APPENDIX C

PERMITS

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The COMMONWEALTH OF MASSACHUSETTS
BOARD OF UNDERWATER ARCHAEOLOGICAL RESOURCES
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS
251 Causeway Street, Suite 800, Boston, MA 02114-2136
Tel. (617) 626-1200 Fax (617) 626-1240 Web Site: www.mass.gov/czm/buar/index.htm

September 30, 2010

Mark Padover
Aqua Survey, Inc.
469 Point Breeze Road
Flemington, NJ 08822

RE: Special Use Permit 10-003 - Remedial Investigation/Feasibility Study, Chilmark, Edgartown and West Tisbury, MA

Dear Mr. Padover:

This letter confirms the vote taken by the Massachusetts Board of Underwater Archaeological Resources on 30 September 2010 to issue a Special Use Permit, 10-003, to Aqua Survey, Inc. for the marine archaeological survey and documentation related to the Remedial Investigation/Feasibility Study, for the project area in the Towns of Chilmark, Edgartown, and West Tisbury as detailed on the charts accompanying the application (as amended). The duration of this permit is one year from the date of issuance with its expiration date as 30 September 2011.

This permit is herein granted dependent upon Agua Survey's compliance with the Board's Regulations (312 CMR 2.00). All work must be conducted in accordance with Board directives, standard conditions and the Scope of Services included in the application (as amended). Activities allowed under this permit include remote sensing, archaeological site examination and recovery to determine the presence or absence of potential submerged archaeological resources and undertake necessary recovery and documentation of these resources in the permit area. For projects subject to Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800), permittees are directed to consult with and provide their proposed research design and methodology for review and comment to the State Historic Preservation Office/Massachusetts Historical Commission and the lead federal agency in accordance with 36 CFR 800.4, prior to conducting the field investigation. Work must comply with any conditions resulting from that consultation. This permit does not relieve the permittee or any other person of the necessity of complying with all other federal, state and local statutes, regulations, by-laws and ordinances.

If you should have any questions or need further assistance, do not hesitate to contact the Board at the address above or by telephone at (617) 626-1141.

Sincerely,

Victor T. Mastone
Director

/vtm
Cc: Brona Simon, MHC
Marc Paiva, ACOE (via email)
Michael Warminsky, UXB International (via email)

BiodiversityWorks

Wildlife Research, Monitoring and Mentoring

To Whom It May Concern:

I monitored Tisbury Great Pond transects 24 to 16 on the Tisbury Great Pond Map from April 4th to April 20th. During this time I surveyed for any nesting Piping Plovers or American Oystercatchers before UXB conducted work in the area. Least terns were not present. UXB conducted work in this area a total of 5 times between 4/4/2011 and 4/20/2011, and I checked the site before each day of work. During this time, I did not observe any courtship or nesting activity within the area of UXB work, and no nests were found. Throughout the survey one pair of Oystercatchers were seen as well as two piping plovers. UXB completed work by April 20th and I ceased monitoring the site as a sub-contractor for UXB. Mass Audubon at Felix Neck continued with monitoring for the duration of the season. Please feel free to contact me at the email or telephone number below if you have any questions.

Sincerely,

Elizabeth Baldwin
Assistant Director BiodiversityWorks
PO Box 557
Edgartown, MA 02539
biodiversityworksliz@gmail.com
508-494-0061

Classification: UNCLASSIFIED
Caveats: NONE

Tim/Donna/Carol - Excellent subject discourse today to focus on what's really needed and practical in the field at this point in the project. Please revisit the EPP to extract the needed narrative as discussed.

I am attaching the Draft USFWS response letter that should not change too much in the final version. It appears that USFWS is taking the lead with MANHESP following.

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Attached please find a TTOR MV Flora Guide with a picture of the Nantucket shadbush which is a woody plant. The majority of the protected plant species are herbaceous so that we will not find them during the winter/early spring.
I have also attached the known records of Nantucket shadbush at Long Point and Wasque as provided by TTOR.

MANHSEP has NOT provided any specific maps of any protected species for any of our three MRSs.

Finally, as discussed I have attached the OSV Driving Guide with an excellent diagram of the driving corridors.

More to follow.

Keep it simple stupid.

Thank you,
Bob

Robert W. Davis, M.S.
Environmental Resource Specialist &
Ecological Risk Assessor
Environmental Resources Section
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696 Virginia Road

Concord, MA 01742-2751
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Classification: UNCLASSIFIED
Caveats: NONE

A Picture Guide to Interesting Flowering Plants

by Lloyd Raleigh
May 25, 1999

Bearberry (*Arctostaphylos uva-ursi*)

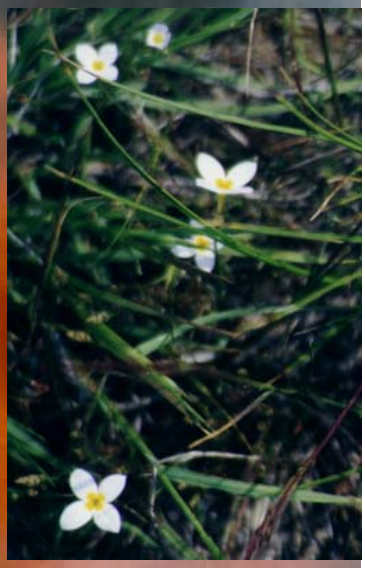
Heath Family

Heathlands at Wasque and Long Point are composed of many species. Some, such as Black Huckleberry, are highly flammable. Others such as Bearberry resist flames. A spring burn can char all vegetation surrounding Bearberry, while barely affecting this species (left). Bearberry forms low mats of dense vegetation and have flowers that are bell-shaped like blueberries (similar in part because they are in the same family). They produce large red fruits similar to cranberries (also a heath species), but they should not be eaten.

Bluets (*Hedyotis caerulea*)

Madder Family

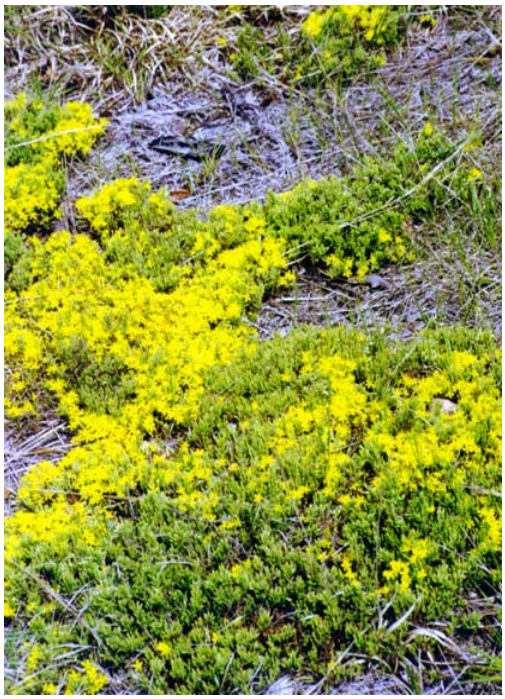
This species is one of the first plants to flower in the spring. It continues to flower until the beginning of June. Bluets occur in open areas of sandplains, mainly where high soil disturbance has occurred. Like violets in the sandplains, these flowers are patchy, occurring in white patches across the landscape.



Yellow Stargrass (*Hypoxis hirsuta*)

Amaryllis Family

This species occurs at Long Point in only one known location where the soils are highly disturbed. It blooms in May and is found alongside Bluets in many cases.



Golden Heather (*Hudsonia ericoides*)

Rockrose Family

A low-lying shrub with yellow flowers, Golden Heather blooms beginning in May. This species is found in open areas of the sandplain grasslands and coastal heathlands.

Beach Plum (*Prunus maritima*)

Rose Family

Beach Plum blooms beginning in late May prior to leafing out. Fruit is picked in late summer to make jellies and is excellent for wildlife. This species occurs on well developed dunes or in sandy soils near the shore.

Scrub Oak (*Quercus ilicifolia*)

Beech Family

Blooming in late May, Scrub Oak is a common shrub in open areas. Many rare moth species feed on Scrub Oak as larvae (caterpillars). Scrub Oaks dominate frost bottoms, a glacial relict.

Late Lowbush Blueberry (*Vaccinium angustifolium*)

Heath Family

Three species of blueberries bloom in May. Their berries ripen in the summer. Late lowbush blueberry is low-lying and is abundant, especially at Wasque.

Nantucket Shadbush (*Amelanchier nantucketensis*)

Rose Family

Nantucket Shadbush blooms in May. This species is a rare shrub that occurs only on the Islands of Massachusetts. Shadbush bloom when the shad are arriving in the spring. It is common at Long Point and Wasque.

Dwarf Cinquefoil (*Potentilla canadensis*)

Rose Family

This small plant blooms beginning in early May or late April. This species is a common plant spreading through the sandplains. Its leaves are often mistaken for wild strawberry, which also occurs in these open habitats.

Chokeberry (*Aronia spp.*)

Rose Family

Two species of chokeberry exist in the sandplains: Red and Black Chokeberry. Both closely resemble one another. This species blooms beginning in May and is found in the sandplains along with other shrubs such as Northern Bayberry and Black Huckleberry.

Rockrose (*Helianthemum spp.*)

Rockrose Family

Four species of rockrose inhabit the sandplains. Each of these species is similar in that they all have bright yellow flowers. One of the four species, Bushy Rockrose, is a rare, state-listed plant. These species bloom in late May and early June.

Blackberry (*Rubus allegheniensis*)

Rose Family

Within the sandplains are brambles: dewberries and blackberries. These species all share similar flowers and berries, which are edible in late summer. Blackberries bloom beginning in late May.

Blue Toadflax (*Linaria canadensis*)

Figwort Family

Blue Toadflax is a common plant in the dunes of Cape Poge. It blooms beginning in May. The flowers are small, yet can be seen if one looks carefully.

Sandplain Blue-eyed Grass (*Sisyrinchium fuscatum*)

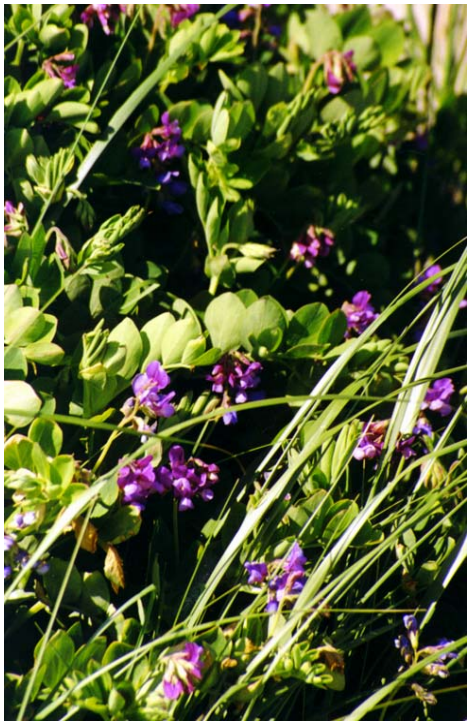
Iris Family

This is a rare species characteristic of the sandplains. It blooms beginning in June. Several species of blue-eyed grass occur on Martha's Vineyard, yet the Sandplain Blue-eyed Grass grows only in the sandplains, in more diverse, disturbed areas.

Yellow Thistle (*Cirsium horridulum*)

Composite Family

This thistle blooms in late May and June. It is a common species in the sandplains. The flower head is actually composed of hundreds of tiny flowers, each of which will produce a seed.



Beach Pea (*Lathyrus japonicus*)

Legume Family

This beach pea blooms beginning in June. Its nitrogen-fixing capabilities enrich the sterile soils of beach dunes. It occurs along with Beach Grass. Later in the summer, beans can be seen. They are edible.

Beach Heather (*Hudsonia tomentosa*)

Rockrose Family

This species is closely related to the Golden Heather found in the sandplains. Found in the foreground of this picture, Beach Heather grows in the sand dunes of Cape Poge. Pictured here is a dune near The Cedars.

Arrow-wood (*Viburnum dentatum*)

Honeysuckle Family

Native Americans made arrows from the narrow, straight branches of this shrub. Arrow-wood blooms in June and is abundant in the sandplains.

Field Thistle (*Cirsium discolor*)

Composite Family

This invasive exotic species blooms in July and is common throughout the sandplains. Its spiny leaves deter herbivores such as deer or grazing sheep.

Goat's Rue (*Tephrosia virginiana*)

Legume Family

Goat's Rue blooms in July and occurs in dense patches within the sandplains. Its flowers are creamy rose.

Wild Morning Glory (*Calystegia sepium*)

Morning Glory Family

This species blooms during the summer, predominately in July. It is found in shrubby areas in the sandplains, near dunes. This species is more common at Long Point.

Virginia Rose (*Rosa virginiana*)

Rose Family

Roses range from Virginia Rose to Salt-spray Rose. Most of these species bloom throughout the summer, predominately in July. Roses are abundant and form dense patches. The rose hips (fruit) are edible and high in Vitamin C.

Wild Indigo (*Baptesia tinctora*)

Legume Family

Wild Indigo blooms in mid summer. It is a common plant in open areas of the sandplains. In the fall, its stem breaks and the plant rolls around like tumbleweeds, dispersing its seed.

Pearly Everlasting (*Anaphalis margaritacea*)

Composite Family

This species blooms in August, yet retains its white blooms into the fall, as its seeds develop. This species favors grassy areas and is fairly common.

Yarrow (*Achillea millefolium*)

Composite Family

This species blooms in July and is commonly found in the sandplains at both Wasque and Long Point. It appears similar to Queen Ann's Lace, which is in the parsley family and occurs in richer meadows.

Sickle-leaved Golden Aster (*Chrysopsis falcata*)

Composite Family

This aster blooms throughout the late summer on dunes and within heavily disturbed areas of the sandplains. Little Copper and other insects (see photo) feed upon its nectar.

Racemed Milkwort (*Polygala polygama*)

Milkwort Family

This species blooms predominately in July in the sandplains, mainly in grassy areas. In this photograph it is blooming along with two common grasses of the sandplains: Sheep Fescue and Poverty Grass.

Wood Lily (*Lilium philadelphicum*)

Lily Family

Wood Lily occurs at Long Point in several locations. This species is more uncommon on our properties. It blooms in August.

Pokeweed (*Phytolacca americana*)

Pokeweed Family

Pokeweed occurs in more disturbed areas. Its small flowers bloom in the summer, but its purple berries in the fall are more conspicuous and provide food for birds. The berries are, however, toxic to humans.

Butterfly Weed (*Asclepias tuberosa*)

Milkweed Family

This species blooms in August and September, providing food for many insect species feeding on its nectar. It is uncommon at both Wasque and Long Point.

Grass-leaved and Lance-leaved Goldenrods (*Euthamia spp.*)

Composite Family

These two goldenrods are abundant throughout the sandplains, often associated with shrubs such as Northern Bayberry. Their leaves are long and thin, distinguishing them from other goldenrods.

Northern Blazing Star (*Liatris scariosa*)

Composite Family

This brilliant purple flower is common at Wasque. It is a rare species found only in open areas such as the sandplains and blooms in late summer and early fall.

Downy Goldenrod (*Solidago puberula*)

Composite Family

Downy Goldenrods are fairly common. They bloom in the sandplains in September.

Asters (*Aster spp.*)

Composite Family

Asters with purple flowers such as Showy Aster and Stiff Aster cover the sandplains with color in September. They occur in patches along with Little Bluestem, the tall brown grass in the background of this photo.

Asters (*Aster spp.*)

Composite Family

Asters with white flowers are also common in the sandplains. Several species exist, ranging from the Flat-topped Asters, which bloom during the peak of summer, to the Heath Aster, pictured here, which blooms in late summer.

Jointweed (*Polygonella articulata*)

Buckwheat Family

This species (pictured below) has very small white flowers which bloom in late summer. This species is common in sandy areas of Cape Poge and on the sandplains of Wasque.

Rough-stemmed Goldenrod (*Solidago rugosa*)

Composite Family

Rough-stemmed Goldenrod occurs in thick patches with large drooping flower clusters.

Seaside Goldenrod (*Solidago sempervirens*)

Composite Family

Seaside Goldenrod (left) is abundant on dunes and saltmarshes and is the last goldenrod to bloom. It blooms into October and is characterized by thick fleshy leaves.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January 20, 2011
Mr. Anthony T. Mackos
Engineering/Planning Division
New England District, Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

Dear Mr. Mackos:

This responds to your December 15, 2010 letter requesting that we concur with your effects determination for federally listed species occurring at three Formerly Used Defense Sites (FUDS) at munitions response sites (MRS) under the Munitions Military Response Program on Martha's Vineyard, Massachusetts. Although your December 15 letter requested concurrence for Phase 1 and 2 of the Remedial Investigation, based on additional communications between Robert Davis of your staff and Susi von Oettingen of this office, we understand that the effects determinations of "not likely to adversely affect" the federally threatened piping plover (*Charadrius melodus*) and the endangered roseate tern (*Sterna dougalii dougalii*) is for Phase 1 and 2, while the determination of "not likely to adversely affect" the threatened Northeastern beach tiger beetle (*Cicindela dorsalis dorsalis*) is solely for Phase 1 of the Remedial Investigation. Our comments are provided in accordance with Section 7 of the Endangered Species Act of 1973 as amended (16 U.S.C. 1531-1533).

The Remedial Investigation (RI) for the FUDS will be undertaken at Cape Poge Little Neck Bomb Target MRS, the Moving Target Machine Gun Range at South Beach MRS and the Tisbury Great Pond MRS. Sandy beaches found within these project locations are extant or current habitat for piping plovers and roseate terns. Piping plovers may nest, roost and forage on the beaches of the three MRS; roseate terns nested at Norton Point in 2009 and 2010 and may be transient visitors to the other two beaches, primarily for roosting or loafing. The Northeastern beach tiger beetle occurs only at the Tisbury Great Pond MRS. Conservation measures have been incorporated in the proposed RI to minimize and avoid adverse effects to plovers, terns and tiger beetles including a time-of-year restriction for activities, tiger beetle larval habitat delineation by a qualified entomologist, use of an ATV for access and equipment transport and close coordination with biologists for The Trustees of Reservations for work done on their property to locate plovers, terns and tiger beetles and their habitat.

Phase 1 of the RI is the geophysical investigation to develop geophysical mapping survey data at each MRS, including the spatial delineation of the munitions and explosives of concern. The surveys will occur on-foot in 100 m transects where the physical beach configuration allows or

will be tailored in eroded locations. Phase 2 of the RI requires more intrusive work in order to identify the nature of the munitions and explosives of concern, including hand digging in beach areas.

We recommend additional measures for Phase 1 of the RI to further avoid and minimize adverse impacts to piping plovers, roseate terns and Northeastern beach tiger beetles based on our review the Environmental Protection Plan (dated November 19, 2010), Chapters 3 and 7 of the *Remedial Investigation Work Plan, Former Cape Poge Little Neck Bomb Target MRS, Former Moving Target Machine Gun Range at South Beach MRS, & Tisbury Great Pond MRS, Martha's Vineyard, Massachusetts*, electronic correspondence from Mr. Davis, and a telephone conference between Mr. Davis, Ms. von Oettingen, and Dr. Scott Melvin and Kristen Black of the Massachusetts Natural Heritage and Endangered Species Program. These measures include the following:

- Extend the April 1 to August 31 time-of-year restriction to include activities occurring on South Beach/Dune, Wasque Point Beach (including access to work proposed for the ocean adjacent to these beaches) and the ocean and beach of North-East to Simon Point (referred to in Table 7-3 Protected Avian Species No Work Windows) in order to avoid adverse effects to piping plovers and roseate terns attempting to establish breeding territories and nests.
- A qualified monitor must survey the area daily prior to any activities to locate plovers or terns that may be establishing territories and report the locations to the work unit should Phase 2 of the RI require additional work between April 1 and April 15 in piping plover or roseate tern habitat.
- Activities occurring within symbolically fenced areas (breeding habitat that has been fenced with stakes and twine) should be coordinated with a qualified piping plover/tern monitor in order to avoid disturbing birds. The monitor should accompany the work unit if it is determined that munitions and explosives of concern are located within the symbolic fencing (following standard safety protocols) and document piping plover and/or tern locations and behavior. Activities may need to be scheduled when birds are feeding (not present within the area).
- No work may occur after April 15 without additional consultation with this office.
- Findings relative to munitions and explosives of concern within Northeastern beach tiger beetle habitat must be reported immediately to this office to coordinate and minimize adverse effects resulting from invasive activities (i.e. Phase 2).

Northeastern beach tiger beetle larvae may occur at depths of 12 to 18 inches at Tisbury Great Pond and are not readily visible or easily located. Intrusive work including hand digging, could adversely affect larvae by destroying their burrows, accidentally moving them to unsuitable habitat (via sand transference) or killing them. Conservation measures identified in the Environmental Plan include: 1) the close supervision of Phase 2 activities, including hand digging, by Dr. Paul Goldstein, expert entomologist, 2) hand screening sand removed during the digging for larvae and relocation to suitable habitat under the Dr. Goldstein's supervision, and 3) time-of-year restriction that minimizes the likelihood of encountering tiger beetle larvae at the lower beach slope (during winter the larvae may be concentrated near the toe of the dunes). Although these activities minimize the likelihood of adverse effects to the tiger beetles, it is

likely that larvae will be taken if digging occurs in occupied tiger beetle habitat and detonation of munitions and explosives of concern occur in place. Should munitions and explosives of concern be identified at Tisbury Great Pond beach within suitable tiger beetle habitat, further consultation with this office is required.

We concur with your determination of "not likely to adversely affect" for Phase 1 and Phase 2 of the RI for piping plovers and roseate terns if our recommendations outlined above are included in the project description and implemented. Time of year restrictions will avoid adversely affecting plovers and terns. Adverse effects will be insignificant for activities that may occur between April 1 and April 15 if the additional measures are incorporated to avoid disturbing birds (monitoring and minimizing time spent in symbolically fenced areas). We also concur with your "not likely to adversely affect" determination for Phase 1 of the RI for the Northeastern beach tiger beetle at the Tisbury Great Pond MRS; however, should munitions and explosives of concern be located within tiger beetle habitat, further consultation will be necessary in order to determine whether adverse effects will occur.

Thank you for your cooperation. Please contact Susi von Oettingen of this office at 603-223-2541, extension 22, if you have any questions or need additional assistance.

Sincerely yours,

Thomas R. Chapman
Supervisor
New England Field Office


Pocha Rd
Wasque Ave
Bayview Ave
Washque Ave
Washqua Ave
EO 36
396 m
Image © 2010 TerraMetrics
Image MassGIS, Commonwealth of Massachusetts EOEA
© 2010 Google
©2009 Google
Imagery Date: Jul 29, 2007
41°21'07.87" N 70°27'26.68" W elev 8 m
Eye alt 1.37 km

Classification: UNCLASSIFIED
Caveats: NONE

Tim/Donna - You should use the attached MANHSEP Fact Sheets as your references for the appropriate habitats that the protected shorebirds, i.e.
Piping plover, Roseate tern, Lease Tern, and Common tern may be found, along with the Northern harrier in the different habitats within our MRSs in Table 7-3. I also included the Northeastern beach tiger beetle (NEBTB) since it is their primary species in concern besides the aforementioned birds.

Tim Simmons/NHESP told me today that it would be very difficult for non-ornithologists to identify the protected tern species among the numerous tern species ones and hence their requirement for a "qualified piping plover/tern monitor." I also understand from Carol that TTOR conducts annual training in the early spring for their shorebird monitors that we will need to contact daily if our work goes beyond April 1st.

Finally, I will also be drafting a simple SOW for the expert Entomologist that UXB will need to hire to oversee the digging along Tisbury Great Pond beach for review/comment.

Take care,
Bob

-----Original Message-----
From: Davis, Robert W NAE
Sent: Wednesday, February 09, 2011 3:25 PM
To: 'tim.fischer@amec.com'; 'Donna Sharp (AMEC)'
Cc: Charette, Carol A NAE; 'Warminsky, Mike F. (UXB)'
Subject: Martha's Vineyard MMRP-RI EPP Field Addendum (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

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Robert W. Davis, M.S.
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Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Natural Heritage & Endangered Species Program
Massachusetts Division of Fisheries & Wildlife
Route 135, Westborough, MA 01581
telephone: 508-389-6360; fax: 508-389-7891
www.nhesp.org

COMMON TERN (*Sterna hirundo*)

State Status: **Special Concern**

Federal Status: None

B. Byrne, MDFW

The Common Tern is a small seabird that returns in the spring from warmer locales to enliven Massachusetts beaches with its raucous cries. It is a gregarious and charismatic creature, joining its neighbors to boldly mob, peck, and defecate on intruders to drive them away from their nests, which are situated on the ground. Probably numbering in the hundreds of thousands in the state before 1870, the Common Tern is considerably more scarce today. Protection, management, and restoration of nesting colonies have allowed populations to gradually increase, but the Common Tern remains a Species of Special Concern in Massachusetts.

Description. The Common Tern measures 31-35 cm in length and weighs 110-145 g. Breeding adults have light gray upperparts, paler gray underparts, a white rump, a black cap, orange legs and feet, and a black-tipped orange bill. The tail is deeply forked and mostly white, and does not extend past the tips of the folded wings. In non-breeding adults, the forehead, lores, and underparts become white, the bill becomes mostly or entirely black, legs turn a dark reddish-black, and a dark bar becomes evident on lesser wing coverts. Downy hatchlings are dark-spotted buff above and white below with a mostly pink bill and legs. Juveniles are variable: they have a pale forehead, dark brown crown and ear coverts, buff-tipped feathers on grayish upperparts resulting in a scaly appearance, white underparts, pinkish or orangish legs, and a dark bill. The voice has a sharp, "irritable" timber, and includes a *keeuri* advertising call and *kee-arrrr* alarm call.

Similar Species in Massachusetts. The Arctic Tern (*Sterna paradisaea*) is similar in size, but has a shorter, blood-red bill, very short red legs, much grayer underparts with contrasting white cheeks, a longer tail that extends past the tips of the folded wings, and a higher-pitched voice (although some calls are similar). The Roseate Tern (*Sterna dougallii*) is also similar in size, but has a mostly or entirely black bill during the breeding season, much paler gray upperparts, white or very pale pink underparts, a very long tail (longer than that of the Arctic Tern), and a distinctively different voice. The Least Tern (*Sterna antillarum*) is markedly smaller, with a yellow-orange bill, a white forehead, and a proportionately much shorter tail.

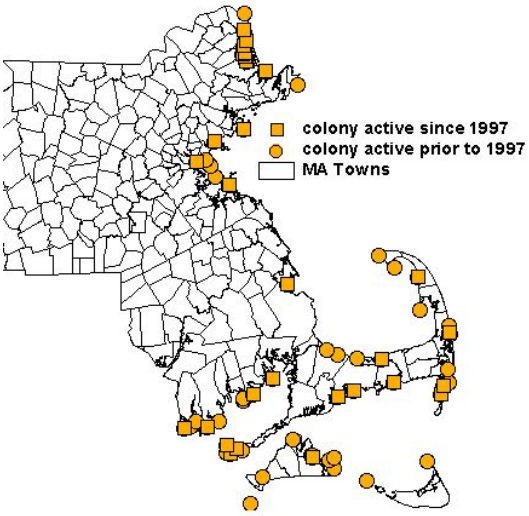

Figure 1. Distribution of present and historic Common Tern nesting colonies in Massachusetts.

