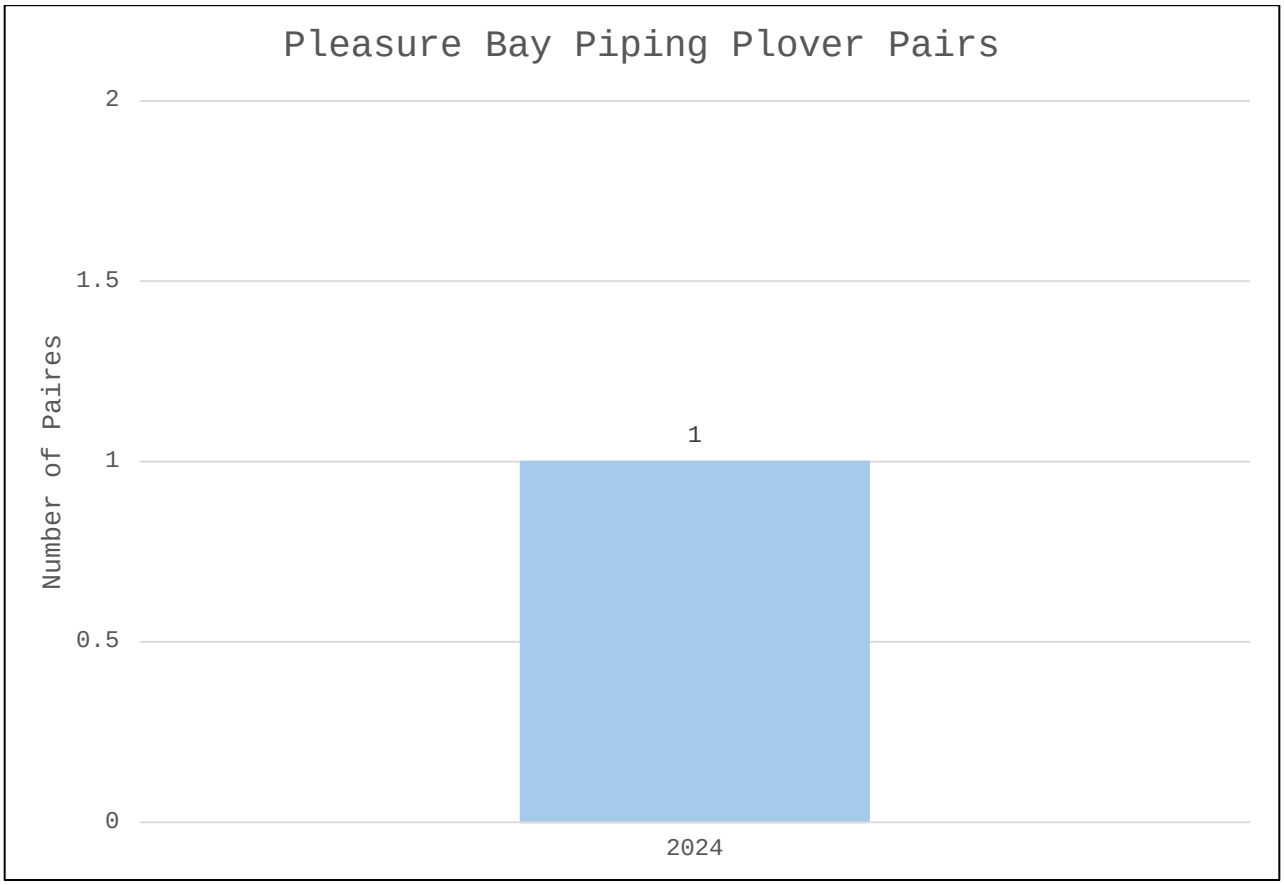

Figure 29: Pleasure Bay Piping Plover Population

C. Reproductive Success

The 10-year baseline average of the Urban Beach complex, set between 2009 and 2018, saw an average productivity of 1.86 fledged chicks per pair. The most recent 5-year average, set between 2019 and 2023, saw an average productivity of 0.98 fledged chicks per pair or a decrease of 47% below the 10-year baseline. This decrease in productivity is likely due to seasonal effects such as certain storm or weather events as well as predator and recreational pressures. Most recently, the Urban Beach Complex achieved a productivity of 2.25 fledged chicks per pair.

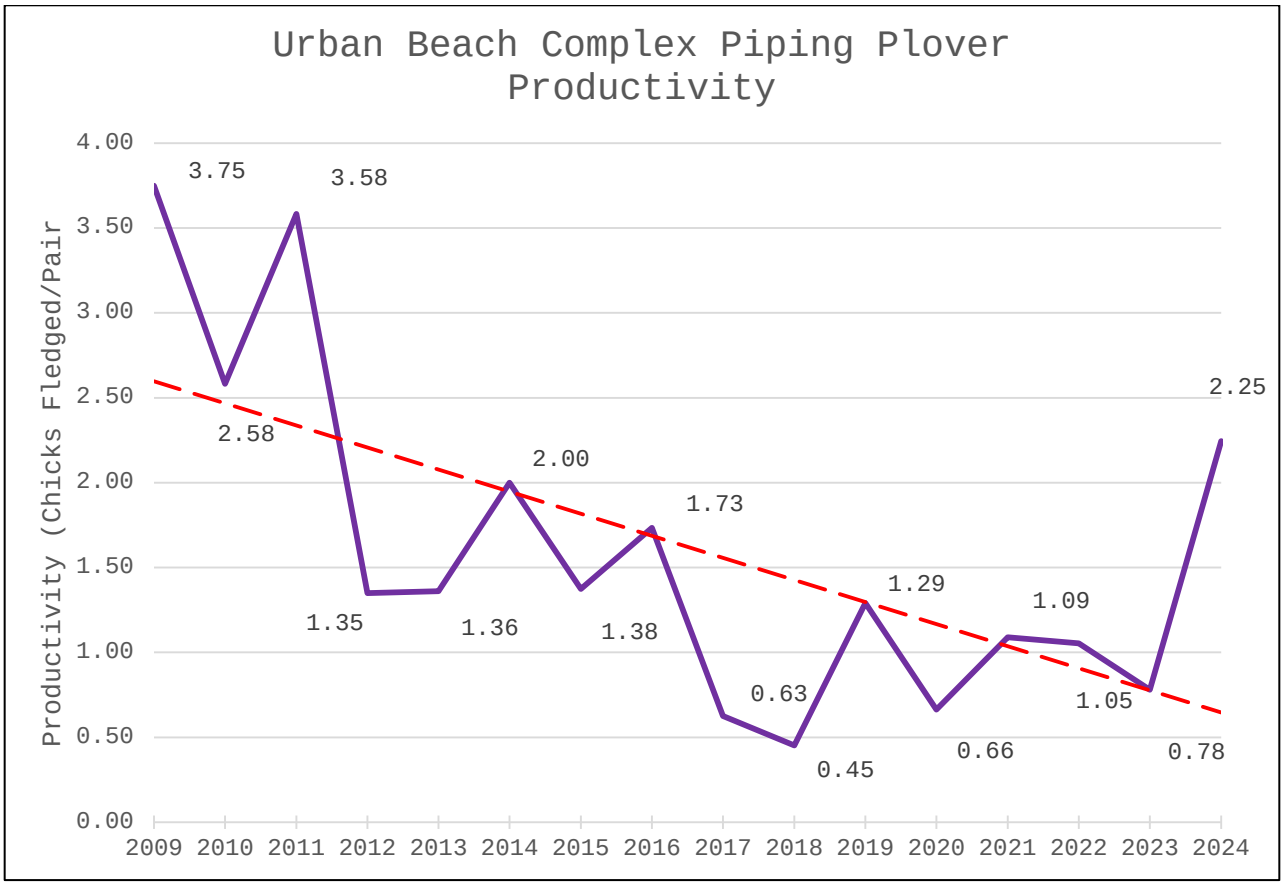

Figure 30: Urban Beach Complex Piping Plover Reproductive Success

The 10-year baseline average at Revere Beach, set between 2009 and 2018, saw an average productivity of 2.04 fledged chicks per pair. The most recent 5-year average, set between 2019 and 2023, saw an average productivity of 0.77 fledged chicks per pair or a decrease of 62% below the 10-year baseline. This decrease in productivity is likely due to seasonal effects such as certain storm or weather events as well as predator and recreational pressures. Most recently, Revere Beach achieved a productivity of 2.30 fledged chicks per pair.

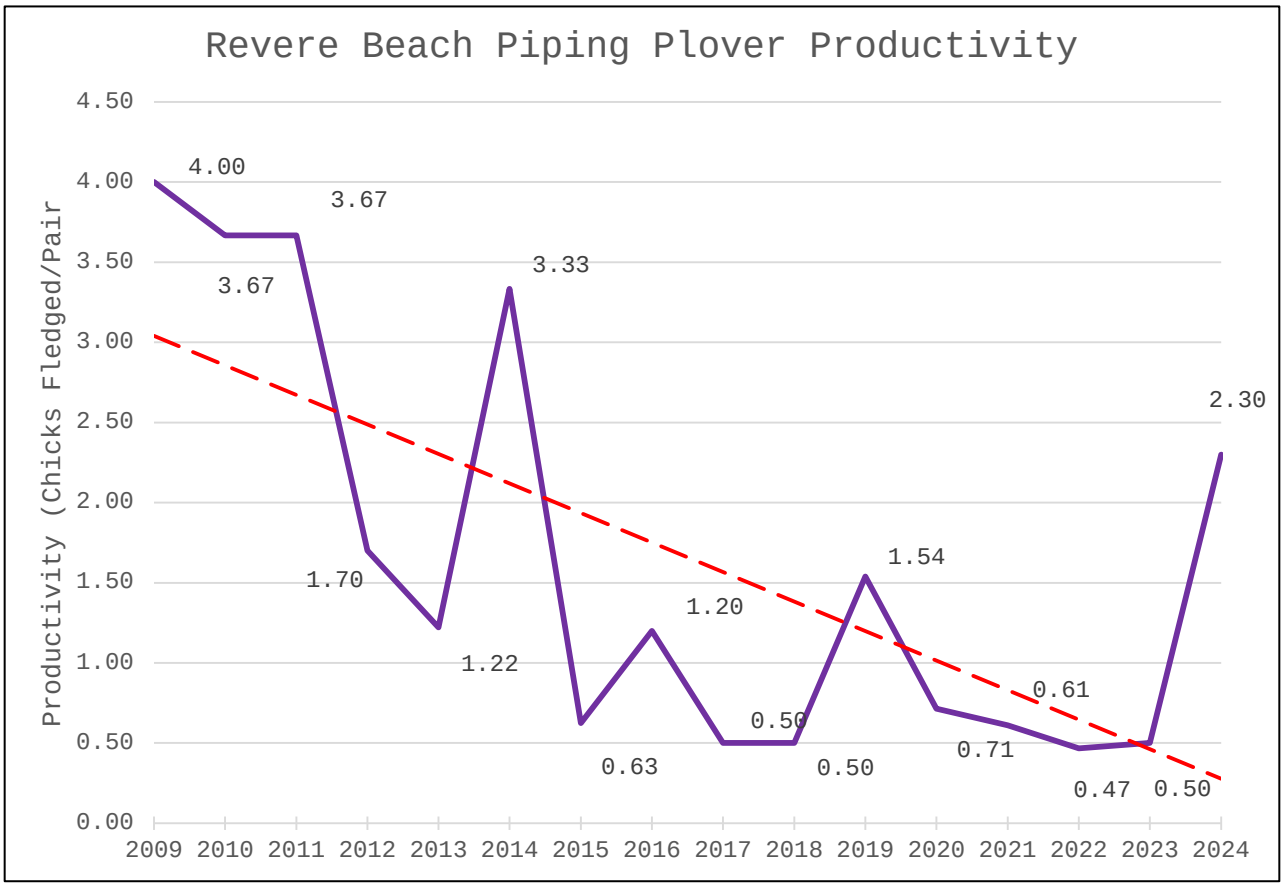

Figure 31: Revere Beach Piping Plover Reproductive Success

The 10-year baseline average at Winthrop Beach, set between 2009 and 2018, saw an average productivity of 1.98 fledged chicks per pair. The most recent 5-year average, set between 2019 and 2023, saw an average productivity of 1.04 fledged chicks per pair or a decrease of 47% below the 10-year baseline. This decrease in productivity is likely due to seasonal effects such as certain storm or weather events as well as predator and recreational pressures. Most recently, Revere Beach achieved a productivity of 2.57 fledged chicks per pair.

