



HABITAT CONSERVATION PLAN

Wychmere Beach Club

SUBMITTED DECEMBER 2022

REVISED JANUARY 2023

PREPARED FOR
Wychmere Harbor Real Estate, LLC

PREPARED BY
SWCA Environmental Consultants

HABITAT CONSERVATION PLAN WITH MESA CHECKLIST AND CONSERVATION MANAGEMENT PERMIT APPLICATION

Prepared for

Michael Sharlet, Managing Director
Wychmere Beach Club
23 Snow Inn Road
Harwich Port, MA 02546

Prepared by

SWCA Environmental Consultants
15 Research Drive
Amherst, Ma 01002
(413) 658-2010
www.swca.com

SWCA Project No. 73103

Submitted December 2022
Revised January 2023

December 15, 2022

Carolyn Mostello and Andrew Vitz
Natural Heritage and Endangered Species Program
Division of Fisheries & Wildlife
1 Rabbit Hill Road
Westborough, MA 01581

**Re: Beach Management Plan / MESA Checklist
Wychmere Beach Club
SWCA Project No. 73103**

Dear Ms. Mostello and Dr. Vitz,

On behalf of the Wychmere Harbor Real Estate, LLC (The Applicant), who operates Wychmere Beach Club (Wychmere), SWCA Environmental Consultants (SWCA) is pleased to provide you with this application for participation in the Massachusetts Habitat Conservation Plan (HCP) for Piping Plover (*Charadrius melodus*). We are seeking the support of the Massachusetts Division of Fisheries and Wildlife (DFW) in obtaining a Certificate of Inclusion (COI) with the United States Fish and Wildlife Service (USFWS) for an Incidental Take Permit (ITP) of Piping Plover. This HCP document is being filed dually as a Checklist and application for a Conservation Management Permit (CMP) under the Massachusetts Endangered Species Act (M.G.L. c. 131a) (MESA) and its implementing regulations (321 CMR 10.00 et seq.). A Beach Management Plan (BMP) was separately filed with DFW and recently revised, and is incorporated into this HCP submittal. This HCP seeks COI coverage for beach areas of the property at 23 Snow Inn Road (Map 8 Parcel P2_0) in Harwich Port, Massachusetts.

The goal of entry into the HCP is to permit Wychmere's expanded use of portions of the beach for operations, which have been increasingly strained in recent years with increased numbers of nesting shorebirds present at the site. Wychmere and SWCA anticipate continuing to work closely with you and staff from the Massachusetts Audubon Coastal Waterbird Program (CWP) as this application is reviewed. While specifically submitted for Piping Plover nesting at the site, the relief sought under this HCP shall also apply to nesting Least Tern (*Sternula antillarum*), as a colony has been present at the site in 2020, 2021, and 2022, adding additional complexity to management requirements.

If you have any questions regarding this application report or require additional information, please do not hesitate to contact me by phone at 508-404-7121 or email at jonathan.shuster@swca.com.

Sincerely,



Jonathan Shuster
Project Biologist

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MASSACHUSETTS CONSERVATION & MANAGEMENT PERMIT APPLICATION

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

Project Details

*Project or Site Name: Wychmere Beach Club

*Street Address/Location: 23 Snow Inn Road

*Town(s): Harwich Port

*Total Site Acreage: 14.5

Acreage of Disturbance¹: 0.44 see Narrative

Parcel/lot number: P2

Assessors map/plat number: 8

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

see Narrative

Registry of deeds information²

Registry: Barnstable County

Certificate # (if registered land):

Book: 24547

Page Number: 52, 55

Do you have a previous NHESP File number?³ (Yes / No)

If yes, please provide: 11-29126 for 2019 NOI

Does this project require a MA Environmental Policy Act (MEPA) review? (Yes / ☒ No) If yes, EEA No.

Date Certificate issued:

or check here if review is ongoing: ☐

Map

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

Landowner Info

*Are you the Record Owner⁴ 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? (Yes / No)

Wychmere Harbor Real Estate, LLC (Demetrio Dasco, Treasurer)

*Landowner Name

23 Snow Inn Rd

Harwich Port

MA

02646

*Street Address/Location

*City/Town

*State

*Zip Code

dasco@atlasboston.com

617-640-2000

Email (if available)

Telephone

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 If your project hasn't undergone a MESA Project Review, please contact us at MESARReview@mass.gov.

⁴ 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.

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v.5/2022

Applicant Info

Wychmere Harbor Real Estate LLC (Michael Sharlet, Managing Director of Wychmere Beach Club)

Applicant Name (if different from Landowner)

23 Snow Inn Rd	Harwich Port	MA	02646
Street Address/Location	City/Town	State	Zip Code
msharlet@wychmerebeachclub.com		508-423-8236	
Email (if available)		Telephone	

Representative Info

Jonathan Shuster

Representative Name

15 Research Drive	Amherst	MA	01002
Street Address/Location	City/Town	State	Zip Code
jonathan.shuster@swca.com		508-404-7121	
Email (if available)		Telephone	

Documents

Permit applications shall specifically address each of the following areas (relative to state-listed species). Please reference the Application Guidelines below for additional details:

***Narrative(s):**

- Existing & Proposed Conditions
- Habitat Impact Analysis
- Alternatives Assessment
- Proposed Conservation & Management Plan

***Site Plans/Figures:**

- Existing Conditions
- Proposed Conditions
- Open Space (as applicable)

Supporting Documents, as applicable:

- MEPA Certificate
- Land Protection Documents
- Species Protection Plan
- Habitat Management Plan
- Escrow Documents
- Shapefile

*Filing Fee

Fee schedule is available at <https://www.mass.gov/how-to/apply-for-a-conservation-management-permit>

***Total CMP Fee Enclosed:** \$600.00 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.

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 documents and fee to:

NHESP Regulatory Review | MassWildlife Field Headquarters | 1 Rabbit Hill Road | Westborough, MA 01581

MASSWILDLIFE



DIVISION OF FISHERIES & WILDLIFE

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

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

Project Location:

Address/Location	
City(ies)/Town(s)	

Applicant:

Individual	
Organization	
Mailing address	
Phone & Email	

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	
Organization	
Mailing address	
Phone & Email	

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

Is coverage for Least Terns also being requested? (Y/N)				
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*				
Max. % of total pairs at site to be exposed				
Acreage affected				
Max. % of total nesting acreage affected for this species at site				

* 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.

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

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*
<i>No. requested take exposures*</i>				
<i>Max. % of total pairs at site to be exposed</i>				
<i>Acreage affected</i>				
<i>Max. % of total nesting acreage affected for this species at site</i>				
* The Total <i>No. requested take exposures</i> 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): _____
<i>Reduced proactive symbolic fencing</i>	☐	☐	☐
<i>Reduced fencing around the nest</i>	☐	☐	☐
<i>Beach raking</i>	☐	☐	☐
<i>Physical deterrents (coverboards, flagging, etc.)</i>	☐	☐	☐
<i>Chick herding</i>	☐	☐	☐
<i>Barriers</i>	☐	☐	☐
<i>Nest moving</i>	☐	☐	☐
<i>Other (briefly identify) _____</i>	☐	☐	☐

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)
<i>Pay fee for offsite mitigation*</i>		\$	
<i>Applicant-implemented activities (in lieu of fee):</i>			
· <i>Selective predator management</i>		Submit details in IAMP (see below)	MassWildlife will determine value (credits) for these activities
· <i>Increased education & outreach</i>			
· <i>Increased law enforcement</i>			
· <i>Habitat management</i>			
· <i>Other</i>			

* 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 additional guidance available to applicants; contact coastal.waterbirds@mass.gov.)

- ☒ Site map – showing parcel boundaries and provide proof of ownership
- ☒ Written assent of landowner(s) to request coverage, if applicant is not landowner
- ☒ Site-specific Impact Avoidance and Minimization Plan (IAMP) in format specified by MassWildlife in available guidance
- ☒ Mitigation plan, including budget
- ☒ MA Endangered Species Act filing fee
(\$300 payable to "Comm of MA – NHESP"; <https://www.mass.gov/how-to/how-to-file-for-a-mesa-project-review>)
- ☒ Conservation and Management Permit fee
(\$600 payable to "Comm of MA – NHESP"; <https://www.mass.gov/how-to/apply-for-a-conservation-management-permit>)
- ☒ Draft Escrow/Mitigation Fund Agreement, with applicant-specific edits in TrackChanges/redline (if mitigation fee will be paid)

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

SUBMITTAL

- ☒ Mail a hard copy of entire application (including signed cover sheet) with checks, to:
Environmental Review-HCP, MassWildlife-NHESP, 1 Rabbit Hill Rd., Westborough, MA 01581.
- ☒ Also email entire application to: Coastal.Waterbirds@mass.gov.

REQUIRED SIGNATURES

Provide separate sheet if multiple landowners

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

Signature of Property Owner/Record Owner of Property

Date

12/15/2022

Signature of Applicant (if different from Owner)

Date

12/15/2022

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Appendix B. Statement of Owner Authorization
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Appendix D. Copy of HCP Checklist and CMP Fee Checks
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Figure 7. Harwich Assessor Map
Figure 8. Wychmere Beach Access Sketch

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1 INTRODUCTION

In April of 2022, Wychmere Harbor Real Estate, LLC (the Applicant; Wychmere), in consultation with SWCA Environmental Consultants (SWCA), and the Massachusetts Audubon Coastal Waterbird Program (CWP), reached out to the Massachusetts Division of Fisheries and Wildlife's (MassWildlife) Natural Heritage & Endangered Species Program (NHESP) regarding ongoing and future rare species management at their property (Map 8, Parcel P2_0). This management relates to Piping Plover (*Charadrius melodus*; "PIPL") and Least Tern (*Sternula antillarum*; "LETE") that have nested on the site and Wychmere's ongoing operations and site use.

NHESP has encouraged Wychmere to pursue entry into the MA Habitat Conservation Plan (HCP) for Piping Plover, such that NHESP can secure a Certificate of Inclusion (COI) for the site with the United States Fish and Wildlife Service (USFWS). To that end, SWCA has recently submitted a Beach Management Plan (BMP) with accompanying Massachusetts Endangered Species Act (MESA) Checklist, currently under review by NHESP. This HCP filing is accompanied by a secondary MESA Checklist filing as well as an application for a Conservation Management Permit, pursuant to MESA (M.G.L. 131a) and its implementing regulations (321 CMR 10.00 et seq.). Note that large sections of background information necessary for this HCP submittal were previously included in the BMP submittal and are included again herein. The detailed BMP has been included in Section 3 below, with sections 1 through 4 consistent with information provided within the BMP. NHESP's December 22, 2023 Decision Letter has been provided in Appendix G, wherein a conditional no-take was issued for the BMP.

With Wychmere's unique operational challenges and longstanding history of partnership with the CWP to achieve shorebird protection goals, NHESP has indicated that Wychmere is a great candidate for a Habitat Conservation Plan to provide additional flexibility for operational use of the beach area on site and to enable NHESP application for a COI for the Site.

1.1 Wychmere Beach Club History and Location

The Applicant owns and operates the Wychmere Beach Club, located at 23 Snow Inn Road in Harwich Port, Massachusetts (Map 8, Parcel P2; zone High-Density Residential; Figures 1 & 2). This property has a 117-year history, originally housing the historic Snow Inn from 1892 to 1993. The current owners purchased and renovated the property in 2010.

The ±14.5-acre site lies along the Wychmere Harbor Channel to the east and Nantucket Sound to the south and is immediately east of the Town of Harwich's Merkel Beach, which encompasses ±65 acres of conservation land.

The public frequently accesses the lower beach of Wychmere on foot from the adjacent Town beach to the West.

Wychmere has consistently contracted qualified shorebird monitors from the CWP stretching back before current ownership. Appendix F includes typical qualifications for CWP's monitors. The Applicant has demonstrated a continued commitment to cooperation to achieve regulatory compliance and conservation goals on the site while continuing to operate their business. The approved BMP has clarified the management practices that have been in place and provided a format for greater synergy and standardization for the site.

1.2 Structures and Amenities

The current beach club complex includes a large, developed envelope in the northern and central portion of the property, with associated paved parking areas and access roads, a hotel structure, a restaurant, pools, outbuildings, and extensive hardscaping and landscaping (Figure 2). In the southern portion of the property, there is a flat expansive ± 3.8 -acre sandy beach area above the high tide line (HTL), with a total of ± 4.4 acres including areas below the HTL. In addition, there are seasonal structures such as patios/seating areas, a tiki bar, access walkways, and volleyball nets in the northern portion of the sandy habitat. There are four beach access points from the north utilized by guests, depicted in Figure 8, as well as access to the lower beach for the general public from the west by the HTL.

A 2019 Order of Conditions (Massachusetts Department of Environmental Protection [MassDEP] File No. SE 32-2387) was issued by the Harwich Conservation Commission (HCC) for a seasonal deck, walkway, storage lockers, and mitigation plantings. NHESP reviewed this filing under a streamlined Massachusetts Endangered Species Act (M.G.L. c.131a) (MESA) Checklist filing (NHESP #13-29126) and issued a determination letter dated August 23, 2019, for a Conditional “No-Take” pursuant to 321 CMR 10.18(2)(a). Conditions of this permit are described below in Section 2.2.

1.3 Beach Club Operations

The beach club is open to private club membership and available to registered overnight guests of the 12-room boutique hotel. The private beach club is generally open from mid-May through the end of September. During this time, Wychmere provides access to its private beach for members and hotel guests and provides a variety of programming and services, which includes restaurant and bar operations, pool and beach chaise lounge with umbrella service, towel service, beach volleyball, children’s camp, and swim programs for children as well as special events for their membership.

Additional business occurs during the span of Wychmere’s full operating season, which is generally defined as April through December. Aside from the private beach club operation, this includes the hotel, which operates beginning in April through December. Lifeguards and beach attendants are on duty from 10:00am to 6:00pm during the main season. Routine beach maintenance includes mechanized beach raking (historically occurring once per week) though an increase in proposed frequency is proposed under the HCP (Section 5). Staff conduct daily inspections for unwanted debris.

During this time, aside from the summer private beach club and the hotel’s operation, Wychmere also hosts events, generally weddings and functions for non-profits, from April through December. One of the many unique and special aspects that Wychmere offers is that wedding clients can have their wedding ceremony on the beach for a remarkable and natural setting. The seaside location is a key ingredient to all of Wychmere’s business operations and a draw for clientele. Outside of the season, winter snow fencing is installed to limit sand drift (Figure 3).

2 NATURAL RESOURCES AND EXISTING CONDITIONS

2.1 Beach Habitat and Wetland Resources at Wychmere

The beachfront area of the property includes ± 4.4 acres of open Coastal Beach habitat, including ± 3.8 acres above the HTL. Much of this sandy expanse is flat with relatively little vegetation (see Appendix A). The substrate is fairly consistent with fine to moderately coarse sand with some shell, minimal cobble, and no rock. Denser vegetation is found in small dunes at the western and eastern periphery of the open beach habitat, particularly where plantings of beach grass (*Amophilla breviligulata*) have occurred (see Section 2.2, below and Figure 2). There is a maximum of ± 640 linear feet of beach habitat on the property along Nantucket Sound.

The base of the Wychmere Harbor Channel jetty is located southeast of the site. There is a rocky revetment along the harbor channel and dock structures in the east-central portion of the property, where there is no sandy beach.

Coastal Beaches are regulated by the Massachusetts Wetlands Protection Act (M.G.L. c. 131 §40) (WPA) under 310 CMR 10.27(2.) Coastal Beach is defined as “unconsolidated sediment subject to wave, tidal, and coastal storm action which forms the gently sloping shore of a body of salt water and includes tidal flats. Coastal Beaches extend from the mean low water line landward to the dune line, Coastal Bankline, or the seaward edge of existing human-made structures, when these structures replace one of the above lines, whichever is closest to the ocean.” Additionally, Tidal Flat, also regulated under 310 CMR 10.27(2), is defined as “any nearly level part of a coastal beach which usually extends from the mean low water line landward to the more steeply sloping face of the coastal beach or which may be separated from the beach by land under the ocean.”.

The WPA also regulates and protects Coastal Dune under 310 CMR 10.28, defined as, “any natural hill, mound, or ridge of sediment landward of a coastal beach deposited by wind action or storm overwash. Coastal Dune also means sediment deposited by artificial means and serving the purpose of storm damage prevention or flood control.”. Coastal Bank comprises, “the seaward face or side of any elevated landform, other than a coastal dune, which lies at the landward edge of a coastal beach, land subject to tidal action, or other wetland,” under 310 CMR 10.30.

The beach habitat in the southern portion of the property is mapped as Flood Zone VE by the Federal Emergency Management Agency (FEMA), with a 1% chance of flooding to the baseline elevation annually and comprises a velocity zone due to incoming waves during storms. This is regulated as Land Subject to Coastal Storm Flowage (LSCSF) under 310 CMR 10.21.

No activities or management proposed by the approved BMP constitutes impact(s) to any resource areas regulated under the WPA or deviate from recent management practices at the site, subject to general review under the 2019 OOC. Symbolic fencing erected for the protection of nesting shorebirds has ancillary benefits to the values of the resource areas through reduction in disturbance to these habitat features. See Section 4.4 below for WPA regulatory compliance.

2.2 2019 Permit

In 2019, the HCC issued an OOC to deploy seasonal structures and permanent storage lockers in Coastal Beach. NHESP reviewed the filing (NHESP # 11-29126) and issued a Conditional “No-Take” determination.

The approved plans included two mitigation beach grass planting areas and several special conditions which stipulated permanent constraints on the site. These special provisions recorded in the permit include no beach raking within the mitigation planting areas or below these areas to the HTL.