Distribution and Migration. Outside the breeding season, the Common Tern is widely distributed primarily at temperate latitudes. It breeds in the northern hemisphere, principally in the temperate

zones of Europe, Asia, and North America, and at scattered tropical and sub-tropical locations. In North America, it breeds along the Atlantic Coast from Labrador to South Carolina, and along lakes and rivers as far west as Montana and Alberta. Massachusetts birds arrive in April and May to nest at coastal locations statewide (Fig. 1). The largest populations occur on Cape Cod and in Buzzards Bay (see Status, below). Massachusetts birds depart from breeding colonies in July and August, and concentrate in "staging areas" around Cape Cod to feed before beginning their migratory journeys southward. Birds breeding on the Atlantic coast generally winter on the north and east coasts of South America as far south as northern Argentina.

Breeding and Foraging Habitat. In Massachusetts, the Common Tern generally nests on sandy or gravelly islands and barrier beaches, but also occurs on rocky or cobbly beaches and salt marshes. It prefers areas with scattered vegetation, which is used for cover by chicks. Along the Atlantic coast in the breeding area, it usually feeds within 1 km of shore, often in bays, tidal inlets, or between islands; it may forage as far as 20 km from the breeding colony.

Food Habits. The Common Tern feeds mainly on a wide variety of small fish; frequently it includes crustaceans and insects in its diet. The primary prey item in most Atlantic coast breeding colonies is the American sand lance. In Massachusetts, silversides, cunner, herring, pipefish, and hake are also important. Over water, it captures food by plunge-diving (diving from heights of 1-6 m and submerging to ≤ 50 cm), diving-to-surface, and contact-dipping; it catches flying insects on the wing. It often forages singly or in small groups, but it may congregate in feeding flocks of ≥ 1000 birds, especially over schools of predatory fish that drive smaller prey to the surface. It commonly feeds in association with Roseate and Arctic Terns, and sometimes gulls.

Breeding.

Phenology. Birds begin arriving in late-April or early-May. They select breeding sites and begin courting. Egg dates are 4 May – 15 August. Incubation lasts about 3 wk, and the nestling period about 3-4 wk. Most birds have departed for winter quarters by mid-October.

Colony. The Common Tern is gregarious, nesting in colonies of a few to thousands of pairs. It often breeds in colonies with Roseate and Arctic Terns, Black Skimmers (*Rynchops niger*) and, rarely, with the Least Tern. Pairs vigorously defend their nesting territory and sometimes also maintain a linear near-shore feeding territory. (See also Predation, below).

Pair bond and parental care. Courtship involves both aerial and ground displays, including High Flights (in which a pair spirals to 30-100 m above ground and then glides down), Low Flights (in which a fish-carrying male is chased by a female), Parading (circling on ground), and Scraping. Males feed females during courtship and early incubation. The Common Tern is socially monogamous, but sometimes seeks extra-pair copulations. While both parents incubate eggs and attend chicks, females do more incubating and brooding (especially at night), and males generally do more feeding. Birds of similar age tend to pair. Mate fidelity is high; data from Germany showed that two-thirds of pair bonds were retained from year-to-year; the rest were broken by death or divorce in approximately equal frequencies. Pair-bond durations of up to 14 years have been documented.

Nests. Nests are depressions or "scrapes" in the substrate, to which nesting material, usually dead vegetation or tide wrack, is added throughout incubation. Nest density is highly variable, but usually in the range of 0.06-0.5 nests/m^2.

Eggs. Eggs are cream, buff, or medium brown (sometimes greenish or olivish) with dark spots or streaks. Markings are often evenly distributed on the egg, but may be concentrated at the blunt end -- especially for the third egg of the clutch, which also may be paler than the first two. Eggs measure approximately 40 x 30 mm, and are subelliptical in shape. Clutch size is usually 2-3 eggs, occasionally 1 or 4. Incubation is sporadic until the clutch is complete. The period between laying and hatching is about 23 d for the first egg and about 22 d for the second and third eggs. Incubation shifts last anywhere from <1 min. to several hours.

Young. Chicks are semi-precocial. At hatching, they are downy and eyes are open. They are able to stand and take food within hours after hatching. They wander away from the nest to seek cover, but still remain in the territory, at 2-3 d. Chicks are brooded/attended most of the day and night for the first few days of life. Parental attendance drops off after that, except for cold, wet, or hot weather. Parents carry prey to chicks in their bills. Feeding rates vary by location, but are usually on the order of 1-2 feedings per chick per hour. Chicks fledge at 22 to > 29 d, but they remain at first within the colony and are still dependent on parents for food. After about a week, they venture out with parents to the feeding grounds, but are unable to catch fish for themselves until 3-4 wk post-fledging. Families leave the colony 10-20 d after chicks fledge and remain together during the staging period. Little is known of family cohesion during migration.

Predation.

Predators. In North America, predators of Common Tern eggs, young, and adults include a wide variety of birds and mammals, snakes, ants, and land crabs. Nocturnal mammals (especially fox, mink, and rat; sometimes skunk, raccoon, feral cat, weasel, and coyote) are the most important predators in mainland or near-shore colonies. Mammalian predation often causes birds to abandon the site. A local example of this is Plymouth Beach: in 1999, a family of foxes hunting on the beach displaced a thriving colony of about 5,000 pairs of mostly Common Terns. At islands further from the mainland, Great Horned Owl and Black-crowned Night-Heron are important predators. Herring and Great Black-backed Gulls, Short-eared Owl, American Crow, Ruddy Turnstone, Great Blue Heron, and Peregrine Falcon can also be significant predators.

Responses to predators and intruders. The Common Tern prefers to nest on islands lacking predatory mammals or reptiles. Eggs and chicks are cryptically colored. Hatched eggshells are removed from the nest site and feces are dispersed (the white of the feces and of the inner shell is obvious).

Behavioral response to diurnal predators is very variable, and depends on predator species and behavior, stage in nesting cycle, and degree of habituation to threat. Hunting Peregrine Falcons cause "panics", during which terns rapidly flee the nesting area and fly over the water; Peregrines may delay colony occupation. Many other diurnal predators (including crows, Herring and Great Black-backed Gulls, Northern Harriers, and Bald Eagles) are "mobbed" (chased and attacked) by terns. Common Terns distinguish between hunting and non-hunting gulls and falcons, and respond to them differently. Common Terns attack human intruders by diving at them, pecking exposed body parts, and defecating on them. Inexperienced birds may merely circle overhead and give alarm calls, whereas more experienced birds may launch intense attacks -- to which many researchers will attest. Common Terns also distinguish between individual humans, and familiar humans are attacked more vigorously. Attacks intensify as chicks begin to hatch, but diminish as chicks mature and become less vulnerable. Adults' alarm calls cause very young chicks (≤3 d) to crouch motionless, while older, more mobile chicks seek cover.

There is little information on how the Common Tern responds to nocturnal mammalian predators; however, nocturnal predation by owls and night-herons causes terns to abandon the colony at night. This has several consequences: prolonged incubation periods for eggs; chick deaths due to exposure; increased predation on eggs and chicks, particularly by night-herons and ants; and sometimes inattentiveness to eggs by day, which increases egg vulnerability to diurnal predators.

Life History Parameters. In Massachusetts, most Common Terns breed annually starting at 3 yr, some at 2 or 4 yr. As birds age, they nest progressively earlier in the season. Only one brood per season is raised, but birds renest 8-12 d after losing eggs or chicks. Productivity is highly variable, and may range from zero to > 2.5 chicks fledged per pair, depending on food availability, degree of flooding, and predation. Productivity increases with age through the lifetime of the bird. Survival from fledging to 4 yr was estimated at about 10% for Massachusetts birds. Annual survival of adults in Massachusetts was estimated about 90%. The oldest documented Common Terns are two individuals that bred at age 26 yr.

Status. The Common Tern is listed as a Species of Special Concern in Massachusetts. Populations are well below levels reported pre-1870, when hundreds of thousands are reported to have bred. Egging probably limited populations throughout the 1700s and 1800s. More seriously, hundreds of thousands were killed along the Atlantic coast by plume-hunters in the 1870s and 1880s, reducing the population to a few thousand at fewer than ten known sites by the 1890s. In Massachusetts, only 5,000 to 10,000 pairs survived, almost exclusively at Penikese and Muskeget Is. The state's population grew to 30,000 pairs by 1920, following protection of the birds in the early part of the century. Populations subsequently declined through the 1970s, reaching a low of perhaps 7,000 pairs, largely as a result of displacement of terns from nesting colonies by Herring Gulls and, later, by Great Black-backed Gulls. Since then, numbers have edged upwards (Figure 2). In 2005, 15,447 pairs nested at 34 sites in the state. About 90% of these birds were concentrated at just three sites: Monomoy National Wildlife Refuge (S. Monomoy and Minimoy Is)., Chatham (9,747 pairs); Bird I., Marion (1,857 pairs); and Ram I., Mattapoisett (2,278 pairs). While populations in the state are relatively well-protected during the breeding season, trapping of birds for food on the wintering grounds may be a source of mortality for Common Terns.

Conservation and Management. Populations in Massachusetts continue to be threatened by predators and displacement by gulls. Also, should established nesting colonies be disrupted, lack of suitable (*i.e.*, predator-free) alternative nesting sites is a serious

concern in the state. Most colonies are protected by posting of signs, by presence of wardens, and/or by exclusion of visitors. Lethal gull control (initially), continual gull harassment, and predator control at S. Monomoy and Ram Is. have resulted in thriving tern colonies at these restored sites (see Status, above). Two other tern restoration projects are currently underway, both involving clearing gulls from small portions of islands. At Penikese I., in Buzzards Bay, after a pilot project in 1995, aggressive discouragement of gulls (using harassment by trained dogs and human site occupation) was initiated in 1998. The colony increased from 137 pairs of Common Terns in 1998 to 756 pairs in 2006. Non-lethal gull control at Muskeget I., in Nantucket Sound, began in 2000; however, the budding tern colony is struggling against predators. Tern restoration is a long-term commitment that requires annual monitoring and management to track progress, identify threats, manage vegetation, prevent gulls from encroaching on colonies, and remove predators.

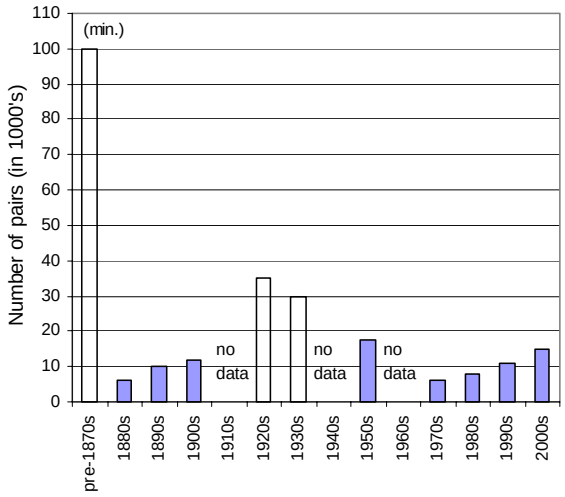

Figure 2. Common Tern population trends in Massachusetts, pre-1870s to 2005 (modified from Blodget and Melvin 1996).

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Veit, R. R. and W. R. Petersen. 1993. Birds of Massachusetts. Massachusetts Audubon Society. Lincoln, MA.

C. S. Mostello, 2007

Partially funded by the New Bedford Harbor Trustee Council

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ROSEATE TERN (*Sterna dougallii*)

State Status: **Endangered**
Federal Status: **Endangered**

B. Byrne, MDFW

The elegant Roseate Tern, with its long, white tail-streamers and rapid flight, alights on Massachusetts beaches in the spring. It tunnels under vegetation to nest within colonies of its more rough-and-tumble relative, the Common Tern, from which it derives protection from intruders. The Roseate Tern is a plunge-diver that feeds mainly on the sand lance, and availability of this fish may influence the timing of breeding. Depredations of plume hunters in the 19th century and displacement from breeding sites by gulls and increased predation in the 20th century contributed to a decline in numbers and loss of major breeding sites in the northeast. In a sense, the Roseate Tern is emblematic of the Commonwealth, because for the past century, about half the northeastern population has nested in Buzzards Bay and outer Cape Cod. The Roseate is now considered an Endangered Species. The population, which increased from the 1980s through 2000, is now in decline. Several projects are in progress to restore the Roseate to historical breeding locations in Massachusetts.

Description. The Roseate Tern measures 33-41 cm in length and weighs 95-130 g. Breeding adults have pale gray upperparts, white underparts (flushed with pale pink early in the breeding season), a black cap, orange legs and feet, and a black bill (which becomes more red at the base as the season progresses). The tail is mostly white, and is deeply forked with two very long outer streamers, which extend well past the tips of the folded wings. In non-breeding adults, the forehead becomes white and the crown becomes white marked with black, merging with a black patch that extends from the eyes back to the nape. The down of hatchlings is distinctive: it is grizzled buff/black or gray/black, and is spiky-looking because the down filaments are gathered at the tips. Juveniles are buff or gray above, barred with black chevrons, and have a mottled forehead and crown, black eye-to-nape patch, and black bill and legs. The Roseate's vocal array includes a high-pitched *chi-vik* advertising call, and musical *kliu* and raspy *aaach* alarm calls, the latter sometimes likened to the sound of tearing cloth.

Similar Species in Massachusetts. The Common Tern (*Sterna hirundo*) is similar in size, but has a black-tipped orange bill, darker gray upperparts, pale gray underparts, a shorter tail that does not extend beyond the folded wingtips, and an "irritable" voice. The Arctic Tern (*Sterna paradisaea*) is also similar in size, but has a shorter, blood-red bill, very short red legs, gray underparts with contrasting white cheeks, a shorter tail (which still extends past the folded wingtips), and a very different, high-pitched voice. The Least Tern (*Sterna antillarum*) is markedly smaller, with a yellow-orange bill, a white forehead, and a short tail.

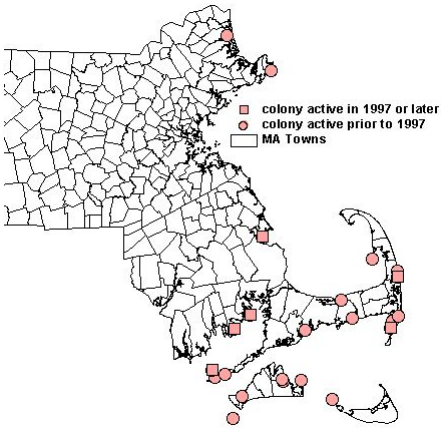

Figure 1. Distribution of present and historic Roseate Tern nesting colonies in Massachusetts.

Distribution and Migration. The Roseate Tern has a scattered breeding distribution primarily in the tropical and sub-tropical Atlantic, Indian, and Pacific Oceans. In North America, it breeds in two discrete populations: from Nova Scotia south to New York and in the Caribbean. The northeast population, at about 40-45° N, is among the most northernmost nesting groups of this mostly tropical species. Roseates arrive in Massachusetts from late-April to mid-May to nest at just a handful of coastal locations (Fig. 1). The largest colonies occur in Buzzards Bay (see Status, below). Massachusetts birds depart from breeding colonies in late-July and August and concentrate in "staging areas" around Cape Cod and the Islands, before departure for wintering grounds in September. Roseates appear to feed offshore and return to the staging areas to rest and roost. Most have departed staging areas and have begun migrating southward by mid- to late-September. The Roseate's wintering range remains poorly known, but increasing evidence indicates that Northeastern birds winter along the north and east coasts of South America southward along the coast of Brazil to approximately 18° S.

Breeding and Foraging Habitat. In Massachusetts, the Roseate Tern generally nests on sandy, gravelly, or rocky islands and, less commonly, in small numbers at the ends of long barrier beaches. Compared to the Common Tern, it selects nest sites with denser vegetation, such as seaside goldenrod and beach pea, which is also used for cover by chicks. Large boulders are used for cover at other locations in the northeast. It feeds in highly specialized situations over shallow sandbars, shoals, inlets or schools of predatory fish, which drive smaller prey to the surface. The Roseate is known to forage up to 30 km from the breeding colony.

Food Habits. The Roseate Tern feeds almost exclusively on small fish; occasionally it includes crustaceans in its diet. It is fairly specialized, consuming primarily sand lance (about 70% of diet in Massachusetts). Other prey species of importance in Massachusetts are herrings, bluefish, mackerel, silversides, and anchovies. In the northeast, it often forages with Common Terns. The Roseate captures food mainly by plunge-diving (diving from heights of 1-12 m and often submerging to ≥ 50 cm), but also by surface-dipping and contact-dipping. Some individuals specialize in stealing fish from Common Terns.

Breeding.

Phenology. Roseates usually begin to arrive in Massachusetts in late-April or the first week of May. Egg dates are 12 May to 18 August, and laying usually begins about 8 d later than that of Common Terns in the host colony. Incubation lasts about 3 wk, and the nestling period about 4 wk.

Colony. The Roseate Tern is gregarious. In the northeast it nests in colonies of a few to about 1,700 pairs, and the largest colony in Massachusetts numbers about 1,100 pairs (see Status, below). In this portion of its range, the Roseate invariably nests with the Common Tern, forming clusters or sub-colonies within larger Common Tern colonies. Pairs defend their nest site. (See also Predation below).

Pair-bond. Courtship involves both aerial and ground displays, including spectacular High Flights (in which ≥ 2 birds spiral up to 30-300 m above ground and then descend in a zig-zag glide), and Low Flights (in which a fish-carrying male is chased by up to 12 other birds). Males feed females before and during the egg-laying period. The Roseate Tern is socially monogamous, but extra-pair copulations occur. Both parents spend roughly equal amounts of time incubating, and incubation shifts last about 26 min. Males and females also contribute approximately equally to brooding and feeding chicks. The average length of pair bonds in Connecticut was 2.5 yr. The sex ratio in Massachusetts (and probably other northeast colonies) is skewed towards females (1.27 females:1 male). This results in multi-female associations (≥ 2 females), and often ≥ 3-egg clutches, at nests.

Nests. Nests (usually beneath vegetation or debris, or in special nest boxes) are depressions or "scrapes" in the substrate, to which nesting material may or may not be added throughout incubation. In the northeast, nests are usually 50-250 cm apart, depending on the distribution of vegetation and rocks.

Eggs. Eggs are various shades of brown with dark spots and streaks. The second egg may be paler than the first. Eggs measure approximately 43 x 30 mm, and are subelliptical in shape. The eggs are difficult to distinguish from those of the Common Tern, but Roseate eggs are generally longer, more conical, less rounded, darker, and more uniformly and finely spotted. Clutch size is usually 1-2 eggs; older females generally lay 2 eggs (laid about 3 d apart), and younger females, 1. Nests with ≥ 3 eggs are often attended by more than one female. Incubation, which begins after laying of the first egg, may be sporadic until the second egg is laid. The period between laying and hatching is about 23 d for both eggs.

Young. Chicks are semi-precocial. They are downy at hatching. Eyes open after a couple hours, and chicks are able to waddle and take food within hours after hatching. In 2-chick broods, there is often

a substantial size difference between the young that persists throughout the growth period; this is because the first chick (*A*-chick) is usually 3 d older. Chicks are brooded/attended most of the day and night for the first few days of life. Parental attendance ceases after about a week, except for cold, rainy days. Parents carry prey to chicks in their bills one fish at a time. Feeding rates at sites in Massachusetts and Connecticut are about 1 fish/h. At sheltered nests, undisturbed chicks may remain at the nest site until they are nearly fledged. Where there is more disturbance, chicks may move more than 60 m away to new hiding spots. In 2-chick broods, the younger chick (*B*-chick) is less likely to survive than the *A*-chick. Most losses of *B*-chicks appear to be due to starvation. The peak of fledging is at 27-30 d. Four to 10 d after fledging, young birds accompany parents to fishing grounds. They begin to catch fish after 3 wk, but remain dependent on parents for food at least 6 wk, or until migration in September. This notably long period of dependence reflects the highly specialized fishing techniques that the young must master. At Bird I., MA, family units depart the nesting colony 5-15 d post-fledging to congregate at staging locations. When two chicks are raised, the male leaves first with the older chick and the female leaves up to 7 d later with the younger chick. Nothing is known of family cohesion during migration.

Predation.

Predators. In North America, predators of Roseate Tern eggs, young, and adults include birds and mammals, snakes, ants, and land crabs. In the northeast, the Great Horned Owl is the primary predator on adults, and predation on adults by the Peregrine Falcon has also been documented. Other significant avian predators (on eggs or chicks) include: Black-crowned Night-Heron, Herring and Great Black-backed Gulls, American Crow, and Red-winged Blackbird.

Responses to predators and intruders. The Roseate Tern prefers to nest on islands lacking mammalian predators. Eggs and chicks are cryptically colored and well-concealed under vegetation, debris, or rocks. Roseates are less aggressive birds than Common Terns, and rely on Commons for defense in the nesting colony. Attack rate peaks at hatching. Roseates dive at, and sometimes strike, various avian predators. Roseates circle above humans and dive at them, but do not make physical contact or defecate on them. Roseates in the Caribbean have been shown to respond more vigorously to familiar *versus* unfamiliar humans. As is the case for Common Terns, Roseates desert colonies at night when subject to nocturnal predation. This prolongs incubation periods for eggs, and exposes eggs and chicks to the elements and predation. Roseate nests and chicks, however, are better concealed, and thus less vulnerable, than those of Common Terns. Roseate adults, in contrast, are often disproportionately preyed upon in comparison to Common Terns from the same colony. Perhaps for this reason Roseates are quicker to abandon a site when predators are active.

Life History Parameters. In Massachusetts, most Roseate Terns breed annually starting at 3 yr, some at $\geq$ 4 yr. Only one brood per season is raised, but birds renest after losing eggs or chicks. Estimating productivity is challenging due to inaccessible nest sites and chicks' hiding behavior, but productivity usually exceeds 1 chick fledged per pair (range: 0-1.6 chicks fledged per pair); older birds are more productive than younger ones. Survival from fledging to first breeding was estimated at about 20% for Connecticut birds. Annual survival of adults in the northeast was estimated to be about 80%. The oldest Roseate Tern documented was 25.6 yr old; it was originally banded as a chick in Massachusetts.

Status. The northeastern population of the Roseate Tern is listed as Endangered federally and in Massachusetts principally because of its range contraction and secondarily because of its declining numbers. Prior to 1870, its status was somewhat obscure, but the Roseate was considered to be an abundant breeder within Common Tern colonies on Nantucket and Muskeget Is., MA. Prior to the 20th century, egging was a problem in northeast colonies, but it was persecution of terns for the plume industry that greatly reduced numbers in the northeast to perhaps 2,000 pairs, mostly at Muskeget and Penikese Is., MA, by the 1880s. Following protection, numbers rose to the 8,500 pair level in 1930. From the 1930s through the 1970s, Roseates were displaced from nesting colonies by Herring and Great Black-backed Gulls, and had declined to 2,500 pairs by 1979. Following two decades of fairly steady increase, the Northeast U.S. population peaked at 4,310 pairs in 2000. Since then, however, the population has declined rapidly to 3,320 pairs (Roseate Tern Recovery Team, unpubl. 2006 data). The cause of this has not been identified, but data suggest that it may be related to mortality on the wintering grounds. Approximately 85% of the population is dangerously concentrated at just 3 colonies: Great Gull Island, NY (1,227 pairs); Bird I., Marion, MA (1,111); and Ram I., Mattapoisett, MA (463). The only other nesting colonies in Massachusetts in 2006 were at Penikese I. (48 pairs) and Monomoy National Wildlife Refuge (NWR) (S. Monomoy and Minimoy Is)., Chatham (26 pairs).

Desertion of ≥ 30 major breeding sites over the past 80 years in most cases has been related to occupation of sites by gulls, and secondarily, to predation in the colonies (which may have intensified as terns were displaced by gulls to sites closer to the mainland). While populations in the state receive protection during the breeding season, the species is unprotected by South American governmental entities and while in international waters. Prior to the 1980s, persecution by humans (trapping for food) on the wintering grounds may have affected Roseates nesting in the northeast. Major wintering areas for this population have not been identified; this, along with investigation of current threats on the wintering grounds, is badly needed.

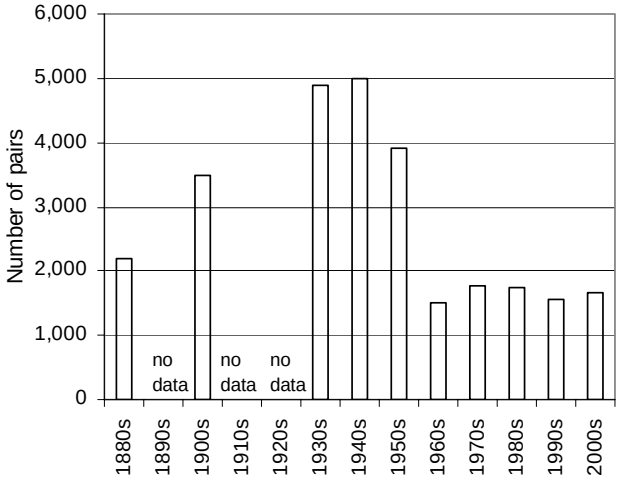

Figure 2. Roseate Tern population trends in Massachusetts, 1880s to 2006 (modified from Blodget and Melvin 1996).

Conservation and Management. Colonies are protected by posting of signs, by presence of wardens, and/or by exclusion of visitors. Wooden nest boxes and boards, partially buried tires, and other structures enhance the number of potential nest sites. Vegetation control is sometimes necessary when plant growth is dense enough to actually impede adults' ability to access nesting sites. The gradual loss of breeding sites in the Northeast, coupled with the Roseate's reluctance to colonize new sites, is a serious obstacle to recovery of the northeast population. The current overwhelming concentration of Roseates in Massachusetts in just two colonies in Buzzards Bay (Bird and Ram Is.), despite suitable conditions elsewhere, does not bode well for the population should one of these sites become unsuitable. Because of the regional importance of Massachusetts for Roseate recovery, several restoration projects have been initiated in the state. Restoring Common Terns to nesting sites is a necessary first step in restoring Roseates because of the Roseate's close association with the Common Tern at breeding colonies. Roseates were successfully restored to Ram I. after a gull control program in 1990-1991. A similar program at Monomoy NWR, begun in 1996, encouraged the expansion of a huge colony of Common Terns (9,747 pairs in 2005), but only a handful of Roseates nest there. Two other tern restoration projects -- at Penikese I., in Buzzards Bay, and at Muskeget I., in Nantucket Sound -- are currently underway, both involving aggressive discouragement of gulls from small portions of the islands; Roseates returned to Penikese in 2003, but numbers have fluctuated widely since then. Tern restoration is a long-term commitment that requires annual monitoring and management to track progress, identify threats, manage vegetation, prevent gulls from encroaching on colonies, and remove predators.