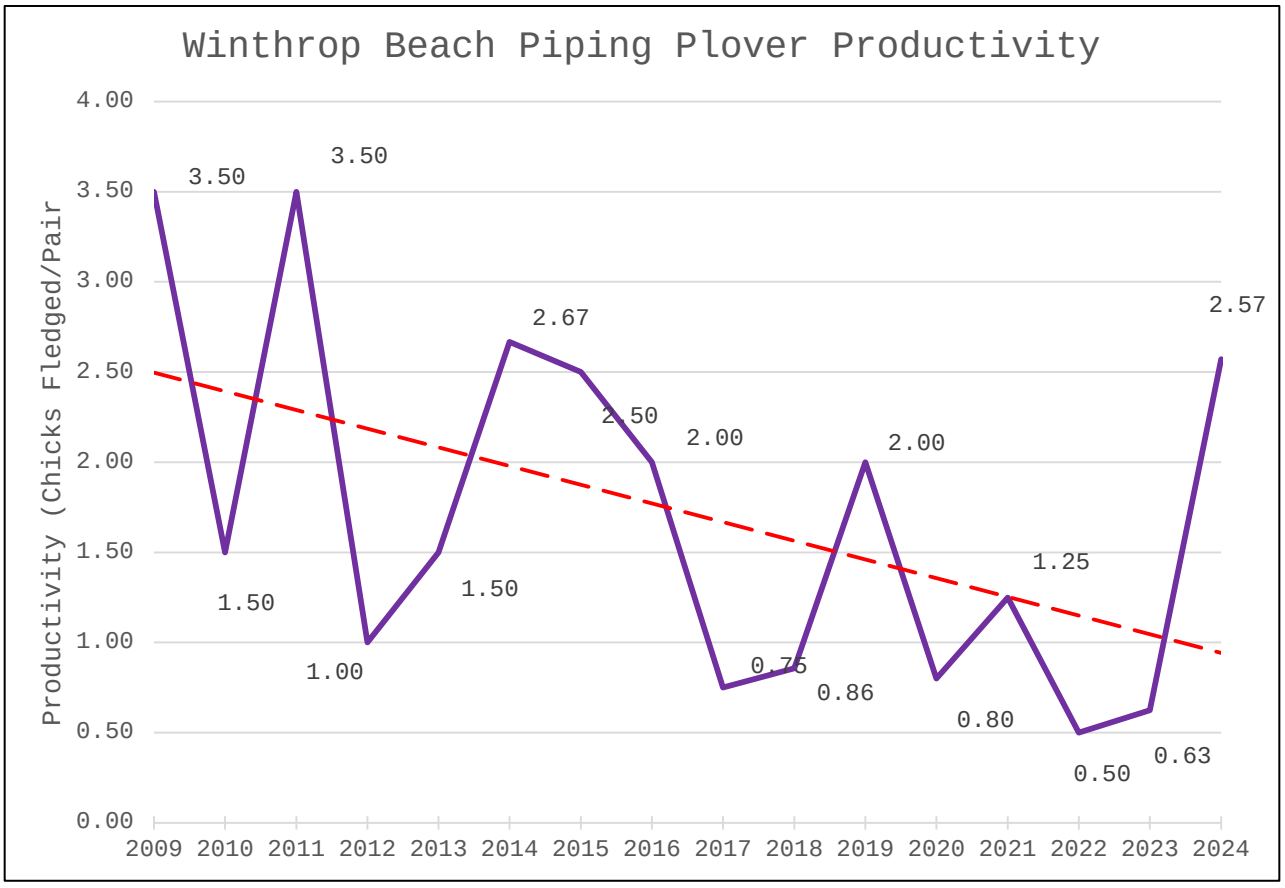

Figure 32: Winthrop Beach Piping Plover Reproductive Success

The 5-year baseline average at Nahant Beach, set between 2014 and 2018, saw an average productivity of 0.60 fledged chicks per pair. The most recent 5-year average, set between 2019 and 2023, saw an average productivity of 0.45 fledged chicks per pair or a decrease of 25% below the 5-year baseline. This now, 10-year baseline average set between 2014 and 2023, is calculated at 0.52 fledged chicks per pair. This decrease in productivity is likely to be due to seasonal effects such as certain storm or weather events as well as predator and recreational pressures. Most recently, Nahant Beach achieved a productivity of 0.6 fledged chicks per pair.

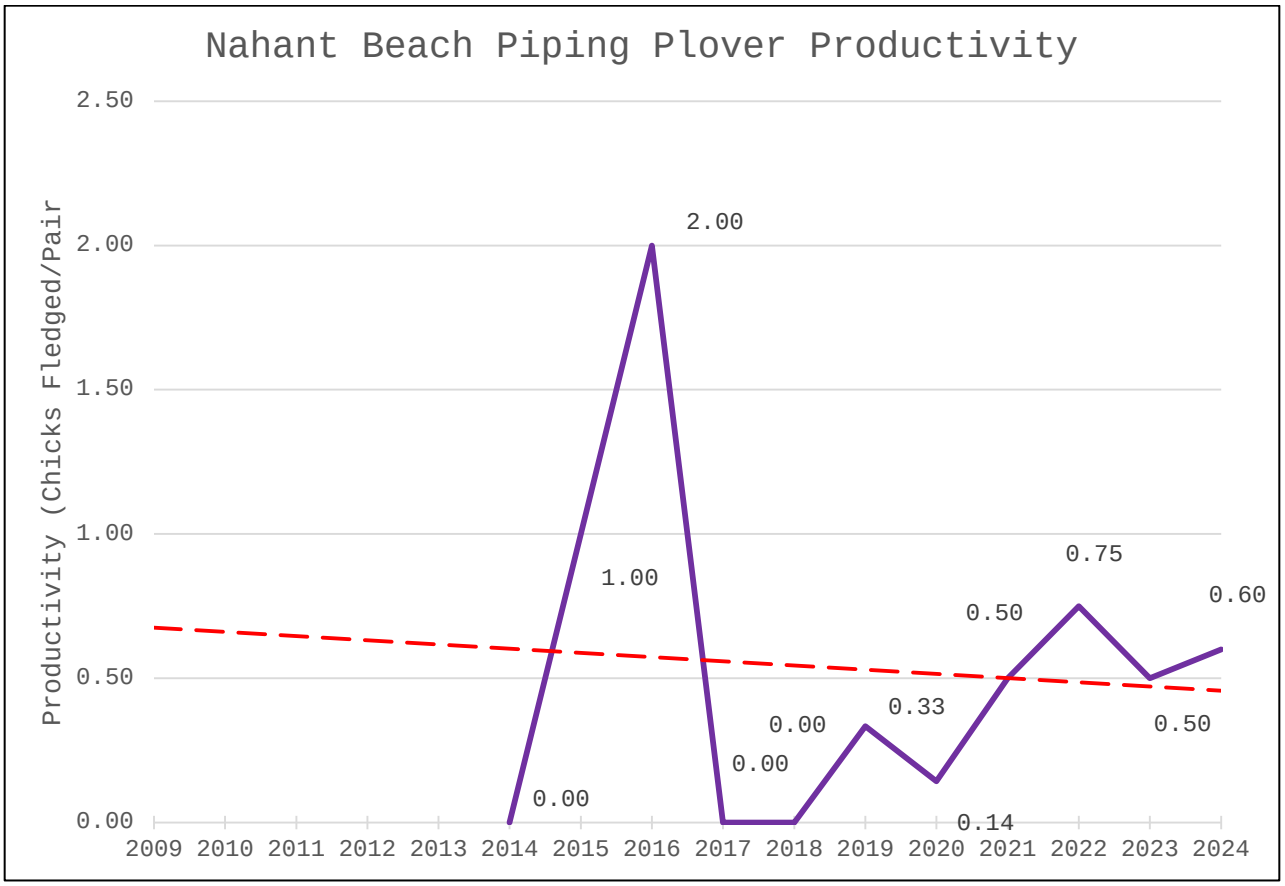

Figure 33: Nahant Beach Piping Plover Reproductive Success

The 3-year baseline average at Wollaston Beach, set between 2020 and 2022, saw an average productivity of 1.83 fledged chicks per pair. The most recent year saw an average productivity of 1.00 fledged chicks per pair or a decrease of 45% below the 3-year baseline. This decrease in productivity is likely due to the increase of pairs now utilizing Wollaston as a nesting site and facing more predatory, territory, and recreational pressures and constraints at the site.

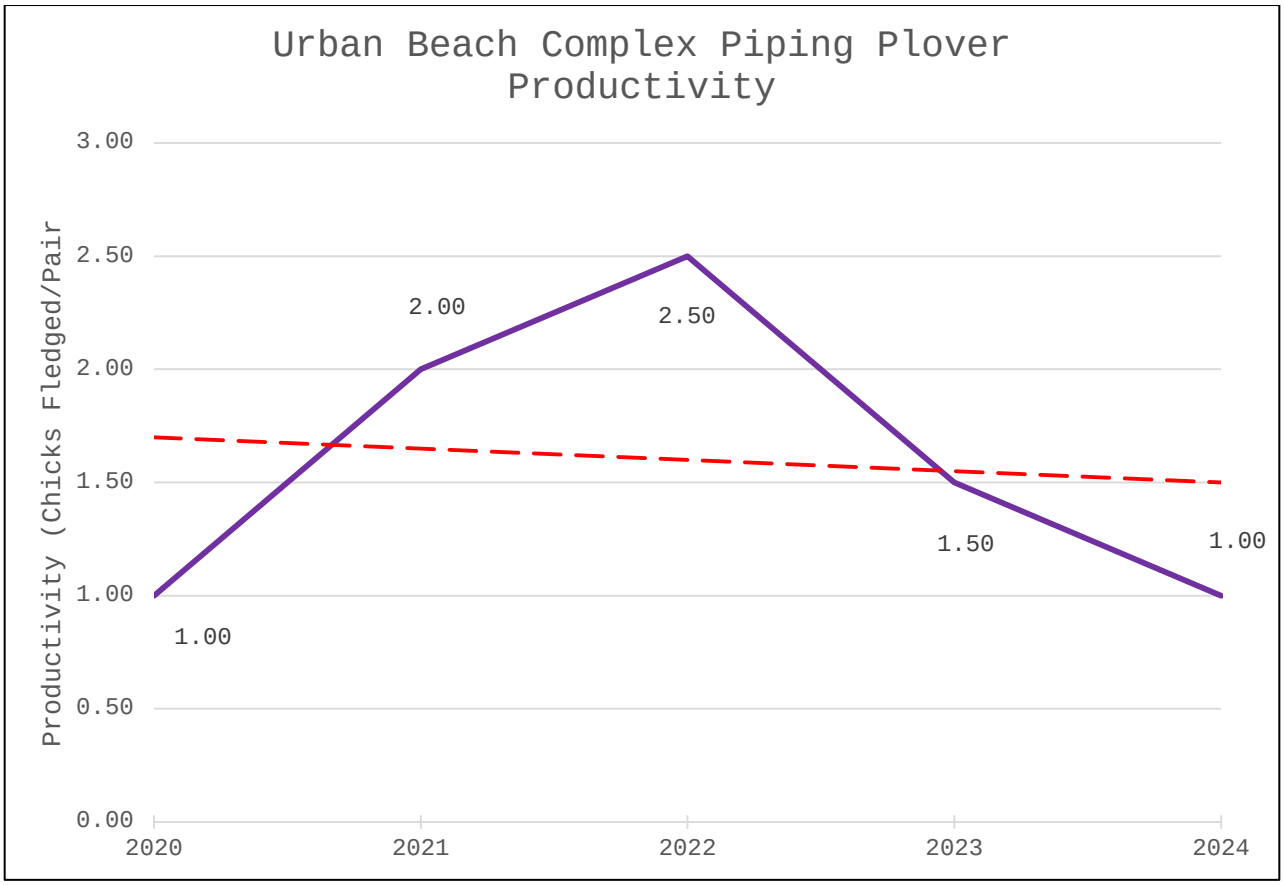

Figure 34: Wollaston Beach Piping Plover Reproductive Success

2024 was the first year Carson Beach recorded nesting Piping Plovers on site. One (1) breeding pair was confirmed to have fledged three (3) chicks during the 204 nesting season achieving a 3.00 fledged chicks per pair.

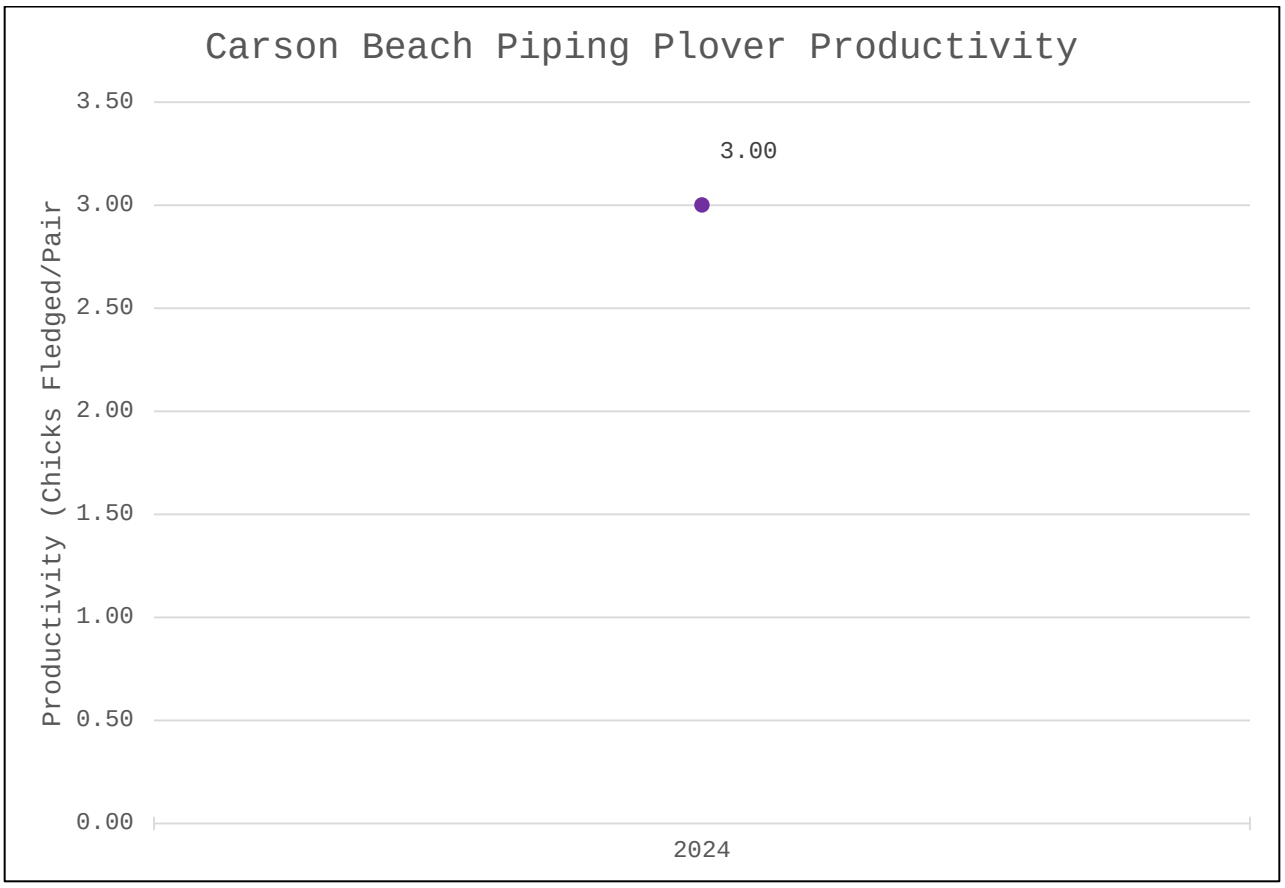

Figure 35: Carson Beach Piping Plover Reproductive Success

2024 was the first year Carson Beach recorded nesting Piping Plovers on site. One (1) breeding pair was confirmed to have fledged four (4) chicks during the 204 nesting season achieving a 4.00 fledged chicks per pair.