NHESP issued a No-Take determination contingent upon the five following conditions:

1. Time of Year Restriction: To avoid impacts to coastal breeding species and their habitats, no work on the Coastal Beach shall occur during April 1 – August 31, unless under the direct oversight of a qualified shorebird monitor, as determined by the Massachusetts Division of Fisheries and Wildlife (DFW), implementing a DFW-approved monitoring and protection plan for state-listed shorebirds.
2. State-listed Species Protection: The Property Owner(s) has the responsibility of protecting breeding Piping Plovers and state-listed species of terns that may nest on this section of the beach. Therefore, they must allow regular monitoring for the presence of Piping Plovers. Each year, beginning April 1, a qualified shorebird monitor shall determine whether territorial, courting, or nesting Piping Plovers or state-listed species of terns are present at the site and, if so, shall erect and maintain warning signs and symbolic fencing to protect nesting habitat, breeding adults, nests, and chicks from disturbance or human-caused mortality. These fenced areas shall be managed in accordance with the DFW document of April 1993 titled Guidelines for Managing Recreational Use of Beaches to Protect Piping Plovers, Terns, And Their Habitats In Massachusetts (DFW Guidelines, 1993).
- 3) Beach Grass Plantings: Areas seaward of the "Mitigation Planting Areas" depicted on the "Plan Showing Existing Seasonal Deck & Storage Lockers and Proposed Drift Fence & Mitigation Planting Areas" dated 7/18/2019, prepared by Coastal Engineering, Co." shall be excluded from any beach raking activity. All beach raking activities shall be managed in accordance with the Guidelines and escorted by a qualified shorebird monitor when unfledged chicks are present.
- 4) Authorization Duration: This authorization is valid for five years from the date of issuance. Work approved by DFW under the permit may be completed at any time during this 5-year period as described herein.
- 5) Notice: Upon filing for renewal, extension, or amendment of the OOC, the applicant shall contact DFW for a written response regarding impacts to the Resource Area Habitats of state-listed wildlife.

This permit is still open and valid under the March 26, 2020 Order Suspending State Permitting Deadlines and Extending the Validity of State Permits by 462 days. Wychmere anticipates seeking a Request for Certificate of Compliance for this permit soon. Harwich Conservation Agent Amy Usowski walked the site in October to review the beach grass plantings and other 2019 Permit components and requirements, which were found compliant.

2.3 Shorebird Site Utilization

The beach portion of the Wychmere property has a well-documented history of utilization by state-listed and federally-listed shorebirds. NHESP has mapped Priority Habitat of Rare Species (PH 2156) and Estimated Habitat of Rare Wildlife (EH 693) over the property's coastal beach. Within the last five years, the CWP has documented utilization by Piping Plover and Least Tern, with an additional occurrence of Common Terns (*Sterna hirundo*; "COTE") courting and scraping in 2019.

Piping Plover are listed as Threatened under MESA, and the species' Atlantic population is listed as Threatened under the U.S. Endangered Species Act (16 U.S.C. §1531 et seq.) (ESA). Least Terns and Common Terns are listed as Special Concern under MESA. All three species are protected under the Migratory Bird Treaty Act (16 U.S.C. §§ 703-712 et seq.) (MBTA).

Based on analysis of the last 5 years of nesting patterns and discussion with NHESP and CWP staff, we estimate the maximum area of utilized beach habitat is ± 2.2 acres, as depicted by the maximal fencing footprint in Figure 4. The acreage of this area is significant to proposed reductions in fencing extent under the HCP (Section 5).

2.4 Piping Plover Natural History and Site Occupancy

Piping Plovers are small, sand-colored birds that nest on sandy coastal beaches and dunes relatively free of vegetation (NHESP 2015a). Adult breeding plumage includes a single black breast band, which is often incomplete, and a black bar across the forehead with yellow-orange legs and bill (Blodget et al., 1996). Piping Plovers feed on small marine worms, mollusks, insects, and crustaceans foraged along the waterline, in the wrack line, and on mud flats (NHESP 2015a)

Piping Plovers exhibit high breeding site fidelity, with evidence of adults returning to the same beaches year after year (Cohen et al. 2006). Male plovers create a shallow depression on the ground, which both adults line with small pebbles. Incubation lasts 25 to 28 days and is shared between the sexes (NHESP, 2021a). Chicks are precocial and are mobile within hours of hatching and can forage for themselves (NHESP 1993). Massachusetts has the largest breeding population of Piping Plovers along the Atlantic coast, with nearly 700 breeding pairs (NHESP, 2015a).

Wychmere has seen an increase in Piping Plover occupancy over the past five years, culminating in five pairs present in the 2021 and 2022 seasons (Table 1). Productivity has generally increased, with three fledged offspring per pair in the 2021 and 2022 seasons. Recent nesting patterns are shown in Figures 5 and 6.

Table 1. PIPL Site Utilization and Productivity 2018 - 2022

Year	# PIPL Pairs	# PIPL Fledges	Fledges/Pair
2018	1	2	2.00
2019	3	3	1.00
2020	3	5	1.67
2021	5	15	3.00

2022	5	15	3.00
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Source: CWP records (2018-2022)

2.5 Tern Natural History and Site Occupancy

The Least Tern is a colonial nester on sandy beaches in the spring and summer in Massachusetts, favoring sites with minimal vegetation (NHESP, 2015b). For nesting, it favors sites with little or no vegetation. During the breeding season, the adult has a black cap and eye stripe, white forehead, pale gray upperparts, white underparts, a black-tipped, yellow-orange bill, and yellow-orange legs (NHESP, 2015b).

The Least Tern primarily consumes small fish but also takes crustaceans and insects. The most common prey items in Massachusetts are sand lance, herring, and hake. Least Tern chicks are semi-precocial, mobile after hatching but reliant on parental feeding of small fish (NHESP, 2015b).

Least terns have nested for the past three years at Wychmere, with colony presence (as defined by courting and scraping) consistently present at the site for the past five seasons (Table 2). Recent nesting patterns are shown in Figures 5 and 6. Estimated nesting pairs in 2022 slightly decreased from the previous year, from 36 pairs to 20.8 pairs, though productivity greatly increased. A colony of 24 pairs of Common Terns courted and scraped in 2019, though they did not nest.

Table 2. LETE Site Utilization and Productivity 2018 - 2022

Year	# LETE Pairs	# LETE Fledges	# COTE Pairs
2018	12*	0	0
2019	36*	0	24*
2020	8	4	0
2021	36	20-22	0
2022	22.8	33	0

Source: CWP records (2018-2022)

*courtship and scraping observed, no nesting.

2.6 Threats to Shorebirds at Wychmere

Threats to breeding shorebirds at Wychmere are of both natural and anthropogenic in origin. Mammalian and avian predators have been detected at the site in previous seasons, including red fox (*Vulpes vulpes*), crows (*Corvus* spp.), and gulls (*Laridae*). While predation has significantly impacted productivity in recent seasons, additional analysis on historic predation patterns could be conducted to seek solutions should predation pressures increase in the future.

Nest overwash represents a significant threat to Piping Plover and Least Tern, particularly for the New England region (Ziegler et al., 2021). While a naturally occurring phenomenon, climate change may increase overwash occurrence largely thought increased frequency of storm events

during the nesting season as well as rise in sea level. Overwash events can be exacerbated when storm coincide with high tides.

Anthropogenic threats at the site include disturbance from off-leash dogs, potential subsidization and/or attraction of predator populations to areas with food waste, and general beachgoer presence on the beach adjacent to nesting habitat. Disruptions can lead to reduced productivity, including egg and chick mortality and nest abandonment.

3 BEACH MANAGEMENT PLAN

The Applicant proposes establishing a BMP compliant with the regulatory standards and guidelines set forth by regulatory guidelines and the informed experience of years of successful monitoring by the CWP.

3.1 Approved Shorebird Monitor

Wychmere will retain an NHESP-approved shorebird monitor to monitor the beach for state-listed species in advance of and during the nesting season as well as implement BMP protocols, collect observation, and provide reporting and data. The CWP has successfully functioned in this role for many seasons. Monitors will conduct site visits with a suitable frequency in accordance with their judgement and the breeding status of shorebirds on site. Typically, monitoring is conducted on a daily basis during the height of the nesting season and recreational beach usage, and less frequently in early or late portions of the season (such as pre-nesting or post-fledging of young). Wychmere and the qualified monitor will maintain good communication throughout the season to effectively respond to changing beach conditions and incidents. Wychmere will relay any relevant observations made by staff to the monitor when the monitor is not on site.

Wychmere, through the qualified monitor, will manage the beach in accordance with the Massachusetts Tern and Piping Plover Handbook: A Manual for Stewards (Blodget and Melvin, 1996) and other available established regulatory guidance.

3.2 Wychmere Staff Training and Responsibilities

In April and/or May of each field season, the CWP will conduct a brief (1 hour) training with Wychmere management, lifeguard, waitstaff, and groundskeeping staff. This training will cover Piping Plover and Least Tern biology, beach utilization, regulatory protections, and anticipated management measures. Other management elements will be emphasized, such as the importance of trash management, stipulations/constraints on the beach volleyball area, and consideration for larger beach events.

With the understanding that CWP staff cannot be on site at all times, the training will emphasize and empower Wychmere staff with a clear directive to document and communicate any potential shorebird disruptions. SWCA anticipates further discussions between Wychmere, CWP, and NHESP to establish protocols ahead of the 2023 season and beyond.

SWCA notes that neither CWP nor Wychmere are enforcement or regulatory entities. Nevertheless, as the property owner, Wychmere's mandate will include the following:

-
- a. Tallying observed beach infractions in a daily tally when Audubon is not on site. This can include instances and descriptions of beachgoers entering the fence, off-leash and leashed dogs in or near the fencing, and aerial disturbances such as kites. This tallying can be facilitated by radio and a logbook.
 - b. This documentation will be shared with CWP on a regular basis for inclusion in reporting.
 - c. When no qualified monitor is present on site, a designated Wychmere representative will notify any person engaging in activities not permitted at the site that their action(s) are in violation of the rules and regulations of both the owner and potentially in violation of state and federal regulations and guidelines.
 - d. Wychmere will notify the appropriate enforcement authority (e.g., Harwich Animal Control) for any prolonged disruption.
 - e. Wychmere will notify CWP staff of moderate to severe disruptions so further documentation of (e.g., dog tracks in fencing, crushed eggs, etc.) can be performed by qualified monitors in a timely manner).
 - f. Additional observations unrelated to human disturbance, such as the presence of predators in or near the symbolic fencing or the observation of a tern nest established outside the fencing, can be relayed to CWP in a timely manner.

3.3 Winter Beach Clean-up

Prior to April 1, Wychmere may conduct a beach clean-up involving the removal of accumulated natural and anthropogenic debris from winter storms. This may involve hand removal and/or mechanized beach raking. Any raking must comply with the Special Condition of the 2019 OOC, which forbids raking in and below dune grass planting areas. This effort is generally conducted in advance of deployment of preemptive symbolic fencing. See Section 3.16 regarding snow fencing.

3.4 Preemptive Symbolic Fencing

A qualified shorebird monitor will install symbolic fencing on or before April 1 of each year. This fencing will consist of wood and/or fiberglass posts connected by twine. The extent of the preemptive fencing will be consistent with the preemptive fencing depicted in the CWP's 2021 and 2022 fencing and nesting diagrams (Figures 5 and 6), protecting the proven core habitat on site broadly along the lower beach. Preemptive fencing will be deployed at the discretion of the qualified monitor to fully preemptively protect target Piping Plover and Least Tern habitat. The fence will be maintained in good condition and adjusted as needed (see Section 3.5 below).

3.5 Signage

The shorebird monitor will install appropriate signage designating the area within the symbolic fencing as off-limits to beachgoers along the fence line. Additional educational signage on shorebirds may be deployed and signage to direct pedestrian flow on the beach as needed as well as signage related to specific prohibited activities (e.g., dogs, see Section 3.13). Any damaged signage will be documented by CWP and/or Wychmere and replaced as needed.

3.6 Symbolic Fencing Adjustments

In response to novel nesting locations, plover brood movements and foraging patterns, and Least Tern colony establishment and expansions, the shorebird monitor may expand/adjust fencing footprints throughout the nesting season. Any damage to the fencing (e.g., downed stakes or cut/torn twine) will be immediately repaired. Reasonable and compliant reductions in fencing footprint may be appropriate at the discretion of the monitor (i.e., upon observation of fledged chicks). Other adjustments to fencing, such as the addition of a second tier of twine (i.e., dog line), may be added in high-traffic areas or in response to disturbance.

Ideally, fencing is deployed to protect areas with 50 meters (164 feet) of nesting Piping Plover and Least Tern. Based on Figures 5 and 6, prepared by CWP, Piping Plover Online Data Entry System (PIPLODES) data forms and Tern Online Data Entry System (TERNODES) data forms provided by CWP, the maximum extent of fencing was ± 1.49 acres in 2021. Figure 2 depicts an approximate combined footprint based on maximum fencing extents in 2021 and 2022. Maximum fencing footprints in 2018, 2019, and 2020 were smaller, at less than 1 acre.

Adjustments to symbolic fencing may only be performed by CWP staff or other experienced staff deemed qualified by NHESP.

3.7 Beach Raking Provisions

Wychmere anticipates weekly mechanized beach raking during the nesting season. The main goal of this raking is to groom the beach while reducing any partially buried trash that was not detected by staff and also to reduce the amount of wrack and blown natural material that may have accumulated above the HTL. A qualified monitor will be present at all times for all raking events, particularly when there are unfledged chicks on the beach. There will be no raking within symbolic fencing or areas within and below beach grass planting areas (per the 2019 OOC). All raking must be conducted under the supervision of a monitor, including manual raking. Staff will use a hand-rake where feasible (NHESP BMP Guidelines, 2021) and upon consultation with the shorebird monitor.

Wychmere will work with the monitor to maximize the amount of material retained in the wrack line to provide forage habitat and cover for Piping Plovers. Per the 1994 USFWS Beach Management Guidance (USFWS 1994), one-third of the fresh wrack from a normal tidal cycle will be left in place to provide foraging and sheltering opportunities for shorebirds. Material collected by beach raking operations at Wychmere will be hauled off-site.

Wychmere's beach raking practices comply with the Town of Harwich Beach Cleaning Regulations (Bylaw Regulation 1.2, 2003). The provisions of these regulations include that all work shall take place above the Mean High-Water Mark, at no time shall the wetland resource area be negatively impacted by the work, and the operator must smooth out the beach after completion of cleaning, so there are no track marks from the machine left on the beach. There are additional requirements for monitoring, documenting, and reporting raking events to the Town that Wychmere and its contractors will adhere to. Wychmere will continue to coordinate with the HCC and its staff on beach raking methods, schedule, and reporting.

3.8 Trash Management and Minimization of Predator Subsidization

To the greatest extent practicable, Wychmere staff will keep the beach free of refuse and food scraps to minimize the attraction and subsidization of mammalian and avian predators at the site, such as red foxes, crows, and gulls. The shorebird monitor will communicate with Wychmere if increased predator activity is observed and explore solutions that are compliant with regulations. No lethal or non-lethal predator management is proposed as a general provision of this BMP.

There are two uncovered trash receptacles located in the tiki bar that are emptied frequently (i.e., every 1 to 2 hours) in season and brought to the on-site dumpsters located on the north end of the property by the main kitchen (Figure 3). Two other covered trash receptacles are located northward, off the beach, along the east side of the “Dune” venue. These are emptied two or three times a day or when needed to avoid unwanted odors and avoid attracting wildlife. All other trash is in the enclosed pool area. Daily beach inspections include picking up unwanted debris outside of fenced areas, which is taken to the main dumpsters within the facilities complex, off the beach. Additionally, weekly beach raking removes additional debris or refuse that may be slightly buried (see Section 3.6 above).

3.9 Documentation of Predation and other Issues

The monitor will record and photograph evidence of predator activity on the site and describe changes in predator activity in regular weekly reports. All predation events of shorebird eggs, young, or adults will be fully documented to the greatest extent practicable. Other observations of natural disruptive phenomena, such as nests lost to overwash, will be recorded. Wychmere staff, to the extent feasible, will relay any pertinent observations of predator activity to CWP staff.

3.10 Documentation of Anthropogenic Disruption

The monitor will document all relevant (NHESP-required and CWP standard) observations of human-caused disruption and/or impacts to nesting shorebirds and provide these observations to NHESP and Wychmere in weekly and final season reports. The monitor will work with Wychmere, NHESP, other enforcement authorities, and the public to find solutions that limit disturbance.

Wychmere staff will implement an observation and tally system for human-caused disruptions to shorebirds at the site, particularly for times when shorebird monitors are not on site. The training provided under Section 3.2, above, will highlight the importance of Wychmere staff participation in these observations as well as describe which observations are to be recorded.

3.11 Interaction with Public and Education

The qualified shorebird monitor will engage members of the public at their discretion if active disruptive activities are observed. Additional educational engagement with guests and the public may be conducted to answer questions related to the management of the property for protected species.

When the shorebird monitor is not on-site, designated Wychmere staff will inform members of the public engaging in disruptive activities of the regulations with the goal of averting continued disruptions. Prolonged and/or disruptions will be escalated to the relevant enforcement authorities and the CWP will be notified in case immediate documentation by a qualified monitor is required to assess impacts.

3.12 Events

Wychmere hosts a range of events throughout the season, including weddings, family gatherings, beach sports tournaments, non-profit functions, and corporate events. Events are predominantly held in the facilities' multiple event spaces, such as the newly constructed Dune Event Space, the Harbor Room, and the Hydrangea Room. Events utilizing Wychmere's private beach area are located in the northern and western portion of the beach, adjacent to the seasonal and permanent structures and outside of fenced shorebird habitat. Those events, such as wedding ceremonies that utilize the available open beach, are usually 15 to 25 minutes in length before transitioning to event spaces away from the beach area. The number of participants in these events varies greatly, but a typical event could be approximately 60 to 150 guests. Prolonged disturbance or increased disturbance magnitude is not anticipated, including for large events. Coordination with a qualified shorebird monitor will ensure that these events are monitored when necessary, and beach policies adhered to, with event setup positioned as far from nesting birds as feasible.