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C. S. Mostello, 2007

Partially funded by the New Bedford Harbor Trustee Council

Classification: UNCLASSIFIED
Caveats: NONE

Good day Scott Melvin/MANHESP & Susi von Oettingen/USFWS - On behalf of Carol Charette, USCAE Project Manager, I am sending this email to continue our subject informal consultation efforts and to notify you that we have experienced delays in execution of our field program, and will be working in actual or potential protected shorebird habitats from April 1st - April 15th, 2011 and beyond.

Attached please find the revised version of Sections 7.3.12.3 and 7.3.12.4 from our Environmental Protection Plan that is being implemented today. As required in the attached protocols our Contractor, UXB, will be coordinating their field activities daily by contacting the respective shorebird monitor(s) for TTOR, BioDiversityWorks and MVLBC when working in these habitats. I will also be forwarding to all shortly a revised Table 7-3 with the updated field schedule.

Please review the attached protocols that USCAE developed collaboratively to protect the shorebirds eggs and chicks, and provide any additional measures to clarify the criteria for the shorebird monitors when UXB MUST stop work (e.g. on pre-nest preparation) to prevent a violation of the Endangered Species Acts.

Take care,
Bob Davis
DERP-FUDS Environmental Compliance Manager

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Classification: UNCLASSIFIED
Caveats: NONE

ADDENDUM 1 TO
ENVIRONMENTAL PROTECTION PLAN
for

Remedial Investigation (RI) at Former Cape Poge Little Neck Bomb Target MRS, Former Moving Target Machine Gun Range at South Beach MRS, & Tisbury Great Pond MRS Martha's Vineyard

WORKER FIELD MANUAL

REVISED 1 April 2011

Deleted: *Draft 24 March*

7.3.12.3 Environmental Requirements and Protocols by TTOR and Others for Protected Avian Shorebird Species

As stewards of the environment TTOR, Martha's Vineyard Land Bank Commission (MVLBC) and other involved stakeholders place symbolic fencing each spring in all potential shorebird habitat beginning in April. The fencing is placed from the toe of the dune throughout much of the open facing beach. Symbolic fencing is 5-6 ft stakes placed about 15 ft apart. The stakes are inserted to a sufficient depth to support twine tied 4 ft from the ground. Symbolic fencing is placed parallel to the toe of the dune at Tisbury Great Pond Barrier Beach, Norton Point Beach, and any other potential shorebird nesting areas. This fencing will also protect the larval habitat of the Northeastern Beach Tiger Beetle since they are co-located. Motor vehicles are excluded from the beach habitat throughout the nesting season from April 1- August 31. This means the elimination of public vehicles in the vicinity of chicks while there are chicks on the beach and greatly limiting all use of essential vehicles used by others and by TTOR for their managed properties. Norton Point Beach was closed for most of the summer in 2010 due to the presence of protected nesting birds. TTOR also used wire mesh fencing to surround the tern colony on Norton Point Beach in 2010, and electric fencing may be used in 2011 to protect some nesting areas, especially on Norton Point Beach.

To lessen impact on these Federal and State -listed avian species all field activities including preparation and staging should occur when these species are not present and/or be coordinated daily starting April 1, 2011 with the qualified shorebird monitor as described below. Proper field schedule design will also alleviate any potential impacts on these species through avoidance by working outside of their nesting season. Table 7-3, Protected Avian Species No Work Windows provides the windows for the shorebirds and Northern harrier by MRS, Land Categories and Habitat.

The additional measures to further avoid and minimize adverse impacts to piping plovers and roseate terns as stated in the USFWS response letter dated February, 8, 2011 follows.

1) "Extend the April 1 to August 31 time-of-year restriction to include activities occurring on South Beach/Dune, Wasque Point Beach (including access to work proposed for the ocean adjacent to these beaches) and the ocean and beach of North-East (Cape Poge) to Simon Point referred to in Table 7-3, Protected Avian Species No Work Windows, revised January 28, 2011,

and sent to our office on February 4, 2011) in order to avoid adverse effects to piping plovers and roseate terns that may be establishing breeding territories and nests.

2) A qualified monitor must survey the area daily prior to any activities to locate plovers or terns that may be establishing territories and report the locations to the work unit should Phase 2 of the RI require additional work between April 1 and April 15 in piping plover or roseate tern habitat.

3) Activities occurring within symbolically fenced areas (breeding habitat that has been fenced with stakes and twine) should be coordinated with a qualified piping plover/tern monitor in order to avoid disturbing birds. The monitor should accompany the work unit if it is determined that munitions and explosives of concern are located within the symbolic fencing (following standard safety protocols) and document piping plover and/or tern locations and behavior. Activities may need to be scheduled when birds are feeding (not present within the area)

4) No work may occur after April 15 without additional consultation with this office."

NOTE: In all cased the proposed work must be evaluated as to whether it should be moved to a location outside the nesting area. Approval must be obtained from the monitor prior to proceeding with any work in shorebird nesting areas, whether inside or outside the fenced areas.

Deleted: terh

7.3.12.4 Daily Protocol for Remedial Investigation Field Operations at TTOR Managed Properties at Cape Poge Wildlife Refuge (including East Beach Chappaquiddick Island, Little Neck, Wasque Point Beach), Norton Point Beach, Long Point Wildlife Refuge AND at South Beach and Tisbury Great Pond Beach During the Shorebird Nesting Season April 1-August 31, 2011

Nesting Piping Plovers & Other Shorebirds of Concern

For TTOR managed properties, starting on April 1, 2011 by 1000 hours daily, the UXB on-site UXO supervisor will contact the Martha's Vineyard Assistant Superintendent Paul Shultz (Radio Call Sign: Trustees 16) via VHF radio channel 159.465 MHz or cell phone (774-563-0921) for the Cape Poge Wildlife Refuge, Long Point Wildlife Refuge and Norton Point Beach to discuss the last known location of any piping plover nests, feeding piping plover adults or chick locations, and any other protected shorebird species as provided by their qualified shorebird monitors.

Similarly for all other properties starting April 1, 2011 (excluding MVLBC properties), UXB will coordinate their activities daily with their qualified shorebird monitor, Luanne Johnson, Director/Wildlife Biologist, BiodiversityWorks, Edgartown, MA (508-685-2578). BiodiversityWorks will be responsible for monitoring and/or coordinating with the private property owners on Tisbury Great Pond Beach and at South Beach between left and right fork (area not covered by the TTOR shorebird monitor).

Deleted: including the Martha's Vineyard Land Bank Commission (Julie Russell, Ecologist)

For the MVLBC properties on Tisbury Great Pond Beach, UXB will coordinate their activities daily with their qualified shorebird monitor, Julie Russell, Ecologist, MVLBC, Edgartown, MA (508-627-7141).

Vehicle Travel Restrictions. In the opinion of the Shorebird Technicians, if vehicle access presents the potential for adverse impact to shorebird resources they will so notify Martha's Vineyard Assistant Superintendent Paul Shultz daily by 1000 hours. For TTOR properties, Paul Shultz will take any and all measures necessary to assure vehicle access in these areas will not create situations where nesting piping plovers or roseate terns are impacted from passing vehicles, per the Massachusetts Shorebird Protection Guidelines. Similarly, UXB will work closely with their Shorebird Monitors for Tisbury Great Pond Beach and South Beach.

Deleted:

If unfledged chicks are present in the area, only Essential Vehicles will be allowed into the vehicle exclusion area per Massachusetts or USFWS Shorebird Protection Guidelines. UXB vehicles will be treated as Essential Vehicles and will be required to access the impacted area with a TTOR and/or UXB and/or MVLBC Shorebird Monitor present. Logging into and out of the area is also required per the Guidelines noted herein.

Unfledged Piping Plovers. UXB will be required to follow the same vehicle guidelines as the general public. If vehicle corridors are open to the public, UXB would also have access. In the event of vehicle closures due to the presence of unfledged piping plovers, UXB will follow the state and federal provisions for "essential vehicles." Namely:

1. Essential vehicles will travel through chick habitat areas only during daylight hours, and will be guided by a qualified monitor who has first determined the location of all unfledged plover chicks.

2. Speed of vehicles will not exceed five miles per hour.

3. A log will be maintained by the respective shorebird monitor for each beach area of the date, time, vehicle number and operator, and purpose of each trip through areas where unfledged chicks are present. Personnel monitoring plovers will maintain and regularly update a log of the numbers and locations of unfledged plover chicks on each beach. Drivers of essential vehicles will review the log each day to determine the most recent number and location of unfledged chicks.

Reporting Requirements for Mortality of Piping Plover during Intrusive Investigations

In the unlikely event that a piping plover (or roseate tern) chick or adult fatality is discovered during the removal of explosives, whether associated with or the result of our work or not, the following special agent of the U.S. Fish and Wildlife Office of Law Enforcement should be immediately contacted:

David N. Sykes

Resident Agent in Charge
Office of Law Enforcement
U.S. Fish and Wildlife Service
70 Everett Avenue, Suite 315
Chelsea, MA 02150-2363
Phone: 617-889-6616 x 15Fax: 617/889-1980

Revised by:
Robert W. Davis, M.S.
Environmental Resource Specialist &
Ecological Risk Assessor
Environmental Resources Section
Evaluation Branch
Engineering/Planning Division
USACE-New England District
696 Virginia Road
Concord, MA 01742-2751
978-318-8236/FAX: 318-8560
robert.w.davis@usace.army.mil

Bob: These protocols look OK to me, thanks. Luanne and Liz, Julie, and TTOR folks, be sure and let me and Susi know if you have any issues with these, or activities in the field. Thanks.

Scott

Scott M. Melvin, Ph.D
Senior Zoologist
Natural Heritage and Endangered Species Program Massachusetts Division of Fisheries and Wildlife Rte. 135, Westborough, MA 01581
508-389-6345 (off.)
508-389-7891 (fax)
scott.melvin@state.ma.us

-----Original Message-----
From: Davis, Robert W NAE [mailto:Robert.W.Davis@usace.army.mil]
Sent: Friday, April 01, 2011 2:10 PM
To: Scott Melvin (MANHESP); Susi von Oettingen (USFWS)
Cc: Charette, Carol A NAE; Warminsky, Mike F.; Chris Mazur (UXB); BiodiversityWorks@gmail.com; Liz Baldwin; Paul Schultz (TTOR); Julie Russell (MVLBC); Kristin E. Black (MANHESP)
Subject: Martha's Vineyard MMRP-RI/FS - Informal Consultation Shorebird Monitoring Protocols (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Good day Scott Melvin/MANHESP & Susi von Oettingen/USFWS - On behalf of Carol Charette, USCAE Project Manager, I am sending this email to continue our subject informal consultation efforts and to notify you that we have experienced delays in execution of our field program, and will be working in actual or potential protected shorebird habitats from April 1st - April 15th, 2011 and beyond.

Attached please find the revised version of Sections 7.3.12.3 and 7.3.12.4 from our Environmental Protection Plan that is being implemented today. As required in the attached protocols our Contractor, UXB, will be coordinating their field activities daily by contacting the respective shorebird monitor(s) for TTOR, BioDiversityWorks and MVLBC when working in these habitats. I will also be forwarding to all shortly a revised Table 7-3 with the updated field schedule.

Please review the attached protocols that USCAE developed collaboratively to protect the shorebirds eggs and chicks, and provide any additional measures to clarify the criteria for the shorebird monitors when UXB MUST stop work (e.g. on pre-nest preparation) to prevent a violation of the Endangered Species Acts.

Take care,
Bob Davis
DERP-FUDS Environmental Compliance Manager

Robert W. Davis, M.S.
Environmental Resource Specialist &
Ecological Risk Assessor
Environmental Resources Section
Evaluation Branch
Engineering/Planning Division
USACE-New England District
696 Virginia Road
Concord, MA 01742-2751
978-318-8236/FAX: 318-8560
robert.w.davis@usace.army.mil

Classification: UNCLASSIFIED
Caveats: NONE

From: Davis, Robert W NAE [mailto:Robert.W.Davis@usace.army.mil]
Sent: Monday, April 18, 2011 4:11 PM
To: Melvin, Scott (FWE); Susi von Oettingen (USFWS); Kristin E. Black (MANHESP)
Cc: Carol Charette; Warminsky, Mike F.; Mazur, Chris D.;
BiodiversityWorks@gmail.com; Liz Baldwin; Paul Schultz (TTOR); Chris Buelow;
Julie Russell (MVLBC)
Subject: Martha's Vineyard MMRP-RI/FS - Informal Consultation Shorebird
Monitoring Protocols + Current Table 7-3 (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Scott/Susi - Attached please find revised Table 7-3 (updated 4-10-11) from the Environmental Protection Plan that was expanded to include the current status of our Anomaly Dig Schedule (start/end) for the RI Phase 2 investigations. I also attached the current version of the subject protocol after accepting the revisions.

UXB has completed their Phase 2 work in all "Beach" Land Categories/Habitats by April 15, 2011 as shown in Table 7-3. However, they are behind schedule in regards to the inland water transects and ocean transects as a result of climatic conditions this past winter and safety diving issues.

Consequently they will continue to use their qualified shorebird monitors for all Land Categories/Habitats in Table 7-3 that they will be working on that have a Apr 1 - Aug 31 No Work Window or Potential No Work Window accordingly.

Take care,
Bob Davis/USACE
DERP-FUDS Environmental Compliance Manager
978-318-8236

-----Original Message-----
From: Melvin, Scott (FWE) [mailto:Scott.Melvin@state.ma.us]
Sent: Monday, April 04, 2011 3:16 PM
To: Davis, Robert W NAE
Cc: Charette, Carol A NAE; Warminsky, Mike F.; Chris Mazur (UXB);
BiodiversityWorks@gmail.com; Liz Baldwin; Paul Schultz (TTOR); Julie Russell
(MVLBC); Kristin E. Black (MANHESP); Susi von Oettingen (USFWS); Chris Buelow
Subject: RE: Martha's Vineyard MMRP-RI/FS - Informal Consultation Shorebird
Monitoring Protocols (UNCLASSIFIED)

Bob: These protocols look OK to me, thanks. Luanne and Liz, Julie, and TTOR folks, be sure and let me and Susi know if you have any issues with these, or activities in the field. Thanks.

Scott

Scott M. Melvin, Ph.D
Senior Zoologist
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508-389-7891 (fax)
scott.melvin@state.ma.us

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Sent: Friday, April 01, 2011 2:10 PM
To: Scott Melvin (MANHESP); Susi von Oettingen (USFWS)
Cc: Charette, Carol A NAE; Warminsky, Mike F.; Chris Mazur (UXB); BiodiversityWorks@gmail.com; Liz Baldwin; Paul Schultz (TTOR); Julie Russell (MVLBC); Kristin E. Black (MANHESP)
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Take care,
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Robert W. Davis, M.S.
Environmental Resource Specialist &
Ecological Risk Assessor
Environmental Resources Section
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robert.w.davis@usace.army.mil

Classification: UNCLASSIFIED
Caveats: NONE

ADDENDUM 1 TO
ENVIRONMENTAL PROTECTION PLAN
for

Remedial Investigation (RI) at Former Cape Poge Little Neck Bomb Target MRS, Former Moving Target Machine Gun Range at South Beach MRS, & Tisbury Great Pond MRS Martha's Vineyard

WORKER FIELD MANUAL
REVISED 1 April 2011

7.3.12.3 Environmental Requirements and Protocols by TTOR and Others for Protected Avian Shorebird Species

As stewards of the environment TTOR, Martha's Vineyard Land Bank Commission (MVLBC) and other involved stakeholders place symbolic fencing each spring in all potential shorebird habitat beginning in April. The fencing is placed from the toe of the dune throughout much of the open facing beach. Symbolic fencing is 5-6 ft stakes placed about 15 ft apart. The stakes are inserted to a sufficient depth to support twine tied 4 ft from the ground. Symbolic fencing is placed parallel to the toe of the dune at Tisbury Great Pond Barrier Beach, Norton Point Beach, and any other potential shorebird nesting areas. This fencing will also protect the larval habitat of the Northeastern Beach Tiger Beetle since they are co-located. Motor vehicles are excluded from the beach habitat throughout the nesting season from April 1- August 31. This means the elimination of public vehicles in the vicinity of chicks while there are chicks on the beach and greatly limiting all use of essential vehicles used by others and by TTOR for their managed properties. Norton Point Beach was closed for most of the summer in 2010 due to the presence of protected nesting birds. TTOR also used wire mesh fencing to surround the tern colony on Norton Point Beach in 2010, and electric fencing may be used in 2011 to protect some nesting areas, especially on Norton Point Beach.

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Unfledged Piping Plovers. UXB will be required to follow the same vehicle guidelines as the general public. If vehicle corridors are open to the public, UXB would also have access. In the event of vehicle closures due to the presence of unfledged piping plovers, UXB will follow the state and federal provisions for "essential vehicles." Namely:

1. Essential vehicles will travel through chick habitat areas only during daylight hours, and will be guided by a qualified monitor who has first determined the location of all unfledged plover chicks.

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3. A log will be maintained by the respective shorebird monitor for each beach area of the date, time, vehicle number and operator, and purpose of each trip through areas where unfledged chicks are present. Personnel monitoring plovers will maintain and regularly update a log of the numbers and locations of unfledged plover chicks on each beach. Drivers of essential vehicles will review the log each day to determine the most recent number and location of unfledged chicks.

Reporting Requirements for Mortality of Piping Plover during Intrusive Investigations

In the unlikely event that a piping plover (or roseate tern) chick or adult fatality is discovered during the removal of explosives, whether associated with or the result of our work or not, the following special agent of the U.S. Fish and Wildlife Office of Law Enforcement should be immediately contacted:

David N. Sykes
Resident Agent in Charge
Office of Law Enforcement
U.S. Fish and Wildlife Service
70 Everett Avenue, Suite 315
Chelsea, MA 02150-2363
Phone: 617-889-6616 x 15Fax: 617/889-1980

Revised by:
Robert W. Davis, M.S.
Environmental Resource Specialist &
Ecological Risk Assessor
Environmental Resources Section
Evaluation Branch
Engineering/Planning Division
USACE-New England District
696 Virginia Road
Concord, MA 01742-2751
978-318-8236/FAX: 318-8560
robert.w.davis@usace.army.mil

Table 7-3: Protected Avian Species No Work Windows

PROTECTED AVIAN SPECIES NO WORK WINDOWS					
MRS Sites	**Land Categories/Habitats**	**Field Work Schedule (Start/End) Phase 1**	**Anomaly Dig Schedule (Start/End) Phase 2**	**Shorebirds April 1-August 31**	**Northern Harrier March 1-August 31**
FMTMGR at South Beach MRS	**Beach**				
	South Beach & Dune	3/4/11-3/22/11	3/4/11-3/22/11	**Apr 1-Aug 31**	None
	Norton Point Beach & Dune	3/1/11-3/16/11	3/1/11-3/16/11	**Apr 1-Aug 31**	None
	Wasque Point Beach & Dune	3/4/11-3/22/11	3/4/11-3/22/11	**Apr 1-Aug 31**	None
	Inland Water				
	Katama Bay	3/8/11-3/16/11	5/11/11-5/27/11	**Potential Apr 1-Aug 31**	None
	Land				
	Wasque Pt. Upland	3/23/11-4/7/11	3/25/11-4/11/11	None	None
	Ocean				
	Adjacent to South Beach	2/24/11-3/15/11	6/7/11-6/24/11	**Apr 1-Aug 31**	None
	Adjacent to Norton Point Beach & Dune	2/7/11-2/23/11	4/18/11-6/6/11	**Apr 1-Aug 31**	None
	Adjacent to Wasque Point Beach	2/24/11-3/15/11	6/7/11-6/24/11	**Apr 1-Aug 31**	None
Cape Poge/Little Neck MRS	**Beach**				
	North-East to Simon Point	3/21/11-4/5/11	3/23/11-4/7/11	**Apr 1-Aug 31**	None
	Inland Water				
	Cape Poge Bay/Shear Pen Pond	1/14/11-4/15/11	4/15/11-5/13/11	None*	None
	Inland Water Beaches				None
	Land				
	Cape Poge Lighthouse/Upland	2/15/11-2/25/11	2/22/11-2/28/11	None	**Mar 1-Aug 31**
	Little Neck/Upland & Salt Marsh	3/10/11-3/30/11	3/10/11-4/1/11	None*	None
	Ocean				
	North-East to Simon Point	3/16/11-3/31/11	6/27/11-7/22/11	**Apr 1-Aug 31**	None
Tisbury Great Pond MRS	**Beach**				
	Barrier Beach & Dunes	2/24/11-3/11/11	2/24/11-3/11/11	**Apr 1-Aug 31**	None
	Inland Water				
	Tisbury Great Pond (Near Shore)	1/20/11-2/22/11	3/31/11-4/15/11	**Potential Apr 1-Aug 31****	None
	All Other Inland Water/Wetlands	2/23/11-3/7/11	4/6/11-4/21/11	None	None
	Land				
	Western Uplands	2/17/11-2/28/11	2/23/11-2/28/11	None	**Mar 1-Aug 31**
	Eastern Uplands	3/4/11-3/25/11	3/4/11-3/25/11	None	None
	Ocean				
	Adjacent to Barrier Beach/Dunes	1/14/11-2/4/11	1/18/11-4/15/11	**Apr 1-Aug 31**	None

Footnotes (Updated 4-10-11):

For the Remedial Investigation fieldwork in the "Ocean" areas, Phase 1 & 2 will be conducted concurrently as the analog transects and/or grids will be surveyed using mag/dig techniques as all anomalies will be investigated immediately due to the dynamic nature of the environment in these areas.

* - None anticipated based on 2010 reported shorebird occurrences and historical data; however, shorebird nesting locations can vary year to year. In accordance with the Environmental Protection Plan, UXB will contact the TTOR Shorebird Technicians daily during the nesting season (April 1 - August 31) for any reported occurrences for properties that they manage or the USFWS and/or MANHESP for the private properties.

**- Potential no work window if the Inland Water near shore field activities adjacent to northern side of the barrier beach/dunes will disturb the nesting shorebirds.

- A qualified monitor must survey the area daily prior to any activities to locate plovers or terns that may be establishing territories and report the locations to the work unit should Phase 2 of the RI require additional work between April 1 and April 15 in piping plover or roseate tern habitat.

- Activities occurring within symbolically fenced areas (breeding habitat that has been fenced with stakes and twine) should be coordinated with a qualified piping plover/tern monitor in order to avoid disturbing birds. The monitor should accompany the work unit if it is determined that munitions and explosives of concern are located within the symbolic fencing (following standard safety protocols) and document piping plover and/or tern locations and behavior. Activities may need to be scheduled when birds are feeding (not present within the area).

- No work may occur after April 15 without additional consultation with the USFWS and MANHSEP.

Mike/Tom & Richard - I am sending this email to obtain the environmental compliance information that we discussed during yesterday's telephone conference call with the Stakeholders. This information is needed to include in my Endangered Species Act (ESA) Section 7 Consultation letter to the NMFS for the ESTCP Project Demonstration so that I can make the preliminary determination that this proposed action is not likely to adversely affect any species listed by NOAA's National Marine Fisheries Service, hopefully with NMFS concurrence.

A copy of the NMFS approval letter for the TCRA is attached and both Federally listed sea turtles and whales were noted to occur of offshore of Martha's Vineyard off of Cape Poge and South Beach. Relative to our "Environmental Protection Plan" for the ESTCP Project Demo, we need to avoid, minimize or mitigate our potential impacts, if any, accordingly.

Richard - Please send me the information on the sonar frequencies for the multi-beam sonar, side scan sonar and sub-bottom profiling equipment and for the magnetic array if applicable, and any applicable research/studies/papers that show that the frequencies that you will be using are not detrimental to marine mammals and finfish. Certain sonar frequencies (e.g. used by the Navy) have been found to adversely impact marine mammals and perhaps finfish.

Mike/Tom - Besides the potential impacts of your intrusive work in acquiring the picked anomalies, I also have to address the potential adverse impacts if we have to "Blow in Place" (BIP). Please send my your proposed approach to avoid, minimize or mitigate potential adverse impacts. For example you mentioned that one of the measures that you have used successfully is to use nuisance charges to deter or repel aquatic animals to avoid and/or minimize impacts from BIP to the aquatic animals.

In advance I thank you for your prompt attention to my request since the intrusive work is scheduled to begin the week of June 27th and NOAA/NMFS took over one month in responding to my TCRA letter. Please contact me with any questions and/or concerns.

Take care,
Bob Davis
DERP-FUDS Environmental Compliance Manager

Robert W. Davis, M.S.
Environmental Resource Specialist &
Ecological Risk Assessor
Environmental Resources Section
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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
NORTHEAST REGION
55 Great Republic Drive
Gloucester, MA 01930-2276

MAY 11 2009

Anthony T. Machos, Acting Chief
Engineering/Planning Division
U.S. Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742-2751

Dear Mr. Machos,

This is in response to your letter dated April 1, 2009 requesting consultation pursuant to Section 7 of the Endangered Species Act (ESA) of 1973, as amended regarding the Army Corps of Engineers' proposal to remove Munitions and Explosives of Concern (MEC), Materials Potentially Presenting an Explosive Hazard (MPPEH) and Explosive Hazards as a Time Critical Removal Action (TCRA) at the former Cape Poge Little Neck Bomb Target Site, Chappaquiddick and the former Moving Target Machine Gun Range at South Beach, both on Martha's Vineyard, Massachusetts. The US Army Corps of Engineers (ACOE) New England District is the lead Federal agency and is conducting the proposed project in conjunction with the US Army Engineering and Support Center, Huntsville, the US Environmental Protection Agency, the Massachusetts Department of Environmental Protection and EOD Technology, Inc. The ACOE has made the preliminary determination that the proposed action is not likely to adversely affect any species listed by NOAA's National Marine Fisheries Service (NMFS) and has requested that NMFS concur with this determination.

Proposed Project

The proposed action will take place at two sites: the former Cape Poge Little Neck Bomb Target Site (Cape Poge Site) and the former Moving Target Machine Gun Range at South Beach (South Beach Site), both on Martha's Vineyard, Massachusetts. Actions to be taken at the Cape Poge Site include: removal of munitions and explosives to 4 inches below surface at several beaches, along the dune face at Little Neck, along the creek bank at Little Neck and Drunkard's Cove; removal at surface to 4 inches below surface in water to a maximum water depth of 2 feet in areas where clamming does not take place; subsurface removal up to 18 inches in depth in the mudflats, creek beds and ponds where clamming takes place; removal of unexploded ordinance (UXO) on shore; and, placement of signage on land. Actions to be taken at the South Beach site include: surface/subsurface removal to depth of detection up to 100 feet off shore; removal of

UXO on shore; and, placement of permanent warning signs on land. All materials are proposed to be removed by hand or with hand tools. Any sediment disturbed during removal will be restored.