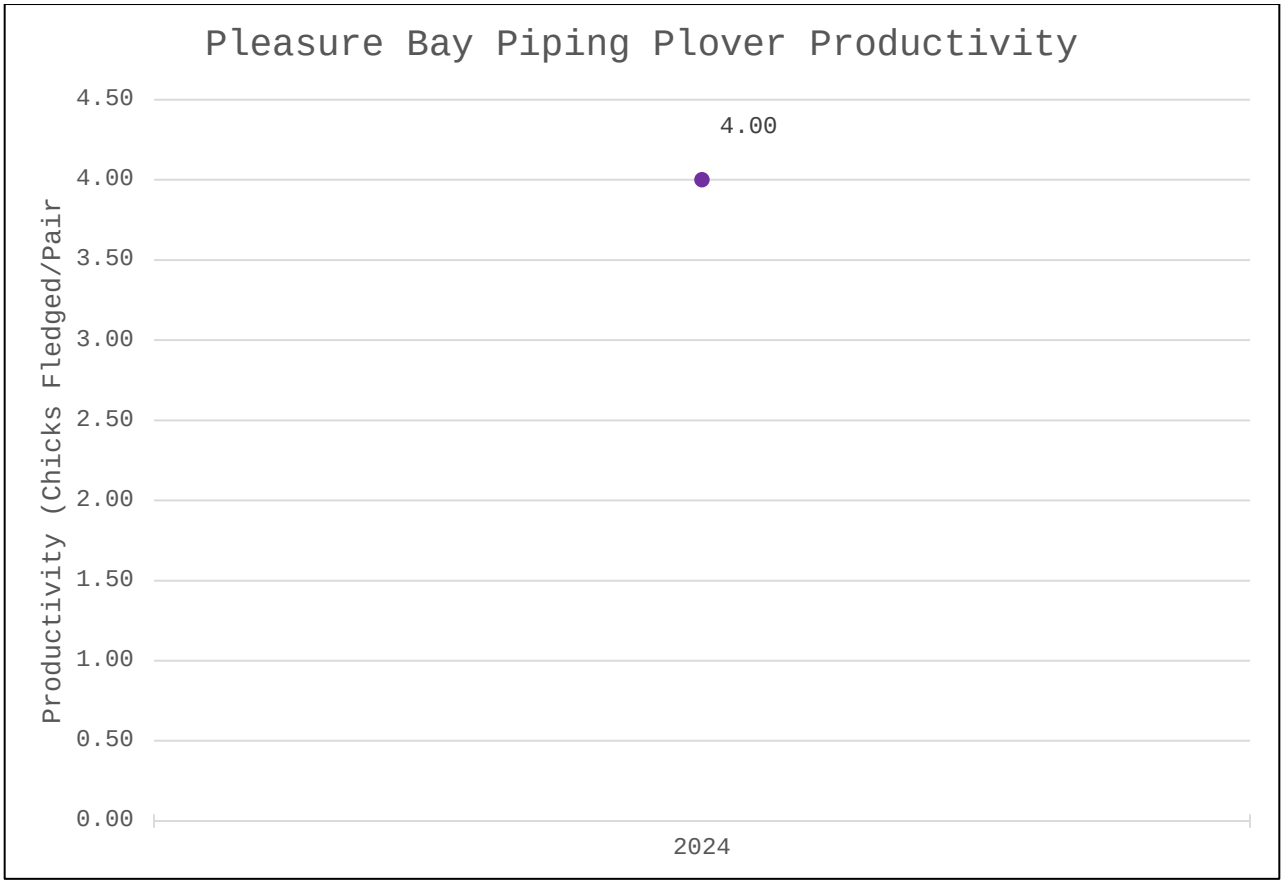

Figure 36: Pleasure Bay Piping Plover Reproductive Success

D. Threats at the Site

Nesting success at the urban sites depends most heavily on the threats of tidal overwash and predation. Avian predators (American Crow, various gull spp., and various raptor spp.) are the most consistent threat facing Piping Plover nests and chicks on the urban sites, while mammalian predation (including Striped skunk and Eastern coyote) is less common but remains an important factor to consider each year

E. Other Background Information of Significance

Not Applicable.

V. Least Terns

Winthrop Beach has hosted a significant breeding colony of Least Terns since 2016, where the preferred nesting habitat overlaps with the southern portion of Piping Plover nesting habitat on the site. In 2023 a single Least Tern pair nested on Revere Beach for the first time ever. The Winthrop colony varies greatly in size, time of arrival, and reproductive success each season, and overall appears to be decreasing in number of breeding pairs. The colony reached its largest size in 2017 with 90 reported breeding pairs during the A Count period, and has averaged approximately 39 pairs per season over the last five (5) years. Reproductive success of the colony has varied from year to year, with productivity ranging from 0.00 to 1.10 over the last five (5) years and averaging 0.28.

A. Mapped Distribution

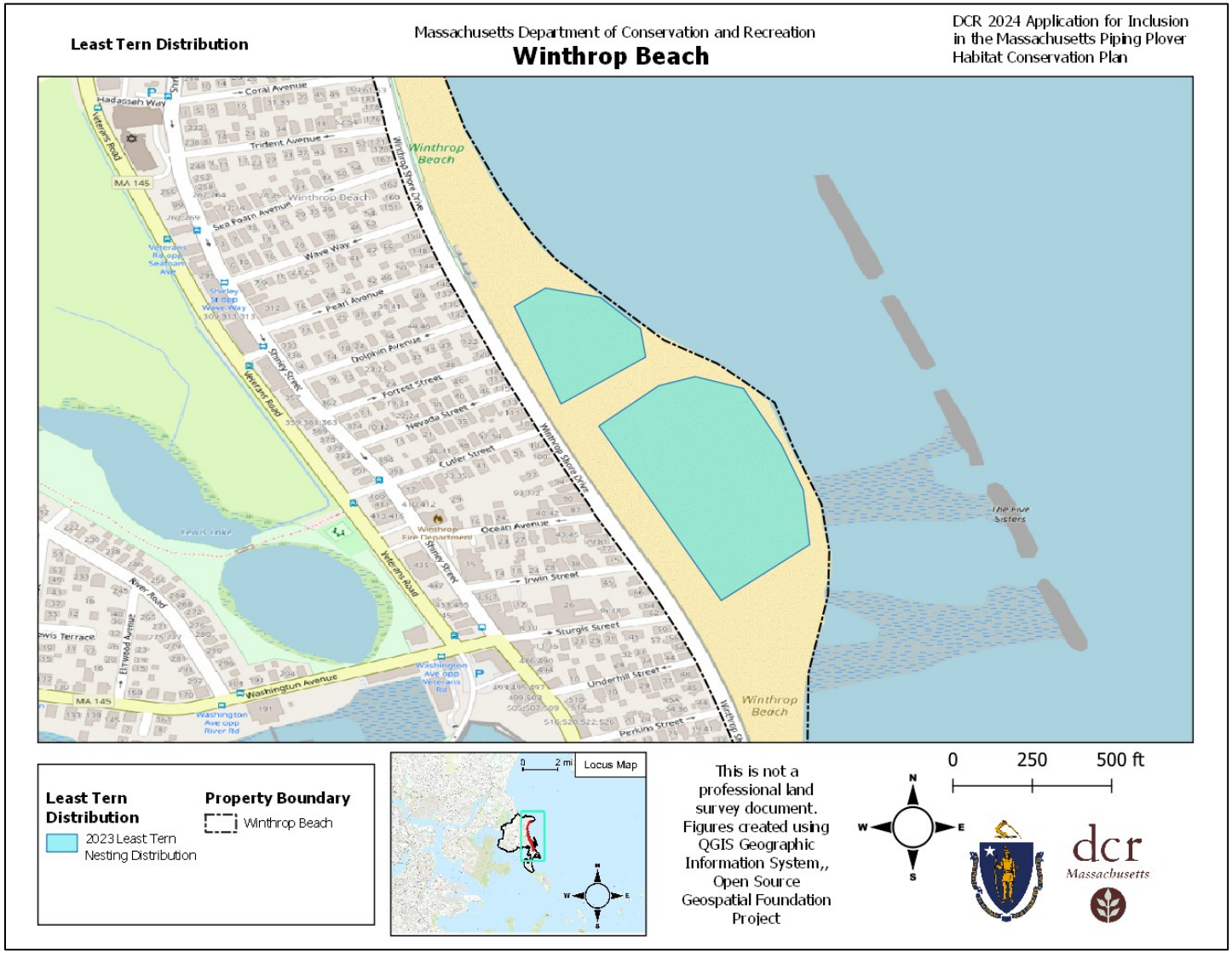

Figure 37: Winthrop Beach Least Tern Distribution

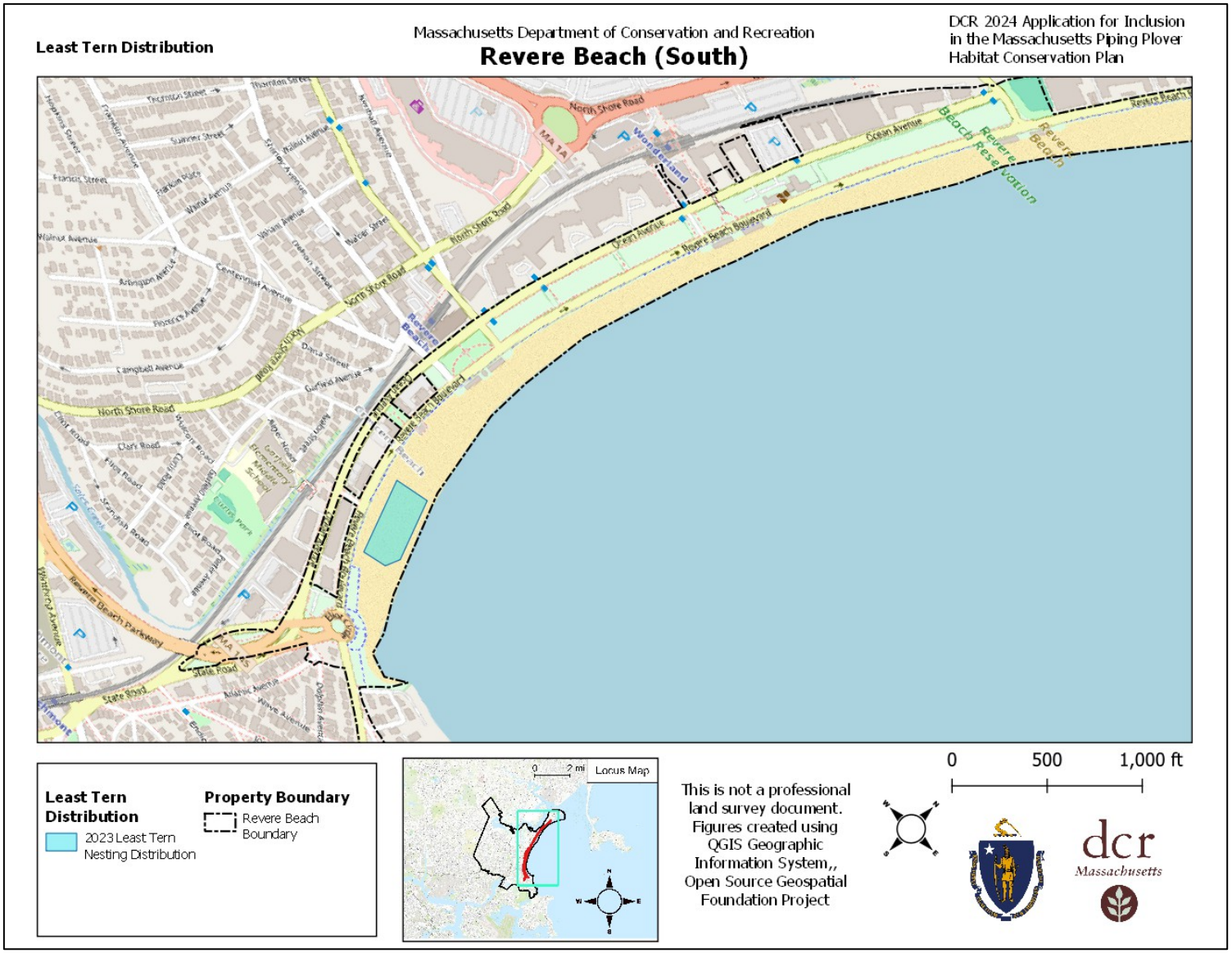

Figure 38: Revere Beach (South) Least Tern Distribution (n=1)

B. Population Size

The 5-year baseline average at Winthrop Beach, set between 2016 and 2020, saw an average of 51.4 breeding pairs of Least Tern. The most recent 3-year average, set between 2021 and 2023, saw an average of 45.7 breeding pairs, or a decrease of 11% below the 5-year baseline. This decrease in breeding pairs may be attributed to vegetation encroachment into previously viable nesting habitats along with expected seasonal fluctuations. Most recently, Winthrop Beach provided nesting habitat for 20 pairs of Least Terns.