Wychmere will furnish the qualified shorebird monitor with a schedule of events at Wychmere that utilize the beach area. Advance notice of at least one week will be given to the monitor of substantial events such as tournaments or weddings so that special monitoring coverage can be scheduled, if required. Events involving large groups and/or temporary equipment on the beach will be conducted at the furthest extent feasible from active pairs and the symbolic fencing. SWCA notes that typical events using accessible beach areas outside the symbolic fencing may not require dedicated monitoring and may be no more impactful than typical beach utilization. Wychmere anticipates additional discussion with NHESP and seeks formal approval to utilize more of the beach habitat under a forthcoming HCP filing.

3.13 Beach Sports

Sporting activities will be located as far away from the symbolic fencing and nesting shorebirds as is practicable. Wychmere and the shorebird monitor may consider the installation of measures to prevent balls and other equipment from entering into nesting habitat, depending upon site conditions and anticipated activities. A taut secondary "dog line" positioned 6 inches above the sand along the proximal (i.e., northern) edge of the symbolic fencing could prevent volleyballs from entering the nesting habitat. Only qualified monitors shall enter the shorebird fencing to retrieve blown equipment; no guest, member of the public, or general Wychmere staff-member shall enter the fencing.

We note that the position of volleyball nets is currently fixed with permanently anchored posts in the sand, though it is located in the northern portion of the beach, east of the seasonal walkway. The southerly extent of this volleyball area is ± 70 feet from the closest point of 2022 symbolic fencing (Figure 2). Wychmere and CWP will ensure adequate signage to ensure no guest enters the fencing to retrieve balls. Spare equipment will be readily available to facilitate this. The qualified monitor will communicate any necessary adjustments to anticipated volleyball usage to Wychmere staff. SWCA notes that the proximity of shorebird nesting to the volleyball

nets will vary from year to year based on nesting patterns. Additionally, anticipated reduced symbolic fencing and other provisions under a forthcoming HCP may further add flexibility to Wychmere's use of this area. The feasibility of the use of the area will be continually assessed by the qualified monitor and constraints/adjustments will be made as needed.

3.14 Dog policy

Wychmere does not allow off-leash dogs (*Canus lupus familiaris*) on the property and generally does not allow any pets in the beach area except for service animals to comply with the Americans with Disabilities Act (42 U.S.C. §12101) (ADA). Members of the public access the site from the adjacent Town beach with leashed and off-leashed dogs at times, CWP has documented in past seasons. Signs indicating dogs are not permitted on the beach shall be installed at the boundary to the public beach to the west near the HTL as well as on the upper beach for Wychmere guests accessing the site. The shorebird monitor(s) contracted by Wychmere will engage members of the public accessing the site with a dog and inform them that dogs are not permitted. The monitor will document any disturbance resulting from the presence of leashed or off-leash dogs. Wychmere staff will also document the presence of dogs when CWP staff are not on site. As established in 3.11 above, dog owners violating this policy on Wychmere's property will be notified to the greatest extent feasible and applicable enforcement authorities will be called should disturbance persist.

3.15 Off-road Vehicle Usage

No off-road vehicles are to be used within habitat on the property during the shorebird season, with the exception of emergency vehicles deployed in extraordinary circumstances (beyond the control of Wychmere or the monitors). While law enforcement all-terrain vehicle (ATV) patrols have not historically been an issue here, the qualified monitor will note the use of any non-essential municipal vehicles used in non-emergency situations. If this becomes an issue, Wychmere and/or its representatives will engage with the municipal agency responsible for the vehicle use. The shorebird monitor will record any observations of off-road vehicle access of the site, including evidence of tire tracks, and any discernable or potential impacts to nesting shorebirds. The monitor will consult with relevant authorities to minimize future off-road vehicle (ORV) intrusion. The only anticipated motorized equipment to be used is beach-raking equipment described above in Section 3.7. Under no circumstances will Wychmere use motorized vehicles (i.e., ATVs, utility task vehicles [UTVs]) on the beach during the nesting season.

Motorized vehicles are used on the beach outside of the shorebird season (off-season between October 1 and April 1), such as for the disbursement of snow fencing material which is largely installed manually (see Section 3.16)

3.16 Non-motorized Vehicle Usage

Wychmere does not permit beach bikes (i.e., fat-tire bikes) on their property. Challenges for enforcement may exist for Wychmere and the qualified monitor to restrict non-motorized vehicle usage by the public when accessing areas below the HTL from off-site. The shorebird monitor will record any observations of beach bike access of the site, including evidence of tire tracks and any discernable or potential impacts to nesting shorebirds. The monitor will engage

members of the public to notify them of the policy. If activities such as beach biking become an issue, activity-specific signage will be deployed accordingly.

3.17 Winter Snow Fencing

Wychmere deploys $\pm 2,500$ linear feet of snow fencing each year to prevent wind erosion (i.e., loss of sand), protection from erosive winter storm surges, accumulations of sand in the upper beach (e.g., tiki bar area), and accumulation against structures to the north of the beach. The fencing is usually deployed at the beginning of November and removed by the beginning of March (see Appendix A, Photos 9 and 10). While fencing is installed by hand, the heavy fencing rolls and posts may be deployed and/or collected with the assistance of small trucks and/or UTV.

Snow fencing is intended to keep sand in place on the beach and limit or eliminate the need for removal of sand accumulations in the developed and semi-developed portions of the upper beach. Upon removal of the fencing, the immediate area is lightly smoothed with a hand rake to achieve consistent regrading of the site. Before the active season and deployment of shorebird fencing, mechanized beach raking may occur to remove accumulated debris from the winter, in compliance with HCC requirements and in accordance with Section 3.6 above.

3.18 Anthropogenic Aerial Disturbance

Wychmere and its contracted shorebird monitoring team understand the general guidelines prohibiting kite-flying and other aerial disturbance within 200 yards of nesting, territorial adult, or unfledged juvenile Piping Plover and Least Tern (NHESP, 1993). Wychmere does not allow recreational kite-flying in the vicinity of the symbolic fencing. Wychmere has effectively used low (i.e., ± 22 -foot) stationary kites over the restaurant and seating area, north of the nesting habitat, to deter gulls from pestering diners and stealing food. This utilization of low kites has not resulted in observed adverse effects to nesting shorebirds.

Additionally, Wychmere hosts special events where drone footage may be taken, such as weddings. Drone footage is generally taken from vantage points greater than 200 yards from the symbolic fencing, usually lasts for 4-6 minutes, and is conducted by 3rd party photographers/videographers. Requests by clients for the use of drone photography are becoming increasingly common. Relief for future drone use for events in closer proximity to the beach habitat may be sought under a separate Drone Monitoring and Protection Plan in consultation with NHESP.

The property will not be used as an access-point/launch location for kite-boarding during nesting season. Wychmere and the qualified monitor will address any issues of kite-board launches resulting from public access of the site below the HTL with additional signage, engagement, and consultation with authorities, if necessary.

Fireworks are not typically discharged on the property during the nesting season, though there have been instances where members of the public access the property and discharge fireworks illicitly. Wychmere staff and the qualified monitor will strive to deter these occurrences and document any unapproved use. Any future fireworks display organized by Wychmere would be discharged from barges off-shore, at least 0.75-mile from any nesting shorebirds per USFWS's Guidelines for Managing Fireworks in the Vicinity of Piping Plovers and Seabeach Amaranth on the U.S. Atlantic Coast (USFWS 1997).

3.19 Reporting to NHESP

The qualified shorebird monitor will furnish all necessary annual reporting to NHESP. Additionally, weekly reports on shorebird nesting, observations of predator activity and predation, and issues regarding human-related disturbance to Wychmere and NHESP are anticipated under the HCP. Additional reporting will include counts during Piping Plover and tern census windows as well as furnishing of final data and observations via PIPLODES and TERNODES data forms. Wychmere will regularly furnish the CWP with any observations collected during periods where qualified monitors are not on site.

3.20 Adaptation of Beach Management Over Time

The Applicant recognizes that many factors which inform this BMP may necessitate ongoing discussion with regulators and qualified monitors, with reevaluation of management practices on the site. These factors include changes to shorebird occupancy on the site (i.e., number and species), breeding success, beach morphology, predation pressure, anthropogenic disruptions, regulatory status of listed species, development/refinement of beach management techniques, and others.

3.21 Public/Pedestrian Compliance

Members of the public access the lower beach along and below the HTL from the adjacent Merkel Town Beach. While signage and engagement by shorebird monitors and Wychmere staff may aid in relaying information to the public and possibly curb disruptive activities, Wychmere, its representatives, and the shorebird monitors cannot affect full enforcement of said policies. Any issues or impacts to state-listed species from the public will be documented and addressed to the greatest extent feasible, involving enforcement authorities such as the Massachusetts Environmental Police or Harwich Animal Control, if required. Any members of the public engaging in restricted activities will be engaged by the shorebird monitor and/or Wychmere staff and asked to cease the disruptive activity or leave the property. Documentation of interactions and any impacts to rare species will be included in the monitor's reporting.

4 BMP REGULATORY COMPLIANCE

This BMP complies with regulatory requirements of MESA and ESA. The Applicant will relay this filing and subsequent DFW response to the HCC to ensure transparency and confirm compliance with any local ordinance or requirement. SWCA has discussed WPA jurisdiction with HCC staff (see Section 4.4 below).

4.1 Massachusetts Endangered Species Act

MESA (protects listed species and their habitats by prohibiting the unauthorized "Take" of any plant or animal species listed as Endangered, Threatened, or Special Concern. In reference to animals, "Take" means to harass, harm, pursue, hunt, shoot, hound, kill, trap, capture, collect, process, disrupt the nesting, breeding, feeding or migratory activity or attempt to engage in any such conduct, or to assist such conduct. Disruption of nesting, breeding, feeding or migratory activity may result from, but is not limited to, the modification, degradation or destruction of habitat.

Under this BMP, the management of Wychmere's beach habitat promotes the functionality of protected shorebird habitat and mitigates and prevents impacts to shorebirds that could otherwise result in a Take under MESA.

4.2 U.S. Endangered Species Act

The ESA establishes protections for fish, wildlife, and plants that are listed as threatened or endangered; provides for adding species to and removing them from the list of threatened and endangered species, and for preparing and implementing plans for their recovery; provides for interagency cooperation to avoid Take of listed species and for issuing permits for otherwise prohibited activities; provides for cooperation with states, including authorization of financial assistance; and implements the provisions of the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES).

This BMP upholds the federal ESA protections for Piping Plover, listed as Threatened in the Atlantic population region, and upholds practices at Wychmere that avoid a Take under ESA.

4.3 Migratory Bird Treaty Act

The MBTA implements a series of international treaties to ensure the sustainability of populations of all protected migratory bird species. The MBTA prohibits the Take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the USFWS. Piping Plover, Least Tern, and Common Tern are all protected under the MBTA, and the measures of this BMP uphold the MBTA's provisions.

4.4 Massachusetts Wetlands Protection Act

As described above in Section 2.1, there are a number of regulated resource areas and associated jurisdictional buffer zones on the site. The HCC administers the WPA as well as the Harwich Wetlands Protection Bylaw.

Wychmere has discussed the proposed BMP and HCP filings with HCC staff. While the proposed management measures in this BMP do not constitute impact(s) to any regulated resource area or deviate from recent management practices at the site, we are providing this BMP filing to the HCC for review and comment. A written response from the HCC as to whether they concur that no regulated resource area or Buffer Zone impacts requiring a separate permit application are likely to occur resultant from the proposed project. The HCC is expected to discuss this BMP in addition to conceptual HCP materials at their upcoming hearing on December 6, 2022. The decision letter issued will be relayed to NHESP as an addendum to this filing.

Section 1.12 of the local Wetland Protection Bylaw regulations stipulates the requirements for beach raking under the Town's Bylaw. These conditions and methods are adhered to by Wychmere and its contractors. Notably, the existing beach cleaning regime, described in this BMP filing in Section 3.6, was reviewed in the 2019 filing concurrent with the proposed novel work and mitigation that was approved by the HCC.

4.5 Regulatory Best Management Practices for BMP

The BMP reflects state regulatory guidance as relayed in the DFW's 1993 Guidelines for Managing Recreational Use of Beaches to Protect Piping Plovers, Terns and Their Habitats in Massachusetts. Similarly, this BMP reflects federal regulatory guidance under the USFWS's 1994 Guidelines for Managing Recreational Activities in Piping Plover Breeding Habitat on the U.S. Atlantic Coast to Avoid Take Under Section 9 of the Endangered Species Act.

This BMP establishes a standard approach and policy for the site for qualified shorebird monitors and management to follow. This BMP is compliant with regulatory policies and standard procedures and is tailored to the unique conditions of Wychmere's natural features, shorebird utilization, and seasonal business operations. It lays the groundwork for specific relief sought under the HCP, described in the below sections.

5 HCP COVERED ACTIVITIES

Wychmere Beach Club seeks specific regulatory relief under a COI for anticipated impacts to Piping Plover arising from the proposed implementation of Covered Activities in accordance with Chapter 3 of the MA DFW Habitat Conservation Plan for Piping Plover Handbook (2016). These Covered Activities have the potential for Take under MESA and ESA and would be covered under an ITP issued by USFWS. A successful inclusion under a COI would allow for limited, specific flexibility concerning regulatory best practices on shorebird fencing and beach management. Portions of activities described below represent deviations from Wychmere's Beach Management Plan, described in Sections 3 and 4, above. Note that all proposed Covered Activities below shall also apply to Least Tern, with proposed impacts subject to NHESP review (see Section 7). Implementation of these Covered Activities accomplish the stated goal of an increase in viable recreational area and event space at the Site. Impact minimization details and required monitoring for each of the activities described below can be found in the Impact Avoidance and Minimization Plan (IAMP; Section 8). As described in the IAMP, should a Piping Plover nest in areas intended for exclusion/deterrence, fencing must be immediately erected and the nest protected.

5.1 Recreation and Beach Operations Associated with Reduced Symbolic Fencing Around Nests

Wychmere proposes a selective and limited reduction in standard symbolic fencing buffers from Piping Plover nests. According to best management guidelines, the symbolic fence should be typically erected with at least a 50-meter (164-foot) buffer to nests, according to NHESP (1993) and USFWS (1994). The NHESP HCP Guidelines (2016) stipulates a typical "50-yard" (45.7 meter) buffer to nests above the HTL.

Wychmere proposes selective reductions to symbolic fencing such that fencing buffers are reduced to less than 50 yards from the affected nest(s). Generally, retained fencing buffers for affected nests will be at least 10 yards. Reductions below 10 yards may be possible in certain rare circumstances, such as a nest located in close proximity to a beach access point. MassWildlife-NHESP, in consultation with WBC and MAS, will determine minimum fencing buffers. Generally, NHESP may authorize up to 30% of pairs at a site to be subject to Covered Activities resulting in Take exposure. NHESP staff have indicated in correspondence that this reduced fencing buffer under the HCP can be applied to 75% of Piping Plover nests at the site

(MA DFW 2021). Based on 2021 and 2022 plover occupancy of five pairs at the site, this would effectively mean reduced fencing for up to three pairs at Wychmere.

Note that the implementation of reduced proactive symbolic fencing (Section 5.2, below) may effectively result in reduced fencing buffers to territorial and nesting Piping Plover. Any reductions to fenced habitat conducted under this Covered Activity may not impact more than 20% of the nesting habitat on site, inclusive of initial proactive fencing reductions as described below. A sample fencing reduction pattern is shown in Figure 4.

NHESP has indicated that further reductions in fencing buffers to Piping Plover pairs covered under the HCP may be carried out starting on May 24, such that resulting fencing footprints beyond this date may exceed a 20% reduction in fenced habitat at the site. Such reductions would be conducted in consultation with NHESP, as well as Wychmere and CWP leads. Additional symbolic fencing buffer reductions to pairs not covered under the HCP may also be possible if these reductions can be cautiously carried out with no observed impact to these pairs by qualified shorebird monitors. Such reductions would occur outside the scope of this HCP and in consultation with NHESP.

Thus, with ± 2.2 acres of nesting habitat on site, as depicted in Figure 4, the resulting reduced fencing footprint cannot be less than ± 1.76 acres between April 1 and May 24 of each nesting season. Special conditions for monitoring and impact minimization of this Covered Activity are described further in the IAMP.

5.2 Recreation and Beach Operations Associated with Reduced Proactive Fencing of Habitat with Deterrence

Wychmere proposes to reduce proactive symbolic fencing footprint as a Covered Activity under this HCP. With ± 2.2 acres of nesting habitat on site, Wychmere may elect to erect an initial reduced footprint as low as ± 1.76 acres on April 1, representing the maximum initial reduction in fencing that is possible under the HCP (20%). We note that NHESP has indicated Wychmere is eligible to receive permissions for the 20% habitat reduction, whereas the typical proactive fencing reduction is limited to 10% of available nesting habitat or 2 acres, whichever is less (DFW 2016). As fencing reductions before May 24 are cumulative with a 20% cap, including those fencing direct the CWP to erect greater than ± 1.76 acres of fencing initially, to increase the flexibility of further reductions throughout April and May of each season. Additionally, reduced proactive fencing footprints can be designed within permissible constraints to address the operation priorities of Wychmere. For instance, an alternative reduced proactive fencing footprint to the one depicted in Figure 4 of identical area (± 1.76 acres) could be erected, prioritizing a corridor to the water through the mid-line of the beach, with greater westward fencing to compensate. Special conditions for monitoring and impact minimization of this Covered Activity are described further in the IAMP. Figure 4 depicts a preemptive 20% fencing reduction, though different layouts of consistent area may be implemented in different years.