NMFS Listed Species in the Action Area

The action area is defined as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (50CFR§402.02). For this project, the action area includes the project footprint at the Cape Poge and South Beach sites where munitions and explosives will be removed. This area is expected to encompass all of the effects of the proposed project.

Sea Turtles

Several species of listed sea turtles occur seasonally off the coast of Martha's Vineyard. The sea turtles in northeastern near shore waters are typically small juveniles with the most abundant being the federally threatened loggerhead (*Caretta caretta*) followed by the federally endangered Kemp's ridley (*Lepidochelys kempi*). Federally endangered leatherback (*Dermochelys coriacea*) and green *(Chelonia mydas)* sea turtles have also been observed seasonally in the coastal waters off Martha's Vineyard as well. Sea turtles occur in these waters from June through the early November of any year. Research conducted off Eastern Long Island, New York, showed that during the warmer months, sea turtles appear to spend much of their time foraging along the bottom in shallower embayments with water depths between 16 and 49 feet with waters that are slow moving or still (i.e., less than 2 knots) (Morreale and Standora 1990; 1991; 1998). The action area, as described above, includes several types of habitat where sea turtles are extremely unlikely to occur. This includes areas on land where signs will be installed as well as the on shore areas where munitions will be removed. Munitions removal will also take place in shallow mudflat areas with depths of less than 2 feet as well as in creek beds and ponds. All of the coastal areas where munitions removal will take place have depths of less than 5 feet. As the action area is inconsistent with the preferred habitats of sea turtles, it is extremely unlikely that any sea turtles will occur in the action area.

Whales

While listed whales occur in the waters offshore of Martha's Vineyard, due to the shallow depths and nearshore location of the action area, no listed marine mammals are expected to occur in the action area.

Effects of the Action

As noted above, listed species are extremely unlikely to occur in the action area and, as such, such, any effects to these species are extremely unlikely. Therefore, NMFS has determined that the effect of the proposed project on listed species will be insignificant and discountable.

Conclusion

Based on the analysis that all effects of the proposed project will be insignificant and discountable, NMFS is able to concur with the determination that the proposed actions at the Cape Poge and South Beach sites as proposed by the ACOE are not likely to adversely affect any

listed species under NMFS jurisdiction. Therefore, no further consultation pursuant to section 7 of the ESA is required. Reinitiation of consultation is required and shall be requested by the Federal agency or by the Service, where discretionary Federal involvement or control over the action has been retained or is authorized by law and: (a) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered in the consultation; (b) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the consultation; or (c) If a new species is listed or critical habitat designated that may be affected by the identified action. Should you have any questions about this correspondence please contact Julie Crocker at (978) 282-8480.

Sincerely,

for Patricia A. Kurkul
Regional Administrator

EC: Crocker, F/NER3
Boelke, F/NER4

File Code: Sec 7 ACOE MA – Cape Poge and South Beach Munitions Removal
PCTS I/NER//2009/01916

From: Davis, Robert W NAE
Sent: Wednesday, March 14, 2012 6:36 PM
To: Chris Kennedy (TTOR)
Cc: Charette, Carol A NAE; Warminsky, Mike F. (UXB); Chris Mazur (UXB)
Subject: Resumption of Shorebird Monitoring to Complete Martha's Vineyard MMRP-RI Ocean Transects Spring 2012 (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Chris Kennedy/TTOR - Our current subject schedule has us completing all of the ocean transects as shown on attached Figure 3-2, dated 09-09-2011, on April 16, 2012. We remobilized again on February 29, 2012 but climatic (e.g. high winds, storms) and marine conditions (e.g. waves, severe erosion) have again hampered our efforts. Please see the second figure attached dated 02/23/-2012 that depicts the current conditions at the east end of Norton Point Beach and Wasque Point.

As of March 8, 2012 we completed all ocean transects thru #51 at the western end of Norton Point Beach and are working eastward towards ocean transect #1 at Wasque Point.

It is our understanding that protected shorebird species (e.g. piping plover, roseate tern) nest along Norton Point Beach but not at Wasque Point. Therefore we will need to coordinate our daily work as we have in the past with your TTOR Shorebird Monitors starting April 1st (or perhaps earlier since a very mild winter) in accordance with the protocol in the Environmental Protection Plan as approved by USFWS and MANHSEP.

We look forward to hearing from you and thank you for your past and continued support for this project.

Take care,
Bob Davis

Robert W. Davis, M.S.
Environmental Resource Specialist &
Ecological Risk Assessor
Environmental Resources Section
Engineering/Planning Division
USACE-New England District
696 Virginia Road
Concord, MA 01742-2751
978-318-8236/FAX: 318-8560
robert.w.davis @usace.army.mil

Classification: UNCLASSIFIED
Caveats: NONE

Table 7-3: Protected Avian Species No Work Windows

PROTECTED AVIAN SPECIES NO WORK WINDOWS					
MRS Sites	**Land Categories/Habitats**	**Field Work Schedule (Start/End) Phase 1**	**Anomaly Dig Schedule (Start/End) Phase 2**	**Shorebirds April 1-August 31**	**Northern Harrier March 1-August 31**
FMTMGR at South Beach MRS	**Beach**				
	South Beach & Dune	3/4/11-3/22/11	3/4/11-3/22/11	**Apr 1-Aug 31**	None
	Norton Point Beach & Dune	3/1/11-3/16/11	3/1/11-3/16/11	**Apr 1-Aug 31**	None
	Wasque Point Beach & Dune	3/4/11-3/22/11	3/4/11-3/22/11	**Apr 1-Aug 31**	None
	Inland Water				
	Katama Bay	3/8/11-3/16/11	5/11/11-5/27/11	**Potential Apr 1-Aug 31**	None
	Land				
	Wasque Pt. Upland	3/23/11-4/7/11	3/25/11-4/11/11	None	None
	Ocean				
	Adjacent to South Beach	2/24/11-3/15/11	6/7/11-6/24/11	**Apr 1-Aug 31**	None
	Adjacent to Norton Point Beach & Dune	2/7/11-2/23/11	4/18/11-6/6/11	**Apr 1-Aug 31**	None
	Adjacent to Wasque Point Beach	2/24/11-3/15/11	6/7/11-6/24/11	**Apr 1-Aug 31**	None
Cape Poge/Little Neck MRS	**Beach**				
	North-East to Simon Point	3/21/11-4/5/11	3/23/11-4/7/11	**Apr 1-Aug 31**	None
	Inland Water				
	Cape Poge Bay/Shear Pen Pond	1/14/11-4/15/11	4/15/11-5/13/11	None*	None
	Inland Water Beaches				None
	Land				
	Cape Poge Lighthouse/Upland	2/15/11-2/25/11	2/22/11-2/28/11	None	**Mar 1-Aug 31**
	Little Neck/Upland & Salt Marsh	3/10/11-3/30/11	3/10/11-4/1/11	None*	None
	Ocean				
	North-East to Simon Point	3/16/11-3/31/11	6/27/11-7/22/11	**Apr 1-Aug 31**	None
Tisbury Great Pond MRS	**Beach**				
	Barrier Beach & Dunes	2/24/11-3/11/11	2/24/11-3/11/11	**Apr 1-Aug 31**	None
	Inland Water				
	Tisbury Great Pond (Near Shore)	1/20/11-2/22/11	3/31/11-4/15/11	**Potential Apr 1-Aug 31****	None
	All Other Inland Water/Wetlands	2/23/11-3/7/11	4/6/11-4/21/11	None	None
	Land				
	Western Uplands	2/17/11-2/28/11	2/23/11-2/28/11	None	**Mar 1-Aug 31**
	Eastern Uplands	3/4/11-3/25/11	3/4/11-3/25/11	None	None
	Ocean				
	Adjacent to Barrier Beach/Dunes	1/14/11-2/4/11	1/18/11-4/15/11	**Apr 1-Aug 31**	None

Footnotes (Updated 4-10-11):

For the Remedial Investigation fieldwork in the "Ocean" areas, Phase 1 & 2 will be conducted concurrently as the analog transects and/or grids will be surveyed using mag/dig techniques as all anomalies will be investigated immediately due to the dynamic nature of the environment in these areas.

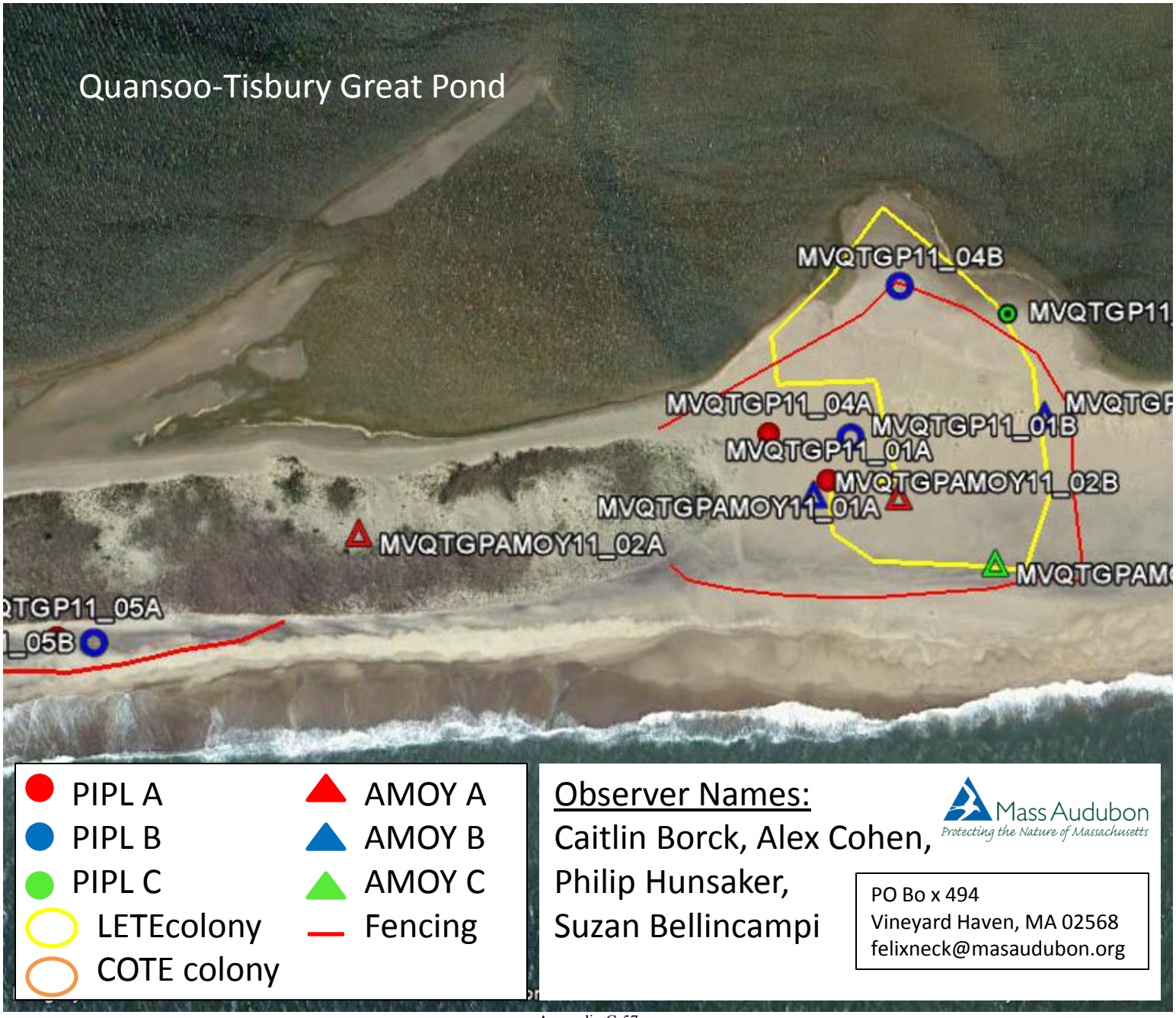
* - None anticipated based on 2010 reported shorebird occurrences and historical data; however, shorebird nesting locations can vary year to year. In accordance with the Environmental Protection Plan, UXB will contact the TTOR Shorebird Technicians daily during the nesting season (April 1 - August 31) for any reported occurrences for properties that they manage or the USFWS and/or MANHESP for the private properties.

**- Potential no work window if the Inland Water near shore field activities adjacent to northern side of the barrier beach/dunes will disturb the nesting shorebirds.

- A qualified monitor must survey the area daily prior to any activities to locate plovers or terns that may be establishing territories and report the locations to the work unit should Phase 2 of the RI require additional work between April 1 and April 15 in piping plover or roseate tern habitat.

- Activities occurring within symbolically fenced areas (breeding habitat that has been fenced with stakes and twine) should be coordinated with a qualified piping plover/tern monitor in order to avoid disturbing birds. The monitor should accompany the work unit if it is determined that munitions and explosives of concern are located within the symbolic fencing (following standard safety protocols) and document piping plover and/or tern locations and behavior. Activities may need to be scheduled when birds are feeding (not present within the area).

- No work may occur after April 15 without additional consultation with the USFWS and MANHSEP.


Quansoo-Tisbury Great Pond
MVQTGP11_04B
MVQTGP11
MVQTGP11_04A
MVQTGP11_01B
MVQTGP11_01A
MVQTGPAMOY11_02B
MVQTGPAMOY11_01A
MVQTGPAMOY11_02A
MVQTGPAM
TGP11_05A
_05B
PIPL A
PIPL B
PIPL C
LETEcolony
COTE colony
AMOY A
AMOY B
AMOY C
Fencing
Observer Names:
Caitlin Borck, Alex Cohen,
Philip Hunsaker,
Suzan Bellincampi
Mass Audubon
Protecting the Nature of Massachusetts
PO Bo x 494
Vineyard Haven, MA 02568
felixneck@masaudubon.org

From: Davis, Robert W NAE [mailto:Robert.W.Davis@usace.army.mil]
Sent: Friday, October 08, 2010 4:18 PM
To: Chris Kennedy; Russell Hopping; Julie Schaeffer (MVLBC); Kristen Fauteux (SMF)
Cc: Patrick K. Fogleson (UXB); Tom Rancich (VRH); Warminsky, Mike F. (UXB); Charette, Carol A NAE; Campbell, Ralph L HNC; Trinchero, Peter J NAE; Pete Trinchero (H)
Subject: Martha's Vineyard MMRP-RI Oct 13th Site Visits

Russ Hopping-TTOR Ecology Program Manager & Chris Kennedy-TTOR Regional Director, Southeast - I am sending this email as a follow-up to my voice messages that I left all of you today. Peter Trinchero and I will be conducting site visits on Wednesday October 13th with Pat Fogleson/UXB and/or Tom Rancich/VRHabilis depending on the MRS and respective land category to be investigated for further development of the EPP in advance of the TPP Meeting on Thursday October 14th. There are approximately 45 federally and/or state-listed protected species along with sensitive habitats/natural communities among the three MRSs so we need to inspect as many areas as possible with emphasis on the land transects and your major concerns.

Talking to Pat Fogleson today we will need access to the respective TTOR areas to be surveyed survey at your both Cape Poge Wildlife Refuge, Wasque, & Norton Point Beach and Long Point Wildlife Refuge for the Former Cape Poge Little Neck Bomb Site MRS (Work Plan Figure 3-1), Former Moving Target Machine Gun Range at South Beach MRS (Work Plan Figure 3-2), and Tisbury Great Pond MRS (Work Plan Figure 3-3), respectively.

I am also interested in your specific concerns for all of these aforementioned areas relative to our proposed methods and equipment and the proposed schedule for each MRS by the four different land categories that were previously forwarded to you via email and/or provided in the Draft Final Work Plan.

In preparation we have downloaded all of the available life history fact sheets from the MANHESP website and other sources for the various species along with the available natural resource documents from your websites for your different properties (e.g. Cape Poge Management Plan - Section 5 Natural Resources; The Ecology of Coastal Ponds: A pilot Study at Long Point Wildlife Refuge); however, some of this invaluable information is dated and we need your current and specific knowledge of the affected resources (e.g. Recent and Historic Rare Species Occurrences within our Action Areas for the protected bird species).

Julie Schaeffer/MVLB Ecologist and Kristen Fauteux/SMF Director of Stewardship - I am also both of you in this email since portions of your properties are also included in the Tisbury Great Pond MRS (Work Plan Figure 3-3), and perhaps Pete and I can also visit these properties during our site visits on October 13th.

I look forward to hearing from you and in advance I thank you and your organization for your assistance.

Take care,
Bob Davis
DERP-FUDS Environmental Compliance Manager

Robert W. Davis, M.S.
Environmental Resource Specialist &
Ecological Risk Assessor
Environmental Resources Section
Evaluation Branch
Engineering/Planning Division
USACE-New England District
696 Virginia Road
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robert.w.davis@usace.army.mil

-----Original Message-----
From: Davis, Robert W NAE
Sent: Tuesday, October 05, 2010 4:10 PM
To: 'Russell Hopping (TTOR)'; 'Chris Kennedy (TTOR)'
Cc: Charette, Carol A NAE; Campbell, Ralph L HNC; 'Warminsky, Mike F. (UXB)'; 'Patrick K. Fogleson (UXB)'; Trinchero, Peter J NAE
Subject: Martha's Vineyard MMRP-RI Environmental Protection Plan-Request for TTOR Assistance + Oct 13th Site Visit

Russ Hopping-TTOR Ecology Program Manager & Chris Kennedy-TTOR Regional Director, Southeast - I will working on revising the current Section 7 Environmental Protection Plan in the Draft Final Work Plan to address environmental/natural resources concerns by developing adequate measures to avoid, minimize and/or mitigate any potential impacts in order to get NO TAKE determination from MANHESP and USFWS and NMFS for our RI. As noted in prior email, the RI will be conducted in two phases: the first phase will enable us to conduct the required data based on the analog and geophysical surveys in the four land categories at each MRS; and in the second phase which is more intrusive, based on the interpretation of this data by the USACE and their Team along with the MADEP and USEPA, selected anomalies will be acquired (i.e. dug up) to determine if they are MEC and/or cultural debris and/or potentially cultural/archaeological resources. At the end of Phase 1, we will need to consult w/MANHESP and USFWS prior to Phase 2 for ex. if we need to dig up an anomaly in Northeastern beach tiger beetle habitat.

I am again asking for TTOR's assistance and input for your respective properties in making this happen as we did for execution of the TCRA Final Work Plan as detailed for example in the attached Appendix J (minus the 2nd figure w/grids since 5MB) for the Piping plover and other birds of concern.
For example, if Northern harrier nests on the uplands near Cape Poge then we should complete our work by March 1st (not April 1st for the other protected birds) as suggested by MANHESP.

Finally, I want to make arrangements W/TTOR and UXB/Pat Fogleson to conduct a site visit On October 13th with a Corps botanist/biologist (Peter Trinchero) to inspect some of the land areas with Pat who is the UXB SUXOS in order to get a feel for the terrain and habitats (e.g. Northern harriers) and the vegetation (rare flora and pitch pine-oak communities et al.) that we will be dealing with in the EPP in order to get "NO TAKE" determinations. Since we have ROEs from

TTOR and at both Cape Poge and Long Pond we will plan to check these land transect areas out first with Pat, and then perhaps the lands of MVLBC and/or SMF as time permits.

My plan is get the input needed so that I have a draft EPP in hand with the adequate measures required for RI execution (Phase 1 and then Phase 2) for discourse at the TPP on Oct 14-15th.

Thanks!
Bob Davis
DERP-FUDS Environmental Compliance Manager

Robert W. Davis, M.S.
Environmental Resource Specialist &
Ecological Risk Assessor
Environmental Resources Section
Evaluation Branch
Engineering/Planning Division
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robert.w.davis@usace.army.mil

Classification: UNCLASSIFIED
Caveats: NONE

Susi & Tim - As noted in my previous email the attached files depicts the RI work that we plan to complete at Tisbury Great Pond and South Beach this year in accordance with the approved work plans. Please contact us with any questions and/or concerns or if you need additional information.

Take care,
Bob
DERP-FUDS Environmental Compliance Manager

Robert W. Davis, M.S.
Environmental Resource Specialist &
Ecological Risk Assessor
Environmental Resources Section
Engineering/Planning Division
USACE-New England District
696 Virginia Road
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robert.w.davis @usace.army.mil

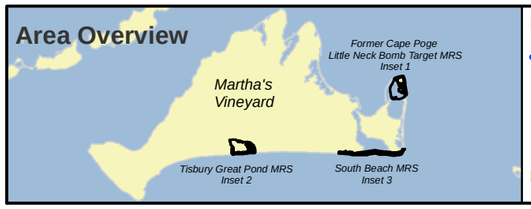
Classification: UNCLASSIFIED
Caveats: NONE

1.0 SELECTION RATIONALE FOR 600-FOOT OCEAN TRANSECTS

The following table identifies selected ocean transects to be extended from the original proposed length of 300 feet to 600 feet.

MRS	TRANSECT ID	COMPLETE?	SELECTION RATIONALE FOR 600-FOOT LENGTH
TGP[1]	1	Yes	Possible Receptor location long-shore, down-stream of entire TGP ocean frontage.
TGP[1]	2	Yes	Included in original set of extended-length ocean transects, with extended-length ocean transects at Cape Poge.
TGP[1]	11	No	Dual-purpose: 1) Possible Receptor Location for MEC leaving TGP cut 2) Long-shore down-stream of eastern-most TGP MEC transport grid
TGP[1]	12	No	Dual-purpose: 1) Possible Background/up-stream location for MEC leaving TGP cut, or 2) Possible Receptor Location for MEC leaving estimated historical aerial bombing target position
TGP[1]	15	No	Possible Receptor Location for MEC leaving estimated historical aerial bombing target position
TGP[1]	16	No	Possible Background/up-stream location for estimated historical aerial bombing target position
TGP[1]	20	No	Long-shore down-stream of southwestern corner of TGP barrier beach airmag anomalies and ROE-restricted parcels
TGP[1]	23	No	Dual-purpose: 1) Background/up-stream location for entire TGP ocean frontage 2) Long-shore down-stream of western-most TGP MEC transport grid
SB[2]	1	No	Transect provides northeastern bracket bounding area of high airborne magnetometry anomaly density at Wasque Point (Direction of predominant ocean currents undetermined to date)
SB[2]	4	No	Transect provides southwestern bracket bounding area of high airborne magnetometry anomaly density at Wasque Point (Direction of predominant ocean currents undetermined to date)
SB[2]	10	No	Transect nearest center of historical MEC discovery area at Wasque Point
SB[2]	16	No	Background/up-stream location for area of historical MEC discoveries at Wasque Point
SB[2]	39	No	Nearest accessible ocean transect to offshore location of expended rocket motor discovery from ESTCP Ocean Magnetometry study (eastern-most ESTCP find)
SB[2]	50	No	Centered on area of 2009 rocket discoveries (August)
SB[2]	56	No	Dual-purpose: 1) Receptor/down-stream location for MEC potentially migrating from area of TCRA grids 18/19 2) Receptor/down-stream location for eastern-most SB MEC transport grid
SB[2]	57	No	Dual-purpose: 3) Background/up-stream location for MEC discovered in TCRA grids 18/19 4) Background location for eastern-most SB MEC transport grid
SB[2]	60	No	Possible Receptor Location for MEC leaving estimated historical rocket target position
SB[2]	61	No	Possible Background/up-stream location for estimated historical rocket target position
SB[2]	68	No	Dual-purpose: 1) Long-shore, down-stream location for MEC potentially migrating from TCRA grids 5/6 or from offshore 2) Long-shore, down-stream location for western-most SB MEC transport grid
SB[2]	69	No	Dual-purpose: 5) Background/up-stream location for western-most known extent of previous MEC findings at SB 6) Background location for western-most SB MEC transport grid

Footnotes:
[1] – Tisbury Great Pond (TGP)
[2] – South Beach (SB)



RI/FS Transects

- Revised Proposed Ocean Transects
- Target Car Shelter
- FormerTarget Areas
- MD Items
- Moving Target and Machine Gun Range Features

South Beach to Wasque Pt. MRS - Land Categories

- Beach
- Inland Water
- Land
- Ocean

- ESTCP Survey Area
- TCRA Grids (2009)
- MEC Transport Study Analog Grid (0.25 Acre)
- Proposed IVS Location

US Army Corps of Engineers

UXB International, Inc.

AMEC Earth & Environmental, Inc.