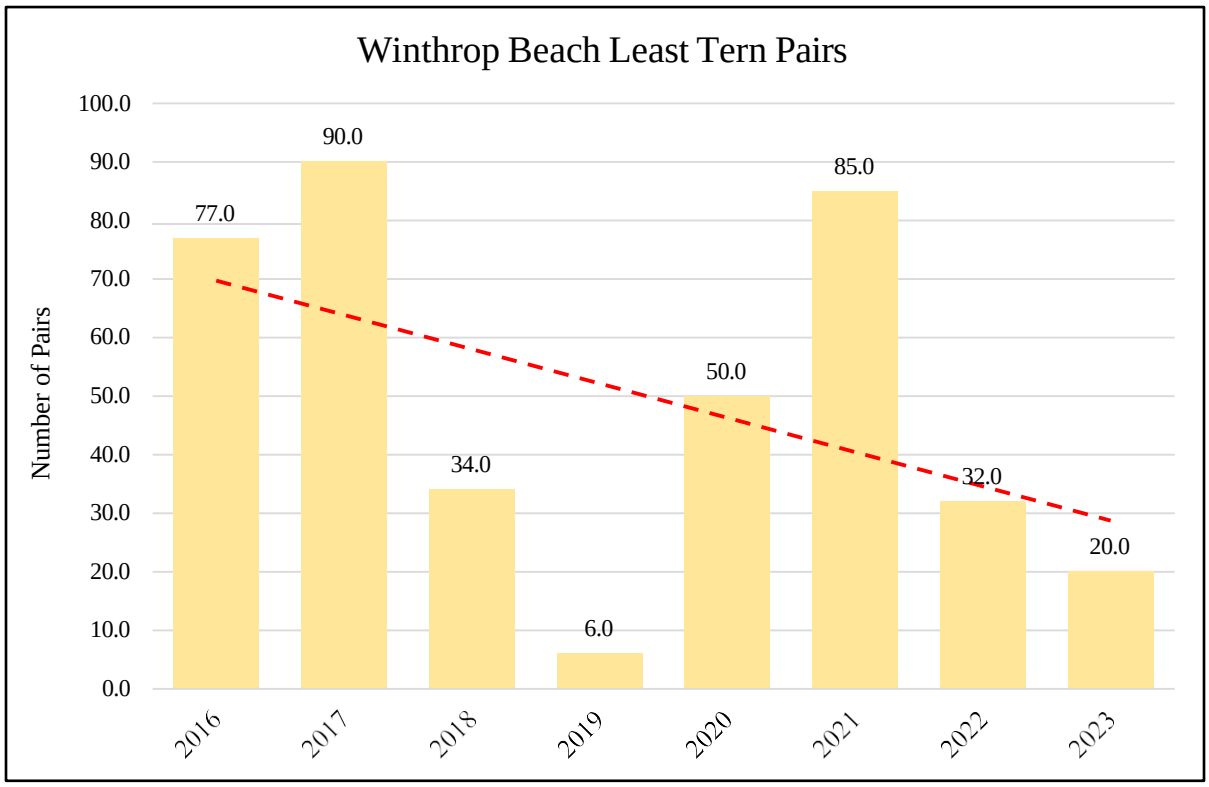

Figure 39: Winthrop Beach Least Tern Population

C. Reproductive Success

The 5-year baseline average at Winthrop Beach, set between 2016 and 2020, saw an average productivity of 0.43 fledged chicks per pair or rather classified as fair productivity. The most recent 3-year average, set between 2021 and 2023, saw an average productivity of 0.11 fledged chicks per pair, or a decrease of 74% below the 5-year baseline, or rather a reclassification to poor productivity. This decrease in productivity is likely due to seasonal effects such as certain storm or weather events as well as predator and recreational pressures. Most recently, Winthrop Beach observed poor productivity of 0.10 fledged chicks per pair.

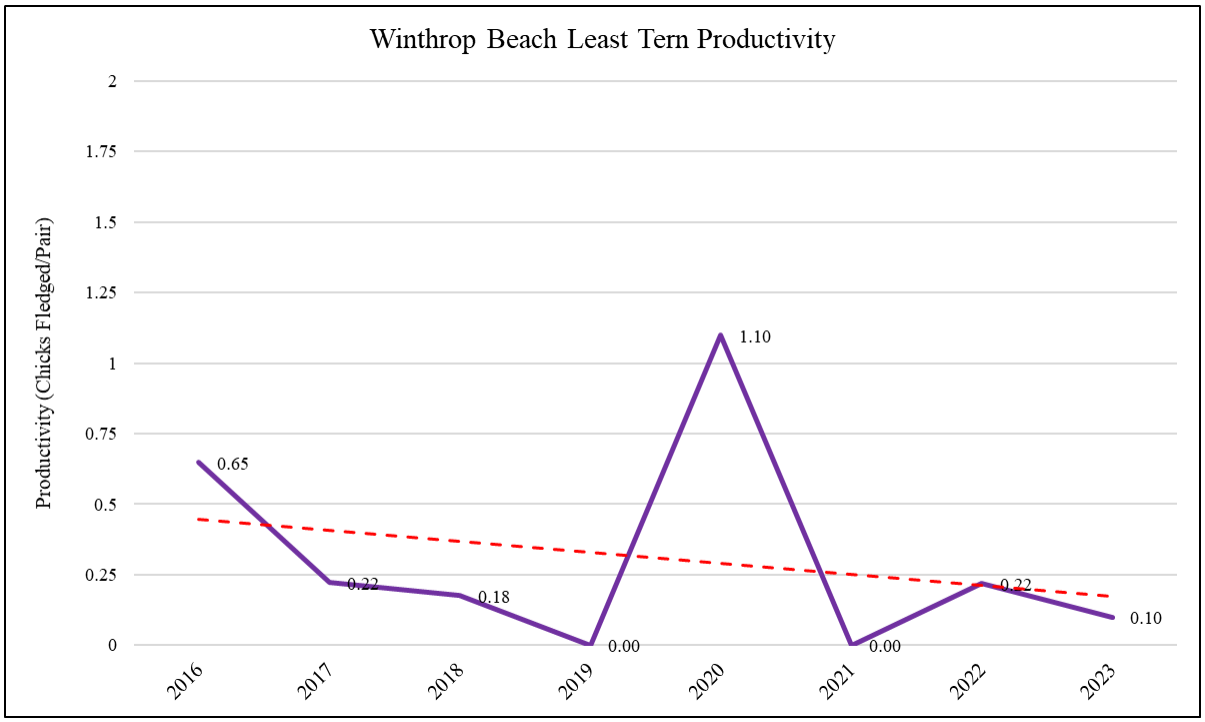

Figure 40: Winthrop Beach Least Tern Reproductive Success

D. Threats at the Site

The main threats toward Least Tern nests and chicks detected on Winthrop Beach and Revere Beach over the monitoring period have been depredation caused by Striped skunk, domestic cat, and avian predators (especially American Crow, Common Raven, and various gull spp.).

E. Other Background Information of Significance

Not applicable.

VI. Beach Operations and Management

All beach operations and site management activities conducted at the beach during the nesting season are strictly coordinated between DCR Park Operations staff and the Conservation Biologists to ensure compliance with the Guidelines.

A. Beach Hours

Site infrastructure (including parking lots, public restrooms/bathhouses, and Lifeguard services) on Revere, Winthrop, Nahant, Wollaston, Carson, and M Street are operational from half-an-hour before sunrise to half-an-hour after sunset year-round, making the urban beach area itself open and accessible to the public primarily during daylight hours throughout the year, including from April 1-September 30 when nesting and staging Piping Plovers and Least Terns may be present.

B. Recreational Activities

Multiple recreational activities are monitored by DCR staff at the urban coast sites, including but not limited to swimming, beach games, paddle boarding, kayaking, and kite boarding, among others. Most of these activities require DCR staff to be available to guide and direct the recreational use to areas away from protected species and in a way that reduces disturbances created. Other activities, such as kite-boarding, requires more coordination between recreational groups and DCR staff to anticipate the participation of the activity and to direct the recreational use away from protected areas of the beach, minimum of 200 yards from designated areas, to reduce potential disturbances.

C. Parking and Roads

Parking for Revere Beach, Winthrop Beach, Wollaston Beach, and M Street Beach is on-street parking along Revere Beach Blvd, Winthrop Shore Drive, Quincy Shore Drive, and William J Day Blvd respectively, while Nahant Beach and Carson Beach both have dedicated pay-to-park lot managed by DCR Operations staff.

D. Beach Rules and Regulations

Beach rules and regulations for DCR urban beach sites are outlined in *30 CMR 12.04: Rules of Conduct on DCR Properties – Generally and 30 CMR 12.06: Rules of Conduct on DCR Properties - Beaches* (Appendix D), and compliance guidance is provided by DCR Rangers. Regulated activities on DCR properties include but are not limited to: trash disposal, public conduct, recreational activities, commercial use, protection of infrastructure and habitat, research, and use of amplified sound equipment. Pets are not allowed on DCR beaches designated as priority nesting habitat for shorebirds (which includes all six of the urban coast sites) from April 1st through September 15th, and signage reflecting this restriction is posted year-round at every access point. Public outreach is conducted to educate residents and visitors about the potential unintended impacts caused by domestic pets and recreational activities on shorebird nesting.

E. Fencing and Signage

DCR Conservation Biologists staff deploy, adjust, and maintain symbolic fencing to delineate critical shorebird nesting areas at Nahant, Revere, Winthrop, and Wollaston Beaches. Significant portions of the suitable nesting habitat that have supported nesting Piping Plovers and Least Terns regularly are proactively fenced by April 1st each year. The remainder of the beach is intensively monitored daily, and symbolic fencing is installed as soon as a territorial pair and/or scraping are detected until the time that all included broods have successfully fledged.

F. Compliance and Law Enforcement

DCR has dedicated two (2) seasonal Ranger positions to these sites to enforce statutes pertaining to the protection of listed nesting shorebirds. One (1) seasonal Ranger is assigned to cover Nahant daily and the other seasonal Ranger is assigned to cover both Revere and Winthrop daily. The positions run from early April to late-August. DCR seasonal Rangers coordinate all enforcement efforts with Massachusetts Environmental

Police as well as local law enforcement to better manage recreational use of the beach and to effectively acquire compliance with the rules. At Wollaston, Carson, and M Street Beaches, enforcement is relied upon Massachusetts Environmental Police and local law enforcement response. Conservation Biologists may call in for enforcement support when violations are observed and deemed to be in the process of or have already resulted in Take. 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 daily coverage. The scope of enforcement and scheduling of Rangers may be subject to change due to emergency public health and safety concerns (such as has been observed with the COVID-19 pandemic).

G. Commercial/Vendor Activities

Commercial activities that take place on DCR's urban beach sites are subject to the provisions of DCR special use permits and their conditions (e.g. International Sand Sculpting Festival on Revere Beach).

H. Events

All major events that take place on the urban sites throughout the shorebird nesting season are coordinated through Conservation Biology staff to ensure that the location and recreational pressure of such an event will take place in a way that prevents disturbance to territorial and nesting shorebird species. Organized events that are expected to exceed the ordinary use of any of the urban beach sites are subject to a special use or recreational use permit. These permits are reviewed by the DCR Senior Coastal Ecologist, who provides guidance on acceptable location and any other considerations for maintaining compliance with the Plan. Annual recurrent events in this area include the International Sand Sculpting Festival and fireworks events associated with both the Sand Sculpting Festival and the celebration of Revere Day. Other events may vary each year depending on requests for permits, and in the past have included kite-flying festivals, weddings, and movie nights on the beach. The Senior Coastal Ecologist is responsible for adjusting Qualified Shorebird Monitoring staff schedules throughout any such permitted event as needed. The scheduling of Conservation Biologists is increased during major events, and shifts may be staggered to achieve a longer duration of coverage on site throughout. All pairs, nests, and chicks are intensively monitored throughout major events, and symbolic fencing is increased or reinforced ahead of time if needed based on expected crowd sizes and locations. The location of a kite-flying event is determined by the DCR Senior Coastal Ecologist to maintain a minimum 200-yard buffer between kites and the nearest nesting, territorial, or unfledged chicks. During fireworks events Conservation Biologists

monitor brood behavior and sound intensity of the show to inform future best management strategy.

I. Maintenance

DCR coordinates the type and timing of any beach maintenance operation, such as beach raking for trash removal or removal of large debris using heavy equipment, with Qualified Shorebird Monitors to ensure that shorebirds are not harassed, killed, or injured by these activities at Nahant, Revere, Winthrop, and Wollaston Beaches. Each site maintains a current Operations and Maintenance Plan (OMP) approved under the Massachusetts Wetlands Protection Act (WPA) and reviewed and approved pursuant to the Massachusetts Endangered Species Act.

J. Installation of Seasonal Infrastructure

Conservation Biologists coordinate and assist Park Operations staff with the installation of all lifeguard chairs and entrance roll-out mats at the start of the nesting season to ensure that no vehicles or activities involved cause disturbance to territorial or nesting pairs of plovers or terns.

K. Beach Grooming

Raking will begin on a regular schedule, up to 5 to 7 days per week as needed at Nahant, Revere, and Winthrop and once per week on Wollaston, and Old Harbor Reservation Beaches starting after May 15th and throughout the remainder of the recreation season. Raking will not occur before dawn or during inclement weather when visibility is limited. This includes maintenance of buffers around incubating pairs where no mechanized raking occurs, and monitoring of adult Piping Plovers and Least Terns to ensure that raking activities do not result in harassment. Once chicks hatch, refuge continues to be provided in symbolically fenced areas, and usually a supplemental buffer where no raking occurs is maintained adjacent to the fenced areas. Mechanized raking in the vicinity of chicks may only occur with a Qualified Shorebird Monitor present who has located foraging chicks prior to raking and who can halt the rake if necessary.

L. Trash Management

DCR maintains trash receptacles for the public at all major access points to the urban sites. The public is expected to carry their waste off the sandy beach to dispose of it in the

provided bins. All trash bins are emptied at least twice per day in the summer by DCR Operations staff, and the frequency of the trash pick-up cycle is increased during busy beach weekends or planned events. Operations staff also manages trash left on the beach by "picking" sites on foot using trash pickers and buckets on a rotating daily basis. Hazardous trash that accumulates in fenced nesting areas is removed by Conservation Biologists when appropriate and at times when disturbance to birds using the area would be greatly limited.