Wychmere proposes a range of viable deterrence strategies for approval under the COI to work in tandem with reductions in proactive symbolic fencing as well as with reduced fencing buffers. These deterrent measures would only apply to areas subject to reduced proactive fencing or to shorebird pairs covered under the HCP. These strategies can be implemented in up to 20% of nesting habitat on the site, including areas within symbolic fencing where fencing reductions are anticipated, assuming symbolic fencing reductions have not yet surpassed 20% in a given season.

The strategies described below would not necessarily all be implemented concurrently, with some possibly never implemented. If approved, they represent a range of strategies that the qualified monitor can consider to effect Wychmere's site management and operational goals within the confines of the HCP.

These strategies are described here with additional implementation provisions in the IAMP:

5.2.1 *Frequent Beach Raking*

NHESP has recommended frequent mechanized beach raking as a deterrent to discourage nesting in areas earmarked for expanded recreational beach use under the HCP. Wychmere seeks permission under the HCP to conduct beach raking as frequently as once per day, beginning in April to discourage the establishment of Piping Plover territories in areas designated for symbolic fencing reduction. Currently we anticipate mechanized raking to occur 5 times per week for the 2023 season.

All beach raking sessions would be compliant with the Town of Harwich Wetland Protection Bylaw Beach Raking requirements and the 2019 Order of Conditions. One or more qualified monitors will be present at all times for beach raking activities, to be accomplished as frequently as possible as monitoring availability allows (currently estimated at 5 times per week). Additional details are included in the IAMP. Beach raking would continue to take place across the site, including in areas outside the reduced footprint of symbolic fencing after May 24 for beach grooming purposes.

5.2.2 *Deployment of Cover Materials*

The 2016 HCP Guidance alludes to the use of boards to deter nesting activity. Wychmere proposes the use of cover objects, such as boards, pallets, or weighted and staked sheet material, such as landscape fabric, to deter Piping Plover territory establishment and nesting. These physical barriers would deter general Piping Plover presence as well as breeding behavior such as scraping. A row of barrier material, such as boards, placed along the edge of the deterrence zone could supplement other deterrence, such as raking, to provide a visual and physical deterrent to areas further outside fencing. Barriers deployed would be specially designed not to pose any entanglement risk to birds and would be sufficiently anchored to not flip or blow in high winds. Barriers may be particularly desirable early in the season when beach aesthetics are less of a concern for Wychmere's operations and Piping Plover territories and nesting locations are being established. Deployment would likely be temporary, and used as a supplement to frequent beach raking.

5.2.3 *Installation of Staked Deterrents*

Marcus et al. (2007) describes the effective use of mylar streamers to deter nesting of interior population (Nebraska) Piping Plover and Least Tern. The streamers used were seven meters long, 30-centimeter thick, and attached to 1-meter stakes arranged in a seven-meter grid. Similar installations or adapted methodologies are proposed for implementation in the 20% deterrence zone at Wychmere.

Staked deterrents may provide another useful tool for HCP implementation and possibly allow for reductions in beach raking frequency (see Provisional CWP budget in Appendix C) and/or additional assurance of deterrence success between beach raking sessions (i.e. for raking frequencies of 5 times per week).

5.2.4 Strategic Monitor Deterrence

During monitoring sessions and coverage for special events, qualified shorebird monitors from the CWP will observe Piping Plover pair behavior and site utilization. Should a monitor observe Piping Plover territorial establishment and/or courtship outside of the symbolic fencing in areas designated for deterrence under this HCP, Wychmere seeks permission for the monitor to provide proximity disruption on foot at a gentle walking pace. No adult Piping Plover or Least Tern would be chased. Placement of qualified monitors within strategic deterrence areas (i.e. the selected 20% fencing reduction zone) may gently encourage the target pair or individual to cease habitat utilization outside the fencing at a critical point in time when other approved deterrence techniques cannot be immediately utilized. Other limitations are outlined in the IAMP.

5.2.5 Chick Herding

Wychmere proposes that the qualified monitor may perform chick herding in response to brood movements into deterrence zone(s). Additionally, should broods stray into critical areas and/or beach events, approval for this deterrence would allow monitors to safely encourage broods to relocate back to retained, fenced areas. Herding activities consist of gentle corralling and encouragement through coordinated and controlled movements by trained monitors. A slow walking pace would be utilized and no broods will be chased. Implementation of chick herding may reduce conflicts with approved beach use under the HCP while avoiding potential impacts to unfledged chicks in high use areas. This strategy would be subject to constraints and conditions to minimize impacts, as outlined in the IAMP. SWCA notes that due to the Piping Plover pair coverage limit under the HCP, chick herding could only be performed for the brood of the three pairs impacted by reduced fencing and may not be performed on an additional pair which would constitute an unapproved Take.

5.3 Recreation and Beach Operations at Piping Plover Nests with Nest Moving

Through this HCP filing, Wychmere aims to increase flexibility and be able to utilize several approved management strategies to deal with a range of possible future conditions that may impact beach club operations. For this reason, we are including the additional provision seeking approval for nest moving in very limited circumstances at Wychmere.

Whereas the reductions in symbolic fencing (Sections 5.1 and 5.2) are intended to be implemented annually, nest moving represents a critical “last resort” provision to be considered under specific circumstances where reductions in fencing buffers would not suffice to alleviate a significant hardship to Wychmere’s operations. Nest moving would generally be avoided to the greatest extent feasible, and heavily conditioned, as outlined in the IAMP.

Consideration for nest relocation would arise only in a situation where Piping Plover (or Least Tern) nesting occurs in a critical area that would heavily impact site access and business functionality. For example, a nest located at the main beach access from the pool area or a nest immediately adjacent to the tiki bar could trigger a discussion on the feasibility of nest relocation in conjunction with consideration of alternatives, as described in the IAMP. With anticipated HCP coverage for a maximum of three Piping Plover Pairs per year, any implementation of nest moving would not result in exceeding pair impact limits. For instance, only two pairs could be impacted by fencing reductions under HCP if a third pair was subject to nest moving and/or nest

moving with reduced fencing buffers. SWCA notes that areas where nest moving might be considered critical (e.g. beach access points in Figure 8) are areas where nesting has not historically occurred, further reducing the likelihood of its implementation.

6 IMPACT ANALYSIS: TAKE EXPOSURES

The Covered Activities described in Section 5 of this document will potentially result in Take associated with up to three pairs of Piping Plover at Wychmere. These impacts can be both direct (i.e., nest failure or abandonment and chick mortality) and indirect (i.e., behavioral disruption to natural behaviors such as incubation). Specifically, reduced proactive symbolic fencing combined with reduced fencing buffers to nests will be associated with expanded recreational use of the beach. The additional deterrence measures described in Sections 5.2.1 to 5.2.5 will bolster the effectiveness of fencing reductions and may also have impacts on Piping Plover at the site.

6.1 Direct and Indirect Mechanisms for Take

The implementation of the Covered Activities has the potential to result in disturbance or harassment of nesting adults and to result in egg mortality through increased risk of nest abandonment. If nest abandonment does not occur, lower hatch rates may result from inconsistent incubation.

Less direct Take impacts from increased recreational activity in areas of reduced symbolic fencing could also result in some increased disturbance, harassment, or harm of unfledged chicks after hatching, with fledge rates affected. Reduced nesting area could result in adult plovers nesting in poorer-quality habitat or face increased intraspecific competition, with deleterious effects to productivity. Pair relocation could result in nests located in areas more prone to overwash.

Proposed beach raking frequency would increase under this management regime yet still be carried out in accordance with approved beach raking procedures and monitoring that minimize the risk of Take (2019 OOC and Harwich Bylaw Guidelines). Under this HCP, beach raking in conjunction with reduced symbolic fencing can be viewed as a single Take exposure (DFW, 2016).

Nest relocation could result in disturbance or harassment of nesting adults and carries a serious risk of egg mortality through an increased risk of nest abandonment. Due to the seriousness of impact considerations, nest moving is considered a strategy of last resort.

Covered Activities are not expected to result in an increased risk of adult mortality, particularly since no ORV use is proposed and there are no nearby parking areas or roads.

6.2 State-wide Constraints on Take

Through the DFW's implementation of the statewide HCP across all sites, overall limitations on Take exposure and adaptive consideration to changing conditions will ensure direct, indirect, and cumulative effects to Piping Plover are considered. The state further allocates approval for limited scenarios of reduced proactive symbolic fencing where no greater than 50% of Take

exposures on all Piping Plover breeding territories can be attributable to this Covered Activity in any year (DFW, 2016).

The 2016 HCP guidance document describes the Commonwealth's quantification of productivity impacts across all sites in the context of HCP implementation.

6.3 Site-specific Productivity Impacts

While pair occupancy and productivity can be quite variable, particularly at a small site like Wychmere, similar upper and lower bounds for productivity impacts can be calculated based on historic fledging success. The 5-year average fledging success rate at the site is 2.134 fledges per pair. Assuming an estimated three Piping Plover pairs subject to Take under the HCP, an approximate conservative annual estimate assuming a 50% reduction in fledging success would indicate 3.2 fewer fledges would be produced from this site per year. A more realistic estimate of 25%, quoted in HCP guidance, would amount to 1.6 fewer fledges at the site per year.

Wychmere generally enjoys higher productivity than the state average. Applying an average productivity of 1.2 fledges/pairs (a benchmark value at which the state Piping Plover population replacement is met) yields an upper bound (50%) impact estimate of 1.8 fewer fledges per year and a more realistic (25%) estimate of 0.9 fewer fledges per year at the site (Melvin and Gibbs 2006).

The total nesting habitat affected will not be greater than ± 0.44 acres (approximately 20% of the nesting habitat on site) before May 24, though acreage impact may be greater following that date through fencing buffer reductions under the HCP and other discretionary reductions undertaken in consultation with NHESP and CWP outside of the HCP that do not result in Take (as discerned by qualified monitoring staff).

7 LEAST TERNS UNDER THE HCP AND TAKE

As Least Tern have nested at the site for the past three years, we anticipate the implementation of Covered Activities to also affect this species, though the extent of the HCP's impacts to Least Tern may be variable year to year within approved bounds. We seek authorization under the CMP associated with this filing to conduct the proposed Covered Activities at this site under the HCP with respect to both Piping Plover and Least Tern.

Because Least Tern habitat generally cooccurs with Piping Plover habitat, we can consider the full extent of impacts resulting from a proactive fencing reduction of 20% to affect a similar area of viable Least Tern habitat (see MESA Checklist form). Similarly, fencing reductions from a 50-yard buffer to as low as 10 yards will have additional potential impacts on Least Tern productivity, with similar effects to those described for Piping Plover above in Section 6. The IAMP, Section 8 below, will dually function to minimize impacts and stipulate limits and monitoring conditions for both Piping Plover and Least Tern.

7.1 Quantification of Least Tern Take Exposure

While NHESP generally advises that no more than 15% of a Least Tern Colony may be impacted, Wychmere seeks approval for implementation of the Covered Activities that may impact a broader percentage of Least Tern within the context of portions of the site being a high

recreation use area. Specifically, Wychmere seeks permission to cumulatively impact up to 40% of a Least Tern colony, if present, through all Covered Activities.

Specifically, a maximum of 20% of the Least Tern colony would be impacted by reduced proactive symbolic fencing (See section 5.2). Additional pairs may be impacted by reduced fencing around the nest, in consultation with MassWildlife-NHESP (See Section 5.1). Such discretionary reductions may coincide with implementation or reduced fencing buffers for Piping Plover, which may be implemented on May 24 or later. This may effectively impact greater than 20% of viable nesting habitat on the site while still conforming to the maximum impact of 40% of total Least Tern Pairs between preemptive fencing reductions and reduced fencing buffers with deterrence. The total nesting habitat affected will not be greater than ± 0.44 acres (approximately 20% of the nesting habitat on site) before May 24, though acreage impact may be greater following that date through fencing buffer reductions under the HCP and other discretionary reductions undertaken in consultation with NHESP and CWP outside of the HCP that do not result in Take (as discerned by qualified monitoring staff).

Fencing will be reduced around nests only to the extent necessary to achieve Wychmere's recreational or beach operations objectives. These objectives have been broadly described above in this document, but consist largely of expanded area for events, particularly in the western portion of the site, and expanded use of the lower beach for guests. The intent of this HCP is to provide additional operational flexibility to Wychmere while complying with all requirements and implementation of the IAMP. As such, specific operational goals may vary over time but will be implemented within the framework of the HCP's Take limitations.

CWP staff will monitor the colony and quantify impacts as the HCP is implemented to ensure impact limits are not exceeded. If warranted, fencing will be adjusted/expanded to provide chick refugia once the eggs hatch. Provisions of the IAMP shall apply to both Least Tern and Piping Plover.

SWCA notes that that due to precedent and future Least Tern nesting distributions at the site, numerical impacts to pairs may not necessarily be proportional to nesting habitat impacts. For example, the preemptive 20% reduction in fencing implemented in the western portion of the beach may impact less than 20% of Least Tern pairs within a colony, particularly since previous Least Tern colonies have been concentrated in the south-central and southeast portions of the beach. We further note that additional efforts to improve nesting habitat at the site discussed under Section 9.1, below, may encourage a concentration of Least Tern nesting even further away from anticipated plover-associated fencing reductions. CWP monitors and team leads will make determinations on these Least Tern impacts in consultation with NHESP.

An impact to 40% of Least Tern pairs would amount to 9.1 pairs based on the 2022 colony size (22.8 nesting pairs). Calculating Least Tern pair impacts based on a 3-year average (22.3 nesting pairs) yields 8.9 pairs impacted. Lastly, a 5-year average of nesting Least Tern Pairs (13.4) yields 5.4 impacted pairs assuming 40% impact.

7.2 Least Tern-Specific Take Consideration

As Least Tern chicks are less mobile than Piping Plover chicks and are reliant on parental care, additional localized disruptions to chick rearing, particularly in proximity to expanded recreation activities, may have more pronounced affects for least tern productivity. Overall, increases in disruptions across the larger site could result in an increased chance of Least Tern colony

abandonment, depending upon the sensitivity of nesting pairs. Least Tern-specific monitoring will be implemented by approved CWP staff.

8 IMPACT AVOIDANCE AND MINIMIZATION PLAN

8.1 Site Information and Background

This IAMP calls for a detailed site description, Piping Plover and Least Tern habitat characterization, site operations, and ownership details, and BMP. This information is provided above in Sections 1 through 4. Figures 1 through 4 depict the Site and existing and proposed shorebird fencing management. A stand-alone IAMP document with this information can be prepared ahead of NHESP approval and ITP application, as needed.

8.2 Responsible Staffing

Wychmere intends for Massachusetts Audubon's CWP staff to provide the staffing and support needed to implement the IAMP and all necessary monitoring and reporting for the site associated with the HCP, as well as regular shorebird monitoring responsibilities as were carried out in previous years. Wychmere will provide advance notice to NHESP should future arrangements change at the site. Additional IAMP support may be provided by SWCA if needed.

Roles are as follows:

- Jonathan Shuster, Project Biologist at SWCA. Mr. Shuster is the primary HCP preparer and IAMP preparer. SWCA will continue to work with NHESP, CWP, and Wychmere following the submittal of this application as materials are finalized. While SWCA may continue to provide limited support to this site following approval, CWP will provide the primary implementation of required coverage associated with the ITP and IAMP.
- Lyra Brennan, Director of CWP. Ms. Brennan is the main contact for the CWP. CWP staff will implement the IAMP and other general monitoring requirements for the site, including reporting and coordination. Ms. Brennan will delegate field responsibilities to qualified seasonal staff at CWP, and additional experienced CWP staff may provide coordination and reporting for the HCP.
- Michael Sharlet, Managing Director of Wychmere Beach Club. Mr. Sharlet will be the main point of contact for Wychmere. Wychmere will communicate HCP implementation expectations and operational needs to CWP staff such that approved measures, such as reduced symbolic fencing, can be implemented on the beach in a manner consistent with Wychmere's operational needs and a manner compliant with the requirements of this permit.

Appendix F provides greater detail for CWP staff qualifications, including those of CWP's permanent staff. Under current anticipated monitoring efforts, site coverage will occur approximately 5 days a week. Seasonal staff tenure may vary but typically extends from early April through early September.

CWP will have sufficient staffing to implement the protocols of this HCP, including documenting any and all impacts to Least Tern and Piping Plover, fulfill monitoring objectives, and provide

and reporting. Specific protocols are described in Appendix F which includes CWP's sample NestStory and HCP log forms.

CWP's provisional budget (Appendix C) estimates monitoring at a frequency of 5 times per week, with HCP-related monitoring, and general shorebird monitoring occurring at a similar frequency. Total beach raking monitoring time is estimated at 342 hours over the course of the season.

Based on PIPLODES forms data provided by CWP, the average number of days with shorebird monitoring site visits between 2018 and 2021 was approximately 3.9, between April and July. Thus, this HCP anticipates a greater frequency of daily monitoring, potentially multiple monitoring sessions per day (i.e. raking, productivity monitoring, and/or special events), with an average of 5 days per week where monitoring would occur. See budget description in Section 8.5 below).

8.3 IAMP Provisions for Covered Activities

Section 5, above, details the range of Covered Activities proposed that could result in Take to Piping Plover and Least Tern. The IAMP provisions, here, address the conditions and requirements of each component of Covered Activities to minimize impacts and promote compliant management of the site. Cumulate impacts from multiple Covered Activities shall not result in Take to greater than three pairs of Piping Plover or 17 pairs of Least Tern.