N

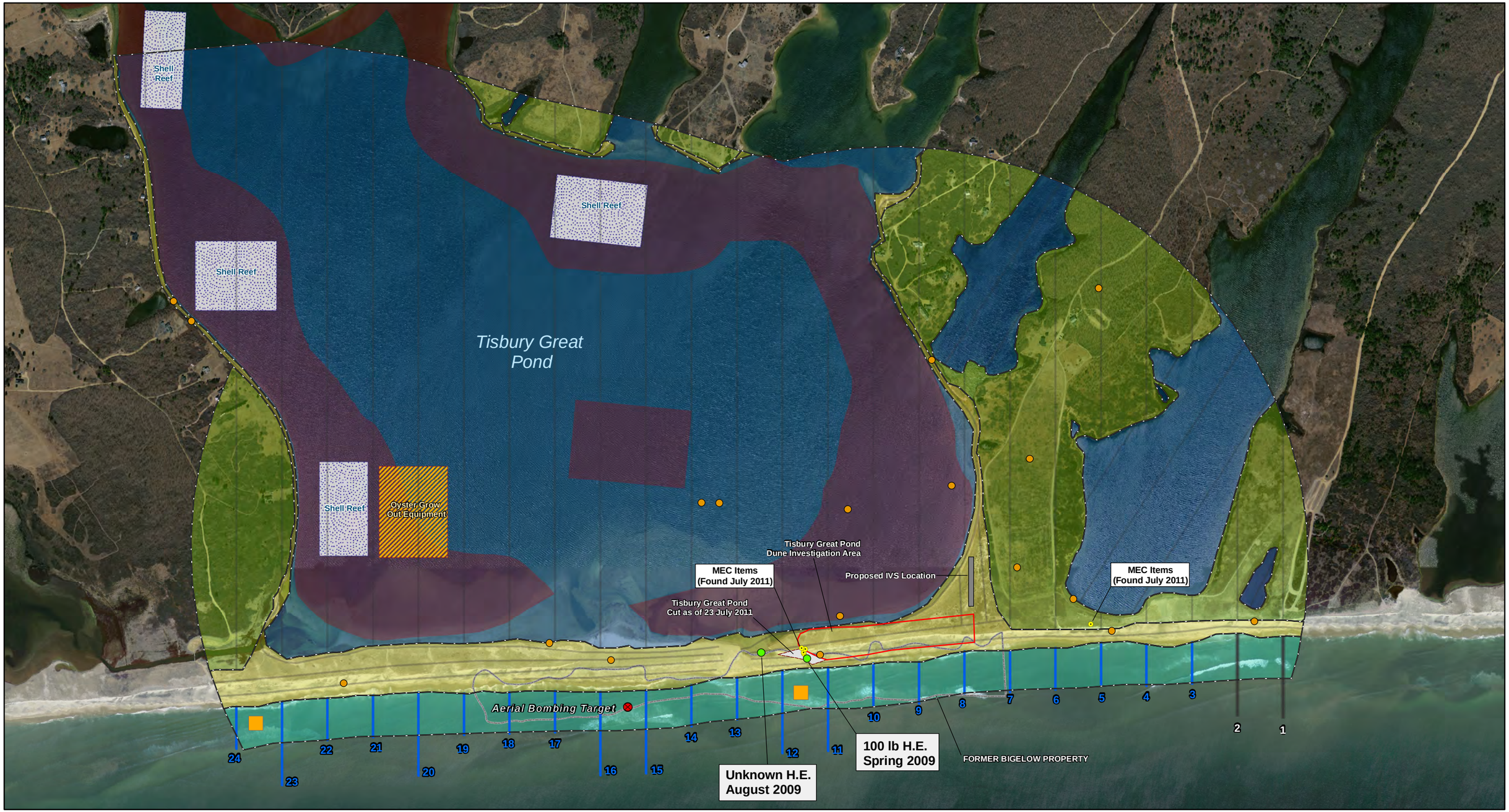
0 250 500 1,000 Meters

0 500 1,000 2,000 3,000 Feet

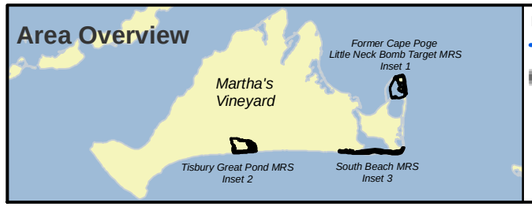
NOTES:
Aerial Data Source: NAIP, 2008
620 Total TCRA MEC Items including:
2.25" Rocket Motor (482), 2.75" Rocket Motor (3),
3.25" Rocket Motor (92), 3.5" Rocket Motor (9),
5" Rocket Motor (1), 5" Warhead (33)

FIGURE 3-2
Revised Ocean Transects Former Moving Target Machine Gun Range at South Beach MRS Martha's Vineyard, MA

09/09/2011	transect_sbeach_RI_wp_092011.mxd
Drawn: JBO	PROJ: 562910000



Area Overview



RI/FS Transects
- Revised Proposed Ocean Transects
- Completed Ocean Transects
- Former Target Area
- MD Item
- MEC Items (Found July 2011)
- SI Environmental Samples

Tisbury MRS - Land Categories
- Beach
- Inland Water
- Land
- Ocean
- Tisbury Great Pond Dune Investigation Area
- Tisbury Great Pond Cut (as of 23 July 2011)
- Proposed MEC Transport Study Analog Grid (0.25 Acre)
- Proposed IVS Location
- Oyster Growth Area
- Former Bigelow Property

US Army Corps of Engineers

UXB International, Inc.

AMEC Earth & Environmental, Inc.

N

0 125 250 500 Meters

0 250 500 1,000 1,500 Feet

NOTES:
Aerial Data Source: MassGIS, 2009

FIGURE 3-3
Revised Ocean Transects
Tisbury Great Pond MRS
Martha's Vineyard, MA

09/08/2011	transect_tisbury_w_shell_oyster_reef_RI_WP_092011.mxd
Drawn: JBO	PROJ: 562910000

From: Chris Buelow [mailto:cbuelow@ttor.org]
Sent: Wednesday, October 27, 2010 3:38 PM
To: Davis, Robert W NAE
Subject: RE: Martha's Vineyard MMRP-RI Environmental Protection Plan Natural Resources Collaboration

Hi Bob,

Answers to your specific questions:

- Key to map legend: AMOY (American oystercatcher), PIPL (piping plover), BLSK (black skimmer), LETE (least tern), COTE (common tern), ROST (roseate tern).

- Protection efforts consisted of the use of:
- SYMBOLIC FENCING in all potential habitat beginning in April. This is the fencing similar to what is shown in your tiger beetle habitat photo. This fencing was at least the toe of dune throughout much of the ocean facing beach.
- RESTRICTION OF VEHICLES from the beach habitat throughout the nesting season. This meant the elimination of public vehicles in the vicinity of chicks while there were chicks on the beach and greatly limiting all use of essential TTOR vehicles. Essentially, Norton Point was closed for most of the summer.
- WIRE MESH FENCING was used to surround the tern colony on Norton Point.
- ELECTRIC FENCING may be used in 2011 to protect some nesting areas, especially on Norton Point.

- Numbers (in pairs)for 2010 on Chappaquiddick are
- 9 piping plover
- 1400 least tern
- 26 roseate tern
- 191 common tern
- 3 black skimmer

I hope this helps. Please let me know if you need further information.

Best - Chris

Chris Buelow
Coastal Ecologist
The Trustees of Reservations
290 Argilla Road
Ipswich, MA 01938

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-----Original Message-----
From: Davis, Robert W NAE [mailto:Robert.W.Davis@usace.army.mil]
Sent: Tuesday, October 26, 2010 10:43 AM

To: Chris Buelow; Russell Hopping
Cc: Trinchero, Peter J NAE; Susi von Oettingen (USFWS); Kristin E. Black (MANHESP); Tim Simmons (MANHESP)
Subject: RE: Martha's Vineyard MMRP-RI Environmental Protection Plan Natural Resources Collaboration

Chris Buelow & Russ Hopping/TTOR et al.- As a follow-up to my voice message yesterday I am requesting additional information/explanation for your "2010 PIPL, AMOY and BLSK Nest Locations" with "LETE-Colony and COTE-ROST_Colony data" figure (as attached) as we plan to include it in our discussion of our proposed measures to avoid and/or minimize adverse effects to these protected species and shorebirds in general in our Environmental Protection Plan (EPP).

Please provide an explanation for each category in your legend, brief narrative of your shorebird observations in regards to populations by species and/or colony, and any measures that you/TTOR implemented last nesting season that we should be aware of for 2011 and beyond (e.g. closing Norton Beach to vehicular traffic).

I have also attached two photos that Pete Trinchero took at the barrier beaches off of Long Point during our site visit on October 13th: the first appears to be an area roped off to protect the habitat of the Northeastern beach tiger beetles at the base of the dunes; and the second appears to be Northeastern beach tiger beetle burrows. (Kristen, Tim and/or Susi - please check photos and confirm our observations)

The Final Work Plan as coordinated with the MADEP and USEPA, property owners & other stakeholders et al. is scheduled to be completed this Friday and we were requested to have our revised EPP plan in by COB tomorrow. We recognize that the EPP is a dynamic working document that will be subsequently amended as warranted as we proceed with this project once specific activities and locations have been identified based on the data collected and evaluated in the Phase 1 geophysical surveys. We will also re-coordinate before we conduct the Phase 2 intrusive investigations once they select the specific locations with MEC anomalies that need to be acquired or dug up, in order for us to recommend and implement specific actions to avoid and/or minimize potential adverse effects to protected species and their habitats.

Thanks,
Bob Davis
978-318-8236

-----Original Message-----
From: Chris Buelow [mailto:cbuelow@ttor.org]
Sent: Monday, October 18, 2010 1:18 PM
To: Davis, Robert W NAE
Subject: RE: Martha's Vineyard MMRP-RI Environmental Protection Plan Natural Resources Collaboration

Thanks Bob,

We haven't had shorebirds nest at Long Point since 2005 (1 PIPL, 1 AMOY)and I can't find maps of that location. I'll let you know if I find better information. - Chris

Chris Buelow
Coastal Ecologist
The Trustees of Reservations
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Ipswich, MA 01938

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-----Original Message-----
From: Davis, Robert W NAE [mailto:Robert.W.Davis@usace.army.mil]
Sent: Monday, October 18, 2010 1:09 PM
To: Russell Hopping; Chris Buelow
Cc: Sarah Trudel; Chris Egan; Chris Kennedy; Trinchero, Peter J NAE; Charette, Carol A NAE; Campbell, Ralph L HNC; Warminsky, Mike F. (UXB)
Subject: Martha's Vineyard MMRP-RI Environmental Protection Plan Natural Resources Collaboration

Russ & Chris/TTOR Ecologists - It was a pleasure to meet both of you on October 13th and thanks for taking the time to conduct the site field visits with Pete Trinchero and myself along with providing the needed logistical support (e.g. 4WD vehicle) to the various MRS study areas and sharing of your knowledge and records which is invaluable to our efforts in preparation of our Environmental Protection Plan.

As discussed with Sarah at the Oct. 14th TPP that we both attended I am including both her and Chris Egan as she requested since they are the respective Refuge Superintendents.

We also be following up w/MANHESP on your concerns about the Nantucket Shadbush, the Northeastern beach tiger beetle, and invasive plant species (e.g. Spotted knapweed (Centaurea maculosa)), et al. as discussed during our field trips.

Chris - I just got your email with the "2010 PIPL, AMOY and BLSK Nest Locations" with "LETE-Colony and COTE-ROST_Colony data" and the general occurrence shadbush maps. Do you have similar data (i.e. shorebird nest locations) for your Long Point Refuge?

Thanks,
Bob Davis

Robert W. Davis, M.S.
Environmental Resource Specialist &
Ecological Risk Assessor

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robert.w.davis@usace.army.mil


2010 PIPL, AMOY and BLSK
Nest Locations
NEST_FATE
AMOY_FAIL
AMOY_HATCH
PIPL_FAIL
PIPL_HATCH
BLSK_HATCH
BLSK_HATCH
LETE_Colony
COTE-ROST_Colony
0 0.15 0.3 0.6 0.9 1.2
Miles

7 ENVIRONMENTAL PROTECTION PLAN

7.1 INTRODUCTION

7.1.1 This Environmental Protection Plan (EPP) has been prepared for the RI to be performed at the following MRSs: 1) Cape Poge Little Neck Bomb Target MRS located on Chappaquiddick Island, within the town of Edgartown, Martha's Vineyard, Massachusetts; 2) Moving Target Machine Gun Range at South Beach MRS, located within the town of Edgartown, Martha's Vineyard, Massachusetts; and 3) Tisbury Great Pond MRS located within the towns of West Tisbury and Chilmark, Martha's Vineyard, Massachusetts. The EPP was prepared in accordance with DID MR-005-12. Procedures for avoiding, minimizing, and mitigating potential impacts to environmental and cultural resources during site field activities were considered during the design of the RI and are described below in the Natural Resources and Cultural Resource sections, respectively. Natural resources also includes rare, threatened and endangered species and their habitats while cultural resources also includes historical or archaeological sites. The objective of the EPP is to coordinate and consult with the appropriate federal and commonwealth agencies, and stakeholders in advance of commencement of the Remedial Investigation (RI) to obtain their feedback to incorporate adequate natural and/or cultural resource protection measures into the work plan. The purpose of these measures is to avoid, minimize, and/or mitigate potential environmental impacts to the maximum extent practical without compromising the ability to achieve the primary objective of the RI, i.e., to identify and remove munitions and explosives of concern.

7.1.2 All work performed by the USACE as the Lead Agency as part of this RI will be performed in a manner consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 104 and the National Contingency Plan (NCP), Sections 300.120(d) and 300.400(e), and in compliance with applicable federal and commonwealth laws and regulations. CERCLA response actions are exempted by law from the administrative requirement to obtain Federal, State or local permits related to any activities conducted completely on-site. It is the policy of the Department of the Army (and the USEPA and MassDEP) to assure all activities conducted on sites are protective of human health and the environment and to meet (or waive) the substantive provisions of permitting regulations that are applicable or relevant and appropriate requirements (ARARs).

7.2 COORDINATION AND CONSULTATIONS WITH AGENCIES/ORGANIZATIONS/ STAKEHOLDERS

7.2.1 Prior to the start of work, the appropriate Federal, Tribal, State and local natural and cultural resource agencies/organizations, and stakeholders were notified as directed by Ms. Carol A. Charette, the CENAE PM. Federal, Tribal, State and local agencies, organizations and stakeholders that were contacted are presented in **Table 7-1**. Prior to the execution of the Work Plan, regular lines of communications were developed and project coordination and consultations conducted between USACE natural and cultural resources staff under the direction of the USACE PM with the appropriate agencies and stakeholders. Continued coordination and consultation with these organizations as warranted during project execution will ensure environmental protection of all natural and cultural resources at the project sites. Copies of project coordination letters and responses received to date are provided at the end of this section.

Table 7-1: Agencies/Organizations/Stakeholders

Resource	Classification	Agency/Organization/Stakeholder	Former Cape Poge Little Neck Bomb Target MRS	Former Moving Target Machine Gun Range at South Beach MRS	Tisbury Great Pond MRS
Threatened and Endangered Species	State	Massachusetts Natural Heritage and Endangered Species Program 1 Rabbit Hill Rd Westborough, MA 01581 Kristen Black Phone: (508) 389 – 6367 Tim Simmons Phone: (508) 389-6325	✓ 1, 2, 3	✓ 1, 2, 3	✓ 1, 2, 3
	State	Massachusetts Division of Marine Fisheries-Habitat Protection 123 Purchase Street, 3rd Floor New Bedford , MA 02740 Dr. Kathryn Ford Phone: (508) 990-2860 ext. 145 –	✓ 1	✓ 1	✓ 1
	State	Massachusetts Department of Conservation and Recreation 251 Causeway St, Suite 600 Boston, MA 02114-2104 Phone: (617) 626 – 1250 Fax: (617) 626 – 1351 email: mass.parks@state.ma.us		✓ 1	
	Federal	US Fish and Wildlife Service New England Field Office 70 Commercial St, Suite 300 Concord, NH 03301-5087 Susi von Oettingen Phone: (603) 223 – 2541 ext. 22 Fax: (603) 223 – 0104	✓ 1, 2, 3	✓ 1, 2, 3	✓ 1, 2, 3

Resource	Classification	Agency/Organization/Stakeholder	Former Cape Poge Little Neck Bomb Target MRS	Former Moving Target Machine Gun Range at South Beach MRS	Tisbury Great Pond MRS
Threatened and Endangered Species	Federal	National Marine Fisheries Service Northeast Office Protected Resources Division 55 Great Republic Dr Gloucester, MA 01930-2276 Julie Crocker Phone: (978) 281 – 9300 ext. 6530 Fax: (978) 281 – 9333	✓ 1	✓ 1	✓ 1
	Stakeholder	The Trustees of Reservations Christopher P. Kennedy Regional Director, Southeast PO Box 2106 Vineyard Haven, MA 02568 Phone: (508)693-7662 ext .12 email: kennedy@ttor.org	✓ 1, 2, 3	✓ 1, 2, 3	✓ 1, 2, 3
	Stakeholder	Edgartown Conservation Commission Jane Varkonda Town Hall 2nd Floor 70 Main St Edgartown, MA 02539 Phone: (508) 627 – 6165 Fax: (508) 627 – 6183	✓ 1	✓ 1	
	Stakeholder	West Tisbury Conservation Commission Maria McFarland P.O BOX 278 West Tisbury, MA 02575 Phone: (508) 696 – 6404 Fax: (508) 696 – 0103			✓ 1
	Stakeholder	Chilmark Conservation Commission Chuck Hodgekinson 401 Middle Rd Chilmark, MA 02535 Phone: (508) 645 – 2114 Fax: (508) 645 – 2110			✓ 1
	Stakeholder	Kristen Fauteux, Director of Stewardship Sheriffs Meadow Foundation Wakeman Conservation Center 57 David Avenue Vineyard Haven, MA 02568 508-693-5207			1, 2, 3
	Stakeholder	Julie Schaeffer, Ecologist Martha's Vineyard Land Bank Commission 167 Main Street, P.O. Box 2057 Edgartown, Massachusetts 02539 508-627-7141			1, 2, 3

Resource	Classification	Agency/Organization/Stakeholder	Former Cape Poge Little Neck Bomb Target MRS	Former Moving Target Machine Gun Range at South Beach MRS	Tisbury Great Pond MRS
Wetlands/Water Resources Environmental Coordination & Consultation	State	Massachusetts Department of Environmental Protection-Southeast Regional Office 20 Riverside Dr Lakeville, MA 02347 Liz Kouloheras Phone: (508) 946 – 2810 Fax: (508) 947 – 6557	✓ 1	✓ 1	✓ 1
	Stakeholder	Edgartown Conservation Commission	✓ 1	✓ 1	
	Stakeholder	West Tisbury Conservation Commission			✓ 1
	Stakeholder	Chilmark Conservation Commission			✓ 1
Cultural and Archeological Resources	State	Massachusetts Historical Commission Secretary of the Commonwealth 220 Morrissey Blvd Boston, MA 02125-3314 Phone: (617) 727 – 8470 email: mhc@sec.state.ma.us	✓ 1	✓ 1	✓ 1
	State	Massachusetts Board of Underwater Archaeological Resources Victor Mastone, Director 251 Causeway St, Suite 800 Boston, MA 02114-2199 Phone: (617) 626 – 1141 email: victor.mastone@state.ma.us	✓ 1	✓ 1	✓ 1
	State	Massachusetts Department of Conservation and Recreation Ellen Berkland, Archaeologist 251 Causeway Street, Suite 700 Boston, MA 02114-2104		1	
	Local	Martha's Vineyard Historical Society Keith Gorman, Executive Director Martha's Vineyard Museum PO Box 1310 Edgartown, MA 02539	1	1	1
	Stakeholder	The Trustees of Reservation Mark Wilson, Cultural Resources Program Manager Archives and Research Center c/o Moose Hill Farm 396 Moose Hill Farm Sharon, MA 02067	1		1

Resource	Classification	Agency/Organization/Stakeholder	Former Cape Poge Little Neck Bomb Target MRS	Former Moving Target Machine Gun Range at South Beach MRS	Tisbury Great Pond MRS
Cultural and Archeological Resources	Tribal Stakeholder	Wampanoag Tribe of Gay Head Tribal Historic Preservation Officer Bettina Washington 20 Black Brook Rd Aquinnah, MA 02535-1546 Phone: (508) 645 - 9265 ext 175 Fax: (508) 645 – 3790	✓ 1	✓ 1	✓ 1
Natural & Water Resources	State	Massachusetts Division of Marine Fisheries-Habitat Protection	✓ 2	✓ 2	✓ 2
	Federal	US Fish and Wildlife Service	✓ 1	✓ 1	✓ 1
	Federal	National Marine Fisheries Service	✓ 1	✓ 1	✓ 1
	Stakeholder	Massachusetts Department of Conservation and Recreation		✓ 2	
	Stakeholder	The Trustees of Reservations	✓ 1, 2		✓ 1, 2
	Stakeholder	Edgartown Shellfish Constable Paul Bagnall Town Hall 3rd Floor 70 Main St Edgartown, MA 02539 Phone: (508) 627 – 6175 Fax: (508) 627 – 6123	✓ 2	✓ 2	
	Stakeholder	Edgartown Harbormaster Charles Blair Jr. 1 Morse St Edgartown, MA 02539 Phone: (508) 627 – 4746 Fax: (508) 627 – 8439	✓ 2	✓ 2	
	Stakeholder	West Tisbury Shellfish constable Raymond Gale P.O. BOX 287 West Tisbury, MA 02575 Phone: (508) 696 – 0102 Fax: (508) 696 – 0103			✓ 2
	Stakeholder	Chilmark Shellfish Constable Isaiah Scheffer Chilmark Town Hall P.O. BOX 119 401 Middle Rd Chilmark, MA 02535 Phone: (508) 645 - 2100 ext 2145			✓ 2

Resource	Classification	Agency/Organization/Stakeholder	Former Cape Poge Little Neck Bomb Target MRS	Former Moving Target Machine Gun Range at South Beach MRS	Tisbury Great Pond MRS
Natural & Water Resources	Stakeholder	Chilmark Harbormaster Dennis Jason Chilmark Town Hall P.O. BOX 119 401 Middle Rd Chilmark, MA 02535 Phone: (508) 645 - 2100 ext 2846 (Town Hall) Phone: (508) 645 - 2846 (Harbor) Fax: (508) 645 – 2110			✓ 2

Notes: 1 Contact as part of Work Plan preparation; 2 Contact on regular basis during implementation of Work Plan; 3 Contact on regular basis during implementation of Work Plan regarding Threatened and Endangered Species habitat locations

7.3 ENVIRONMENTAL PROTECTION PLAN (EPP) FOR NATURAL RESOURCES PROTECTION

7.3.1 Threatened and Endangered Species and Species of Special Concern

7.3.1.1 Federal/State Listed Plants and Animals

7.3.1.1.1 Federal and Commonwealth (i.e. State) agencies and stakeholders associated with threatened and endangered species and species of special concern listed on **Table 7-1** will have the opportunity to review the Work Plan for the three MRS work areas prior to the commencement of any work. The review will allow the USACE to identify work areas which may potentially contain threatened and endangered species or species of special concern (i.e. protected species), and their habitats. **Figure 7-1** illustrates the areas that are designated in the Massachusetts Natural Heritage Atlas 13th Edition (effective October 1, 2008) by the Natural Heritage & Endangered Species Program, MA Division of Fisheries & Wildlife to be Priority Habitats of Rare Species and Estimated Habitats of Rare Wildlife at all of the MRSs, which essentially covers each MRS in its entirety. There are approximately thirty seven species reported as Federal and /or State listed that could be present on the three sites. The threatened and endangered species and species of special concern which may be encountered within or near the sites are presented in **Table 7-2**. The presence of the listed birds and reptiles is seasonal. Phase 1 and 2 of the RI Work Plan adjusts the implementation of the field schedule to avoid the presence of the listed birds and reptiles.

7.3.1.1.2 Field personnel will be trained on the identification and avoidance of selected threatened, endangered and/or species of special concern where practical. Field personnel will be briefed on the measures in the EPP, as further described in the section on Worker Education Briefing, and also carry an addendum (Worker Field

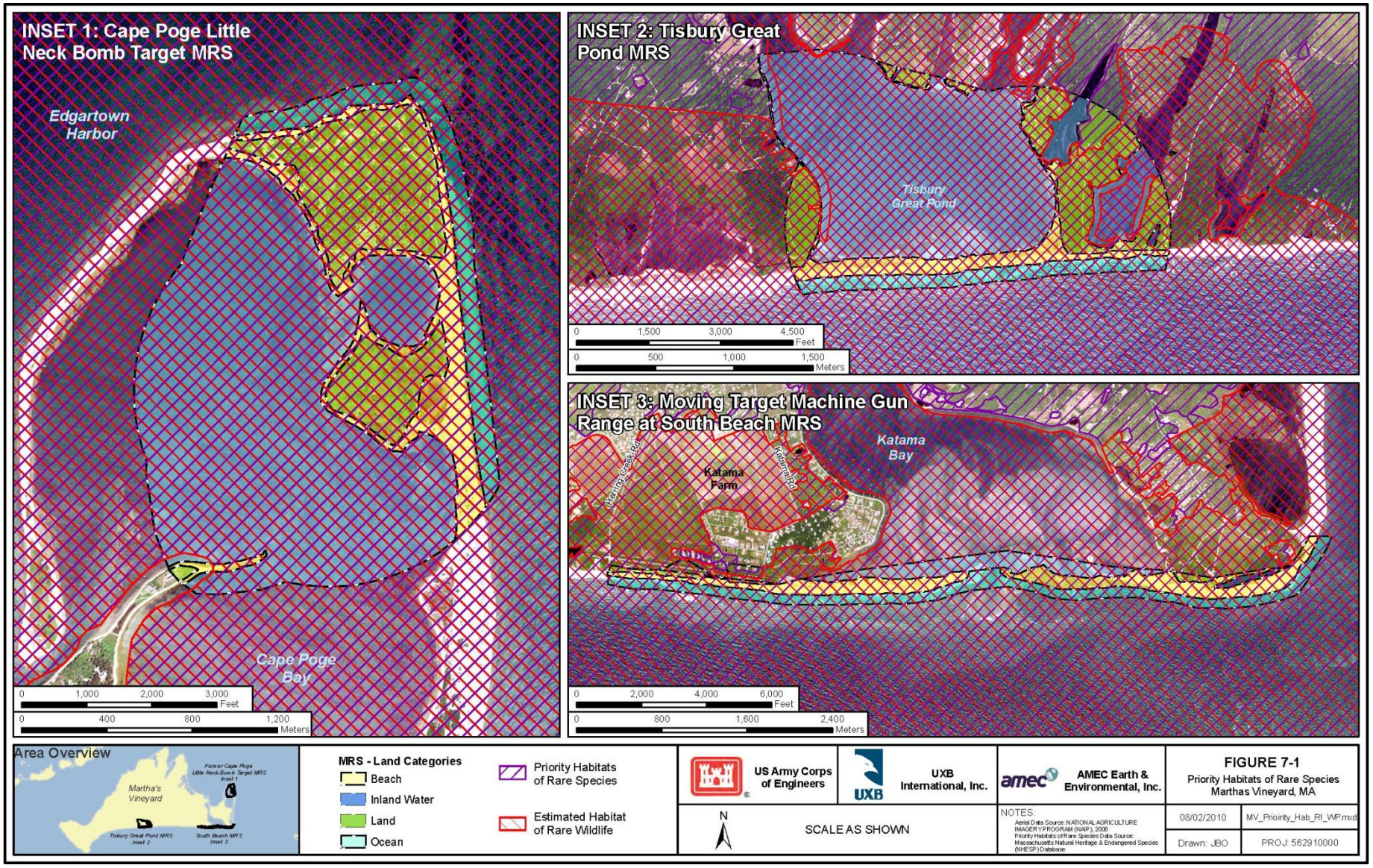
Manual) with additional field information which will include pictures of protected species, habitat information and the months of the year that the seasonal protected species (i.e. shorebirds and Northern harrier) are expected to be present in the investigative or action areas. This information has been summarized in **Table 7-3** "Protected Avian Species No Work Windows" for the three MRSs by each of the four Land Categories (Beach, Inland Water, Land and Ocean) and specific habitats within each of these categories based on TTOR's 2010 avian breeding data, USFWS guidance, and MA Natural Heritage Endangered Species Program data. In addition, if any work is conducted during the shorebird nesting season field teams will receive daily updates as to the presence of threatened and endangered species and species of special concern based on consultations with federal and commonwealth natural resource agencies, and private organizations such as the TTOR.