M. Management of Wrack and Seaweed

The wrack line is retained in the vicinity of nesting piping plovers and least terns, and in adequate levels across all sites to provide valuable foraging resources for resident and migrating shorebirds.

N. Sand Redistribution and Beach Grading

Beach grading is performed outside of April 1-September 30 and is done so in a way that maintains the natural grain size distribution, topography, and grade variation of the site.

O. Recreational and Essential Vehicles

Recreational vehicles are not permitted on Revere, Winthrop, Nahant, or Old Harbor Reservation Beaches at any time of year, and limited recreational vehicle use occurs at two (2) existing boat ramps at Wollaston Beach when yacht club members or associated event staff utilize deeded rights of way to transport vessels to the water. This OSV use is managed under close coordination with DCR Shorebird Program leadership staff and assigned Conservation Biologists. Essential vehicles (such as Operations and lifeguard vehicles) are permitted on the beaches only under the direct guidance and direction of the Conservation Biologists. Safe travel corridors are maintained throughout the nesting season and any staff operating vehicles is kept updated on any changes to these travel corridors that may occur. All essential vehicles operating on site within 100 yards of unfledged plover or tern chicks are escorted on foot by a Qualified Shorebird Monitor, and a log of all essential vehicle travel and operators is maintained by the Conservation Biology staff.

VII. Bird Management and Monitoring

A. Management History

DCR conducts all plover and tern management and monitoring on Revere Beach, Winthrop Beach, Nahant Beach, Wollaston Beach, Carson Beach, and M Street Beach, and DCR management and protection protocols of listed shorebirds species, including piping plovers, comply with and exceed state and federal guidelines.

B. Entity Currently Conducting Plover and Tern Management and Monitoring

DCR is currently conducting the Plover and Tern management at Horseneck Beach State Reservation.

i. Agreements or Contracts with Other Entities

No contracts or agreements with other entities conducting plover or tern management and monitoring exist on the included Urban Coast sites.

C. Management Techniques

DCR staff helps deploy, adjust, and maintain symbolic fencing to delineate critical shorebird nesting areas at the urban sites. Significant portions of the suitable nesting habitat that have supported nesting Piping Plovers and Least Terns regularly are proactively fenced by April 1st. DCR Beaches that have implemented a covered activity or have historically implemented one will be intensively monitored (8-12 hours) daily, seven (7) days per week. DCR Beaches that are a part of this plan but have not yet needed implementation of covered activities will be monitored at a reduced frequency until Piping Plover or Least Tern activity is confirmed at the site. Symbolic fencing will be installed as soon as a territorial pair and or scraping are detected. DCR's Senior Coastal Ecologist ensures that any vegetation management plan implemented at urban beaches is compatible with Piping Plover and Least Tern habitat protection. Proactive predator control programs consisting of trapping or removing avian or mammalian predators is undertaken early each nesting season (See Mitigation Plan).

D. Numbers of Bird Monitors, Qualifications, and Duties

The Senior Coastal Ecologist hires, trains and oversees daily operations of ten (10) seasonal Conservation Biologists, who fulfill the roles of Qualified Shorebird Monitors and provide the biological monitoring, protection, and stewardship for nesting shorebirds (Appendix A).

E. Seasonal Staff Scheduling

Conservation Biologists are hired every year as Long Term Seasonal (LTS), from approximately March 15th through August 30th. Conservation Biologists work 40 hours/week, and each team member has a different set of two weekdays off to ensure consistent site coverage throughout the week and during weekends when demand for monitoring coverage is highest. Conservation Biologists work a variety of daily shifts depending on site needs – either starting at 5:30am, 7:30am, or at 9:00am during dates/events when later evening coverage is required.

F. Training and Oversight of Monitors

The Senior Coastal Ecologist, with support from the Shorebird Program Coordinator, hires, trains, and oversees daily operations of five (5) Long-term Seasonal Conservation Biologists, who provide the biological monitoring, protection, and stewardship for the nesting shorebirds. Additional training from the Mass Audubon Coastal Waterbird Program is provided through the seasonal term. All training materials including state and federal Guidelines, vehicle escorting and monitoring, and site-specific manuals are housed within a working Microsoft Teams channel and is required review for seasonal staff to acknowledge their understanding.

G. Data Collection and Recording Protocols

Quantitative data including the number of pairs, nests, and chicks are collected daily within the NestStory data collection framework. Qualitative data including individual behaviors and check summaries are also collected daily within the NestStory framework. Locations of pairs, territories, fencing, nests, and roaming broods are collected using NestStory's mapping framework. Supplemental data including weather, predator composition, public visitation, violations, and other management and monitoring details are collected alongside primary data collection requirements. Once the HCP is activated,

increased data collection is accomplished through standardized timed observations to achieve, at minimum, an hour of observation of each impacted pair.

H. Data Reporting

Census data for Piping Plovers and Least Terns is collected during their appropriate census window dates, June 1st – 9th and June 5th – 20th respectively. These data are then submitted to DFW by the end of July for initial census reports. More complete reporting is submitted to DFW through PIPLODES and TERNODES by September 30th which encompasses all compiled data recorded throughout the season including maps and incident reports.

When the HCP is implemented, weekly reports are submitted through email to DFW for the duration of the implementation. These reports aim to summarize the management and impacts of selected covered activities. These summaries include pair and brood activities in response to the management, violations, adult and chick losses, and general observations. An annual report of HCP activities is submitted to DFW by October 15th which covers all activities and impacts associated with the implementation of the HCP.

I. Public Education and Outreach

DCR holds formal and informal programming on the beach providing outreach, educational programs, and interpretive signage to educate beach users and divert incompatible beach uses from critical nesting areas. These events mostly occur during popular high use times on the beach like weekends, or in community organized events like the annual International Sand Sculpting Festival.

VIII. Covered Activities

To improve stewardship of Piping Plovers and other shorebirds on the urban coast, DCR implements protection of shorebirds under management protocols that includes impact minimization to nesting shorebirds, habitat enhancement, increased monitoring, coordinated enforcement, internal DCR training, and expanded public education. 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.

A. Proposed Covered Activities

To address these concerns, DCR is proposing to implement the following covered activities:

- **1**. Use of Roads and Parking Lots in the Vicinity of Unfledged Piping Plover Chicks
- **2a**. Recreation and Beach Operations Associated with Reduced Symbolic Fencing Around Piping Plover and Least Tern Nests
- **2b**. Recreation and Beach Operations Associated with Reduced Proactive Symbolic Fencing of Piping Plover Habitat
- **2c**. Recreation and Beach Operations at Piping Plover Nest Sites with Nest Moving
- **3**. OSV Use in the Vicinity of Unfledged Piping Plover Chicks

DCR will implement the covered activities in cases where the location or size of the symbolic fencing for Piping Plover nests compromises public safety or disrupts routine operations (e.g., inability to deploy lifeguard equipment), or where nesting locations may negatively impact the local economy by canceling organized traditional events, or if the available public recreational area within a portion of the site is deemed reduced to such an extent as to significantly impair recreational and associated economic activity. As authorized by the HCP, subject to appropriate impact minimization procedures, some areas of reduced fencing will be mechanically raked as an ongoing management practice. As described in the HCP, if a Piping Plover nests in an area without symbolic fencing, the nest will be immediately protected with symbolic fencing with a reduced buffer.

In the event of impacted nests hatching, DCR proposes the ability to herd roaming broods on occasions where brood movements will directly impact the recreation and management of the site. Herding may be limited to previously impacted pairs and their broods and particularly broods located in proximity to accessible roads and parking lots. During routine raking of the area, herding may be performed to ensure the proper maintenance of the beach is fulfilled. If deployed barriers become compromised and broods are found within parking lots or roads, chick herding may be performed to return the broods back to desired and protected areas.

DCR is also proposing reduced ~~-~~symbolic fencing to impact up to five (5) pairs of Least Terns or no more than 25% of the colony, whichever is less. This request enhances the scope and impact of covered activities for recreational benefit and operational capacity at DCR's Urban Coast beaches.

B. Protocol for Implementing IAMP for Each Activity

- **"Use of Roads and Parking Lots in the Vicinity of Unfledged Piping Plover Chicks",** may be implemented, within the limits set by the HCP, when chicks are near roadways and parking lots. Signage alerting motorists and beach goers to watch for crossing birds and to obey speed limits must be strategically deployed. At sites that are open to roadways and parking lots (Nahant, Wollaston, M Street, and Carson) the deployment of barriers or chick herding may be necessary to prevent the closure of critical infrastructure. Straw filled construction wattles will be used as deployable barriers and reinforced with wooden stakes. The wattles for deployment are encased in UV degradable plastic netting each being 9 inches in diameter and 25 feet in length. A second tier of wattles may be secured on top of the initial wattle to bolster the barrier if deemed necessary. Wooden stakes, at 1x1x18 inch, may be used to secure wattles into and around the brooding substrate to prevent barriers from shifting or falling through public traffic and/or storm events. If barriers are deployed, their effectiveness will be monitored at a minimum of twice per day, once in the morning and once in the evening and may coincide with required brood checks.

  DCR is requesting the continued implementation of Enhanced Intensive Monitoring (EIM) as previously approved for this covered activity. Conservation Biologists will monitor each brood subject to this covered activity at least twice per day, in the morning and afternoon, for more than an hour at a time or continuously if deemed necessary to prevent accruing Take. Brood locations will be recorded using GPS in NestStory for every check and movement outside of normal brooding territory. Broods that are found in areas that may have access to roads or parking lots will have increased monitoring, greater than twice per day, to document whether broods are attempting to access these areas. Continuous brood monitoring will be conducted during summer weekends when increased recreational activity and pressures are expected. If broods are found to be in the process of accessing roads or parking lots, DFW will be immediately notified, and continuous monitoring would continue until the brood is observed back into protected areas.

  Once roaming broods are determined to be entering into roads or parking lots, DCR will implement traffic management which consists of intercepting vehicular and bicycle traffic as far in advance of the brood as possible and requesting to reduce speeds and/or dismount to create a more controlled and safe area for brood movements. Interception distances will be determined based on the specific location of the occurrence of the brood. Limiting factors to preemptive interception will be applicable such as visibility, beach access points, dunes, and vegetation active as barriers. Vehicular interception will be predominantly achieved through signage requesting vehicle operators to remain alert and reduce

speeds through the brooding zone. Conservation Biology staff will be present to act as a brood traffic monitor ensuring compliance is met and any violations are recorded.

- **"Recreation and Beach Operations Associated with Reduced Symbolic Fencing around Piping Plover and Least Tern Nests",** may be implemented within the covered Urban Beach Complex where beach operations or recreational activities occur within 50 yards of a nest. A fence will be initially installed and then gradually reduced from 50 yards to no less than 10 yards around the nest. Fencing will be reduced to only the extent necessary to achieve specific recreational or beach operation objectives. If there is a path or major access point within 10 yards, DCR will request from DFW an allowance of less than 10 yards around the nest to maintain paths and access.

- **"Recreation and Beach Operations Associated with Reduced Proactive Fencing of Piping Plover Habitat",** may be implemented within the covered Urban Beach Complex under the maximum exemption limits set by the HCP. The HCP allows exceptions whereby at up to five sites statewide annually may reduce proactive fencing of up to 20% of habitat or four (4) acres, whichever is less (see HCP Section 5.2.2.3). This measure will minimize the risk of displacing breeding pairs from a given site or of significantly increasing competition from other pairs of Piping Plovers. In areas of reduced proactive fencing, DCR may continue the routine operational activities required for recreation and beach management. These activities may include routine mechanical beach raking and placement of mobility mats on top of otherwise viable nesting habitats. These activities may act as nesting deterrents within the reduced proactively fenced areas.

- **"Recreation and Beach Operations at Piping Plover Nests with Nest Moving",** may be implemented within the Urban Beach Complex under 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 the 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. DCR may request this activation in situations where permitted fence reductions would not resolve operational and/or recreational impacts.

- **"OSV Use in the Vicinity of Unfledged Piping Plover Chicks",** may be implemented on Wollaston Beach within the limits set by the HCP. Two private yacht clubs, Squantum Yacht Club and Wollaston Yacht Club, hold Special Use Facility Permits issued under the provisions of M.G.L. c92§33, which states that "the commissioner of conservation and recreation, hereinafter referred to as the commissioner, may enter into and issue agreements, licenses and permits for recreational and other uses which he deems compatible and consistent with this section and Article XCVII of the amendments to the Constitution, provided, however, that such agreements, licenses and permits shall be for periods not exceeding 10 years, and shall be in writing." These individual permits act as long-term leases for use of the raised boardwalk and facility infrastructure on Wollaston Beach by both clubs. Therefore, DCR remains the responsible landowner for activities carried out by both clubs on the beach habitat, including non-essential vehicle use by club officers and members to access the waterline for various activities. Herein after, DCR's Shorebird Program will coordinate the use of the boat ramps (see Figure 9) by the clubs to ensure that proper implementation of the covered activity of OSV use is conducted. Narrow vehicle corridors (less than 5 yards wide) will be established at two (2) boat ramps and all trips will be coordinated in advance through direct communication between Squantum and Wollaston Yacht Clubs and the program's Shorebird Coordinator and assigned Conservation Biologists. When unfledged chicks are present on Wollaston Beach, OSV use will occur for a total of no more than six (6) hours per day during daylight hours and only when visibility conditions are suitable, and all vehicles will be escorted by Qualified Shorebird Monitors if unfledged chicks are potentially active within 100m of the vehicle corridor. During escorting events at least one (1) monitor will be assigned for each unfledged brood present. Vehicles will be instructed to stop immediately if chicks approach the vehicle corridor. Vehicle speed will not exceed 5mph at any time and turns within the established vehicle corridor will be minimized to reduce the creation of tire ruts. Parking of OSVs will not be permitted. Based on past utilization of the boat ramps, use is not expected to be high as the Yacht Clubs have a preferred off-site access route for members' boats due to the near shore zone shallow conditions and will primarily require access when installing and removing moorings at the start and end of the club season, during any planned seasonal maintenance for leased infrastructure that requires ground-level access (e.g. repairs to the pilings and/or boardwalks), or during scheduled recreational events (e.g. Quincy Race Week). When chicks less than 14 days old are mobile on site smoothing of tire ruts will be performed either by hand raking or escorted mechanical raking as soon as possible and no longer than 24 hours following OSV use. Early in the season and prior to implementation of OSV use for the year all members identified by Squantum Yacht Club or Wollaston Yacht Club as potential drivers will attend a mandatory OSV operator training that demonstrates their knowledge of the activity protocol. The training materials will be submitted for approval by DFW prior to the orientation, and the training will be conducted by the Shorebird Program Coordinator and Qualified Shorebird Monitors.