8.3.1 *Recreation and Beach Operations at Piping Plover Nests Associated with Reduced Symbolic Fencing Around Nests*

The reduction of symbolic fencing buffer distances to nests will be applied to up to three pairs of Piping Plover and/or up to 17 pairs of Least Tern. Wychmere management will relay operational priorities to CWP staff, such that target nesting habitat can be identified for fencing reductions, resulting in reduced buffers to nests.

The following IAMP implementation and monitoring protocols shall be implemented by CWP for this covered activity:

- Fencing will be reduced only to the extent necessary to achieve specific recreational or beach operations objectives.
- CWP will track the amount of fenced habitat such that reductions would not surpass 20% of available nesting habitat (± 2.2 acres) ahead of May 24.
- Beginning on May 24, fencing may be further reduced beyond a 20% reduction, assuming all implementation and monitoring protocols are followed.
- Symbolically fenced buffers to Piping Plover and Least Tern nests will typically not be reduced to less than 10 yards.
- According to 2016 DFW guidance, limited exemptions may be sought for buffers of less than 10 yards in critical areas based on "compelling need". This may be a preferable alternative to nest moving (Section 8.3.3).
- For all instances of reduced buffers, a larger initial fencing footprint would be implemented, particularly during egg laying and for the first 24 hours following clutch

completion. The extent of this larger temporary buffer will be determined at the discretion of the qualified monitor.

- When fencing reductions are implemented, fencing distance from the nest will be gradually reduced, in increments of approximately 10 yards, no more than once daily.
- While fencing reductions resulting in potential impact to nesting Piping Plover and Tern may only be performed for the pair limits specified, additional discretionary reductions may be carefully performed by the monitor for pairs not covered by the ITP, assuming there are no resulting disruptions or other observed impacts to those additional pairs. S
- With HCP implementation monitoring anticipated at five days per week, any novel HCP action or anticipated impact must be scheduled such that sufficient compliance and effectiveness monitoring can be conducted by CWP staff.
- Compliance monitoring will document all instances of implementation of this Covered Activity (dates, times, areas, staff, site conditions, # pairs). Additionally, CWP will document that all other regulatory guidelines are being followed.
- Effectiveness of reduced fencing buffers to nesting pairs will be assessed, including observations of incubation consistency, related nest failure, or other behavioral impacts.
- Monitoring must be conducted immediately following fencing reductions as well as during anticipated high recreational use (large events in proximity to fencing, weekend recreation following fence reduction, and implementation of novel deterrence measures under 8.3.2, below).
- Monitoring frequency may vary thereafter in accordance with what stage of season (i.e., monitoring duration and frequency may increase upon arrival of Least Tern or reduce following Piping Plover fledging)

8.3.2 *Recreation and Beach Operations at Piping Plover Nests with Associated Reduced Proactive Symbolic Fencing*

The reduction of proactive symbolic fencing within nesting habitat, with up to a 20% reduction, may be implemented at once on April first, or selectively implemented. This Covered Activity may only impact up to three pairs of Piping Plover and/or up to 17 pairs of Least Tern. Wychmere management will relay operational priorities to CWP staff, such that a compliant preliminary fencing footprint can be established. This reduced proactive footprint may vary year to year based on Wychmere's operational and beach use objectives. For instance, a pedestrian corridor through the center of the nesting habitat may be implemented or all available acreage of reduction may be applied at the western limit of the nesting habitat.

To facilitate the reduction in fenced habitat, Wychmere proposes five deterrence strategies to be implemented in areas where proactive fencing has been reduced or where fencing is planned on being reduced. These five deterrence strategies are described in Section 5 and are:

- Frequent Beach Raking
- Deployment of Cover Materials
- Installation of Staked Deterrents
- Strategic Monitor Deterrence
- Chick Herding

IAMP implementation and monitoring protocols to be implemented by CWP for this Covered Activity partially overlap with protocols for Section 8.3.1, above, and are:

- At least 80% of nesting habitat at the site must remain fenced and unimpacted by Covered Activities before May 24. The greatest amount of proactive fencing feasible shall be maintained while achieving operational objectives in compliance with this plan.
- CWP will track the amount of fenced habitat such that reductions would not surpass 20% of available nesting habitat (± 2.2 acres) ahead of May 24 for both proactive fencing reductions and fencing buffer reductions to nests.
- Proactive fencing reductions in April may inherently result in reduced buffers to subsequent nests, though protocols for reduced, progressive fencing reductions (as outlined in 8.3.1) will be followed to the greatest extent feasible. This includes increased monitoring during and immediately following egg laying.
- Fencing reductions resulting in potential impact to nesting Piping Plover and Tern may only be performed for the pair limits specified. Additional discretionary reductions may be carefully performed by the monitor for pairs not covered by the ITP, assuming there are no resulting disruptions or other observed impacts to those additional pairs.
- With HCP implementation monitoring anticipated at five days per week, any novel HCP action or anticipated impact must be scheduled such that sufficient compliance and effectiveness monitoring can be conducted by CWP staff.
- Deterrence measures, such as beach raking, must not occur over an area of beach greater than 20% of the nesting habitat. Deterrence measures may be permissible within symbolic fencing anticipated for reduction if that area limit is maintained and there are no impacts to pair numbers beyond those covered under the HCP.
- Deterrence measures can provide benefits of ensuring that pairs nest away from high recreational use zones and reduce the chance that pairs nest in unfenced areas.
- Beach raking shall be conducted multiple times a week and as frequently as every day. Beach raking frequency may only be limited by CWP staff availability. One CWP staff member must be on site for each active brood in the vicinity of the raking.
- Beach raking will be conducted in accordance with best management practices, the conditions of a 2019 Order of Conditions, and specific Harwich Wetlands Bylaw Beach Raking Requirements.
- The use of boards or other ground cover methods to deter nesting activity will be limited to very early in the breeding cycle, before active courtship, or at the latest at the onset of a pair engaging in territorial behavior and or scraping.
- Boards, pallets, plywood, or other sturdy sheet material used as cover deterrence must be sufficiently anchored so as to not be subject to movement in high wind.
- The precise specifications for staked deterrents will be established with NHESP ahead of the field season and implemented by CWP on site. Staked deterrents, such as mylar streamers, must not produce a zone of impact to shorebird nesting habitat larger than 20% of available habitat and is additive with other deterrence and Covered Activities. Raptor decoys would only be deployed upon NHESP authorization and under the strict supervision of CWP staff to ensure no resulting impacts to larger swaths of habitat on the site not covered under the HCP.

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- Wychmere proposes the selective use of staked deterrents, where feasible, over the course of the nesting season. This will facilitate the retention of a deterrence zone for recreation in 20% of available habitat on site, including during periods of Least Tern nesting and during brood rearing.
 - Strategic monitor deterrence includes opportunistic gentle encouragement by qualified monitors on site. This may apply to adults, particularly territorial individuals or courting pairs utilizing areas within the zone of intended exclusion. Under no circumstances will unqualified persons conduct any activity that is designed to impact Piping Plover or Least Tern site utilization. This deterrence method will not be implemented for any pair that has begun nesting. No adults or chicks will be chased and deterrence will be conducted at a slow walking pace, if needed.
 - Chick herding will be selectively performed only by qualified CWP staff in limited circumstances where a brood is present in either areas critical to Wychmere operations or an area designated for exclusion with an expressed immediate operational goal. Examples of situations where this may be employed include herding broods out of an area where a beach wedding is being set up, herding chicks away from an area where beach sports are being played, or herding chicks away from a critical operational feature (e.g., Tiki bar or beach access location).
 - Chick herding shall not be conducted for broods of pairs that are not covered under the HCP. Chick herding can be implemented for up to three broods of Piping Plover who may have been subject to other Covered Activities. Technically up to 9 Least Tern broods could receive chick herding, though implementation must not result in cumulative impacts to greater than 9 pairs of Least Tern (accounting for earlier fencing reductions). Additional discussion with NHESP is warranted ahead of the implementation of the HCP in regard to chick herding.
 - Incorporation of alternate deterrence strategies may enable the reduction of beach raking frequency, for which Wychmere and CWP anticipate a 2023 frequency of 5 times per week (though Wychmere is requesting permission for daily raking under this HCP if required in future years).
 - Any Piping Plover or tern that nests outside the symbolic fencing despite deterrence strategies must be immediately protected with adequate symbolic fencing and deterrence ceased in the immediate vicinity of the nest.
 - Compliance monitoring will document all instances of implementation of this Covered Activity (dates, times, areas, staff, site conditions, # pairs). This includes documentation of beach monitoring protocols and required reporting to the Wychmere Conservation Commission is carried out. Additionally, CWP will document that all other regulatory guidelines are being followed.
 - Monitoring will also document any direct or indirect impacts of recreational beach use and events to Least Tern and Piping Plover pairs at the site (pairs that are either covered under the ITP or not).
 - Compliance and effectiveness monitoring will document occurrences of chick herding and note both positive effects (e.g., decreased risk of mortality away from active recreational or event area, encouragement of site occupancy within fencing) as well as deleterious effects (e.g., disruption of foraging, temporary separation of chicks from adults)

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- While the average number of monitoring sessions may be closer to five times per week for CWP staff over the course of the season, daily monitoring will likely be required upon initial installation of reduced fencing, particularly in mid-late April and May.
 - While DFW guidelines indicate more rigorous monitoring shall be required if additional deterrence (such as boards) is implemented beyond initial fencing reductions, Efficacy Monitoring has the potential to collect valuable data on the safety and deterrence consistency of implemented measures. This may enable a reduction in monitoring in future years based on established successes in implementation.
 - Effectiveness of reduced fencing buffers to nesting pairs resulting from reduced proactive fencing will be assessed, including observations of incubation consistency, related nest failure, or other behavioral impacts.
 - Effectiveness of individual applied deterrence will be assessed and included in reporting.
 - Monitoring must be conducted immediately following fencing reductions as well as during anticipated high recreational use (large events in proximity to fencing, weekend recreation following fence reduction, and implementation of novel deterrence measures under 8.3.2, below).
 - Aside from the implementation of monitored deterrence measures, such as beach raking, monitoring frequency may vary thereafter in accordance with what stage of season (i.e., monitoring duration and frequency may increase upon arrival of Least Tern or reduce following Piping Plover fledging).

8.3.3 *Recreation and Beach Operations at Piping Plover Nests with Nest Moving*

Nest relocation represents a “last resort” measure to be sparingly considered and implemented. To date, no nest has been relocated with the Commonwealth under the HCP (NHESP Correspondence). Other Covered Activities will be prioritized to respond to critical operational and site use needs. Nest moving must not result in combined impacts to more than the allotted number of Piping Plover and Least Tern pairs included under the ITP.

Implementation of nest moving by CWP staff or other approved entities must directly be overseen by DFW staff and adhere to the following conditions:

- 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, including two hours prior to sunset.
- An appropriate relocation site will be chosen in suitable habitat that minimizes the movement distance.
- The DFW may approve a greater movement distance in order to minimize disturbance to the nest after relocation, or disruption of breeding by adjacent pairs.
- Nests will be moved using the “cylinder/plate/platform method” (Gordon and Kruse 1999). This method allows the intact nest cup, with eggs, to be moved intact in a large cylinder pressed into the substrate around the nest. The excavated nest is then placed on a platform with adequate drainage to allow for rapid repeated movement of the nest over small distances, if necessary.

-
- Any visual landmarks (i.e., rocks, sticks) are moved with the nest to serve as visual cues. If a nest is located in cobble, it will be moved by re-creating a new nest cup at the new location (on a platform if multiple moves are anticipated), as the cylinder method would not be feasible in that substrate (for details, see Gordon and Kruse 1999).
 - DFW will directly oversee and participate in nest moving the first time nest moving is attempted at a given site and anytime new personnel are approved by DFW to implement nest moving at a given site.
 - DFW will train monitors in nest moving techniques and will only approve monitors to move nests who have at least one year prior experience in shorebird monitoring.
 - Nests will be moved gradually to reduce the risk of abandonment. The first move will generally be less than 15 feet; however, distances may vary site by site. 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. If incubation is observed at the relocated nest, the nest will be monitored for 90 minutes to ensure consistent incubation behavior before attempting to move the nest a second time. The nest may then be moved repeatedly, up to two times per day, in 10-20 foot increments following this monitoring procedure. The DFW may allow up to three movements per day once procedures for repeated nest-moving have been tested and proven. If inconsistent incubation or significant distress behavior is observed, nest movement will be halted and resumed the next day.
 - If the first attempt to move the nest is unsuccessful, nest moving may be attempted again the following day. In cases where parent birds fail to accept the moved nest, the DFW will be consulted to determine the best course of action.
 - The DFW may modify the recommended nest moving procedures as new information becomes available as part of the adaptive management plan for this HCP.
 - The nests that are moved will be monitored from a distance to confirm acceptance and incubation per the procedures described above. Nests will continue to be monitored regularly until hatching in accordance with the Guidelines and statewide monitoring efforts.
 - Compliance monitoring should include more intensive monitoring of the nest during and following relocation. Observations and outcomes of impact minimization should be documented and reported to inform best management practices for this uncommon procedure.
 - Any nest moving of Least Tern should document accessory impacts to the colony area (i.e., abandonment of other nests, cessation of incubation, nest failures, etc.).
 - There will be a detailed consideration of alternatives prior to any implementation of nest moving.
 - Effectiveness monitoring will document any related nest failure or mortality associated with this Covered Activity.

8.4 Monitoring

Example monitoring logs will be provided to NHESP ahead of annual HCP authorization in the late winter/early spring. Both compliance and effectiveness monitoring will incorporate specific

monitoring requirements outlined for each of the Covered Activities and deterrent measures in the IAMP (Section 8.3)

8.4.1 Compliance Monitoring

Compliance monitoring will be carried out by CWP staff in tandem with IAMP implementation and general site monitoring. The primary objectives will be:

- 1) Ensuring site-specific Take exposure limits are not exceeded for Piping Plover and Least Tern.
- 2) Documenting avoidance, minimization of impacts, and general adherence to shorebird management guidelines outside of Covered Activities.
- 3) Documenting avoidance and minimization of impacts/Take associated with implementation of Covered Activities.

Detailed logs will be maintained and furnished to DFW of initiation date(s) for covered activities with the numbers of pairs, broods, nests, and chicks exposed, with a site-specific approach for Wychmere's Covered Activities documented on a daily basis. Monitoring times, durations, and staffing will also be tracked along with documentation, timing, and frequency of activities such as installation of symbolic fencing, monitoring of plover activity, beach patrols, enforcement of ordinances such as leash rules, timely implementation of temporary prohibitions on non-essential vehicle use. CWP staff will maintain a log and invoices to document that the mitigation plan is carried out by qualified personnel in accordance with the DFW-approved site-specific IAMP and budget.

DFW will be notified at least 24 hours in advance of initiation of any covered activity and when covered activity ceases.

8.4.1 Effectiveness Monitoring

Effectiveness monitoring will be carried out by CWP with the main objective of ensuring that the effects of covered activities and associated minimization measures are consistent with achieving the biological goals and objectives.

Key monitoring elements included are:

- 1) Ensuring adequate monitoring of population size, nest, fledging success, and causes of nest failure and mortality.
- 2) Observations of Piping Plover (and Least Tern) disturbance and mortality associated with covered activities in annual reporting.
- 3) Recommendations to increase the effectiveness of impact minimization measures.

Additional elements for inclusion in effectiveness monitoring are:

- 4) Monitor predation rates and species-specific predator activity (e.g., track counts) to inform management. Note that selective predator management is not proposed at Wychmere. These metrics may be opportunistically tracked to improve future general shorebird management at the site.

-
- 5) Monitor educational program reach and effectiveness and enforcement effectiveness. Note that an increase in educational efforts or coordination with law enforcement is not a key component of Wychmere's Take mitigation. These metrics may be opportunistically tracked to improve future general shorebird management at the site.
 - 6) Monitor changes in vegetation and piping plover habitat use within the habitat improvement area. Note that vegetation management is not a key component of Wychmere's Take mitigation, though optional habitat improvements/adjustments are considered in Section 9.1, below. Opportunistic observations assessing any evidence of shifts in habitat use elsewhere on-site in response to shifts in site conditions could inform future management.

8.5 Budget

CWP has provided a draft budget for the implementation of the IAMP, all associated monitoring, and Covered Activities implementation attached to this filing. This is a provisional time-and-materials, not-to-exceed (NTE) cost of approximately \$30,000 (Appendix C).

This budget reflects the implementation of monitoring on 5 days per week, with the potential for multiple monitoring requirements and/or sessions to be met as described in 8.2, above. The 2023 budget for monitoring by field staff and crew leaders combined is \$14,400, with an additional \$10,860 for reporting. For reference, the 2022 field monitoring cost billed to Wychmere was \$3,221.50, though an additional \$4,500 of additional reporting effort was estimated (correspondence with CWP). Thus, anticipated field monitoring effort alone in 2023 under the HCP, is estimated to be roughly 4.5 times the cost of prior seasons, with total costs to Wychmere of roughly 9.3 times the 2022 amount billed when considering the entire \$30,000 budget.

9 CONSERVATION AND MITIGATION ACTIONS

The HCP guidance sets parameters whereby selective predator management, habitat improvements, and increases in public outreach and educations, can offset the impacts from unavoidable Take arising from Covered Activities. Currently, there is no predator management proposed nor substantive improvements to habitat quality proposed that meet mitigation requirements. While public outreach efforts conducted by CWP will be supported and strengthened, Wychmere does not intend to draw mitigation credit from these efforts. Therefore, the requirement of 2.5 pairs benefited for each pair impacted will be accomplished through funding of off-site mitigation.

9.1 Habitat Management and Improvements

While not a formal component of this HCP filing, Wychmere anticipates filing a Request for an Amended OOC with the HCC in early 2023 to reconfigure beach grass plantings, as depicted in Figure 4. This may have tangible benefits to nesting habitat and encourage additional tern nesting in the northeast of the site, where the edge of dense vegetation can provide cover to chicks.