Table 7-2: Threatened, Endangered and Species of Concern

Type	Name	Listing
Birds	Common Tern (Sterna hirundo)	State Specie of Special Concern
	Least Tern (Sterna antillarum)	State Specie of Special Concern
	Northern Harrier (Circus syneus)	State Threatened Specie
	Piping Plover (Charadrius melodus)	Fed/State Threatened Specie
	Roseate Tern (Sterna dougallii dougallii)	Fed/State Endangered Specie
Reptiles	Green Sea Turtle (Chelonia mydas)	ThreatenedFed/StateSpecie
	Kemp's Ridley Sea Turtle (Lepidochelys kempi)	Fed/StateEndangered Specie
	Leatherback Sea Turtle (Dermochelys coriacea)	Fed/StateEndangered Specie
	Loggerhead Sea Turtle (Caretta caretta)	Fed/StateThreatened Specie
Insects	Chain Dot Geometer (Cingilia catenaria)	State Specie of Special Concern
	Coastal Heathland Cutworm (Abagrotis nefascia)	State Specie of Special Concern
	Gerhard’s Underwing Moth (Catocala Herodias gerhardi)	State Specie of Special Concern
	Faded Grey Geometer (Stenoporpia polygrammaria)	StateThreatened Specie
	Pine Barrens Zale (Zale sp 1 nr lunifera)	State Specie of Special Concern
	Pink Sallow (Psectraglaea carnosa)	State Specie of Special Concern

Type	Name	Listing
Insects	Sandplain Euchlaena (Euchlaena madusaria)	State Specie of Special Concern
	Barrens Buckmoth (Hemileuca maia)	State Specie of Special Concern
	Melsheimer's Sack Bearer (Cicinnus melsheimeri)	State Threatened Specie
	Pine Barrens Lycia (Lycia ypsilon)	State Threatened Specie
	Coastal Swamp Metarranthis Moth (Metarranthis pilosaria)	State Specie of Special Concern
	Slender Clearwing Sphinx Moth (Hemaris gracilis)	State Specie of Special Concern
	Spartina Borer Moth (Spartiniphaga inops)	State Specie of Special Concern
	Imperial Moth (Eacles imperialis)	State Threatened Specie
	Barrens Metarranthis Moth (Metarranthis apiciaria)	State Endangered Specie
	Comet Darner (Anax longipes)	State Specie of Special Concern
	Northeastern Beach Tiger Beetle (Cicindela dorsalis dorsalis)	Endangered Specie
	Purple Tiger Beetle (Cicindela purpurea)	Endangered Specie
	Three-Lined Angle Moth (Digrammia eremiata)	State Threatened Specie
Plants	Bristly Foxtail (Setaria parviflora)	State Specie of Special Concern
	Bushy Rockrose (Crocanthemum dumosum)	State Specie of Special Concern
	Purple Needlegrass (Aristida purpurascens)	StateThreatened Specie
	Sandplain Flax (Linum intercursum)	State Specie of Special Concern
	Nantucket Shadbush (Amelanchier nantucketensis)	State Specie of Special Concern
	Gerardia Sandplain (Agalinus acuta)	StateEndangered Specie
	Saltpond Pennywort (Hydrocotyle verticillata)	State Threatened Specie
	Pygmyweed (Tillaea aquatica)	State Threatened Specie
	Sandplain Blue-eyed Grass (Sisyinchium fuseatum)	State Specie of Special Concern
	Sea-Beach Knotweed (Polygonum glaucum)	State Specie of Special Concern

Figure 7-1: Priority Habitats of Rare Species



7.3.2 Wetlands, Water Resources and Natural Communities

7.3.2.1 To determine the potential for wetlands and water resources within the three project areas, the current MassGIS wetland resources and hydrology layers were obtained for the project areas. **Figure 7-2** illustrates the wetlands and deepwater (i.e. openwater) habitats associated with the Cape Poge Little Neck Bomb Target MRS, the Moving Target Machine Gun Range at South Beach MRS, and the Tisbury Great Pond MRS. All work performed will be in compliance with the substantive requirements of the Commonwealth of Massachusetts Wetland Protection Act, Massachusetts General Law 131 Section 40 as no permit is required for any on-site work. Removal action activities may occur at all sites. Procedures for intrusive investigations are outlined in Chapter 3 of this work plan.

7.3.2.2 Wetlands and Water Resources

7.3.2.2.1 Significant water resource features and their adjacent wetland resource areas encompass Tisbury Great Pond including Big Homer's Pond, portions of Long Cove Pond, Middle Point Cove, Hughe's Thumbs Cove and Deep Bottom Cove, upper reach of Cape Poge Bay including Drunkard's Cove and Shear Pen Pond and South Beach including a portion of Katama Bay and Swan Pond. A primary concern of the remedial investigation relative to the natural resources of the site is "What are the impacts to the local shell fishery?" Tisbury Great Pond and Cape Poge Bay is very important commercial and recreational fishery for oysters, bay scallops, quahogs, and soft shell clams. However, based on coordination to date with all of the three Shellfish Constables no adverse impacts are anticipated. All appropriate parties listed in **Table 7-1** will be notified prior to the start of work. Additionally, the Chilmark, West Tisbury, and Edgartown Shellfish Departments and Shellfish Constables will be contacted daily to coordinate activities as work proceeds in any of the shellfish harvesting areas, including advance notification of any shellfish area closings for safety reasons.

7.3.2.2.2 The investigative and/or removal actions to be conducted at the three MRSs in the Ocean Category in the Atlantic Ocean are planned to extend to about 100 meters offshore from the beach.

7.3.2.3 Natural Communities

7.3.2.3.1 The Cape Poge Little Neck Bomb Target Site, Moving Target Machine Gun Range at South Beach and Tisbury Great Pond MRSs comprise a complex and fragile system of dunes, wetlands and uplands. As evidenced from the previous sections, these diverse habitats support a large number of rare and endangered

plants and animals. The natural communities present on these sites include the following (TTOR 2004):

7.3.2.3.1.1 Coastal Salt Ponds;

7.3.2.3.1.2 Sandplain Grasslands and Heathlands;

7.3.2.3.1.3 Dune complexes;

7.3.2.3.1.4 Maritime Eastern Red Cedar Woodlands;

7.3.2.3.1.5 Barrier Beach Strands;

7.3.2.3.1.6 Maritime Shrublands;

7.3.2.3.1.7 Pitch Pine and Oak Forest;

7.3.2.3.1.8 Fresh Water Pond and Emergent Marsh; and

7.3.2.3.1.9 Salt Marsh.

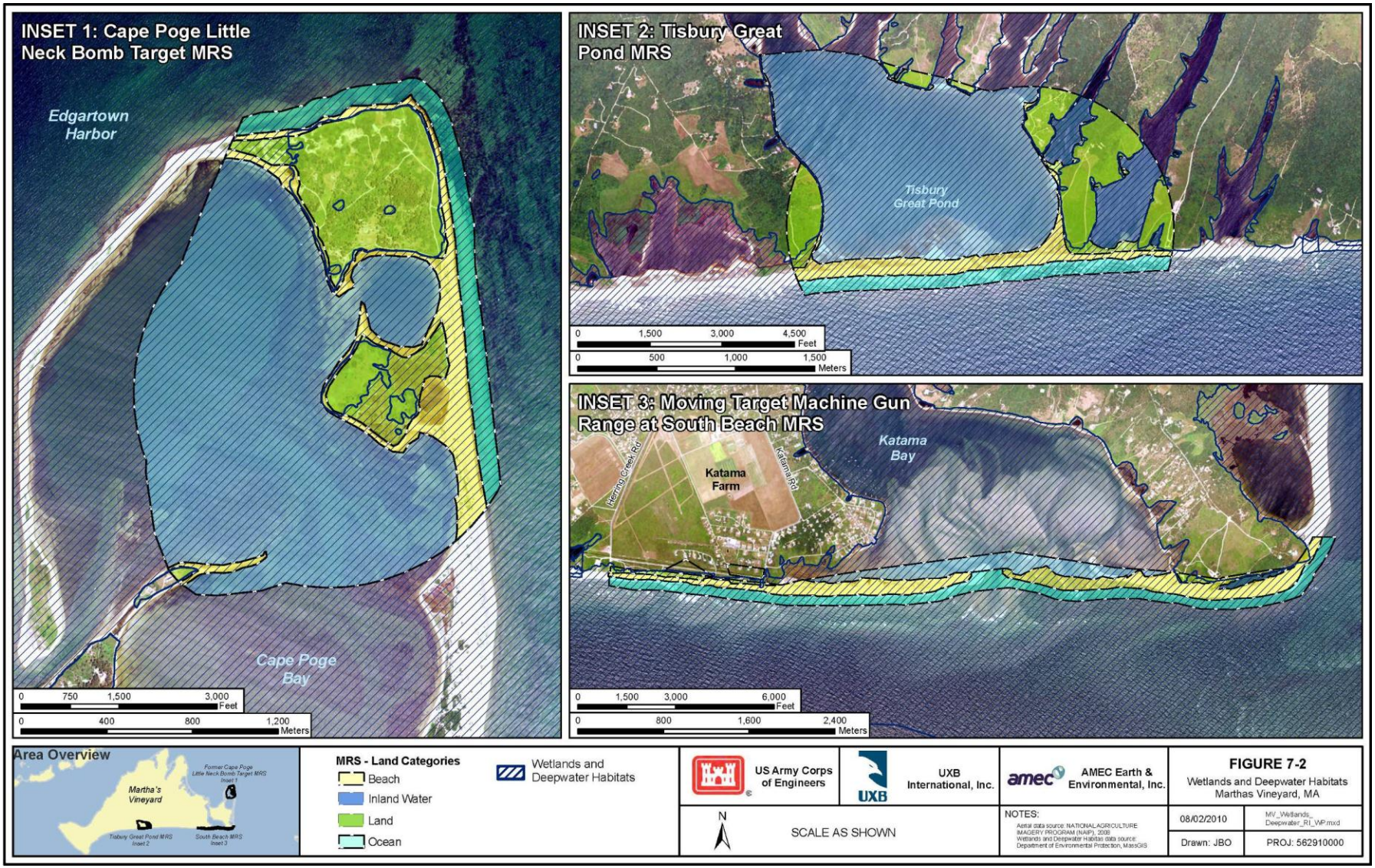
7.3.2.3.2 The various procedures described below to avoid, minimize and/or mitigate potential impacts to protected species and their habitats will also ensure protection of the aforementioned natural communities during execution of the RI.

7.3.3 Measures to Avoid, Minimize, and/or Mitigate Environmental Impacts

7.3.3.1 The procedures outlined in this section will be implemented by UXB to avoid, minimize and/or mitigate environmental effects attributable to the execution of the Task Order. The MEC investigation activities will be implemented in compliance with all applicable federal and state regulations, including those that protect air, water, land, human health and safety, and cultural and biological resources.

7.3.3.2 The collaborative work with the natural resource agencies and stakeholders will not end with the submittal of the Final Work Plan because the EPP is a dynamic living working document that will be updated as needed based on specific field activities in both Phase I, with more consultation and implementation of measures as needed before and during execution of Phase II once the specific locations of the anomalies are determined that need to dug up.

Figure 7-2: Wetlands and Deepwater Habitats



7.3.4 Reasons for Avoidance, Minimization and/or Mitigating Actions

7.3.4.1 Section 9 of the Endangered Species Act prohibits the taking of listed species without special exemption. Taking is defined as harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, collecting, or attempting to engage in any such conduct. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering. Under terms of sections 7(b)(4) and 7(o)(2) of the Act, taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with an incidental take statement.

7.3.5 Worker Education Briefing

7.3.5.1 Before the start of both Phase 1 and Phase 2 RI field activities all on-site personnel will be briefed on health and safety issues and the need for avoiding, minimizing and/or mitigating potential impact on sensitive biological resources based on this Environmental Protection Plan (EPP). A Field Manual for the workers that will summarize all EPP measures is being prepared as an Addendum to the EPP. The Field Manual will list the various measures along with a brief description of the protected animal and/or plant species to provide personnel a general framework for training and for discussion. Methods for avoiding and minimizing the potential impact on the protected species and communities of concern and for the transfer of invasives will be stressed during the on-site training. The UXB SUXOS will coordinate this briefing with UXB team members, including subcontractors, prior to start of work.

7.3.6 Vegetation Clearing for Geophysical Surveys and Acquisition of Selected Anomalies

7.3.6.1 The field crew has great flexibility in obtaining the required linear coverage needed in each land category including the uplands and any other vegetated study area. They do not need to survey and cut the vegetation in straight 3-ft wide paths as depicted on Work Plan **Figures 3-1, 3-2** and **3-3**, since they have flexibility in going around any trees greater than 1 inch dorsal breast height (dbh) and/or other constraints and manmade features by conducting meandering surveys. The following measures will be implemented to minimize the amount of vegetative clearing required and also to control the spread of invasive plant species.

7.3.7 Vegetation Impact Mitigation

7.3.7.1 As needed for the deployment of the appropriate geophysical survey equipment, the vegetation will be cut to a length of six inches above the ground surface to minimize surface disturbance. Therefore, herbaceous vegetation of less than six inches tall will not be cut, and it is also anticipated that many areas with relatively low vegetative cover (e.g. the managed grasslands at Long Point Refuge) will not need to be cut as the pushed survey equipment should be able to roll through these areas. Similarly there is no need to cut any Beach grass or other herbaceous plants during surveys in the vegetated dunes.

7.3.7.2 A narrow three-foot wide corridor will not be cut through the dense vegetation in the uplands on the west side of Tisbury Great Pond as requested by the Sheriff's Meadow Foundation to protect a breeding site of the Northern harrier.

7.3.7.3 Removal of woody vegetation will be limited to specimens with a diameter at breast height (dbh) of less than one inch. Clearing of lower branches of woody vegetation with a dbh greater than 1 inch will be limited to six feet above the ground. All cleared areas of vegetation will be allowed to re-vegetate naturally.

7.3.8 Trees and Shrubs

7.3.8.1 Meandering transect paths are currently planned for the land based portions of this RI. Meandering paths rather than straight line transects will allow the avoidance of most vegetation larger than one inch dbh. Therefore, tree and shrub clearing is not anticipated. If it becomes necessary to remove trees and/or shrubs, the property owner will be notified of the proposed removal prior to any action taken. A protected shrub, the Nantucket shadbush, will survive and recover from cutting based on an active management program being conducted at the Long Point Wildlife Refuge that involves mowing of areas with Nantucket shadbush to maintain sandplain grasslands habitat.

7.3.9 Control/Introduction//Spread of Invasive Plants

7.3.9.1 Island natural communities are protected to a certain degree from the introduction of invasives by their distance from mainland reservoirs of invasive species. On the other hand once invasive species are introduced, the closed, insulated nature of an island facilitates the spread of invasive plant species. The "TTOR Management Plan, 2004, Section 5.8.6, Invasive and Exotic Species" lists Purple Loosestrife (*Lythrum salicaria*), Asiatic bittersweet (*Celastrus orbiculata*), Sea Poppy (*Glaucium flavum*) and *Phragmites* spp. as present at Cape Pogue and Wasque. These plants are listed as invasives in MANHESP's "A Guide to

Invasive Plants in Massachusetts." During a field visit on October 13, 2010 *Phragmites* was located at Swan Pond and an adjacent freshwater marsh. Sea Poppy was located on a gravel berm just inland on the upper beach, slightly west of the former aerial bombing target, south of Shear Pen Pond. Not listed as an invasive in the 2004 TTOR Management Report but visually located just off property boundaries at the Tisbury Great Pond Site and throughout island roadsites is spotted knapweed (*Centaurea maculosa*). Other invasives such as autumn olive (*Elaegnus umbellate*) have been identified as being present on Chappaquiddick ("TTOR 2004").

7.3.9.2 Based on limited field observations and discussions with TTOR and MA Natural Heritage & Endangered Species Program Biologists, the control and limiting of the spread of these and other invasive species within the three sites and to other sites where these invasive species may not be currently present is both a concern and a priority of this mitigation measure.

7.3.9.3 These invasives are spread by the transfer of seeds, fruits and or pieces of the above ground plant or root. For example small, invisible fragments of Phragmites are effective in the propagation of the plant.

7.3.9.4 In Phase 1 and Phase 2 the UXB Team will employ a different array of equipment, depending on habitat to be surveyed and the natural community. The intertidal and offshore habitats offer little if any probability for the transfer of an invasive to these habitats since the plant species listed above will not survive in salt water. However, the equipment used to transport the underwater sled, the tow boat and trailer offers the potential for inter-site and intra-site transfer of invasive plant material.

7.3.9.5 All equipment such as hand held magnetometers and gear such as boots and shovels used in the investigation conducted on/in the terrestrial and fresh water habitats offer the possibility of the transfer of invasive plant material.

7.3.9.6 To avoid the introduction and spread of invasives all equipment will be visually examined and carefully washed with a hand sprayer to remove all plant material and traces of soil/sand prior to the entrance to a site. This includes the boat and trailer used to investigate aquatic/wetland habitats. Maps indicate geophysical investigation will occur in freshwater habitats such as Swan and Long Cove Pond.

7.3.9.7 Included in the worker education briefing training manual provided to the field personnel will be descriptions of the invasive plants that are most likely present on the site. When personnel are working in a site where invasives are known to

be present, such as Cape Poge on the gravel berm to the west of the aerial bomb site, the invasive (Sea Poppy) will be identified and plant material will be removed from the equipment and washed with water to avoid the spread of the species within the site to another area where the invasive is not present.

7.3.9.8 When the equipment is removed from the site to be transported to another site or off island the equipment will be again washed to remove any plant material or soil. If possible to reduce time and effort spent on decontamination, equipment could be left on the site until the investigation in the area was completed. Equipment containing petroleum products should be parked on plastic sheeting to avoid possible leakage of fluids.

7.3.9.9 Field personnel should wear gaiters, rubber boots or other clothing and footwear which reduce the likelihood for seed attachment when working in areas infested with invasive species.

7.3.9.10 Field personnel must inspect, remove, and properly dispose weed seed and plant parts found on clothing in a trash bag and dispose off island.

7.3.9.11 Field personnel must wash with hand sprayer soil from boots/footwear prior to entering the work site and before leaving the site post-completion.

7.3.9.12 This protocol to control invasives is applicable for both Phase 1 and 2 of the RI. Execution of Phase 2 of the RI involves more intrusive activity, such as disturbing the surface of the substrate, and increases the possibility for the introduction/spread of invasives.

7.3.9.13 In Phase 2, it is more likely there will be a need to disturb/dig to remove an anomaly and if there are invasives reported in the immediate area, the equipment used, i.e. trowel or shovel, should be rinsed prior to each use. The soil over the object should be placed on a plastic sheet adjacent to the site. Upon removal of the anomaly, the soil will be replaced over the hole. Any plant cover removed with the soil will be replaced and gently hand tamped in place to ensure successful reestablishment of the cover

7.3.10 Federally-Listed and State-Listed Protected Species (Flora and Fauna)

7.3.10.1 The following species are both Federally-listed and State-listed based on consultations with the USFWS, NMFS and MANHESP:

7.3.10.1.1 Piping plover (*Charadrius melodus*);

7.3.10.1.2 Roseate tern (*Sterna dougalii dougalii*);

7.3.10.1.3 Northeastern beach tiger beetle (*Cicindela dorsalis dorsalis*);

7.3.10.1.4 Sandplain gerardia (*Agalinus acuta*); and

7.3.10.1.5 Sea turtles, including the loggerhead (*Caretta caretta*), Kemp's ridley (*Lepidochelys kempi*), leatherback (*Dermochelys coriacea*), and green (*Chelonia mydas*).

7.3.10.2 Sea turtles occur seasonally off the coast of Martha's Vineyard from June through early November of any year. The action area for the three MRSs includes several types of habitat where sea turtles are extremely unlikely to occur. As the action area is inconsistent with the preferred habitats of sea turtles, it is extremely unlikely that and sea turtles will occur in the action area.

7.3.10.3 While listed whales occur in the offshore waters of Martha's Vineyard, due to the shallow depths and nearshore location of the action area, no listed marine mammals are expected to occur in the action area.

7.3.11 State-Listed Species

7.3.11.1 The State-listed species based on consultations with the MANHESP include the following:

7.3.11.1.1 Common tern (*Sterna hirundo*)

7.3.11.1.2 Least tern (*Sterna antilarum*)

7.3.11.1.3 Northern harrier (*Circus syneus*)

7.3.11.1.4 Chain dot Geometer (*Cingulia catenaria*)

7.3.11.1.5 Coastal Heathland Cutworm (*Abagrotis nefascia*)

7.3.11.1.6 Gerhard’s Underwing Moth (*Catocala Herodias gerhardi*)

7.3.11.1.7 Faded Grey Geometer (*Stenoporpia polygrammaaria*)

7.3.11.1.8 Pine Barrens Zale (*Zale sp l nr lunifera*)

7.3.11.1.9 Pink Sallow Moth (*Psectraglea carnosa*)

7.3.11.1.10 Sandplain Euchaena (*Euchlaena madusaria*)

7.3.11.1.11 Barrens Buckmoth (*Hemileuca maia*)

7.3.11.1.12 Melsheimer’s Sack Bearer (*Cicinus melsheimeri*)

7.3.11.1.13 Pine Barrens Lycia (*Lycia ypsilon*)

7.3.11.1.14 Coastal Swamp Metarranthis Moth (*Metarranthis pilosaria*)

7.3.11.1.15 Slender Clearwing Sphinx Moth (*Hemaris pilosaria*)

7.3.11.1.16 Spartina Borer Moth (*Spartiniphagia inops*)

7.3.11.1.17 Imperial Moth (*Eacles imperialis*)

7.3.11.1.18 Barrens Metarranthis Moth (*Metarranthis apiciaria*)

7.3.11.1.19 Comet Darner (*Anax longippes*)

7.3.11.1.20 Purple Tiger Beetle (*Cicindela purpurea*)

7.3.11.1.21 Three-Lined Angle Moth (*Digrammia eremiata*)

7.3.11.1.22 Bristly Foxtail (*Setaria parviflora*)

7.3.11.1.23 Bushy Rockrose (*Crocanthemum dumosum*)

7.3.11.1.24 Purple needlegrass (*Aristida purpurascens*)

7.3.11.1.25 Sandplain Flax (*Linum intercursum*)

7.3.11.1.26 Saltpond Pennywort (*Hydrocotyle verticellata*)

7.3.11.1.27 Pigmyweed (*Tillacea aquatica*)

7.3.11.1.28 Sandplain Blue-eyed grass (*Sisyinchium fuseatum*)

7.3.11.1.29 Sea-Beach Knotweed (*Polygonum glaucm*)

7.3.11.1.30 Nantucket Shadbush (*Amelanchier nantuckensis*)

7.3.12 Discussion of Federal- & State-Listed Species

7.3.12.1 Avian Protected Species

7.3.12.1.1 There are five listed avian species, piping plover and the terns, roseate, common and least, and the northern harrier. The terns and the piping plover generally breed on beach/dune habitats. The northern harrier breeds in dense vegetation in uplands and marsh habitat. All these species could be present at any or all of the three MRS Sites, however, the avian protection plan is based on the most recent nesting or breeding sites based on TTOR and MANHESP data. Due to the unpredictable nature of the breeding behavior of these species regular communication with TTOR and MA Natural Heritage is required for any field activities during the shorebird nesting season.

7.3.12.1.2 Piping plovers and roseate terns could be present at any or all of the three designated project sites or action area. Their presence is most likely during the breeding and fall migration period of April 1 through September 30. These are ground nesting birds with well-camouflaged nests. The unfledged chicks are

virtually indistinguishable from their sand substrate. As recommended by the USFWS in their September 27, 2010 letter in order to avoid adversely affecting piping plover or roseate terns, they recommend that activities associated with the remedial investigation (transects and sampling) not occur between April 1 and September 30, or be closely coordinated with the organizations managing piping plover and/or terns.

7.3.12.2 Summary of Shorebird Species Nesting Data for 2009 and 2010

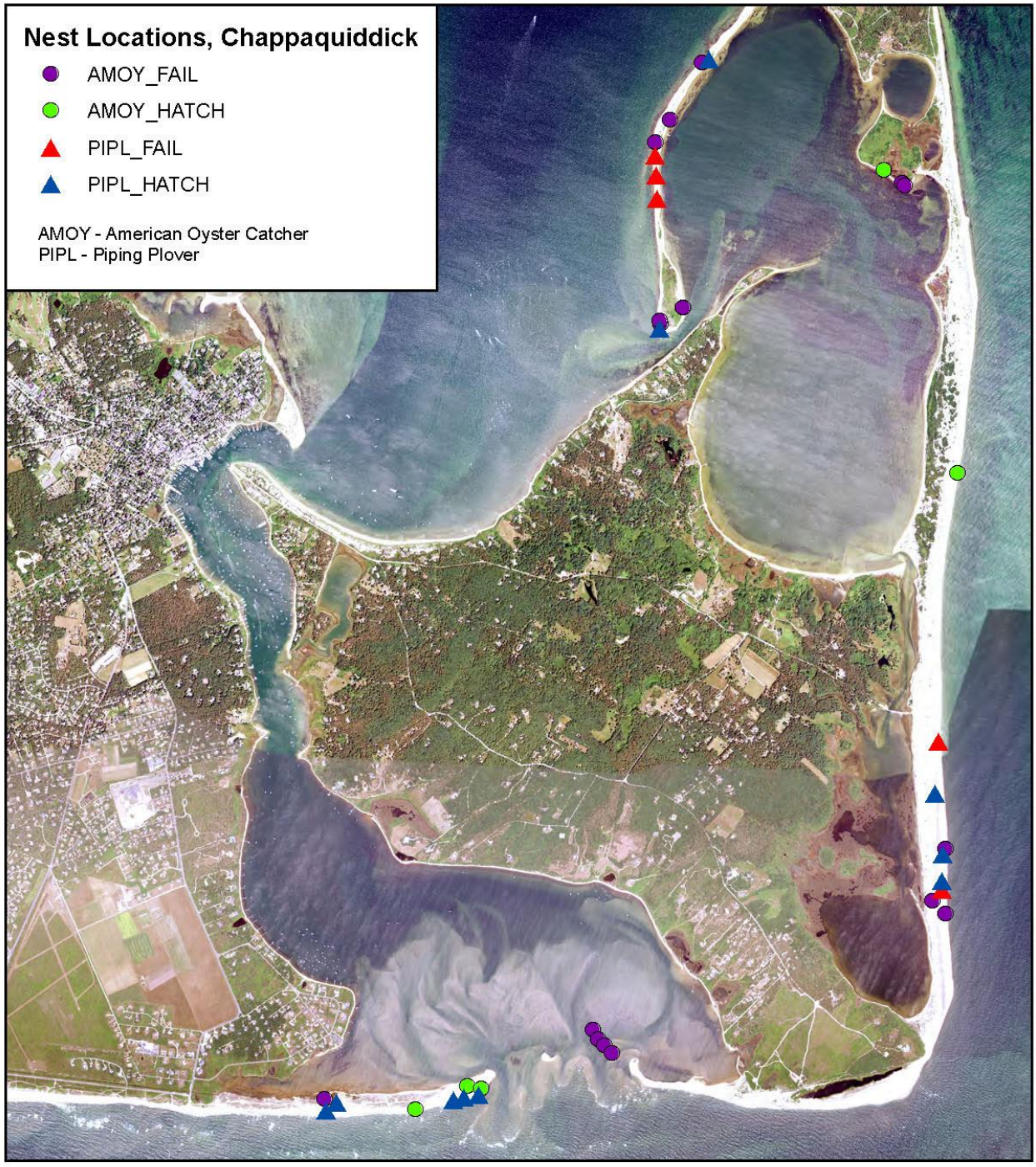
7.3.12.2.1 The following information was provided by TTOR's Ecologists based on their rare species data base for the Cape Poge Refuge and property that they manage (Norton Point Beach). Recent rare species occurrences within our project action areas based on maps prepared by TTOR for 2009 and 2010 are provided as **Figures 7-3** and **7-4**, respectively. This information has been updated with recent communications with both TTOR and MANHESP Biologists. The key to the legend is AMOY, American oystercatcher, PIPL, piping plover, BLSK, black skimmer, LETE, least tern, COTE, common tern and ROST, roseate tern.