- **Intensive Biological Monitoring for Piping Plovers**: Each 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. The Division has indicated that it reserves the right to "assess" a larger square footage impact in some cases based on considerations of changes in symbolic fencing requirements for a given territory over time resulting from changes in habitat use. Frequent monitoring of the entire site should preclude the possibility of a pair being first detected late in the nesting process (i.e. eggs laid). However, if this circumstance occurs, that territory will not 31 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. If 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 mechanically raked in accordance with the monitoring and impact minimization procedures described in Section 8.0.27. In the event of hatched and roaming chicks throughout the site, Conservation Biologists will monitor the broods at least twice a day for the duration of their life or until fledging. Monitoring will consist of understanding the movements and preferred territories of the broods and the erection of additional fencing and signage if broods move into extensively recreated areas (e.g. Recreational Path) and to inform the public of the presence of vulnerable chicks. NestStory will be used to log and track the exact position of roaming broods throughout the life of the brood. GPS points will be taken multiple times a day during monitoring and a seasonal brood movement map will be produced to highlight movements to and from areas important to brood development present at our monitoring sites. DCR Park Operations staff will work with Conservation Biologists to ensure that all OSV operations are conducted under the supervision of a qualified vehicle escort and any vehicle that is operated within 100 meters of an active brood will be monitored and escorted to ensure compliance with the Guidelines and to reduce potential disturbances.

- **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 a covered activity, DFW will be notified at least 24 hours in advance. Areas subject to covered activities 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 event that nesting still occurs in an active covered activity area, fencing may 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

C. Monitoring Plan for Covered Activities

If implemented, any covered activities will be monitored daily for the following four (4) weeks or 28 days, or for the duration of the season if necessary. All relevant 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 DFW. All documentation of seasonal activities will be recorded in the field on standardized datasheets and online data collection services (i.e., NestStory). Data collection will follow the standard protocol framework as described by the USFWS NWRS. This protocol prioritized the streamlined collection of Site-level, Survey-level, and Nest-level attributes. These attributes include but are not limited to; Daily staffing and monitoring effort in hours, Number of adults present, Nest and brood locational data, estimated age of nest and brood, Nest and Brood Fates (Appendix B).

i. Compliance Monitoring

NestStory will be used as DCR's primary data recording tool throughout the nesting season for both compliance monitoring (Appendix B). This online data application allows DCR to standardize all monitoring protocols across sites as well as provides a means to record the staffing and monitoring efforts at all sites. A monitor will log into NestStory to begin each monitoring day, record all required daily data including GPS locations of nests and broods, photo evidence of predation pressures, and behavioral observations of individuals and will then log out of NestStory to end their day. This framework allows DCR to determine the monitoring effort at each site as well as keep track of an individual monitor's time at site. All data collected into NestStory will be downloaded, proofed for accuracy, and summarized to be submitted into PIPLODES and TERNODES.

Utilizing data recorded by qualified monitors in NestStory, the DCR Senior Ecologist will maintain logs throughout the nesting season documenting compliance with the terms

of the Plan. The logs will document the timing and frequency of all related activities including installation of fences and signage, monitoring checks for sites/pairs/nests/broods, observations of disturbances caused, enforcement and/or education conducted, DCR staff vehicle safety trainings, escorting of essential vehicles, maintenance of vehicle corridors, essential beach operations, implementation of covered activities, and any associated impact minimization efforts. Examples of these logs can be found in Appendix B, and summaries of Plan compliance will be shared with DFW on a weekly basis throughout the nesting season for Piping Plovers and Least Terns. Complete compliance data will be reported to DFW in an annual report as required, and the original logs will be maintained by the DCR for subsequent years.

ii. Effectiveness Monitoring

Similarly tied with compliance monitoring, DCR's effectiveness monitoring will utilize NestStory to standardize all monitoring protocols and provide a means to record the effectiveness of predator mitigation and removal at the site. A monitor will log into NestStory to record GPS locations, photo evidence, presence, and composition of all predators observed. This framework allows DCR to determine the effectiveness of predator mitigation at each site.

Utilizing the data recorded by qualified monitors in NestStory, the DCR Senior Ecologist will maintain logs throughout the nesting season documenting the effectiveness of all mitigation measures including selective predator removal. Examples of these logs can be found in Appendix B, and summaries of Plan effectiveness will be shared with DFW on a weekly basis throughout the nesting season for Piping Plovers and Least Terns. Complete effectiveness data will be reported to DFW in an annual report as required, and the original logs will be maintained by the DCR for subsequent years.

D. Staffing with and without Participation in the Habitat Conservation Plan

DCR dedicates existing full-time professional staff, including the Program Director (Senior Coastal Ecologist), Program Coordinator, and ten (10) Conservation Biologists (who fulfill the role of Qualified Shorebird Monitors) to provide all monitoring and reporting needs required for compliance and protection of listed shorebirds and to implement reporting and monitoring associated with activities covered in the HCP. The need for increased intensity of monitoring associated with the HCP requires DCR to hire three (3) additional seasonal Conservation Biologists for the urban sites to fulfill the conditions of the HCP

IX. Budget

A. Approved Annual Budget

While DCR's Shorebird Program staff (Senior Coastal Ecologist, Program Coordinator, and Seasonal Conservation Biologists) are already rostered annually to handle the additional staffing needs of the HCP, the annual cost of the program could be expected to be less if the six (6) urban sites were not included in the HCP (Tables 1 and 2). Along with increased monitoring staff, implementation of the HCP requires direction, coordination, and reporting costs beyond the state compliance reporting due September 30th each year, which incurs an additional cost that would not be expected in the absence of a COI. Likewise, DCR funds mitigation via selective predator management each year as part of its inclusion in the HCP. The funding provided for mitigation has been secured through the capital budget process and is available prior to the permitted activities. Additionally, DCR has allocated an annual maximum budget of $50,000 per year to invest in a statewide selective predator control program provided by a licensed approved vendor. The total estimated annual cost for selective predator control on preferred mitigation sites like Sandy Point State Reservation and West Island State Reservation is approximately $40,786.50. Including staff time and indirect cost, the total estimated cost of implementation of the HCP on urban beaches is approximately $89,950.70 annually (Tables 1 and 2).

B. Budget Breakdown With and Without Participation in the Habitat Conservation Plan

Table 1: Estimated Total Annual Program Cost on DCR Urban Sites with HCP Implementation and Mitigation

	Monitoring and Reporting Cost	Indirect, Fringe, and Other Associated Cost	Total
Program Direction	$3,881.47	$2,014.10	$5,895.57
Program Coordination	$6,521.93	$3,384.23	$9,906.16
Qualified Monitoring Staff	$92,456.40	$47,975.63	$140,432.03
Mitigation Cost	$31,989.41	$8,797.09	$40,786.50
		Total Cost	**$197,020.25**

Table 2: Estimated Total Annual Program Cost on DCR Urban Sites without HCP Implementation

	Monitoring and Reporting Cost	Indirect, Fringe, and Other Associated Cost	Total
Program Direction	$2,814.07	$1,460.22	$4,274.29
Program Coordination	$4,728.40	$2,453.57	$7,181.96
Qualified Monitoring Staff	$62,949.04	$32,664.26	$95,613.30
Mitigation Cost	$0.00	$0.00	$0.00
[redacted]		***Total Cost***	**$107,069.55**

MITIGATION PLAN

I. On-Site Mitigation

As set forth in the HCP, DCR is proposing mitigation be provided through funding a selective predator management program implemented by a qualified, licensed, and approved vendor at selected DCR sites including Sandy Point State Reservation, Revere Beach, Winthrop Beach, Demarest Lloyd State Park, and West Island State Reservation. The mentioned sites are ideal due to the number of nesting pairs present who will benefit; in 2023 thirteen (13) Piping Plover pairs nested at Sandy Point, twelve (12) pairs nested at Revere Beach, eight (8) pairs nested at Winthrop, four (4) pairs nested at Demarest Lloyed, and three (3) pairs nested at West Island. Additionally, due to the geographic location of Sandy Point, DCR mitigation at the site is expected to benefit 25% of the nesting Piping Plover pairs at Parker River National Wildlife Refuge. Selective predator management at these sites will also serve to benefit the Least Tern colonies at Sandy Point, Revere Beach, and Winthrop Beach, with a combined total of 81 nesting pairs in 2023.

DCR intends to deplete, as much as possible, its current bank of 111 mitigation credits by the end of year 1 of the renewed permit. In years 2 and 3 of the permit DCR will again pursue a qualified, licensed, and approved vendor for selective predator management. The mitigation requirement for exposing fifteen (15) pairs of Piping Plovers to the covered activities is 41.5 pairs to benefit from a selective predator management work plan. To the extent possible any mitigation credits will be carried forward to subsequent years in a statewide DCR credit pool managed by DFW and applicable to any HCP permits held by DCR.

APPENDIX SECTION

APPENDIX A: STAFF CREDENTIALS AND QUALIFICATIONS

JORGE J. AYUB

MASSACHUSSETTS, U.S.A.
JORGE.AYUB@OUTLOOK.COM

PROFFESIONAL PROFILE

Currently the Senior Coastal Ecologist for the Massachusetts Department of Conservation & Recreation developing and implementing coastal habitat ecological restoration projects and leading the conservation efforts for protection of listed wildlife species and key priority habitats including wetlands, salt marshes, barrier beaches, and other natural coastal communities. I work preparing and reviewing scientific reports and studies on climate change impacts for environmental permits pertaining to construction projects, habitat protection and mitigation control measures. I lead a large team of Conservation Biologists, Science Technicians and contractors in the field and function as environmental compliance liaison with other state and federal regulatory agencies.

HIGHLIGHTS OF QUALIFICATIONS

- Extensive knowledge of the principles of ecology, evolutionary biology and wildlife conservation
- Creative, detail-oriented and committed to quality.
- Ability to guide and deal tactfully with others.
- Extensive knowledge of the principles, practices and techniques of leadership and supervision.

EDUCATION

Harvard University, Cambridge, MA
Professional Certificate: Leadership and Communication; May 2024

Delft University of Technology, Netherlands.
Professional Certificate: Building with Nature – Coastal Restoration; May 2018

University of Massachusetts Boston Honors College; Boston, MA
Graduate Certificate: Sustainability & Clean Energy; May 2015

Johnson & Wales University, Providence, RI.
M.B.A. in Global Leadership; May 2012

National State University (UNED), San Jose, Costa Rica
B.Sc. in Ecology - Natural Resources Management. (Cum Lade), May 2024

WORK EXPERIENCE

2012-Present: Senior Coastal Ecologist, DCR - Commonwealth of Massachusetts
Leading the coastal ecology program for the Department of Conservation & Recreation

2011-2012: Graduate Internship: Marine Invasive Species - Moran Inc. – Providence, RI
Environmental assessments for invasive species impacting maritime ballast water systems (BWS). Analyzed project feasibility for operations and future investments. Developed communication strategies as liaison with customers, government agencies and other partners.

2005-2011: Ecologist & Program Coordinator, Walking Connection – Grand Canyon, AZ.
As a contractor led large scale nature based programs for organized groups and non-profit organizations. Developed a partnership with the Grand Canyon Institute for staff training on local conservation and interpretation services. Optimized operational strategies and worked with 8,000+ participants and help raised over 20 million dollars.

2005-2011: Environmental Educator & Tour Director, EF - Cambridge, MA.
As a consultant developed scholar field workshops and classroom content for environmental programs and performed presentations with graded content in various regions in the United States and abroad. Coordinated and developed environmental educational field programs for academic groups while working with plants, birds, mammals, amphibians, reptiles, and other natural communities. Led other outdoor activities including hiking and rafting.

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1997-2004: Ecologist specialized in wildlife biology and interpretive services – Costa Rica
Developed academic and scientific research for wildlife conservation and for protecting vulnerable natural communities. Created nature-based interpretation programs to successfully educate students and visitors about the importance of environmental protection and sustainable development.

CERTIFICATIONS

- Climate Change; Smithsonian National Museum of Natural History
- Wetlands Assessment and Field Delineation Techniques; UMass Amherst
- Ecological Restoration for Coastal Habitats; NOAA; Waquoit Bay, MA
- Wilderness First Aid and CPR, National Safety Council , USA

OTHER LANGUAGES

Fluent in Spanish

Last name, first name:

POSITION DESCRIPTION, DPA-Form 30-State **Commonwealth of Massachusetts**	POSITION TITLE CODE
1. POSITION TITLE Conservation Biologist III– Shorebird Conservation Program Coordinator	AGENCY Department of Conservation and Recreation

2. APPROPRIATION/AGENCY CODE	POSITION NO.	REQUISITION NO.	SALARY	DATE PREPARED 05/20/2022

3. GENERAL STATEMENT OF DUTIES AND RESPONSIBILITIES

The basic purpose of this position is to provide professional scientific services regarding the biological monitoring and the protection and management of the Massachusetts endangered and threatened shorebird species and their habitats. Incumbents must have knowledge of all the biological characteristics and behaviors of such endangered and threatened shorebird species.