SWCA has discussed minor habitat improvements favorable to breeding Least Tern that can be conducted in the eastern portion of the nesting habitat. During early spring beach cleanup,

natural woody debris can be retained as cover for Least Tern chicks. Additional driftwood can be deposited in the area before April 1 if insufficient cover features exist following winter storms. These cover objects may encourage Least Tern pairs to breed in more concentrated numbers in the eastern portions of the beach, away from anticipated fencing reductions. Moreover, these natural cover objects will aid Least Tern chicks in thermoregulation and evading predators.

Lastly, the historic beach management regime, inclusive of beach raking, has promoted the existing open expanse of shorebird nesting habitat. The proposed increase in beach raking under this HCP will continue to promote open beaches favorable to nesting.

None of the above potential habitat improvements will be counted as mitigation for the proposed Take.

9.2 Annual Off-site Mitigation Payments

Wychmere's Take mitigation will rely on off-site mitigation payments deposited into an escrow account ahead of each field season. Funding assurance and escrow documentation will be provided to DFW ahead of Plan approval and implementation.

Based on correspondence with NHESP and 2016 HCP filing guidance, Wychmere anticipates off-site mitigation payments to escrow for an anticipated Take to 3 pairs of Piping Plover. A draft escrow form has been provided in Appendix E. This will result in an annual escrow payment of \$17,400, based on \$5,800 per pair. According to 2016 DFW guidance, under a ratio of 2.5 pairs mitigated for each impact, the \$17,400 payment would provide mitigation for 7.5 off-site pairs, including a portion of said funds for other conservation actions such as law enforcement and education. Based on consultation with NHESP staff, we anticipate that the off-site mitigation payment can fully mitigate both Piping Plover and Least Tern impacts through benefits to off-site habitat and pairs.

Combined with CWP's provisional annual NTE implementation, monitoring, and reporting budget of \$30,000, Wychmere anticipates an annual budget of \$47,400.

10 ALTERNATIVES TO TAKE

The ESA requires that applicants for an ITP specify what alternative actions to the Take of federally listed species were considered and the reasons why those alternatives were not selected. Wychmere considered two alternatives to the proposed/preferred scenario resulting in Take:

10.1 Reduced Take Alternative

Wychmere considered scenarios with reduced Take, such as those whereby fewer than three pairs may be subject to Take. Other scenarios considered involved fewer Covered Activities, such as a scenario of a reduced buffer of symbolic fencing around nests without proactive symbolic fencing reduction. Another alternative scenario considered involved the removal of the nest moving from Covered Activities.

Given the small size of Wychmere's beach area and the relatively large concentration of nesting Piping Plover and Least Tern, scenarios of reduced Take are not viable given recent and

ongoing impacts to Wychmere's business from a reduced area of beach available for recreational use. Wychmere would not pursue the ITP were scenarios of lesser impact the only available pathway. Wychmere seeks authorization for impacts on up to three pairs of Piping Plover to allow for recreational beach use vital to their business and operations.

Wychmere has received encouragement from NHESP and CWP staff to seek relief under the Covered Activities proposed to achieve greater flexibility for site management while remaining compliant with HCP and general beach management guidelines.

10.2 No-Take Alternative

A scenario without entry into the HCP and no resulting Take would not accomplish the specific management and operational goals set out by Wychmere. Without plan entry, Wychmere faces additional business challenges and monitoring staff would not have approval to implement actions that create flexibility for Wychmere while still protecting the majority of nesting habitat on site. Entry into the HCP as proposed would allow qualified monitors to implement the HCP actions while minimizing impacts to the greatest extent feasible and complying with requirements of the IAMP and regulatory guidance.

11 OTHER APPROVALS AND PERMITS

11.1 Wetlands Jurisdiction

SWCA, on behalf of Wychmere, will relay this HCP document to the HCC, which will be heard at the December 21, 2022 hearing. We will seek a letter of support and/or written confirmation that there are no impacts relevant to wetlands jurisdiction that require further scrutiny by the HCC. Should the HCC request a formal permit filing and review, an NOI consisting of this HCP document will be expediently filed, and NHESP will be kept informed of permitting progress as the HCP is reviewed.

SWCA anticipates the issuance of a support letter from the HCC pursuant to the BMP previously filed at the December 21, 2022 hearing.

11.2 Beach Management Plan Approval

NHESP is in receipt of a Beach Management Plan for Wychmere submitted in November 2022. We anticipate a formal agency response before the end of the year.

11.3 Massachusetts Environmental Policy Act

We do not anticipate that this HCP will trigger MEPA review, and therefore will likely not require filing an Environmental Notification Form (ENF). If further consultation with regulatory authorities indicates MEPA review is necessary, Wychmere will engage in the MEPA regulatory review process.

12 LITERATURE CITED

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APPENDIX A

Representative Site Photos



Photo 1: Recent aerial imagery of southern portion of Wychmere Beach Club Photo courtesy Wychmere Beach Club (October 12, 2022).



Photo 2: Closer aerial view southern portion of Wychmere Beach Club. Beach grass planting area visible near jetty. Photo courtesy Wychmere Beach Club (October 12, 2022).



Photo 3: View facing south-southeast of upper beach area and condo structure. June 17, 2022.



Photo 4: View facing south-southwest of beach area, including tiki bar and seasonal structures. June 17, 2022.



Photo 5: View facing northwest of seasonal equipment on upper beach. June 17, 2022.



Photo 6: View facing southeast of symbolic fencing and open beach habitat with small dune habitat in distance. June 17, 2022.



Photo 7: View facing south of symbolic fencing and open beach habitat. June 17, 2022.



Photo 8: View facing north of upper beach from area just north of symbolic fencing. June 17, 2022.



Photo 9: Aerial view facing south of deployed winter snow fencing on the beach and beach club construction in January 2021. Photo courtesy of Wychmere Beach Club (October 12, 2022).



Photo 10: Detail of snow fence installation in November of 2017. Photo courtesy of Wychmere Beach Club (October 12, 2022).

APPENDIX B

Statement of Owner Authorization

Demetrios Dasco, Treasurer
Wychmere Harbor Real Estate, LLC

I, _____ the record Owner (or Owner's representative) of the Wychmere Beach Club Property at 23 Snow Inn Road in Harwich Port, MA, hereby grant permission for SWCA Environmental Consultants to file a MESA Checklist and application for a Conservation Management Permit for coverage under a Certificate of Inclusion (COI) for a Piping Plover Habitat Conservation Plan with additional coverage for Least Tern. This (COI) includes an annual payment for off-site mitigation as well as additional monitoring and reporting costs to be covered by Wychmere Beach Club.



Signature



Date

APPENDIX C

Provision CWP Annual Monitoring and Implementation Budget

Scenario: Seasonal availability (monitoring frequency TBD) and HCP implementation		Notes	
<i>Staff/tasks</i>		<i>Actual Cost</i>	
Field Assistant (field hours; monitoring, raking, events)		\$6,720.00	*342 hours of raking at least
Crew Leader (field hours; monitoring, raking, events)		\$7,680.00	
Reporting (weekly; end of season reporting through November)		\$10,860.00	HCP report submitted to NHESP in Oct, feedback received, edits made through Nov/Dec
Scheduling and Logistics (seasonal staff and HCP implementation)		\$2,262.50	
Communications (with Wychmere staff and NHESP)		\$3,393.75	
HCP and Guidelines Compliance		\$3,072.50	
Staff Training, Data Review and QC		\$1,810.00	
Oversight and Incident Response		\$3,072.50	
Coordination with Harwich for raking; adjacent landowners		\$1,810.00	
	Actual cost	\$40,681.25	
	Mass Audubon covers	\$10,000.00	
	Wychmere (NTE)	\$30,000.00	

APPENDIX D

MESA Filing Fee Checks for Checklist and CMP

THE RED THERMO SECURED "SP" LOGO IN THE LOWER CORNER OF THIS CHECK MUST FADE TEMPORARILY WHEN WARMED BY TOUCH OR FRICTION. SEE BACK FOR ADDITIONAL FEATURES.

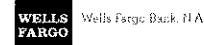
SWCA, INC.
IMPREST ACCOUNT
15 RESEARCH DRIVE
AMHERST, MA 01002

DATE 11/22/2022 020320
11-24/1210

PAY TO THE ORDER OF Commonwealth of MA - NHESP

\$ 300.00

Three Hundred DOLLARS



MEMO 73103 MESA Checklist
(Simple)

⑈020320⑈

⑈⑈

JB-4567347
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THE RED THERMO SECURED "SP" LOGO IN THE LOWER CORNER OF THIS CHECK MUST FADE TEMPORARILY WHEN WARMED BY TOUCH OR FRICTION. SEE BACK FOR ADDITIONAL FEATURES.

SWCA, INC.
IMPREST ACCOUNT
15 RESEARCH DRIVE
AMHERST, MA 01002

DATE Dec 15, 2022 020327
11-24/1210

PAY TO THE ORDER OF Commonwealth of MA - NHESP

\$ 600

Six hundred & 00/100 DOLLARS



MEMO 73103 CMP Permit

⑈020327⑈

⑈⑈

JB-4567347
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APPENDIX E

Draft Escrow Agreement

ESCROW AGREEMENT

This ESCROW AGREEMENT (this “Agreement”) is entered into as of this **TBD** day of **TBD**, **2023** by and between the Massachusetts Division of Fisheries and Wildlife, by and through the Natural Heritage and Endangered Species Program, having a principal place of business at 1 Rabbit Hill Road, Westborough, Massachusetts, 01581 (“Division”); **Wychmere Harbor Real Estate, LLC (“Wychmere”)** { *permit holder/responsible party*} having a principal place of business at **23 Snow Inn Rd, Harwich Port, MA** {*business address for permit holder/responsible party*}; and **TBD** {*escrow agent name*}, having a principal place of business at **TBD**{*escrow agent address*} (“Escrow Agent”). The Division, **Wychmere** {*permit holder/responsible party*} and Escrow Agent are referred to herein collectively as the “Parties”.

1. Recitals

a. The Conservation and Management Permit No. **TBD** DFW (“Permit”) issued by the Division to Wychmere {*permit holder*} contains financial assurance provisions in paragraph #**TBD** {*insert paragraph from issued permit*} of the Special Conditions section requiring that **Wychmere** {*responsible party*} ensure that funds are available in the sum of **seventeen-thousand four-hundred dollars (\$17,400)** (the “Funds”) for habitat protection, habitat restoration and/or management, and/or conservation planning and research to provide a net benefit to **Piping Plover (*Charadrius melodus*) and Least Tern (*Sternula antillarum*)** {*list all species; Common name, scientific name*} populations in Massachusetts (hereinafter referred to as “Division-approved mitigation activities”).

b. The Parties agree the Funds shall be paid by **Wychmere** {*responsible party*} to the Escrow Agent and held in an interest bearing escrow account (“Escrow Account”) (further defined in 2 below) and expended pursuant to the terms and conditions described below to mitigate for the “take” of State-listed species and their habitat, as described in the Permit in connection with **the implementation of reduced proactive symbolic fencing, reduced symbolic fencing buffers to nests, and potential nest moving** {*basic description of project*} (the “Project”), located in **Harwich Port** {*municipality of project*}, Massachusetts.

The Parties enter into this Agreement for the purpose of defining the terms and conditions under which the Funds shall be held and disbursed.

NOW THEREFORE, after consideration of the above recitals, **Wychmere** {*responsible party*}, the Division and the Escrow Agent hereby covenant and agree as follows:

2. Escrow Account

a. Prior to the start of work, which is defined as the start of any soil or vegetation disturbance, **Wychmere** {*responsible party*} shall deliver to Escrow Agent the Funds, in the amount of **\$17,400**. {*When the Permit requires that funds be set-aside for the management of on-site habitat, add the following sentence*} In addition, **Wychmere**{*responsible party*} shall maintain a minimum balance in the amount of **\$TBD** in the Escrow Account to fund the management of on-site habitat.

b. All funds delivered by **Wychmere** {*responsible party*} to the Escrow Agent shall be deposited by the Escrow Agent in a high yield, interest bearing savings account or held in obligations by the US Government at one or more banks (“Depository Bank”), said account(s) to

be at all times insured by the Federal Deposit Insurance Corporation and which shall pay interest on the Funds at a reasonable rate. The Escrow Agent shall ensure that all such account(s) are in the name of the **Wychemere** {*responsible party*} only. In addition, the taxpayer information, including tax identification number, provided by the Escrow Agent to the Depository Bank shall be for the **Wychemere**{*responsible party*} only. The Depository Bank shall be entitled to charge the Escrow Account for services related to maintenance of the Escrow Account at a rate not exceeding the Bank's standard charges to other customers for similar services, notwithstanding the minimum balance requirement of Paragraph 2(a).

c. The Escrow Account shall be opened by the Escrow Agent and funds may be withdrawn only by the Escrow Agent and no other person. Disbursements shall be made from the Escrow Account only in accordance with the terms of this Agreement.

d. The Escrow Agent shall maintain a record of all deposits, income, disbursements, and other transactions of the Escrow Account. By January 15th of each year and upon request, the Escrow Agent shall provide to the Parties a written accounting of all transactions. The Parties shall have the right to inspect all books and records of the Escrow Agent relating to the Escrow Account at reasonable times upon request. Escrow Agent's computation of the Funds is correct in the absence of manifest error.

e. The Escrow Agent shall keep possession of the book(s) and bank statements of the Escrow Account until such time as it is terminated in accordance with the terms of this Agreement, or until a successor Escrow Agent is appointed as provided herein.

3. Disbursements

From time to time, the Division may, on or before the date which is 25 years from the date of this Agreement, request in writing that the Escrow Agent to deliver all or portions of the Funds, plus any interest thereon, to be used for Division-approved mitigation activities. Upon receipt of such written request, the Escrow Agent shall deliver the requested portion of the Funds to the Division or any party designated in writing by the Division within ten (10) business days of receiving said written request. Delivery of the Funds in accordance with the terms of this Agreement shall be made by cashier's check, or by federal funds wire transfer, at the option of the payee.

a. The Escrow Agent may make disbursements to the Depository Bank for services rendered in maintaining said account.

b. *{When the Permit requires that funds be set-aside for the management of on-site habitat, add the following sentence}* If the Division-approved mitigation activities are not, in whole or in part, implemented to the satisfaction of the Division, the Division or any party designated in writing by the Division shall have the right to use all or a portion of the Funds to correct or complete any such Division-approved mitigation activities in accordance with the Permit and any other written requirements of the Division.

c. If, at the end of 25 years from the date of this Agreement, any portion of the Funds is still held in escrow under this Agreement, then the Division shall, within six (6) months after such 25 year date, develop a plan for the use of any remaining Funds by the Division or any party designated in writing by the Division for the implementation of Division-approved

mitigation activities in accordance with such plan. The Escrow Agent shall release any remaining Funds to NHESP or any party designated in writing by NHESP in accordance with such plan.

4. Termination of Agreement

This Escrow Agreement shall terminate, and the Escrow Agent shall be relieved of all liability, after all funds in the Escrow Account have been properly disbursed in accordance with the terms and conditions of this Agreement. When the Escrow Account is terminated, the Escrow Agent shall provide a final accounting of all transactions hereunder to the Parties.

5. Duties and Liabilities of Escrow Agent

a. The sole duty of the Escrow Agent under this Agreement is to receive funds from **Wychmere** {*responsible party*} and to hold the funds for disbursement according to Section 3 above. The Escrow Agent shall be under no duty to pass upon the adequacy of any documents, to determine whether any of the Parties are complying with the terms and provisions of this Escrow Agreement, or to determine the identity or authority of any person purporting to be a signatory authorized by **Wychmere** {*responsible party*} or the Division.

b. The Escrow Agent may conclusively rely upon, and shall be protected in acting on, a statement, certificate, notice, requisition, order, approval, or other document believed by the Escrow Agent to be genuine and to have been given, signed and presented by a duly authorized agent of **Wychmere** {*responsible party*} or the Division. The Escrow Agent shall have no duty or liability to verify any statement, certificate, notice, request, requisition, consent, order, approval or other document, and its sole responsibility shall be to act only as expressly set forth in this Agreement. The Escrow Agent shall not incur liability for following the instructions contemplated by this Agreement or expressly provided for in this Agreement or other written instructions given to the Escrow Agent by the Parties. The Escrow Agent shall be under no obligation to institute or defend any action, suit or proceeding in connection with this Escrow Agreement, unless first indemnified to its satisfaction. The Escrow Agent may consult with counsel of its choice including shareholders, directors, and employees of the Escrow Agent, with respect to any question arising under or in connection with this Agreement, and shall not be liable for any action taken, suffered or omitted in good faith. The Escrow Agent shall be liable solely for its own willful misconduct.

c. The Escrow Agent may refrain from taking any action, other than keeping all property held by it in escrow if the Escrow Agent: (i) is uncertain about its duties or rights under this Escrow Agreement; (ii) receives instructions that, in its opinion, are in conflict with any of the terms and provisions of this Agreement, until it has resolved the conflict to its satisfaction, received a final judgment by a court of competent jurisdiction (if it deems such action necessary or advisable), or it has received instructions executed by both **Wychmere** {*responsible party*} and the Division.

d. Escrow Agent is acting, and may continue to act, as legal counsel to **Wychmere** {*responsible party*} in connection with the subject transaction, whether or not the Funds are being held by Escrow Agent or have been delivered to a substitute impartial party or a court of competent jurisdiction. *{If the preceding sentence is not applicable, then use the following sentence}* Escrow Agent is not acting as counsel to **Wychmere** {*responsible party*} in Escrow Agent's capacity as escrow agent.

e. Each of the Parties admits, acknowledges and represents to each of the other Parties that it has had the opportunity to consult with and be represented by independent counsel of such party's choice in connection with the negotiation and execution of this Agreement. Each of the Parties further admits, acknowledges and represents to the other Parties that it has not relied on any representation or statement made by the other Parties or by any of their attorneys or representatives with regard to the subject matter, basis or effect of this Agreement.