7.3.12.2.2 Piping Plover

7.3.12.2.2.1 The following information was excerpted from the After Action Report to the USFWS included in Appendix N1 in the Final TCRA (March 2010). During the 2009 breeding season, 7 pairs of piping plover bred on Cape Poge Refuge and East Beach on Chappaquiddick Island (**Figure 7-3**), and 5 pairs of piping plovers nested at Norton Point Beach in Edgartown (See **Figure 7-3**). Altogether, the piping plover pairs produced 15 nests, 54 eggs, 35 chicks, and 4 fledglings, resulting in 0.27 fledglings produced per breeding pair. Nest failures in 2009 resulted from storm overwash and predation by skunks and crows.

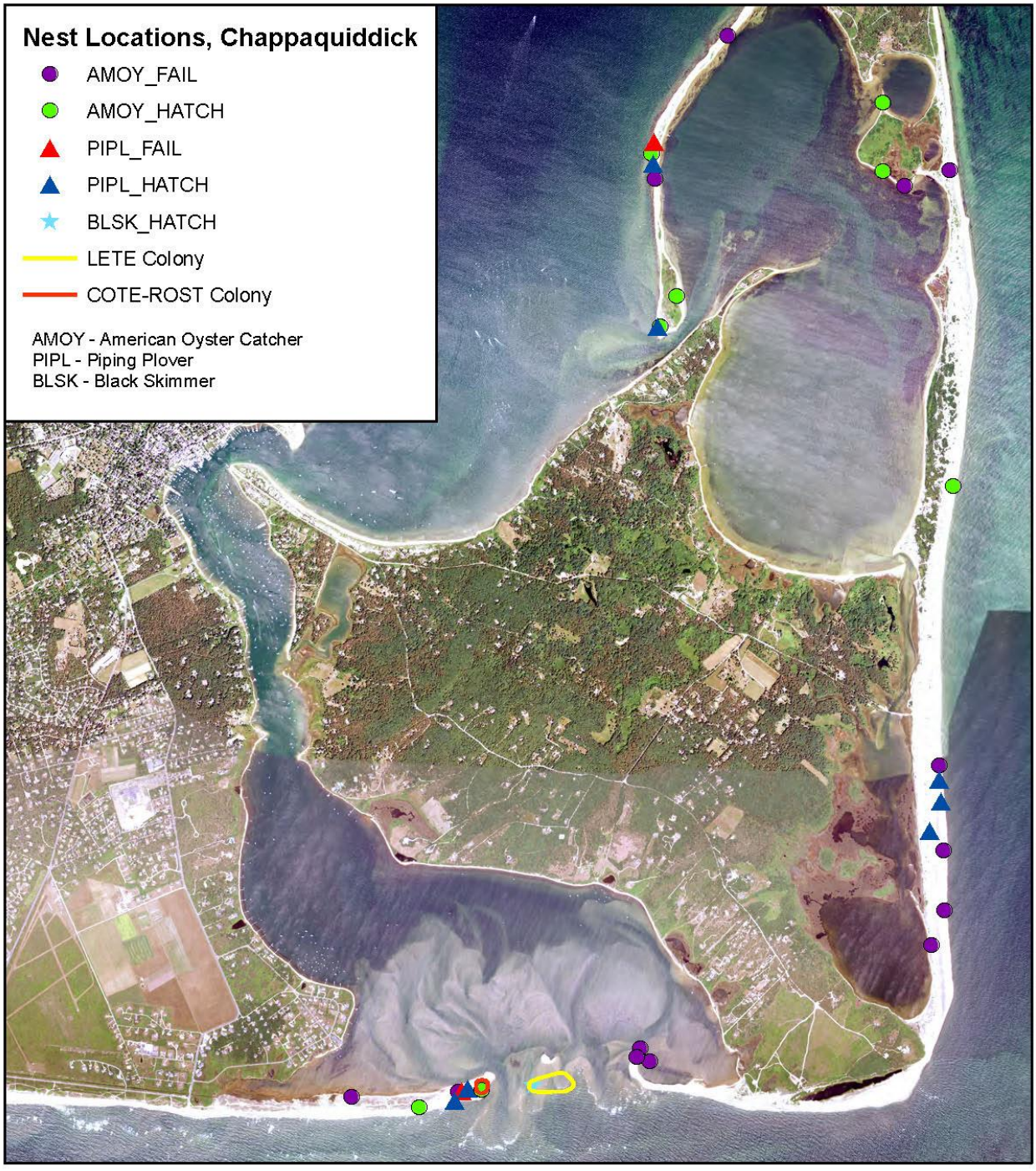
7.3.12.2.2.2 During the TCRA no piping plover nested or foraged within the action area-either within the removal area or along travel corridors accessing the sites. No other Federally-listed species (roseate tern or northeastern beach tiger beetle) were observed within the action area. In addition, northern harrier, a State-listed species did not nest within the action area.

Figure 7-3: 2009 Shorebird Nest Locations



US Army Corps of Engineers	UXB International, Inc.	AMEC Earth & Environmental, Inc.	FIGURE 7-3 2009 Shorebird Nest Locations Martha's Vineyard, MA	
N 0 0.5 1 2 Kilometers 0 0.25 0.5 1 1.5 Miles		NOTES:	11/16/2010	MV_Site_Location.mxd
			Drawn: JBO	PROJ: 562910000

Figure 7-4: 2010 Shorebird Nest Locations



US Army Corps of Engineers	UXB International, Inc.	AMEC Earth & Environmental, Inc.	FIGURE 7-4 2010 Shorebird Nest Locations Martha's Vineyard, MA	
N 0 0.3 0.6 1.2 Kilometers 0 0.25 0.5 1 1.5 Miles		NOTES:	11/16/2010	MV_Site_Location.mxd
			Drawn: JBO	PROJ: 562910000

7.3.12.2.2.3 Nesting data from 2010 provided by TTOR for the Cape Poge Refuge that include portions of our MRS study or action areas illustrates the dynamic nature of the shorebirds (**Figure 7-4**). Piping plover, least and common tern nesting was recorded at Norton Point Beach, along with Piping plover hatchlings resulting from successful hatches .

7.3.12.2.2.4 Piping Plovers nesting has occurred infrequently along the ocean beaches to the east of the action area: between Aruda's Point and the Jetties. One pair of Piping Plovers nested unsuccessfully north of Aruda's Point in 2008. Dense inter-dune vegetation near Aruda's Point precludes travel of unfledged chicks between Aruda's Point and Cape Poge Bay.

7.3.12.2.2.5 Adult Piping Plovers have been observed foraging along the shoreline of Drunkard's Cove—between Simon's Point and Little Neck. This area is part of The Trustees of Reservations publically accessible vehicle travel corridor.

7.3.12.2.3 Roseate Tern

7.3.12.2.3.1 Roseate Terns (15 pairs) nested along the southern shore of Shear Pen Pond in 1982. The colony was flooded out and the site occupied by nesting gulls in 1984. Roseate Terns have not occupied this site since 1982. Roseate Tern activity was not anticipated during the 2009 breeding season. The TTOR field data from 2010 reports 26 roseate tern present on Chappaquiddick (Email Chris Buelow, TTOR 27 Oct 2010). **Figure 7-3** lists common tern/roseate tern colony in the key, but no colonies were located at the Cape Poge Refuge and Norton Point Beach.

7.3.12.2.3.2 According to TTOR, they have not had shorebirds nest at Long Point since 2005. However, the MANHESP has recorded nesting of protected tern species along the Tisbury Great Pond barrier beach to the west of Long Point extending to the western end on the private properties controlled by the Quansoo Beach Association (Personal communication, Tim Simmons, MANHESP 5 November 2010).

7.3.12.2.4 Common and Least Tern

7.3.12.2.4.1 The above protocols for the protection efforts of the Piping plover and Roseate tern will also provide protection for the Common and Least terns. Should any work activity occur when these avian species are present April 1 through August 31, daily consultation with TTOR and MANHESP will occur to coordinate activities to minimize impact. In 2010 a tern colony, common

and least, were recorded nesting east of the cut in Katama Bay, off Norton Beach and along the beach/dunes of Tisbury Great Pond barrier beach.

7.3.12.2.5 Northern Harrier

7.3.12.2.5.1 The Northern harrier or Marsh hawk nest in wet meadows, grasslands, abandoned fields and coastal/inland marshes. They are particularly vulnerable from March-August during breeding activity. Nests may be in shallow depressions created on the ground, in low vegetation or in shallow water on a pile of vegetation. Nests are built from grasses, water weeds and other selected vegetative material. These northern harrier areas are vulnerable to foot and vehicular traffic. Each of the three MRS sites have upland areas which are potential harrier nesting sites, with the Cape Poge site the most active nesting area. Since the nests are well camouflaged the protection/ minimizing threat is to avoid this upland habitat from March through August. As with other listed avian species, close coordination with TTOR and MA Natural Heritage is required prior to any activity in the upland during this time period to check northern harrier sightings.

7.3.12.2.5.2 Many northern harriers that nest on Cape Cod and the islands migrate south for the winter. Northern harriers that don't migrate south or those that nest to the north of MA may also winter on the islands off the coast of Massachusetts (MANHESP Program Bulletin). Activities related to Phase 1 and 2 should not impact these overwintering birds.

7.3.12.2.5.3 As with the above mentioned Federal- and State-Listed birds, it is recommended that Phase 1 and 2 RI activities shall not be conducted in their nesting habitat during the Northern harrier's breeding season, March 1-August 31. The one reported northern harrier breeding site is in thick vegetation on the western portion of Tisbury Great Pond. This breeding site is on property managed by the Sheriffs Meadow Foundation. (Personal communication, Kristen Fauteux, Sheriffs Meadow Foundation, 5 November 2010).

7.3.12.2.5.4 A specific recommendation for protection of the breeding northern harrier by MA Natural Heritage is to not mow the low, dense vegetation (probably scrub oak). The cutting of the vegetation will disrupt the cover around the nest and provide access to the harrier nest by predators such as skunk and raccoon. Phase 1 survey will occur on foot with the hand held magnetometer. The elimination of cutting vegetation in this area will be in addition to the exclusion of Phase 1 activity from March 1 to August 31.

7.3.12.3 Environmental Requirements and Protocols by TTOR, MANHESP and Others for Protected Avian Shorebird Species

7.3.12.3.1 As stewards of the environment TTOR, MANHESP and other involved stakeholders place symbolic fencing each spring in all potential habitat beginning in April. The fencing is placed from the toe of the dune throughout much of the ocean facing beach. Symbolic fencing is 5-6 ft stakes placed about 15 ft apart. The stakes are inserted to a sufficient depth to support twine tied 4 ft from the ground. Symbolic fencing is placed parallel to the toe of the dune at Tisbury Great Pond Barrier Beach, Norton Point Beach, and any other potential shorebird nesting areas. This fencing will also protect the larval habitat of the Northeastern Beach Tiger Beetle since they are collocated. Motor vehicles are excluded from the beach habitat throughout the nesting season from April 1- August 31. This means the elimination of public vehicles in the vicinity of chicks while there are chicks on the beach and greatly limiting all use of essential TTOR vehicles for their managed properties. Essentially Norton Point Beach was closed for most of the summer in 2010. TTOR also used wire mesh fencing to surround the tern colony on Norton Point Beach in 2010, and electric fencing may be sued in 2011 to protect some nesting areas, especially on Norton Point Beach.

7.3.12.3.2 To lessen impact on these Federal and State -listed avian species all field activities including preparation and staging should occur when these species are not present. Proper field schedule design will alleviate any potential impact on these species by avoidance by working outside of their nesting season. **Table 7-3** Protected Avian Species No Work Windows provides the windows for the shorebirds and Northern harrier by MRS, Land Categories and Habitat.

7.3.12.4 Daily Protocol for Remedial Investigation Field Operations at Little Neck, Cape Poge Wildlife Refuge and at Norton Point Beach During the Shorebird Nesting Season April 1-August 31, 2011

7.3.12.4.1 Nesting Piping Plovers & Other Shorebirds of Concern. Starting on April 1, 2011 by 1000 hours daily, the UXB on-site UXO supervisor will contact Acting Chappaquiddick Superintendent Sarah Trudel (radio call sign: Trustees 11) via VHF radio channel 159.465 MHz or via land line (508-627-7689) for the Cape Poge Wildlife Refuge to discuss the last known location of any Piping plover nests, feeding Piping plover adults or chick locations, and any other protected shorebird species.

Table 7-3: Protected Avian Species No Work Windows

PROTECTED AVIAN SPECIES NO WORK WINDOWS			
MRS Sites	**Land Categories/Habitats**	**Shorebirds April 1-August 31**	**Northern Harrier March 1-August 31**
FMTMGR at South Beach MRS	**Beach**		
	South Beach/Dune	None*	None
	Norton Point Beach/Dune	**Apr 1-Aug 31**	None
	Wasque Point Beach	None*	None
	Inland Water		
	Katama Bay	**Potential Apr 1-Aug 31****	None
	Land		
	Wasque Pt. Upland	None	None
	Ocean		
	Adjacent to South Beach	None*	None
	Adjacent to Norton Point Beach/Dune	**Apr 1-Aug 31**	None
	Adjacent to Wasque Point Beach	None*	None
Cape Poge/Little Neck MRS	**Beach**		
	North-East to Simon Point	None*	None
	Inland Water		
	Cape Poge Bay/Shear Pen Pond	None	None
	Inland Water Beaches	None*	None
	Land		
	Cape Poge Lighthouse/Upland	None	**Mar 1-Aug 31**
	Little Neck/Upland & Salt Marsh	None*	None
	Ocean		
	North-East to Simon Point	None*	None
Tisbury Great Pond MRS	**Beach**		
	Barrier Beach/Dunes	**Apr 1-Aug 31**	None
	Inland Water		
	Tisbury Great Pond	**Potential Apr 1-Aug 31****	None
	Long Point Ponds/Wetlands	None	None
	Land		
	Western Uplands	None	**Mar 1-Aug 31**
	Eastern Uplands	None	None
	Ocean		
	Adjacent to Barrier Beach/Dunes	**Apr 1-Aug 31**	None

Footnotes:

* - None anticipated based on 2010 reported shorebird occurrences and historical data; however, shorebird nesting locations can vary year to year. In accordance with the Environmental Protection Plan, UXB will contact the TTOR Shorebird Technicians daily during the nesting season (April 1 - August 31) for any reported occurrences for properties that they manage or the MANHESP for the private properties.

**- Potential no work window if the Inland Water near shore field activities adjacent to northern side of the barrier beach/dunes will disturb the nesting shorebirds.

7.3.12.4.2 Similarly for the Long Point Wildlife Refuge, the UXB on-site UXO supervisor will contact Superintendent Chris Egan (radio call sign: Trustees 11) via VHF radio channel 159.465 MHz or via land line (508-693-3678).

7.3.12.4.3 Vehicle Travel Restrictions. In the opinion of TTOR Shorebird Technicians, if vehicle access presents potential for adverse impact to shorebird resources they will so notify Acting Superintendent Sarah Trudel for Cape Poge Wildlife Refuge and Chris Egan for Long Point Wildlife Refuge daily by 1000 hours. Acting Superintendent Trudel or Superintendent Egan will take any and all measures necessary to assure vehicle access in these areas will not create situations where nesting Piping plovers or Least terns are impacted from passing vehicles, per the Massachusetts Shorebird Protection Guidelines.

7.3.12.4.4 If unfledged chicks are present in the area, only Essential Vehicles will be allowed into the vehicle exclusion area per Massachusetts or USFWS Shorebird Protection Guidelines. UXB vehicles will be treated as Essential Vehicles and will be required to access the impacted area with a TTOR Shorebird Technician present. Logging into and out of the area is also required per the Guidelines noted herein.

7.3.12.4.5 Unfledged Piping Plovers. UXB will be required to follow the same vehicle guidelines as the general public. If vehicle corridors are open to the public, UXB would also have access. In the event of vehicle closures due to the presence of unfledged Piping Plovers, UXB will follow the state and federal provisions for "essential vehicles." Namely:

7.3.12.4.6 Essential vehicles will travel through chick habitat areas only during daylight hours, and will be guided by a qualified monitor who has first determined the location of all unfledged plover chicks.

7.3.12.4.7 Speed of vehicles will not exceed five miles per hour.

7.3.12.4.8 A log will be maintained by the beach manager of the date, time, vehicle number and operator, and purpose of each trip through areas where unfledged chicks are present. Personnel monitoring plovers will maintain and regularly update a log of the numbers and locations of unfledged plover chicks on each beach. Drivers of essential vehicles will review the log each day to determine the most recent number and location of unfledged chicks.

7.3.12.4.9 Reporting Requirements for Mortality of Piping Plover during TCRA: In the event that a piping plover (or Roseate tern) chick or adult is found dead during the

removal of explosives, the following special agent of the U.S. Fish and Wildlife Office of Law Enforcement should be immediately contacted:

7.3.12.4.9.1 David N. Sykes
Resident Agent in Charge
Office of Law Enforcement
U.S. Fish and Wildlife Service
70 Everett Avenue, Suite 315
Chelsea, MA 02150-2363
Phone: 617-889-6616 x 15
Fax: 617/889-1980

7.3.12.5 Northeastern Beach Tiger Beetle (NEBTB)

7.3.12.5.1 This insect has a full two year life cycle, with dipause/overwintering as a second instar larva. The larva are active through at least November and emerge from diapause in mid-March. Larva live in vertical burrows located in the upper intertidal to high drift zone. Their entire life cycle, adult, egg, larva and emerging adult occur in the foredune portion of the beach. The adults are active predators and will probably not be affected by either Phase 1 or 2 of the Project. Eggs are deposited in the sand on the upper dune. The beetle is most vulnerable in the larval stage while in the burrow. Larvae feed on insects feeding on detritus in the drift line. Their burrows which may be between 4 to 14 inches in the sand with an opening of about 0.5 inches are vulnerable to vehicular traffic. Vehicular traffic and heavy foot traffic on the upper beach just below the level of spring high tide, the drift line and the berm at the base of the dune are responsible for high mortality and their extirpation from much of their range in the Northeast. To limit impact to the beetle, the equipment to be used in Phase 1 on the beach has been modified to include an ATV which will tow the array on the beach. The smaller tires and reduced weight will not impact the beetle

7.3.12.5.2 The Northeastern Beach Tiger Beetle (NEBTB) occurs on the sandy beaches, washover areas and blowouts of the Tisbury Great Pond MRS and possibly other MRS project areas. However, no NEBTB have been observed at the other MRS sites since the 1950's and they have been checked regularly since 1990 (Email Tim Simmons, MANHESP, 27 October 2010). For Phase 1, to minimize impact to the larval stage an ATV towed array will be utilized on the beach. Phase 1 activity will be limited to the hand operated and pushed magnetometer on and in the vegetated dunes.

7.3.12.5.3 Intrusive Phase 2 activity within actual Northeastern Beach Tiger Beetle larval habitat will require additional coordination with the USFWS and the MANHESP.. The location of the NEBTB habitat in our MRS or action area seems to be limited to the Tisbury Great Pond barrier beach to the east by Long Point and to the west of the cut by Quonsoo Beach (personal communication Tim Simmons, MANHESP and Entomologist Paul Goldstein, Ph.D., Vineyard Haven, MA).

7.3.12.5.4 There are two tiger beetle species inhabiting the Atlantic beach, the common hairy collared tiger beetle, *Cicindela hirticollis*, and the northeastern beach tiger beetle, *C. d.dorsalis*. It is not possible to distinguish the larvae of the two species from a photograph. One either needs to probe the burrow with a small skewer to determine the burrow angle or excavate a burrow carefully to examine the larva for diagnostic characteristics. The MANHESP recommended that the project hire someone with the necessary skills to identify tiger beetle larvae when working in the Long Point - Quansoo Beach Association beach areas. When inclement weather arrives or they have recently fed tiger beetle larvae plug their burrows or allow them to be covered by windblown sand. Tiger beetle larvae tend to be concentrated at this time of year (fall-winter) as they retreat landward due to the changing beach profile of the winter beach. It is important to identify larval concentrations before they become dormant or nearly dormant for the winter. Tim Simmons (MANHESP) has excavated larvae in the spring and fall that were 38 inches below the surface.

7.3.12.5.5 When excavating MEC in these areas it may be useful to screen the surrounding sand, retrieve any tiger beetle larvae and restore them to a new burrow in appropriate habitat. This is essentially what the MAHNESP does when translocating larvae for restoration.

7.3.12.6 Sand-plain Gerardia (*Agalinus acuta*)

7.3.12.6.1 An extremely rare, delicate annual herb, averaging 10-20 cm tall, smooth stem with opposite linear leaves. Short lived, bell shaped purple flowers are on 0.5-1.2 inch stalks with 5 petals fused to form a corolla tube. Sandplain gerardia has been located only at the Tisbury Great Pond MRS, east of Long Cove Pond. (USFWS Response Letter, September 27, 2010). Three other species of the genus *Agalinus* could also be present at the site. A description of Sandplain gerardia will be included in the Field manual. The Phase 1 RI investigation will not impact this plant. If Phase 2 requires digging in this habitat to remove an anomaly, the plug of soil and above ground vegetation will be placed on a plastic sheet, the object

removed and the soil with vegetation will be replaced in the hole and gently tamped back in place.

7.3.12.7 State-Listed Insects (Dragonfly, Beetle, Butterflies & Moths)

7.3.12.7.1 There are eighteen State-listed insect species in addition to the NEBTB. These species are the 4th-21st as previously listed in the Section on State Listed Species and include primarily butterflies and moths along with one additional beetle (Purple tiger beetle) and one dragonfly (Comet darner). Many of these organisms have complicated life cycles, with as many as four forms, egg/larva/pupa /adult. Each of these life forms may occupy a different habitat.

7.3.12.7.2 Phase 1 of the MRS is minimally intrusive. Adult forms of the insects are motile, easily avoiding contact with equipment. Larva, caterpillar or maggot-like forms are unlikely to be impacted during the transect surveys, no more than they would be affected by someone walking through the habitat.

7.3.12.7.3 Phase 2 could potentially impact the pupa and larva form of the insect. When anomalies are located, they will be removed from the substrate. The soil and any rooted vegetation will be dug from the surface of the anomaly, placed on a sheet of plastic adjacent to the hole and replaced upon removal of the anomaly.

7.3.13 Protection for State-Listed Plants

7.3.13.1 Phase 1 activities will have minimal impact. For example, Nantucket shadbush growth will be encouraged with cutting. Phase 2 digging activity may impact listed plants, but the probability that an anomaly will be present in an area with a listed plant cover is remote. The removal of the plug of soil over the anomaly and its replacement will limit the potential impact to a State-listed plant.

7.3.14 Manifesting, Transportation, and Disposal of Wastes

7.3.14.1 No hazardous wastes are expected to be generated as a result of site activities. Trash will be bagged and disposed of properly off site. Munitions debris will be placed into containers and transported off site for recycling.

7.3.15 Burning Activities

7.3.15.1 There are no burning activities planned for this project.

7.3.16 Dust and Emission Control

7.3.16.1 Due to the limited amount of disturbed area anticipated during the project and the fact that much of the work will be conducted in wet areas, it is not anticipated that dust or emissions controls will be needed on site.

7.3.17 Spill Control and Prevention

7.3.17.1 There will not be any storage of fuel, oil, paint, or similar materials on sites. In the event of a spill in an area cleared of MEC, shovels will be used to remove any contaminated soils, which will be containerized and properly disposed. If the area has not yet been cleared of MEC, the clearance will be performed before soil removal occurs. A spill kit containing absorbent, rags, shovels, and latex gloves will be available on site.

7.3.18 Storage and Temporary Facilities

7.3.18.1 UXB has obtained a temporary secure space at Edgartown Marine for the storage of equipment. All MPPEH/MEC items will be disposed of in accordance with the ESP. Munitions debris and scrap metal will be removed from the site and stored in a locked container sited at the Edgartown Police Station pending recycling/salvage.

7.3.19 Access Routes

7.3.19.1 Access to the site will be via numerous recognized paved roads as well as well-traveled dirt access roads. Check with **Table 7-3** for specific No Work Windows and restrictions to be certain that access and staging sites will not impact protected species or their habitats. No roads will need to be created for the project. Since spotted knotweed was observed growing on many island roadsides, access areas should be checked prior to being traversed into the three MRS sites. Determine whether the access sites are within shorebird, northern harrier breeding and northeastern beach tiger beetle habitat. For example access at Norton Point Beach may be limited between April 1 and August 31. Boat access to freshwater ponds and wetlands will be in areas to limit impact to emergent vegetation.

7.3.20 Control of Water Run-on and Run-off

7.3.20.1 Due to the limited amount of disturbed area expected on site, run-on and run-off controls are not anticipated.

7.3.21 Decontamination and Disposal of Equipment

7.3.21.1 Decontamination will consist of performing a dry-decon of equipment (including scraping dirt and mud from the equipment) before demobilization. See Section 7.3.9 for measures to be implemented relative to the control of invasive species. Disposal of equipment consumed during the project will include the draining and capturing for disposal of any hazardous materials (such as fuel and oil) within the equipment, and that hazardous material will be disposed of properly.

7.3.22 Minimizing Areas of Disturbance – Phase 2

7.3.22.1 Once potential MEC is located, soil and plants covering the device will be excavated and placed to one side. All detonation holes shall be, to the greatest extent feasible, filled, regarded, and returned to their previous state. The excavated soil and plant material will be placed over the detonation hole. The detonation hole will not be filled with soil from another area to minimize the possibility for the introduction of invasive species. Explosive disposal activities may release vapors or gaseous emissions, but since they are temporary and intermittent in nature, they are not anticipated to be detrimental to the local environment. Given the sites are environmentally sensitive and are highly utilized tourist areas, every effort will be made to minimize the spread of shrapnel during explosive evolutions and a thorough clean-up of any shrapnel will occur prior to departing the MRSs.