Incumbents of positions in this series collect, analyze, and review biological data through field and office work on endangered and threatened species and other features of biological diversity; provide technical assistance and information to the public; help the agency in achieving compliance with laws and regulations and maintaining liaison with other government agencies.

Ability to guide and deal tactfully with others to plan and assign work according to the nature of the job to be accomplished, the capabilities of team members and available resources; controlling work through periodic reviews and evaluations; determining team members training needs and providing or arranging for such training; motivating team members to work effectively.

The incumbent will be assigned and provide coverage statewide and utilization of personal vehicle may be required in exchange for mileage reimbursement at the approved rate of the Commonwealth of Massachusetts.

Qualifications required at hire are mandatory (see below).

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
Seasonal staff	

6. DETAILED STATEMENT OF DUTIES AND RESPONSIBILITIES

1. Analyzes data from a variety of sources on endangered and threatened shorebird species to assess population trends or to make management recommendations regarding course of action for the protection and management of these rare 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 management recommendations.
3. Provides biological technical assistance and information on such matters as endangered and threatened shorebird species conservation, management and research for distribution to local, state and federal agencies and the scientific community.
4. Supports the agency in maintaining liaison with local, state and federal agencies for data reporting or to resolve issues related to the biological protection of the state's endangered and threatened species of shorebirds and their habitats.
5. Preparing extensive technical reports for public review and managing data and other scientific records for public distribution.
6. Ability to plan, design and implement scientific research and biological recovery projects relative to endangered and threatened species, including the selection of sampling design, frequency, and scientific equipment to be used to accomplish research objectives.
7. Ability in writing proposals to secure funding through available grants for implementation of the program conservation objectives.
8. Ability to supervise and deal tactfully with others, including planning and assigning work according to the nature of the job to be accomplished, the capabilities of team members and available resources; controlling work through periodic reviews and evaluations; determining team members' training needs and providing or arranging for such training; motivating team members to work effectively.
9. Assist in the management of the hiring process for seasonal staff and perform other duties as assigned.

<u>Incumbents of positions at the Conservation Biologist II level or higher also</u>:
1. Design and implement field research studies relative to wetland habitats and other wildlife conservation, 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

1. Knowledge of the principles, practices and techniques of leadership and supervision.
2. Knowledge of the principles of ecology and population biology.
3. Knowledge of ornithology or other wildlife conservation science related to assigned responsibilities.
4. Knowledge of research methods and techniques followed in conservation biology.
5. Knowledge of all the characteristics and behaviors of endangered and threatened shorebird species.
6. Knowledge of the principles and techniques of endangered and threatened species habitat management.
7. Knowledge of the types and uses of equipment used in conservation biology research and management.
8. Knowledge of the methods used in the preparation of charts, graphs and tables.
9. Ability to read, interpret, apply and explain the policies, procedures, guidelines, laws, rules and regulations governing agency operations and assigned unit activities.
10. Ability to gather information by examining records and documents.
11. Ability to assemble items of information according to established procedures.
12. Ability to determine the proper format and procedure for assembling items of information.
13. Ability to analyze and determine the applicability of conservation biology data, to draw conclusions and make appropriate recommendations.
14. Ability to follow oral and written instructions.
15. Ability to perform arithmetic and statistical computations (addition, subtraction, multiplication and division; and calculate mean, mode, median and standard deviation).
16. Ability to communicate effectively in oral and written expression.
17. Ability to prioritize work assignments.
18. Ability to prepare extensive general and technical reports.
19. Ability to prepare and use charts, graphs and tables.
20. Ability to maintain accurate records.
21. Ability to deal tactfully with others.
22. Ability to establish and maintain professional and harmonious working relationships with others.
23. Ability to exercise sound judgment.
24. Ability to work independently.
25. Ability to operate a motor vehicle.

Additional qualifications required at hire for Conservation Biologist II and higher positions:

1. Ability to plan and assign work for others according to the nature of the job to be accomplished, the capabilities of team members and available resources; controlling work through periodic reviews and evaluations; determining team members‘ training needs and providing or arranging for such training; motivating team members to work effectively.
2. Ability to plan, design and implement scientific research and biological recovery projects.

Based on assignment, the following additional qualifications may be regard at hire for Conservation Biologist II and higher positions:

1. Ability to supervise, including planning and assigning work according to the nature of the job to be accomplished, the capabilities of team members and available resources; controlling work through periodic reviews and/or evaluations; determining team members’ training needs and providing or arranging for such training; motivating team members to work effectively.

8. QUALIFICATIONS ACQUIRED ON JOB

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 software and processing techniques used in data management and reporting.
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 II positions:

1. Ability to accomplish work objectives when few precedents or guidelines are available.
2. 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 II positions:

1. Knowledge of the principles, practices and techniques of supervision.

Additional qualifications acquired on job in Conservation Biologist II and higher positions:

1. Ability to accomplish work objectives when few precedents or guidelines are available.

9. MINIMUM ENTRANCE REQUIRMENTS

Conservation Biologist II:

Applicants must have at least (A) three years of full- time, or equivalent part-time or seasonal, professional or technical experience in leadership work involving the protection, conservation and/or management of endangered and protected shorebird species, of which (B) at least one year must have been in a professional capacity, or (C) any equivalent combination of the required experience and the substitutions below.

Substitutions:

I. Bachelor's degree with a major in biology, ecology, zoology, ornithology and wildlife conservation science, or a related field, may be substituted for a maximum of six months of the required (A) experience.*

II. A Graduate degree with a major in biology, ecology, and ornithology or wildlife conservation science may be substituted for a maximum of one year of 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 or its equivalent.

REMARKS:

SIGNATURE OF APPOINTING AUTHORITY

TITLE

AGENCY

PREPARED BY

SIGNATURE OF INCUMBENT

DATE

SIGNATURE OF SUPERVISOR

DATE

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

POSITION TITLE CODE
AGENCY

1. POSITION TITLE
Conservation Biologist I – Shorebird Monitor

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)

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

Ability to perform arithmetic and statistical computations (addition, subtraction, multiplication and division; and calculate mean, mode, median and standard deviation).
Ability to communicate effectively in oral and written expression.
Ability to prioritize work assignments.
Ability to prepare general and technical reports.
Ability to prepare and use charts, graphs and tables.
Ability to maintain accurate records.
Ability to deal tactfully with others.
Ability to establish and maintain professional and harmonious working relationships with others.
Ability to exercise sound judgment.
Ability to work independently.
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 REQUIREMENTS

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 REQUIREMENTS
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 B: DATA COLLECTION FOR COMPLIANCE AND EFFECTIVENESS MONITORING

(INSERT SAMPLE DATA LOGS AND NESTSTORY DATA ENTRY FORMS)

Appendix B: Data Collection for Compliance and Effectiveness Monitoring

USFWS NWRS Data Collection Framework Protocol

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

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

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

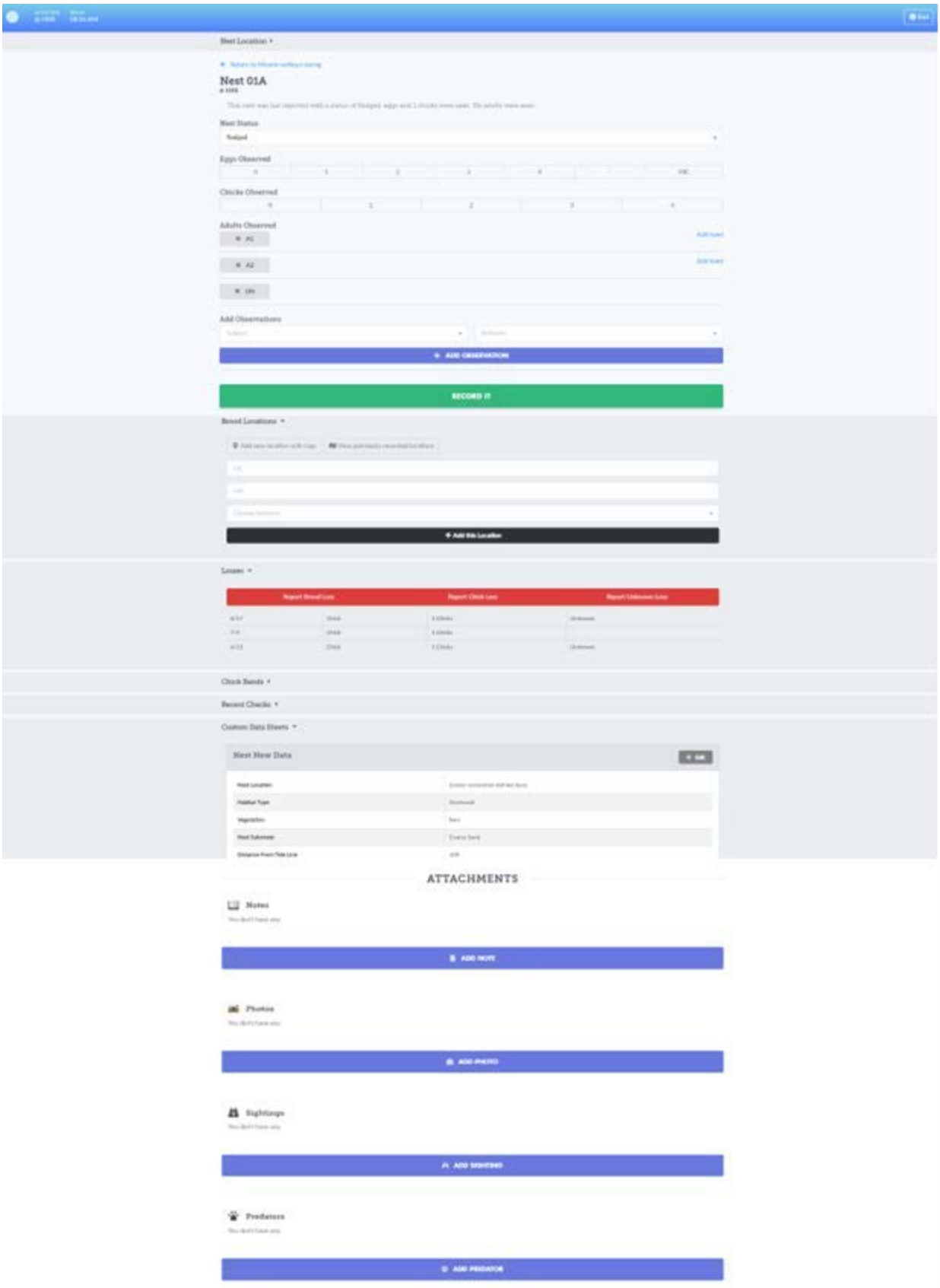
Attribute Name	Description	Required
Site Name	Name of site	Y
Date	Date of survey	Y
Start time	Time monitor starts the survey	Y
End time	Time monitor ends the survey	Y
Number of monitors	Number of monitors conducting the survey	Y
Number adults	Total number of adults observed at the site during the survey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

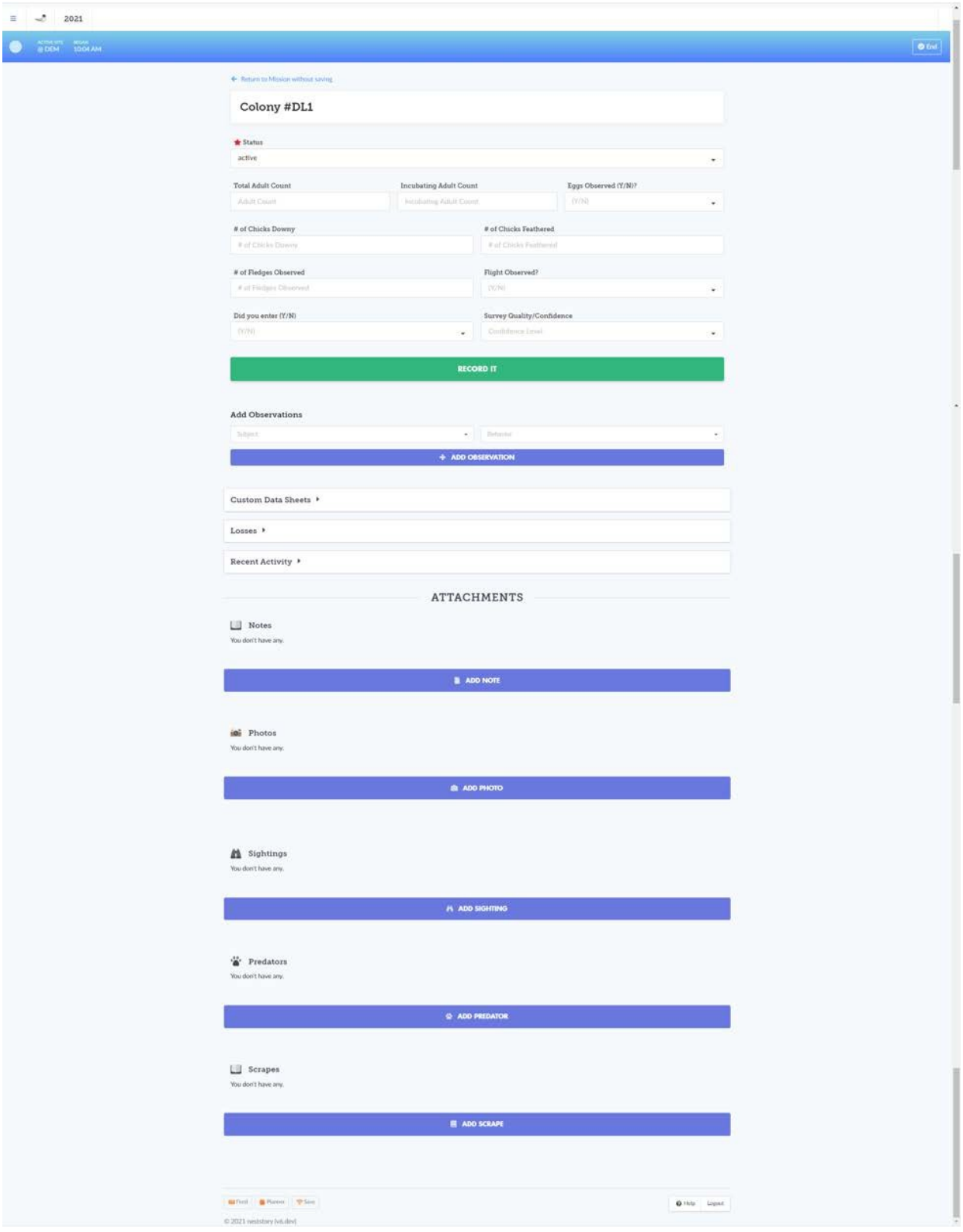
Table SOP 2.4. List of nest-level attributes collected during each survey event. Attributes in bold are only entered once on the data sheet at the top of Nest/Brood Survey Form (SM2).