6. Escrow Agent's Fee

a. Payments for services provided by Escrow Agent shall not be made from Escrow Funds.

7. Investment Risk

a. In no event shall the Escrow Agent have any liability as a result of any loss occasioned by the financial difficulty or failure of any institution, including Depository Bank, or which holds United States Treasury Bills, or other securities, or for failure of any banking institution, including Depository Bank, to follow the instructions of the Escrow Agent. Without limiting the generality of the foregoing, in no event shall the Escrow Agent incur any liability as the result of any claim or allegation that the Escrow Agent should have invested the escrow funds in United States Treasury Bills rather than hold same on deposit at the Depository Bank, or vice versa.

8. Notices

a. All notices permitted or required by this Agreement shall be in writing and shall be deemed duly provided when deposited in the United States mail, postage prepaid, certified or registered mail, return receipt requested, to the other Parties at the addresses set forth in the first paragraph of this Agreement. The Party providing notice may choose alternate methods, including hand delivery, Federal Express, or other recognized overnight courier. Notices provided by hand delivery; Federal Express or other recognized overnight courier shall be deemed duly provided when received at the addresses set forth in the first paragraph of this Agreement.

b. All notices, certification, authorizations, requests or other communications required, or permitted to be made under this Escrow Agreement shall be delivered as follows:

To the DIVISION:

Assistant Director
Natural Heritage and Endangered Species Program
ATTN: Regulatory Review, CMP TBD - _____.DFW (insert Permit Number Here)
Division of Fisheries and Wildlife
1 Rabbit Hill Road
Westborough, MA 01581

To Wychmere :

Demetrio Dasco
Treasurer
Wychmere Harbor Real Estate, LLC
23 Snow Inn Rd
Harwich Port, MA 02646

Company, Address, & Contact numbers

To the Escrow Agent:

TBD

Company, Address, & Contact numbers

or to such other place or to the attention of such other individual as a Party from time to time may designate by written notice to all other Parties.

9. Resignation, Removal, or Successor Escrow Agent

a. If, for any reason, the Escrow Agent is unable or unwilling to continue to act as Escrow Agent, he/she shall give written notice to the other Parties of his/her inability or unwillingness to continue as Escrow Agent. The parties shall agree upon a successor agent, formally appoint the successor agent, and provide written notification to the Escrow Agent of the subsequent appointment within ten (10) business days. The Escrow Agent shall then, within three (3) business days after receiving notice of subsequent appointment, deliver to the successor escrow agent all cash and other property held by the Escrow Agent under this Escrow Agreement. Upon such delivery, all obligations of the Escrow Agent under this Escrow Agreement shall automatically cease and terminate. If no successor escrow agent is designated within the prescribed ten (10) day period, or if notice of subsequent appointment is not received within such period, then the Escrow Agent may, at its option at any time thereafter, deposit the funds and any documents then being held by it in escrow into any court having appropriate jurisdiction, and upon making such deposit, shall thereupon be relieved of and discharged and released from any and all liability hereunder, including without limitation any liability arising from the Funds, or any portion thereof so deposited.

b. The Escrow Agent may be removed at any time by a written instrument or concurrent instruments signed by the Division and **Wychmere** {responsible party} and delivered to the Escrow Agent.

c. If at any time hereafter, the Escrow Agent shall resign, be removed, be dissolved, or otherwise become incapable of acting, or the position of the Escrow Agent shall become vacant for any of the foregoing reasons or for any other reason, the Parties hereto shall promptly appoint a successor Escrow Agent. Upon appointment, such successor Escrow Agent shall execute and deliver to his/her predecessor and to the Parties hereto an instrument in writing accepting such appointment hereunder. Thereupon, without further act, such successor Escrow Agent shall be fully vested with all the rights, immunities, and powers, and shall be subject to all the duties and obligations of his/her predecessor, and the predecessor Escrow Agent shall promptly deliver all books, records, and, other property and monies held by him/her

hereunder to such successor Escrow Agent.

10. Interest

a. All interest income accrued on funds in the Escrow Account shall become part of the Escrow Account and shall remain in the Escrow Account. The **Wychmere** {*responsible party*} has the responsibility to pay federal and state taxes on the accrued interest on its funds in the Escrow Account, and the Escrow Agent may disburse funds from the Escrow Account for such purpose. Said disbursement may be made by the Escrow Agent only after receiving a written confirmation from **Wychmere** {*responsible party*}, with a copy sent to the Division, of all itemized federal and state tax liabilities incurred by interest accrued on the Escrow Account.

11. Miscellaneous

a. This Escrow Agreement shall be binding upon, and shall inure to the benefit of the respective Parties hereto and their successors and assigns.

b. This Agreement shall be governed by and be construed in accordance with the laws of the Commonwealth of Massachusetts.

c. This Agreement shall be interpreted as an instrument under seal.

d. This Agreement may be executed in any number of counterparts, each of which shall constitute an original, and all counterparts shall constitute one Agreement.

e. This Escrow Agreement may not be amended, altered, or modified except by written instrument duly executed by all of the Parties hereto.

f. If the term, condition or provision of this Agreement, or the application thereof to any circumstances or party hereto, ever shall be held to be invalid or unenforceable, then in each such event the remainder of this Agreement or the application of such term, condition, or provision to any other circumstance or party hereto (other than those as to which it shall be invalid or unenforceable) shall not be thereby affected, and each term, condition and provision hereof shall remain valid and enforceable to the fullest extent permitted by law.

g. Each individual and entity executing this Agreement hereby represents and warrants that he, she or it has the capacity set forth on the signature pages hereof with full power and authority to bind the party on whose behalf he, she or it is executing this Agreement to the terms hereof.

12. Effective Date

a. This Agreement shall take effect on the latest date of execution by the Division, **Wychmere**, or Escrow Agent.

[SIGNATURE PAGES FOLLOW]

IN WITNESS WHEREOF, the parties have caused this Escrow Agreement to be duly executed as of the day and year first written above.

FOR THE MASSACHUSETTS DIVISION
OF FISHERIES AND WILDLIFE:

Name:

Title:

COMMONWEALTH OF MASSACHUSETTS

_____, ss

_____, 20__

On this __ day of __, 20__, before me, the undersigned notary public, personally appeared _____, and proved to me through satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he/she signed it voluntarily for its stated purpose.

Notary Public

My commission expires:

FOR WYCHMERE (proponenet):

Company Name

By: _____.

By: _____

Name: _____

Its: _____

STATE OF _____

_____, ss

_____, 20__

On this __ day of __, 20__, before me, the undersigned notary public, personally appeared _____, and proved to me through satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he/she signed it voluntarily for its stated purpose.

Notary Public

My commission expires:

FOR THE ESCROW AGENT:

Company Name

By: _____

Name:

Title:

COMMONWEALTH OF MASSACHUSETTS

_____ ss. _____, 20__

On this __ day of __, 20__ , before me, the undersigned notary public, personally appeared _____, and proved to me through satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he/she signed it voluntarily for its stated purpose.

Notary Public
My commission expires:

APPENDIX F

MA Audubon HCP Monitoring Plan

Wychmere HCP COI Staffing Commitment and Responsibilities

CWP Monitors, Qualifications, and Duties:

CWP will provide two dedicated Wychmere qualified shorebird monitors to support the implementation and management of the HCP at Wychmere Beach Club and will seek to retain additional staff to further support the HCP if deemed necessary by CWP Leadership. The monitoring teams will consist of 1 Crew Leader, 1 –2 Field Technicians, and 1-2 Field Assistants. All CWP teams are supervised by the Program Manager.

Crew Leader Qualifications: B.S. or higher in wildlife biology or related field. 3-6 months of supervisory experience. 3-6 months of prior experience with Piping Plover, Tern, or other avian field monitoring, data collection and management

Field Technician Qualifications: B.S. or higher in wildlife biology or related field. At least 3 months of previous field experience.

Field Assistant: Strong interest in wildlife management/conservation biology or actively pursuing relevant degree.

CWP will accomplish routine daily monitoring of the site including proactive fence installation and adjustment throughout the season, educational and “Area Closed” sign installation throughout protected areas and recreational access points, formal and informal public education on protected species, and close coordination with Wychmere operations staff to fulfill daily operational tasks. These tasks will include beach raking and event preparation, implementation, and take-down. Monitors will complete daily logs of beach nesting bird activity including: bird presence, territory location, scraping/courting activity, nest location and status, brood movement and status, predator presence and composition, human violations and disturbances, behavioral observations of birds in proximity to operational tasks, and recreation. Weekly reports will be completed and delivered to CWP Leadership, Wychmere Leadership, SWCA, and NHESP along with required end of season reporting. If the HCP is enacted, further reporting and coordination between Leadership and NHESP will be accomplished.

All data collected during the season will be entered into NestStory, an online data entry system that will be used to import and compile collected data into NHESP approved weekly and seasonal reporting templates. These data will track the start and stop of all Implemented HCP activities, the affected areas, pairs, nests, and/or broods, the impact avoidance and mitigation measures conducted, the success of impacted pairs, nests, and/or broods, as well as other violations, human impacts, and non-impacted pairs, nests, and/or brood successes. Success of nesting pairs will be calculated as productivity (Fledged Chicks / Number of Pairs)

Staffing will increase to the maximum expectation once the HCP is implemented. This will provide Wychmere with 5 days of 4-hour coverage with 2 full time monitoring staff and 2 potential project dependent monitoring staff.

CWP Leadership Qualifications

Lyra Brennan, Director

Lyra brings nine years of experience in Massachusetts-specific shorebird management and conservation to the program, including serving as the strategic leader of CWP efforts to protect plovers and terns on Revere Beach in Boston from 2014-2015 and as the statewide CWP Conservation Fellow in 2015. Prior to taking over direction of the program in 2022, she served as the Assistant Director for four years, which allowed her to cultivate a deep connection with CWP's on-the-ground efforts, statewide partners, and seasonal staff. Lyra brings an adept and thoughtful approach to recruiting diverse beach users to support conservation. She developed the program's staff training curriculum and materials and continues to evaluate ways to incorporate stewardship and engagement from local communities. Lyra has a M.S. in Natural Resources from the University of Vermont (UVM) and worked extensively in rare species research and protection in vulnerable northern wetlands for three years. She was awarded the UVM Outstanding Graduate Teaching Award for teaching in the fields of Natural Resources, Nature and Culture, and Environmental Studies. In addition, Lyra was named the Cape Cod AmeriCorps partner of the year from 2020-2021 for her work in engaging service members in coastal protection efforts. She is an instructor at Cape Cod Community College and serves as a strong connection to the local community. Her skills, experience, and abiding belief in community-based conservation are instrumental in achieving the goals of the CWP.

Tyler Tomassone, Program Manager

Tyler brings ten years of experience monitoring and conducting research on coastal waterbirds and their habitats across the Atlantic flyway. He has worked with the U.S. Fish and Wildlife Service, Conserve Wildlife Foundation of New Jersey, Florida Audubon, SUNY Environmental Science and Forestry, and Biodiversity Research Institute to complete multiple research and monitoring objectives on threatened and endangered coastal species. Most recently he oversaw the monitoring, education, and management implementation across twelve state beaches, four of which are in urban areas, as a Conservation Biologist with the Massachusetts Department of Conservation. Tyler has a focus in understanding and mitigating human disturbance on shorebirds and evaluating best monitoring practices. Tyler now oversees the Mass Audubon seasonal staff recruitment and training of the Coastal Waterbird Program. He provides the seasonal staff with close mentorship to complete the educational objectives and protection measures of the program.

Jamie Infanti, Field Coordinator

Jamie brings six years of coastal conservation experience to CWP and has served on the leadership team since 2021 after spearheading post-restoration efforts on a barrier island in 2020. Her leadership of coastal restoration and staff outreach initiatives across the state has resulted in record levels of productivity at key nesting sites as well as record levels of staff retention. Jamie's extensive experience in New Jersey with Common Terns at the Wetlands Institute prepared her well to oversee tern monitoring for the program. She has a degree in Natural Resources and Wildlife Management from the University of Connecticut. In 2021, Jamie overhauled the entire reporting system of the program to better serve the extensive partnership base and foster relationships with landowners. These efforts continued in 2022 with an additional focus on improvements to various coastal research projects and disturbance management at high traffic beaches.

CWP Crew Leader

Responsibilities

- Supervise field crew (field assistants and volunteers) to meet research, wildlife management, and education objectives of the Coastal Waterbird Program
- Train and supervise field assistants and volunteers in collection and management of biological data on nesting, foraging, and migrating species of coastal waterbirds
- Accomplish the wildlife management, protection, and education objectives of the Coastal Waterbird Program
- Assist with sanctuary-based Coastal Waterbird Program staff throughout the region
- Assist in management of databases including abundance, productivity and behavioral data
- Create GIS/Google Earth maps of coastal resources
- Compile data for state plover, tern, and oystercatcher census forms and write summary reports for specific sites on results and management activities
- Interact with beachgoers to provide information regarding regulations and beach ecology
- Development and delivery of formal and informal coastal waterbird education programs and outreach to beachgoers, community groups, partners, schools, and others may be required depending on location
- Supervise and conduct research on special projects as directed
- Other tasks as directed

Qualifications

- Associate degree in science or B.S., B.A., or higher in wildlife biology/management, ecology, zoology, environmental science, or related field preferred (equivalent experience helpful)
- Three to six months previous supervisory experience; demonstrated ability to set expectations, give feedback, and manage schedules for staff of varying experience levels preferred
- Three to six months prior experience with piping plover/tern/avian field monitoring, data collection and management required
- Applicants should have demonstrated experience utilizing judgment in field-based wildlife research and management projects
- Demonstrated strong attention to detail
- Applicants must have strong interpersonal skills
- Must be able to work long hours outside in all weather conditions and be able to lift and carry up to 40lbs across varied and sandy terrain
- Must be willing to work weekends, holidays, and irregular hours (dependent upon wildlife and weather)
- Must have access to a vehicle for daily driving between sites
- Small boat-handling experience preferred
- Experience in behavioral data collection, band-reading, wildlife tracking, coastal wildlife management issues, and GIS mapping preferred

CWP Field Technician

Responsibilities

- Collect biological data on nesting, foraging and migrating species of coastal waterbirds including abundance and distribution of target species
- Accomplish the wildlife management, protection, and education objectives of the Coastal Waterbird Program
- Assist with sanctuary-based Coastal Waterbird Program staff throughout the region
- Assist in management of databases including abundance, productivity and behavioral data
- Create GIS/Google Earth maps of coastal resources
- Assist in compilation of data for state plover, tern, and oystercatcher census forms and write summary reports for specific sites on results and management activities
- Conduct research on special projects as directed
- Other tasks as directed

Qualifications

- Associate degree in science or B.S., B.A., or higher in wildlife biology/management, ecology, zoology, environmental science, or related field preferred (equivalent experience helpful), in addition to 3 months of previous field experience
- Applicants should have demonstrated experience utilizing judgment in field-based wildlife research or management projects and have a strong attention to detail
- Applicants must have strong interpersonal skills
- Must be able to work long hours outside in all weather conditions and be able to lift and carry up to 40lbs across varied and sandy terrain
- Must be willing to work weekends, holidays, and irregular hours (dependent upon wildlife and weather)
- Must have access to a vehicle for daily driving between sites
- Small boat-handling experience preferred
- Prior experience in avian field research and management strongly preferred
- Experience in behavioral data collection, band-reading, wildlife tracking, coastal wildlife management issues, and GIS mapping preferred

CWP Field Assistant

Responsibilities

- Collect biological data on nesting, foraging, and migrating species of coastal waterbirds including abundance and distribution of target species
- Accomplish the wildlife management, protection, and education objectives of the Coastal Waterbird Program
- Assist with sanctuary-based Coastal Waterbird Program staff throughout the region
- Assist in compilation of data for state plover, tern, and oystercatcher census forms and write summary reports for specific sites on results and management activities
- Conduct research on special projects as directed
- Other tasks as directed

Qualifications

- Applicants must be at least 18 years of age and have a strong interest in wildlife management and conservation biology
- Applicants should have good communication (oral, written) skills
- Must be able to work long hours outside in all weather conditions and be able to lift and carry up to 40lbs across varied and sandy terrain
- Must be willing to work weekends, holidays, and irregular hours (dependent upon wildlife and weather)
- Must have access to a vehicle for daily driving between sites
- Preference will be given to applicants pursuing a career/degree in wildlife biology/management, ecology, zoology, environmental science, biology, or related field

CWP HCP Data Collection and Recording Protocols

The purpose of this data collection is to:

1. Inform the efficacy of the HCP implementation and identify the effects on impacted pairs, nests, and/or broods.
2. Provide a summary and timeline of the implementation conducted at the site.
3. Use this information to complete State reporting requirements.

Data is collected through NestStory and Google Maps and ultimately compiled into the required state reporting formats.

NestStory

- NestStory provides a framework for collecting full breeding cycle data including when pairs arrive, their territories, scrape and nest locations, predator presence and nest loss determinations, nesting habitat assessments, brood territories and movements, chick survival and loss determinations, as well as incident and violation tracking.
- Every monitoring session will begin with a new NestStory mission for the day. The monitor will use the NestStory collection framework to collect all observable metrics throughout the breeding season within the mission site.
- Once the breeding season has concluded at the site, the monitor will verify that all collected fields are fully and accurately completed and begin to compile data into state forms.