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

Mission details	Pair specific details	Brood Locations	Predator observations
Date	Date	Date	Date
Type	Site	Time	Site
Site Code	Species	Species	Activity Level
Leader	Nest Code	Site Code	Predator
Start	Pair	Pair	Evidence
End	Start	Nest	Lat
Weather	End	Lat	Lon
Wind	Eggs	Lon	Notes
Temp	Chicks	Behavior	
High/Low	Status		
Humidity	Male Observed		
Rain	Female Observed		
Clouds	Unknown		
Tide	Observer		
Hours Since High Tide			
# of People			
# Unleashed Dogs			
# Leashed Dogs			
# ORVs			
# of Boats			
# Positive Interactions			
# Negative Interactions			
Incident (H, M, L)?			
Tracking			
% of Site Monitored			
# of Scrapes (approx)			
% of Time Monitoring			
% of Time Fencing			
% of Time Raking			
% of Time Special Projects			
% of Time Education			
Comments			

Mission details	Colony specific details	Attachments
Date	Date	Notes
Type	Site	Photos
Site Code	Species	Sightings
Leader	Colony ID	Predators
Start	Colony Location	Scrapes
End	Status	
Weather	Total Adult Count	
Wind	Incubating Adult Count	
Temp	Eggs Observed (Y/N)?	
High/Low	# of Chicks Downy	
Humidity	# of Chicks Feathered	
Rain	# of Fledged Observed	
Clouds	Flight Observed?	
Tide	Did you enter (Y/N)	
Hours Since High Tide	Survey Quality/Confidence	
# of People	Colony Observations	
# Unleashed Dogs		
# Leashed Dogs		
# ORVs		
# of Boats		
# Positive Interactions		
# Negative Interactions		
Incident (H, M, L)?		
Tracking		
% of Site Monitored		
# of Scrapes (approx)		
% of Time Monitoring		
% of Time Fencing		
% of Time Raking		
% of Time Special Projects		
% of Time Education		
Comments		


Nest Location
Nest 01A
Nest Status
Eggs Observed
Chicks Observed
Adults Observed
Add Observations
+ ADD OBSERVATION
RECORD IT
Brood Locations
+ Add this Location
Losses
Chick Bands
Record Checks
Custom Data Sheets
Nest New Data
ATTACHMENTS
Notes
ADD NOTE
Photos
Sightings
Predators


2021
End
Return to Mission without saving
Colony #DL1
Status
active
Total Adult Count
Incubating Adult Count
Eggs Observed (Y/N)?
# of Chicks Downy
# of Chicks Feathered
# of Fledges Observed
Flight Observed?
Did you enter (Y/N)
Survey Quality/Confidence
RECORD IT
Add Observations
ADD OBSERVATION
Custom Data Sheets
Losses
Recent Activity
ATTACHMENTS
Notes
You don't have any.
ADD NOTE
Photos
You don't have any.
ADD PHOTO
Sightings
You don't have any.
ADD SIGHTING
Predators
You don't have any.
ADD PREDATOR
Scrapes
You don't have any.
ADD SCRAPE

APPENDIX C: MITIGATION PLAN

(Exiting mitigation credits to be utilized for first year and a new service agreement for selective predator management to be updated for second and third year of permit)

APPENDIX D: DCR BEACH RULES AND REGULATIONS

(INSERT 302 CMR 12.04 AND 12.06)

12.04: Rules of Conduct on DCR Properties -- Generally

(1) Each person utilizing any DCR property shall maintain and leave it in a clean and sanitary manner or condition.

(2) All persons must adhere to any and all reasonable requests or directions of DCR personnel or law enforcement officials.

(3) Each person on DCR property shall abide by all applicable local, Commonwealth of Massachusetts and United States laws and regulations.

(4) No person may engage in disorderly conduct including, without limitation, drunkenness, rough play, pushing, shoving, breach of the peace or unnecessary noise offensive to the general public, use of profanity, vulgar or obscene language, or other language that may incite fighting or harm to DCR Personnel or to the public.

(5) No person shall have possession of or discharge any firearm or pellet gun in violation of the laws and regulations of the Commonwealth.

(6) No person shall discharge any weapon that discharges projectiles including, but not limited to, bow and arrow and crossbow, unless such items are being utilized for hunting in compliance with laws and regulations governing such activities.

(7) No person shall have possession of a paint ball gun or paint ball gun ammunition.

(8) No person, unless authorized by law, license, or permit, shall have possession of or discharge any fireworks or other explosives.

(9) No person may sell, distribute, advertise or display cigarettes or other tobacco related products.

(10) No person may possess marijuana, unless for duly authorized medical use, in accordance with state law and regulation.

(11) No person may engage in games or activities which, due to the location or nature of the activity, may cause discomfort, fear or injury to a reasonable person or damage to property.

(12) With the exception of coastal and inland sandy beaches, no person may use or offer for use metal detectors, except with permission from DCR personnel, for the purposes of locating lost personal property.

(13) No person may deposit trash or any waste not generated during a stay at a DCR property in, on or near trash or recycling receptacles or in any other location on DCR property.

(14) No person may enter upon the frozen water of the DCR for the purpose of ice skating, ice fishing, or for motorized or non-motorized purposes, when a prohibition against such use has been posted. A person utilizing said DCR bodies of frozen water engages in such activity at his or her own risk, and DCR assumes no responsibility either implied or express as to the safety of any persons who voluntarily engage in such a known, obvious and inherent risk associated with such frozen water activities.

(15) No person may be naked or otherwise expose genitals, buttocks, or breasts, or change or allow the changing of clothing or diapers except in an appropriate location such as a bathhouse, locker room, bathroom stall, or other similar facility. 302 CMR 12.04(15) does not apply to breastfeeding.

(16) No person may smoke in or on any DCR buildings, structures, camping structures, or in designated swimming, wading, or spray pool areas, or where posted as prohibited.

(17) No person may use or operate a kite-powered apparatus or hang glider on or over any DCR property, except at times and in areas designated for such use.

(18) No person may dive, jump, swim from, throw or launch themselves, or anyone or anything, from any DCR property such as a bridge or overpass, unless such activity has been authorized by DCR and appropriate posting or signage indicates such.

(19) No person shall distribute, erect or affix any handbill, circular, pamphlet, placard, sign, notice, billboard, poster, advertisement, memorial or any printed material on or in any DCR property, except in designated areas, in accordance with posted guidelines, or unless as otherwise duly authorized.

(20) Technical climbing, or mountaineering, of sufficient difficulty to require the use of ropes or other forms of specialized mountain climbing equipment to aid in ascent or descent, shall be allowed only in areas designated for such activity by DCR.

(21) No person may damage, disturb or remove any DCR property or resource, real, natural, personal, cultural or historic, except through hunting, fishing, or trapping

where permitted and carried out in accordance with regulations issued by the Division of Fisheries and Wildlife, or other written authorization by the Department.

(22) No person may conduct archaeological investigation unless permitted by the State Archaeologist in accordance with M.G.L. c. 9 § 27C and approved by the Division Director.

(23) The unanticipated discovery of historic artifacts or human remains shall be reported immediately to DCR.

(24) No tree or other vegetation shall be planted or removed from DCR property unless authorized by the Division Director.

(25) No person shall operate or use a chain saw on DCR property without written DCR authorization such as a volunteer/stewardship agreement or memorandum of agreement.

(26) No memorial, plaque, obstruction or structure shall be placed on, changed or removed from DCR property unless authorized by the Department.

(27) No person shall solicit, sell, rent, advertise or offer to sell or rent, hawk, peddle, display or distribute any goods, wares, tangible or intangible property, merchandise, liquids, edibles, services for hire, render any services for hire, or engage in or conduct any business, commercial or special activity or event on DCR property without an approved permit from the Department prior to engaging in such activities.

(28) Special Use Permit Required. Unless authorized by a special use permit issued in accordance with 302 CMR 12.17(2), no person may:

(a) Consume, possess, distribute, sell or drink alcoholic beverages;

(b) Engage in any lotteries, raffles, gambling and games of chance;

(c) Conduct any commercial use activity or event;

(d) Possess machinery, instruments or equipment of any kind for the use of conducting lotteries, raffles, gambling and games of chance;

(e) Operate or use any audio device, including radio, television, musical instruments, or other noise producing devices, such as electrical generators, or equipment driven by motor or engine, in a manner or at such times that may disturb others. 302 CMR 12.04(28)(e) shall not apply to campgrounds; operation of these devices or equipment at campgrounds shall be subject to the provisions in 302 CMR 12.08;

(f) Operate or use any public address system, whether fixed, portable or vehicle mounted;

(g) Except in an emergency, bring, take off, land or cause to descend on DCR property any airplane, helicopter, sea plane, so-called ultra-light aircraft, or any other apparatus;

(h) Conduct research which may damage, disturb or remove any DCR property or resource, real, natural, personal, cultural or historic;

(i) Promote, sponsor or engage in any race, rally or organized trial events on DCR property;

(j) Conduct parades, games, fairs, carnivals, circuses, bazaars or the like;

(k) Conduct activities for the purpose of fundraising or otherwise soliciting funds;

(l) Use or operate any air propelled power craft or hovercraft on or over any of the lands or waters of the DCR; and

(m) Operate a watercraft for livery or carrying passengers for hire.

(29) Recreational Use Permit Required.

(a) A recreational use permit is required for the use of certain DCR property including, but not limited to, athletic fields and courts, picnic pavilions, designated group day use areas, pools, meeting rooms.

(b) Groups planning organized group activities for 25 or more persons are required to apply for a recreational use permit issued in accordance with 302 CMR 12.17(4). (Certain group activities may require a special use permit issued in accordance with 302 CMR 12.17(2). Such activities are set out at 302 CMR 12.04(28).)

(c) Unless within commonwealth tidelands during daylight hours, a recreational use permit is required for scuba diving and snorkeling in areas not designated as swimming areas. (As to scuba diving or snorkeling in designated swimming areas, please refer to 302 CMR 12.06(7).)

(30) No person may erect or maintain any structure on DCR property, other than camping equipment erected in designated campsite areas, unless authorized by a special use permit or boating and waterfront permit issued in accordance with 302 CMR 12.17(2) or (3), or by a construction and access permit issued in accordance with 302 CMR 11.08: *Construction and Access Permits*.

(31) Youth organizations, agencies, and groups that wish to utilize DCR beaches and designated swimming areas for any group activity must obtain a recreational use permit or special use permit in accordance with 302 CMR 12.17(4) or 12.17(2).

12.06: Rules of Conduct on DCR Properties – Beaches

(1) All persons recreating within the boundaries of that portion of a beach designated for swimming shall adhere to any and all requests or direction from DCR personnel, including, but not limited to, lifeguards or law enforcement officials.

(2) Youth organizations, agencies, and groups that wish to utilize DCR beaches and designated swimming areas for any group activity must obtain a recreational use permit or special use permit in accordance with 302 CMR 12.17(4) or 12.17(2).

(3) No person may swim, bathe, dive or wade from any watercraft, personal watercraft, dock, raft, or pier; nor may any person swim, bathe, dive, or wade from the shoreline of DCR property unless such shoreline is officially designated as a swimming area and such activity occurs during designated swimming hours.

(4) No person may possess any glass or other breakable container within any DCR designated swimming area, including, but not limited to, beverage containers, food containers or personal care items which may pose a safety risk to other users.

(5) No person may utilize any form of smoking materials within designated DCR swimming areas.

(6) No person may use a snorkel within a DCR designated swimming area. DCR personnel may allow such equipment to be used by designated individuals and personnel only during designated structured training programs, during DCR property maintenance, for searches, or for safety and rescue purposes.

(7) Unless within public tidelands during daylight hours, no person may scuba dive or snorkel in DCR designated swimming areas.

(8) No person may utilize any flotation devices within DCR swimming or wading pools, or other waterfront DCR property, unless authorized by DCR personnel. (Flotation devices under 302 CMR 12.06(8) include, but are not limited to, inner tubes, ring buoys, air mattresses, beach balls, swimmies, inflatable novelty toys, noodles, or any other similar devices designed and utilized for the purposes of keeping person(s) afloat.) When such authorization is granted, only specific devices will be allowed, including U.S. Coast Guard approved personal flotation devices (PFDs or life jackets) designed for the size and weight of the wearer; these devices shall be allowed only when a parent or adult is assisting the wearer. Flotation devices designed to be towed by open water swimmers may be allowed in areas where designated by the department.

(9) No person may use or offer for use any equipment, tools, toys, novelty items, snorkels or other such items within a DCR designated swimming area when the use of said items may pose a significant health or safety risk to the user, to bystanders or to any other user within the designated swimming area.

(10) No person or pet, horse, or domesticated animal under a person's custody may enter a sensitive beach habitat posted as restricted.

(11) Pets, horses, and other domesticated animals are not allowed on coastal beaches or in designated swimming areas of inland beaches from May 1st through September 15th each year, unless otherwise posted.

(12) No person may change or allow the changing of any clothing or diapers in or around a DCR designated swimming area except in designated changing locations. All diapers or other similar waste materials shall be disposed of properly in designated receptacles.

(13) No person may utilize a surf board, skim board or boogie board for any purpose within the boundaries of a designated swimming area of a beach without first obtaining permission from DCR personnel.