State Forms

- Depending on the implementation of the HCP at a site, weekly and seasonal state forms will be completed by the monitor and submitted to CWP Leadership for review and state submission.
- Weekly reports will be compiled from NestStory and completed in the form as provided through the state. These forms will include a weekly summary of Implemented HCP activities, vehicle travel through designated corridors, issues and violations associated with HCP implementation, and other supplemental information to best convey the action and effect of HCP implementation. A seasonal start/stop notification log will also be completed throughout the season and submitted with the end of season reporting.
- All logs compiled for HCP implementation will be verified for completion by CWP Leadership and amended into the end-of-season HCP report Appendix.

Find examples of NestStory framework and state HCP data logs below:

ATTACHMENTS

Mission Notes

You don't have any.

ADD NOTE

Mission Photos

You don't have any.

ADD PHOTO

Mission Sightings

You don't have any.

ADD SIGHTING

Mission Predators

You don't have any.

ADD PREDATOR

Mission Scapes

You don't have any.

ADD SCAPE

2022

Nest 01A
#PTC00000000

This nest was last inspected with a camera (iTagged). It eggs and/or chicks were seen. No adults were seen.

Nest Status:

Project:

Egg Observed:

0	1	2	3	4	5	INC
---	---	---	---	---	---	-----

Chicks Observed:

0	1	2	3	4
---	---	---	---	---

Adults Observed:

M_AZ Add bird

M_AJ Add bird

M_UNK

Add Observations:

Subject: [dropdown] Observer: [dropdown]

+ ADD OBSERVATION

RECORD IT

ATTACHMENTS

Mission Notes

You don't have any.

ADD NOTE

Mission Photos

You don't have any.

ADD PHOTO

Mission Sightings

You don't have any.

FL ADD SIGHTING

Mission Predators

You don't have any.

ADD PREDATOR

Mission Scapes

You don't have any.

ADD SCAPE

[illegible]

	A	B	C	D
	Use this sheet to record daily vehicle travel associated with implementation of the HCP.			
1				
2				
3	Date	Vehicle zone ID (if more than one)	No. vehicle trips	Species affected (e.g., PIPL, LETE)
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

	A	B	C
	Use this sheet to describe any injuries, mortalities, or other issues associated with implementation of the HCP or violations of Guidelines.		
1			
2			
3	Issue	Specific pairs, nests, broods, or chicks affected	Description
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			

	A	B
	Use this sheet to provide important information not adequately conveyed in other sheets.	
1		
2		
3	Topic	Detail
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		

	A	B	C	D	E	F
1	Newly reported data	Identification number of affected pair/ nest/ brood	Recreation & beach operations	OSV use in vicinity of unfledged chicks	Use of roads & parking lots in vicinity of unfledged chicks	Notes/specific activities
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						

APPENDIX G

NHESP BMP Decision Letter



DIVISION OF
FISHERIES & WILDLIFE

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

December 22, 2022

Michael Sharlet, Managing Director
Wychmere Beach Club
23 Snow Inn Road
Harwich Port MA 02546

RE: Applicant: Michael Sharlet, Wychmere Beach Club
 Project Location: Wychmere Beach Club, 23 Snow Inn Road
 Project Description: Wychmere Beach Management Plan
 NHESP File No.: 11-29126

Dear Applicant:

On November 23, 2022, the Natural Heritage & Endangered Species Program of the Massachusetts Division of Fisheries & Wildlife (the "Division") received MESA Review Checklist, Wychmere Beach Club Beach Management Plan (revised December 2022) and supporting documentation for review pursuant to the Massachusetts Endangered Species Act (MESA) (MGL c.131A) and its implementing regulations (321 CMR 10.00).

Wychmere Beach provides important nesting, foraging and staging habitat for coastal bird species. Activities detailed within the December 2022 Beach Management Plan will occur within actual habitat of Piping Plover (*Charadrius melodus*) and Least Tern (*Sternula antillarum*), species state-listed as Threatened and Special Concern, respectively. State-listed species and their habitats are protected pursuant to the MESA. The Piping Plover is also federally protected as Threatened pursuant to the U.S. Endangered Species Act (ESA, 50 CFR 17.11). Piping Plovers and Least Terns are ground-nesting shorebirds that will establish nests on sparsely vegetated, sandy areas of coastal beaches and dunes. Their nests are comprised of shallow depressions in the sand that may be lined with shell fragments or pebbles. Piping Plovers, terns and their nests are particularly vulnerable to predators, unleashed pets, and human disturbance. Fact sheets for state-listed species can be found at www.mass.gov/nhesp.

In 1993, the Division published Guidelines for Managing Recreational Use of Beaches to Protect Piping Plovers, Terns, and Their Habitats in Massachusetts ("Guidelines"). The Guidelines contain recommended procedures for managing recreational activities to ensure compliance with the MESA and its implementing regulations. The U.S. Fish & Wildlife Service published similar guidelines in 1994 and issued an amendment in 2015 ("Federal Guidelines"). The December 2022 Wychmere Beach Management Plan (BMP) demonstrates incorporation of the Guidelines associated with the operation and management of the site.

The purpose of the Division's review under the MESA regulations is to determine whether a Take of state-listed species will result from the Wychmere BMP. Based on the information provided and the information contained in our database the Division has determined that Wychmere Beach Management Plan, as currently proposed, **must be conditioned in order to avoid a prohibited Take** of state-listed

species (321 CMR 10.18(2)(a)). To avoid a prohibited Take of state-listed species and their habitats the following conditions must be implemented:

1. **Wychmere Beach Club Management and Operations:** To protect state-listed species and their habitats during the shorebird nesting season, April 1 – August 31, Wychmere Beach Club management and operations located within state-listed species habitats must implement the protection measures detailed in the December 2022 Wychmere Beach Management Plan (BMP) unless otherwise expressly approved in writing by the Division.
2. **State-listed Species Monitoring & Habitat Protection:** The Applicant has the responsibility of protecting breeding Piping Plovers and state-listed species of terns that occur on this section of beach. Regular monitoring for the presence of Piping Plovers and terns must be conducted by a qualified shorebird monitor, as determined by the Division, during the period April 1 – August 31. As detailed in the Wychmere BMP, all areas of Piping Plover and Least Tern nesting habitat will be delineated with symbolic fencing and warning signs on or before April 1 each year. These areas shall remain fenced as long as viable eggs, unfledged chicks, or territorial or courting Piping Plovers are present. All fenced areas shall be managed in accordance with the Guidelines. Greater management flexibility for plovers and terns (i.e., deviations from the Guidelines) can only be approved by the Division as part of a valid Certificate of Inclusion (COI) and MESA Conservation and Management Permit (CMP) associated with the Statewide Habitat Conservation Plan (HCP). If the Applicant does not have a valid COI & CMP or if they expire, then recreational use and management must fully comply with the Guidelines and be implemented with the protection measures specified in the Wychmere BMP.
3. **Winter Beach Clean-up & Winter Snow Fencing:** As detailed in the Wychmere BMP to protect state-listed species, all work associated with the Winter Beach Clean-up and Winter Snow Fencing removal will be completed **prior to April 1** each year.
4. **Beach Raking:** To protect state-listed species, all raking during April or May can only occur if a qualified monitor, as determined by the Division, first has determined the locations of all territorial birds and those territories have been fenced and are excluded from raking so as not to deter pre-nesting birds. If state-listed nesting birds are present during April 1 – August 31, then all raking should occur as detailed in the Wychmere BMP in accordance with the Guidelines.
 - a. When unfledged chicks are present on the beach, beach raking may only be conducted when a qualified shorebird monitor is present to determine locations of unfledged chicks and ensure that raking equipment remains at least 100 yards away from unfledged chicks.
5. **Events:** During April 1 – August 31 all special events must comply with the Guidelines and may require additional staff including a qualified shorebird monitor to protect and monitor state-listed species during the event.
6. **Beach Sports:** During April 1 – August 31, the Applicant shall implement measures to prevent disturbance to state-listed species and their habitats associated with the volleyball court use as detailed in the Wychmere BMP. Measures to prevent disturbance includes signage, supplemental symbolic fencing, extra equipment, temporary closures, relocation of the courts, etc. The Division may require supplemental measures to prevent disturbance to state-listed species and their habitats should the measures detailed in the Wychmere BMP be insufficient to prevent disturbance.
7. **Anthropogenic Aerial Disturbance:** As detailed in the Wychmere BMP, drone usage shall not be located within 200 yards of nesting, territorial adult Plovers and Terns or their unfledged chicks. All drone usage within 200 yards requires prior written approval by the Division and implementation of a Division-approved monitoring and protection plan associated with drone use.

8. **Authorization Duration:** This authorization is valid for 5 years from the date of issuance. Subject to Division review and approval, the applicant may renew this determination for an additional five (5) year period (10 years total) provided a written request is submitted to the Division prior to the expiration of this determination. Thereafter, the applicant shall re-file under the MESA.

Provided these conditions are included in any approving Orders of Conditions issued by the Conservation Commission, and the applicant complies with all the above noted conditions, the project will not result in an adverse impact to the resource area habitats of state-listed wildlife species pursuant to the WPA and will not result in a prohibited Take pursuant to the MESA. A copy of the final Order of Conditions shall be sent to the NHESP simultaneously with the applicant as stated in the Procedures section of the WPA (310 CMR 10.05(6)(e)).

We note that all work is subject to the anti-segmentation provisions (321 CMR 10.16) of the MESA. This determination is a final decision of the Division of Fisheries and Wildlife pursuant to 321 CMR 10.18. Any changes to the proposed project or any additional work beyond that described in the Beach Management Plan requires review and may require an additional filing with the Division pursuant to the MESA. This determination is valid for five years. This project may be subject to further review if no physical work is commenced within five years from the date of issuance, or if there is a change to the project.

Please note that this determination addresses only the matter of state-listed species and their habitats. If you have any questions regarding this letter please contact Amy Hoenig, Endangered Species Review Biologist, at (508) 389-6364.

Sincerely,



Everose Schlüter, Ph.D.
Assistant Director

cc: Jonathan Schuster, SWCA

FIGURES



WYCHMERE BEACH CLUB
**Figure 1. USGS
 Topographic Map**

 Parcel Boundary

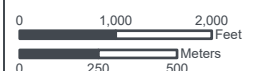
Harwich, MA
 USGS 7.5' Quadrangle:
 Harwich
 70.0664°W 41.6622°N

Base Map: ESRI ArcGIS Online,
 accessed October 2022

Updated: 10/12/2022
 Project No. 73103



1:24,000





WYCHMERE BEACH CLUB

Figure 2. Aerial Map



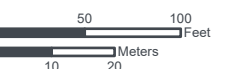
- 2019 Beach Grass Planting Area
- Maximum 2021 Fencing Extent
- Maximum 2022 Fencing Extent
- Parcel Boundary
- Priority Habitats of Rare Species

2021 and 2022 symbolic fencing extents provided by the Massachusetts Audubon Coastal Waterbird Program

Harwich, MA
USGS 7.5' Quadrangle:
Harwich
70.0663°W 41.6622°N

Base Map: ESRI ArcGIS Online,
accessed November 2022

Updated: 11/18/2022
Project No. 73103





WYCHMERE BEACH CLUB

Figure 3. Wychmere Seasonal Beach Use Areas



- Winter Snow Fence
- Existing Seasonal Deck
- Parcel Boundary

2021 and 2022 symbolic fencing extents provided by the Massachusetts Audubon Coastal Waterbird Program

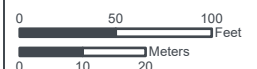
Harwich, MA
USGS 7.5' Quadrangle:
Harwich
70.0663°W 41.6622°N

Base Map: ESRI ArcGIS Online,
accessed November 2022

Updated: 11/18/2022
Project No. 73103



1:1,200





Notes:

1. Reduced area of Symbolic fencing may be implemented on April 1 or thereafter in accordance with HCP provisions. Reduced fencing footprint shown is conceptual and Wychmere may elect to implement a different configuration of similar area.
2. Deterrence may occur without and within Areas of Symbolic fencing such that area of nesting habitat where deterrence occurs is no greater than 20% See HCP narrative for descriptions of permissible deterrence.
3. Daily beach raking permissible with monitor escort under HCP.
4. Additional fencing reductions may occur after May 24, where fencing buffers to established shorebird nests may be reduced for up to 75% of Piping Plover and Least Tern pairs at the site.
5. Further fencing reductions not resulting in a Take under the MA Endangered Species Act (M.G.L.c.131A) may be possible at the direction of the qualified monitor.

WYCHMERE BEACH CLUB

Figure 4. Proposed Symbolically Fencing Reduction under HCP

SWCA
ENVIRONMENTAL CONSULTANTS

- 2019 Beach Grass Planting Area
- Conceptual 20% Fencing Reduction Footprint (+/- 1.76 acres)
- Conceptual Reconfiguration of Beach Grass Area
- Symbolically Fenced Nesting Habitat (+/- 2.2 acres)
- Parcel Boundary

Harwich, MA
USGS 7.5' Quadrangle:
Harwich
70.0663°W 41.6622°N

Base Map: ESRI ArcGIS Online,
accessed December 2022

Updated: 12/12/2022
Project No. 73103



Wychmere Harbor (Merkel Beach), 2021

2021 Nesting and Fencing

 Symbolic Fencing

 Symbolic Fencing



Symbolic Fencing Adjusted
5/16



Symbolic Fencing Adjusted
5/16

 Added 4/7

 Added 4/19

 Added 4/19

 Added 4/19

 Extended 5/8

 Added 6/1

 Added 6/6

 Added 6/6

 PIPL 1A

 PIPL 2A

 PIPL 3A

 PIPL 4A

 LETE Colony



Full extent of Fencing for
Google Earth

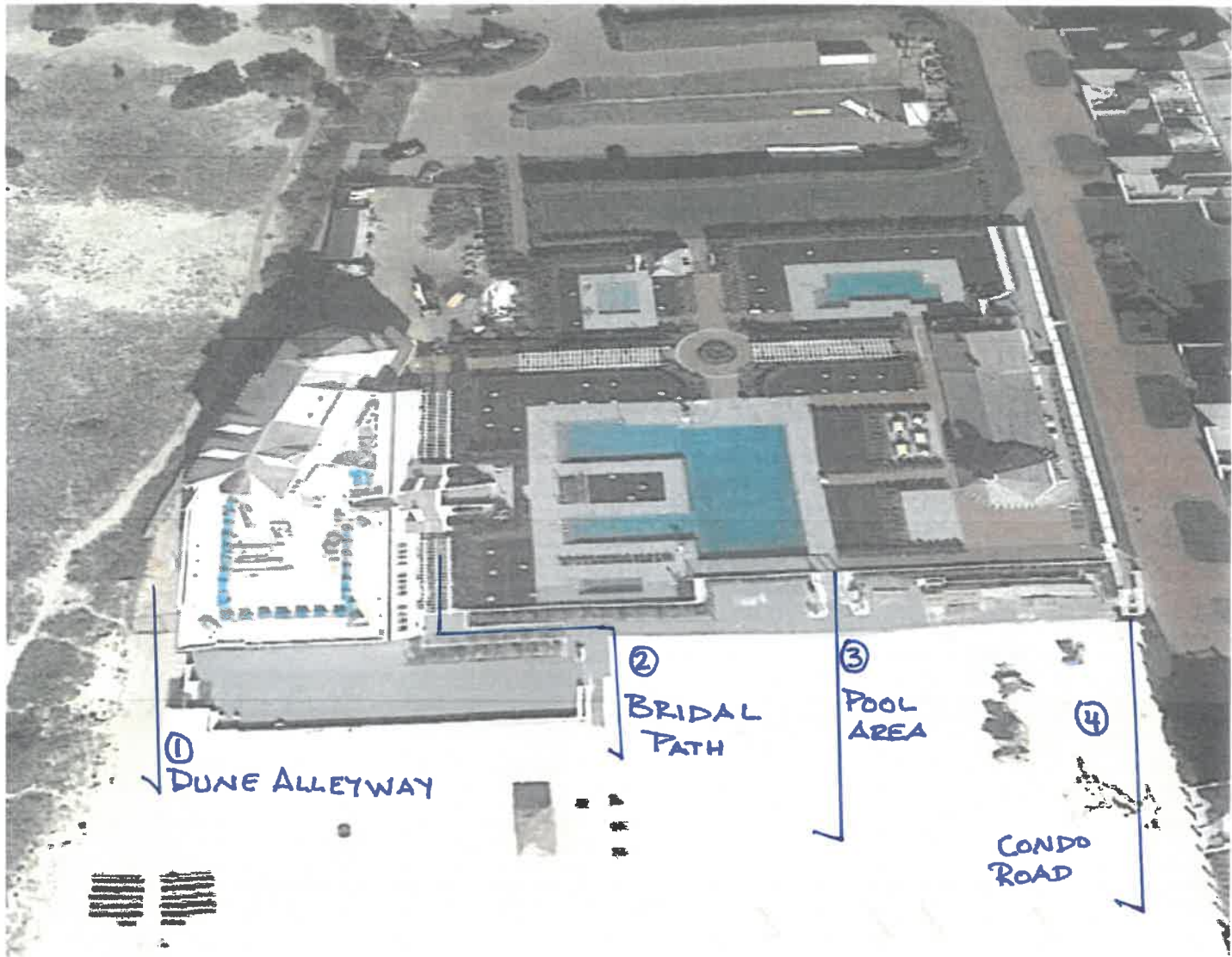


Wychmere Harbor (Merkel Beach), 2022

2022 Nesting and Habitat

-  Symbolic Fencing 5/5/22
-  Doglined 5/5/22
-  Symbolic Fencing 5/12
-  PIPL 01A
-  PIPL 03A
-  PIPL 02A
-  PIPL 04A
-  PIPL 05A
-  HWBC LETE Colony 1





FOUR BEACH GUEST
ACCESS POINTS