7.3.23 Post-Activity Cleanup and Site Restoration

7.3.23.1 At the completion of activities, all equipment and materials brought on site will be removed. After the acquisition of Selected Anomalies in Phase 2 and depending on the degree on surface disturbance and existing habitat, restoration measures include replacing the soil that is removed at the surface along with the vegetated root mass (top six inches) as a transplant measure and/or seeding with the appropriate native seed mixture in addition to leaving the site of the excavation bare for natural recolonization. UXB will conduct a final walk-through with the USAESCH PM to ensure that no remaining clean-up items exist. It is anticipated that the majority of excavation sites will be within sub-tidal and inter-tidal areas, and they will be naturally restored when the substrate caves in as the metal object is removed.

7.3.24 Air Monitoring Plan

7.3.24.1 Not applicable.

7.4 ENVIRONMENTAL PROTECTION PLAN (EPP) FOR CULTURAL RESOURCES PROTECTION

7.4.1 Cultural and Archaeological Resources On-Site

7.4.1.1 Federal and commonwealth agencies and stakeholders associated with cultural and archaeological resources listed on **Table 7-1** will have the opportunity to review the Work Plan and/or work areas prior to the commencement of any work. The review will allow the USACE to identify work areas, which may potentially include cultural or archaeological sites. The MA SHPO, via letter dated October 28, 2010, has concurred with our approach stipulating archaeological monitoring

of all sub-tidal, intertidal and upland areas as specified in correspondence from USACE dated October 19, 2010. All work performed will be in compliance with all federal, commonwealth, and local laws, regulations and statues. In addition, no work will be performed until all applicable "permits" (i.e. the functional equivalent since exempt from administrative requirements under CERCLA) have been obtained regarding cultural and archaeological resources.

7.4.2 Cape Poge Little Neck Bomb Target MRS and the Moving Target Machine Gun Range at South Beach MRS

7.4.2.1 The Cape Poge Little Neck Bomb Target MRS and the Moving Target Machine Gun Range at South Beach MRS may contain cultural and archaeological sites. Anecdotal evidence indicates there are two areas of remnant shell middens and arrowheads in the Little Neck area of Cape Poge Bay. Additionally, there is a reference to a 19th century smallpox hospital in the northern Cape Poge area. The Trustees of Reservation should indicate the location of known shell middens and other cultural resources to the UXO team prior to initiation of work. These areas should be avoided unless necessary for munitions clearance and remediation. In the event human remains are uncovered, all work will cease. The CENAE PM or designee will notify state and/or local police and the Massachusetts Medical Examiner, Wampanoag Tribe's Historic Preservation Officer, and Massachusetts State Archaeologist in accordance with the State Burial Law.

7.4.3 Discovery of Human Remains

7.4.3.1 If bones are determined to be human and are less than 100 years old, a criminal investigation may be warranted. If greater than 100 years old, the medical examiner then notifies the state archaeologist who conducts an archaeological investigation of the site. If the state archaeologist determines that the remains are Native American, then the Wampanoag Tribe and the Massachusetts Commission on Indian Affairs will be notified. If it is determined that the burial cannot be adequately protected, the state archaeologist can remove the remains. For archaeological sites and/or human remains on DCR-owned property, the DCR Archaeologist listed in **Table 7-1** will also be contacted.

7.4.4 Escort Visiting Parties to Sites

7.4.4.1 A UXB UXO technician will escort any visiting parties inspecting the find(s). Anecdotal evidence also indicates the presence of a World War II (WWII) bunker several hundred yards off South Beach, approximately South of Katama and southeast of the Katama Air Park between Atlantic Drive and Mattakesett Herring

Creek, visible at low tide. The field team should be aware that there might be other sites or features found in conjunction with the target storage building. The CENAE PM will be notified of any additional findings during the course of work.

7.4.5 Underwater Investigations

7.4.5.1 To mitigate impacts to items of cultural interest underwater, a marine archeologist will evaluate the anomaly signatures in the collected data prior to intrusive investigation and compare them to known items of cultural value. If the item is clearly identified as a cultural item, it will not be disturbed. For items not clearly identified as a cultural item that are selected for further investigation, the diver will make an initial determination as to the nature of the item, with ultimate disposition of MEC items as described in the ESP. For non-MEC items, a visual description of the item will be recorded, and if possible, a digital photo taken with the coordinates of the item recorded. These will be provided to the marine archeologist for further analysis, with ultimate disposition by others, with the item returned to the location found, and replaced in the approximate orientation as found. Similar archaeological monitoring and recordation will be conducted for upland areas with the assistance of a terrestrial archaeologist.

Attachment 7-1: Rare, Threatened, & Endangered Species Consultation Request

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
696 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

REPLY TO ATTENTION OF

July 23, 2010

Engineering/Planning Division
Evaluation Branch

Ms. Mary Colligan
National Marine Fisheries Service
Northeast Regional Office
Protected Resources Division
55 Great Republic Drive
Gloucester, Massachusetts 01930

SUBJECT: Rare, Threatened and Endangered Species Consultation for the ESTCP Technology Demonstration & MEC Support Project at the Former Cape Poge Little Neck Bomb Target Site, Chappaquiddick Island, Former Moving Target Machine Gun Range at South Beach, and Tisbury Great Pond, Martha's Vineyard, Massachusetts

Dear Ms. Colligan:

The U.S. Army Corps of Engineers (USACE), as the Lead Agency, is providing dive operations support as part of an Environmental Security Technology Certification Program (ESTCP) Technical Demonstration & MEC (Munitions and Explosives of Concern) in the ocean waters off of South Beach, Martha's Vineyard. This ESTCP technical demonstration project is being conducted for the Department of Defense (DoD) by Tetra Tech EC, Inc., with dive support by our contractor, UXB International, Inc. Based on your May 11, 2009 response to our Time Critical Removal Action consultation letter dated April 1, 2009, pursuant to Section 7 of the Endangered Species Act (ESA) of 1973, as amended and recent telephone conversation between Julie Crocker of your staff and Robert W. Davis of my staff, we understand that several species of listed sea turtles occur seasonally off the coast of Martha's Vineyard. We also understand that listed whales also occur in offshore waters of Martha's Vineyard. The USACE anticipates that the limited intrusive work being proposed herein will not adversely affect any species or their habitat if present. We therefore request your concurrence with our determination that the proposed action is not likely to adversely affect any species listed by NOAA's National Marine Fisheries Service (NMFS). This support work is anticipated to continue until September 2010, or perhaps longer depending on the amount of MEC that needs to be investigated.

The Department of Defense (DoD) is responsible for assessment and remediation of munitions and explosives of concern (MEC) impacted areas throughout the United States. An estimated 15 million terrestrial acres of land have been impacted by historical ordnance operations and the underwater acreage may be even greater. There are well-developed methodologies and approaches for assessment of terrestrial MEC; however, there are currently no "standardized" approaches for wide area assessment (WAA) for MEC in the fresh water or

marine environments. This project is one initial step in development of a more standardized approach for underwater assessments. It will demonstrate the effectiveness of equipment systems combining multiple underwater detections and mapping instruments to effectively discriminate and locate underwater MEC. It will also demonstrate methods for fusion of data from multiple instruments into a seamless data stream that provides multi-faceted information for the evaluation of ordnance-related conditions and physical features that will impact the selection of appropriate and effective removal strategies.

This ESTCP special study is a collaborative joint investigation with limited off shore intrusive work by divers in advance of conducting the full blown Remedial Investigation/Feasibility Study (RI/FS) for Martha's Vineyard that is not scheduled to start until later this fall after coordination with all of the involved stakeholders and regulatory approval of the RI/FS Work Plan. The RI/FS will involve intrusive work on land, beach and near shore waters and as such we plan to complete consultations relative to Federal and State listed rare, threatened and endangered species with you, the US Fish and Wildlife Service (USFWS), the MA Natural Heritage & Endangered Species Program (MANHESP), and other applicable resource agencies.

The work for this proposed action is summarized below as excerpted from the enclosed Final Abbreviated Work Plan, ESTCP Technology Demonstration & MEC Survey Dive Support, Martha's Vineyard, Massachusetts, dated June 2010. Figure 1-1 is the general map of the study area that shows the two ESTCP Survey Areas while Figure 3-4 provides detailed bathymetry along with the proposed transects. I have also enclosed a larger full size color plan of Figure 3-4.

UXB International, Inc. (UXB) has been contracted by the US Army Engineering and Support Center, Huntsville (USAESCH) under contract W912DY-04-D-0019, Task Order (TO) DO 0007 to perform a Remedial Investigation/Feasibility Study (RI/FS) at the Former Cape Poge Little Neck Bomb Target Site Chappaquiddick Island, Dukes County, Massachusetts, FUDS D01MA0595, Former Moving Target Machine Gun Range at South Beach, Martha's Vineyard, Edgartown, Massachusetts, FUDS D01MA0486 and Tisbury Great Pond, FUDS D01MA0453. In addition to the RI/FS, UXB and its subcontractor, VRHabilis, will provide dive operations support as part of an Environmental Security Technology Certification Program (ESTCP) Technical Demonstration in the ocean waters off of South Beach. Diving support activities include establishing an underwater instrument verification strip (IVS) and investigating underwater anomalies identified by the principal investigator, Tetra Tech. In addition, UXB will conduct a Munitions and Explosives of Concern (MEC) transport study in the ocean off South Beach and Tisbury Great Pond. This abbreviated Work Plan (WP) describes the goals, methods, procedures, and personnel used for field activities associated with the ESTCP Demonstration and the MEC Transport Study. The areas where work will be performed are located in the Atlantic Ocean adjacent to Tisbury Great Pond and South Beach, and within Edgartown Harbor.

MEC are a safety hazard and may constitute an imminent and substantial endangerment to site personnel and the local populace. The work associated with the activities covered in the work plan shall be performed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 104, and the National Contingency Plan (NCP), Sections 300.120 (d) and 300.400(e). All MEC encountered during this munitions

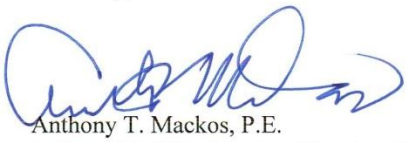
response shall be destroyed on-site. Applicable provisions of Chapter 29 of the Code of Federal Regulations (CFR) 1910.120 apply. All activities involving work in areas potentially containing MEC hazards shall be conducted in full compliance with United States Army Corps of Engineers (USACE), USAESCH, Department of the Army (DA), state and local requirements regarding personnel, equipment and procedures, and Department of Defense (DOD) Standard Operating Procedures (SOPs), safety regulations and Department of Navy Dive Standards. Due to the inherent risk in this type of operation, Unexploded Ordnance (UXO) personnel shall be limited to 40-hours per week on MEC related tasks, exclusively during sunlight hours.

CERCLA response actions are exempted by law from the requirement to obtain Federal, State or local permits related to any activities conducted completely on-site. It is the policy of the USEPA, MassDEP and the DA to assure all activities conducted on sites are protective of human health and the environment and to meet (or waive) the substantive provisions of permitting regulations that are applicable or relevant and appropriate requirements (ARARs). The ESTCP project is also being closely coordinated with the Massachusetts Department of Environmental Protection (MassDEP) and the U.S. Environmental Protection Agency (USEPA) and other stakeholders such as the Edgartown Conservation Commission. The final work plan, when available, will be provided to your office, the town of Edgartown Conservation Commission, the Trustees of Reservations, the MADCR, the Dukes County Manager, the MADEP, and the Wampanoag Tribe.

The USACE anticipates that the limited intrusive work being proposed herein will not adversely affect any species or their habitat if present. Adequate measures to avoid, minimize and/or mitigate potential environmental impacts to the maximum extent practical without compromising our ability to achieve the primary objectives of the ESTCP Demonstration Project, were incorporated into the Environmental Protection Plan, Section 7 in the enclosed Work Plan. Upon completion each impacted removal site (i.e. as impacted for each anomaly or explosive munitions hazard investigated and removed by the divers) will be naturally restored to existing conditions. Since all of these sites will be within sub-tidal and inter-tidal areas they will be naturally restored when the substrate caves-in as the metal object is removed.

We appreciate your timely concurrence to our determination and look forward to continued coordination and consultation with your office as the RI/FS proceeds. If you have any questions and/or need additional information, please contact Mr. Robert W. Davis, Environmental Resources Specialist, at 978-318-8236 (Robert.W.Davis@usace.army.mil).

Sincerely,



Anthony T. Mackos, P.E.
Acting Chief, Engineering/Planning Division

Enclosures

Attachment 7-2: Rare, Threatened & Endangered Species Consultation Response

United States Department of the Interior

FISH AND WILDLIFE SERVICE

New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5087
http://www.fws.gov/newengland

September 27, 2010

Mr. Robert W. Davis, M.S.
Evaluation Branch
Engineering/Planning Division
USACE-New England District
696 Virginia Road
Concord, MA 01742-2751

Dear Mr. Davis:

This responds to your electronic transmission, dated August 17, 2010, requesting that we review the proposed Military Munitions Response Program Remedial Investigation/Feasibility Study (RI/FS) to be conducted on Martha's Vineyard at three munitions response sites, and confirm the presence of federally-endangered or threatened species that were listed in your request. The sites proposed for inclusion in the RI/FS are the former Cape Poge Little Neck Bomb Range Target, the former Moving Target Machine Gun Range at South Beach, and the Tisbury Great Pond munitions response sites (MRS). Our comments are provided in accordance with Section 7 of the Endangered Species Act of 1973 as amended (16 U.S.C. 1531-1533).

Based on information currently available to us, we concur with your assessment that the federally-endangered roseate tern (*Sterna dougalii dougalii*) and sandplain gerardia (*Agalinus acuta*) may be present in the project areas, as well as the federally-threatened piping plover (*Charadrius melodus*) and northeastern beach tiger beetle (*Cicindela dorsalis dorsalis*). There is no federally-designated critical habitat.

Piping plovers and roseate terns could occur on the sandy beaches at all three project areas during the breeding and fall migration period of April 1 through September 30. Sandplain gerardia is located adjacent to the Tisbury Great Pond MRS in the sandy upland east of Long Pond. The Northeastern beach tiger beetle occurs on sandy beaches, washover areas and blowouts of the Tisbury Great Pond MRS and possibly the South Beach MRS.

In order to avoid adversely affecting piping plover or roseate terns, we recommend that activities associated with the remedial investigation (transects, sampling) not occur between April 1 and September 30, or be closely coordinated with the organizations managing piping plover and/or terns. Northeastern beach tiger beetles are present year round and are difficult to detect. Vehicle

use or other large-scale sand disturbance activities occurring in tiger beetle habitat could cause adverse impacts to larvae and adults. Once specific activities and locations have been identified, we may be able to recommend actions to avoid and/or minimize adverse effects to this species and its habitat.

We are available to assist you in the development of the RI/FS, identification of potential impacts to federally-listed species, and recommendations to avoid and/or minimize adverse effects. Please contact Susi von Oettingen of this office at 603-223-2541, extension 22, if you have any questions or need additional assistance.

Sincerely yours,

Thomas R. Chapman
Supervisor
New England Field Office

Attachment 7-3: Massachusetts Historical Commission Concurrence

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
696 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

REPLY TO ATTENTION OF

October 19, 2010

RECEIVED
OCT 20 2010
MASS. HIST. COMM
#45470
#2048
#19046

Engineering/Planning Division
Evaluation Branch

Ms. Brona Simon, Executive Director and SHPO
Massachusetts Historical Commission
The Massachusetts State Archives Building
220 Morrissey Boulevard
Boston, Massachusetts 02125

Dear Ms. Simon:

The U.S. Army Corps of Engineers, New England District, is preparing to conduct a Remedial Investigation and Feasibility Study (RI/FS) to investigate Munitions and Explosives of Concern (MEC) and to sample for Munitions Constituents (MC), at the former Cape Poge Little Neck Bomb Target Site, the former Moving Target Machine Gun Range at South Beach, and the Tisbury Great Pond Munitions Response Site (MRS), Chilmark and West Tisbury, all on Martha's Vineyard, Massachusetts (see enclosed figures). We have previously coordinated with your office on a Time Critical Removal Action (TCRA) at South Beach and Cape Poge (see enclosed 2009 correspondence). We would like your comments on the planned RI, in accordance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The FS will be conducted after completion of the RI.

Between 1943 and 1944, the Department of the Navy acquired the leases to the properties of the former ranges at Cape Poge Little Neck, South Beach, and Tisbury Great Pond. The sites were used to provide training for the 1st Naval District, whose flight operations were based at Naval Air Station Quonset Point, Rhode Island, and the Naval Auxiliary Air Station Martha's Vineyard. The leases for Cape Poge were held until 1945, and the leases for Little Neck, South Beach and Tisbury Great Pond were held until 1947.

The Former Cape Poge Little Neck Bomb Target MRS is located on Chappaquiddick Island, which is located within the Town of Edgartown, Martha's Vineyard, Massachusetts. The site encompasses an area of approximately 800 acres including: 1) approximately 153 acres of land; 2) approximately 83 acres of beach; 3) approximately 500 acres of inland water; and 4) approximately 64 acres of ocean. The Cape Poge Little Neck MRS has become part of the Cape Poge Wildlife Refuge, which is owned and managed by The Trustees of Reservations (TTOR).

The Former Moving Target Machine Gun Range at South Beach is located within the town of Edgartown along the southern shore of Martha's Vineyard, Massachusetts.

The South Beach MRS encompasses approximately 478 acres including: 1) approximately 18.7 acres of land; 2) approximately 182.7 acres of beach; 3) approximately 7.7 acres of inland water; and 4) approximately 268.7 acres of ocean. Due to extensive beach erosion, the former range is now thought to be approximately 150 yards offshore at South Beach. South Beach is owned by the Commonwealth of Massachusetts, Department of Conservation and Recreation (DCR) and managed by the Edgartown Parks and Recreation Department from the first of May through Labor Day of each year.

The Tisbury Great Pond MRS is located within the towns of Chilmark and West Tisbury, Martha's Vineyard, Massachusetts. The site encompasses approximately 768 acres including: 1) approximately 198.1 acres of land; 2) approximately 61.5 acres of beach; 3) approximately 456.3 acres of inland water; and 4) approximately 52.4 acres of ocean. The majority of the site is owned by the Commonwealth of Massachusetts, TTOR, and private landowners. Tisbury Great Pond has elevations that range from sea level to three feet above mean sea level near the coast line in the southern portion of the site to approximately 15 feet in the northern portion. The majority of the area is flat with sand dunes, some of which are approximately 5 to 10 feet high. The shoreline gently slopes downward to the coast. There is a barrier beach separating Tisbury Great Pond from the Atlantic Ocean. Several times each year the barrier beach is manually breached to lower the elevation of the pond, which is brackish water, and to allow the water to flow into the Atlantic Ocean.

The overall objective of the RI is to determine the nature and extent of the MEC along with the MC (i.e. potential chemical contamination from the MEC) at each MRS. The MEC investigation will include sampling of soil, sediment, surface water, and groundwater. Through the collection of sufficient geophysical, visual, and analytical data, it will be possible to adequately characterize the nature and extent of the MEC and MC in order to determine future response actions at each MRS.

The RI study will be conducted in two phases. The first phase will be to conduct and complete the various surveys to delineate the spatial extent of geophysical anomalies through the acquisition of geophysical data along linear, parallel transects crossing each of the MRSs. These geophysical investigations will serve to delineate the nature and extent of surface and subsurface metallic objects. The second phase will consist of the evaluation of the geophysical survey data in order to select those anomalies that are potential MEC that need to be reacquired (i.e. dug up) to confirm the presence or absence of MEC or Munitions Debris (MD). This characterization will be accomplished through the use of Digital Geophysical Mapping (DGM) over two-dimensional grids and intrusively investigating a percentage of the geophysical anomalies identified within the grid boundaries. See enclosed figures for grid locations.

The anomalies to be reacquired will be selected and prioritized based on a variety of factors such as size, signal intensity, and shape characteristics. The prioritization process will also serve to differentiate anomalies associated with MEC from those not associated with MEC such as cultural debris.

- 3 -

Following this process, the reacquisition team will begin to relocate and flag each anomaly for the intrusive investigation team. Once an anomaly has been reacquired, a certified UXO technician will begin by hand excavating the soil in order to acquire the selected anomaly and determine if it is MEC or cultural debris. Water based anomalies will be excavated through use of an air lift or a water jet. If an anomaly is identified as MEC, it will then be determined whether it is safe to move or if it will require to be blown up in place.

Based on informal conversations with Ed Bell of your staff, we have decided that although significant historic properties may be present in the areas of potential effect, these properties may not be adversely impacted by the characterization and removal of MEC. Due to the need to remove all MEC for public safety, the Corps is proposing a conditional "no historic properties affected" (36 CFR 800.5(d) (1)) determination as recommended by Mr. Bell. This determination will be based on the following approach:

The excavation operations will be monitored by a qualified professional archaeologist experienced in the identification and treatment of ancient and historical period resources, including human remains, in the glaciated Northeast. Additionally, a marine archaeologist will be assisting with the characterization of anomalies in the subtidal areas. A memorandum report and MHC inventory forms for any identified sites will be completed by the archaeological monitors and provided to the MHC and other consulting parties. Any significant historic properties identified during the undertaking will be protected to the extent feasible. If no significant resources are found, a letter will be provided to the MHC and other consulting parties.

The Wampanoag Tribe of Aquinnah has requested that they be notified in the event that human remains are uncovered during the remediation. If remains are discovered, further work near burials will be suspended and the appropriate authorities alerted in accordance with state burial law. If human remains are identified, it may be necessary for the munitions specialists to "clear" that particular area of munitions so that the authorities can be allowed to complete their analysis. In all cases, regard for public safety will be the ultimate factor in determining access and the Corps Huntsville ordnance safety specialist will make the final determination.

We would appreciate your concurrence with this conditional "no historic properties affected" determination. If you have any questions, please contact Mr. Marc Paiva, project archaeologist of the Evaluation Branch, at (978) 318-8796.

Sincerely,

CONCURRENCE: Brona Simon
10/28/10
BRONA SIMON
STATE HISTORIC
PRESERVATION OFFICER
MASSACHUSETTS
HISTORICAL COMMISSION

Anthony T. Mackos, P.E.
Acting Chief, Engineering/Planning Division

RC. 45470
RC. 20048
Enclosures RC. 19046

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From: Davis, Robert W NAE [mailto:Robert.W.Davis@usace.army.mil]
Sent: Friday, November 26, 2010 1:07 PM
To: Kristin E. Black (MANHESP); Tim Simmons (MANHESP); Susi von Oettingen (USFWS); Julie Crocker (NMFS)
Cc: Russell Hopping (TTOR); Chris Buelow (TTOR); Chris Kennedy (TTOR); Sarah Trudel (TTOR); Chris Egan (TTOR); Julie Schaeffer (MVLBC); Kristen Fauteux (SMF); Chuck Hodgkinson (CCC); Jane Varkonda (ECC); Maria McFarland (WTCC); Kathryn Ford (MADMF); John Logan (MADMF); Isaiah L. Scheffer (CSC); Jeffrey Lynch (WTSC); Liz Kouloheras (MADEP); Tena Davies (MADEP); Carol A. Charette; Campbell, Ralph L HNC; Warminsky, Mike F.
Subject: RE: Martha's Vineyard MMRP-Remedial Investigation (RI) ENVIRONMENTAL PROTECTION PLAN (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Good day:

Attached please find the PDF of the Environmental Protection Plan (EPP) for the Military Munitions Response Program (MMRP) Remedial Investigation (RI) for the Cape Poge, South Beach and Tisbury Great Pond Munitions Response Sites (MRS). A hard copy (and CD) of the Final Work Plan (November 2010) was shipped by our Contractor, UXB International, Inc., on November 24, 2010 to the regulators (MADEP, USEPA) and major property owners/stakeholders that also included several organizations on our Natural Resources Coordination List (i.e. Chris Kennedy, Trustees of Reservations; James Lengyel, Martha's Vineyard Land Bank Commission; & Adam Moore, Sheriffs Meadow Foundation. As with the Draft Final Work Plan, I will also be sending a CD of the Final Work Plan to the natural resource agencies and stakeholders on my consultation and coordination list sent November 12, 2010.

The CDs of the Final WPs with the Environmental Protection Plan (Chapter 7.0) sent to the MANHESP, USFWS and NMFS will be formally transmitted with a written letter requesting concurrence of our informal consultation determinations. A copy of the Schedule Summary for each MRS is also attached that was prepared by UXB to be in accordance with the measures developed in the EPP to avoid, minimize and/or mitigate any potential adverse impacts to protected species and their habitats.

In response to MADEP's concerns that the proposed analog survey transect spacing of 100 meters for the preliminary recon transects is too wide and areas may be overlooked albeit additional transects and grids based will be added based on the preliminary data collected, the USACE has agreed to supplement the transect data with airborne magnetometry. The airborne magnetometry survey will provide 100 percent coverage for the three MRSs where site conditions allow low altitude flights. The airborne magnetometry will be conducted on beach areas (land and ocean sides), land areas with low vegetative cover, and inland water bodies with shallow water depths.
Airborne magnetometry will not be conducted in oceans areas. The airborne magnetometry survey will be conducted before March 1st to avoid the nesting seasons of the protected Northern harrier and shorebirds (e.g. Piping plover, Roseate tern, et al.) in accordance with EPP Table 7-3: Protected Avian Species No Work Windows.

Once the contract has been awarded for this work, an amendment to the Work Plan will be prepared to cover the airborne magnetometry. In the interim, work on the transects will commence per the original project plan. The data collected using traditional methods will then be used for comparative analysis for the airborne magnetometry with discretionary transects and grids based on this combined data.

Albeit the Work Plan will be considered Final so that the RI work can begin as soon as possible to achieve the project schedule we recognize that the EPP is a dynamic living working document. We anticipate that the EPP will be updated as needed based on specific activities in Phase 2 with more consultation and implementation of measures as needed for execution of Phase 2 once we determine the specific locations of the selected potential MEC anomalies that need to be acquired or dug up based on the geophysical evaluation of the combined Phase 1 survey data.

Take care,
Bob Davis
DERP-FUDS Environmental Compliance Manager

Robert W. Davis, M.S.
Environmental Resource Specialist &
Ecological Risk Assessor
Environmental Resources Section
Evaluation Branch
Engineering/Planning Division
USACE-New England District
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Classification: UNCLASSIFIED
Caveats: NONE

Martha's Vineyard Schedule Summary by MRS

Date: 27-Sep-10

CAPE POGE

Task 4a Optional Ocean/Inland Water Area, Cape Poge

Task	Start Date	End date	
Civil Survey	Fri 3/4/11	Tue 3/8/11	**Crew Size**
Ocean Survey	Tue 3/22/11	Wed 4/6/11	10-12
Analog Transects	Tue 3/22/11	Wed 4/6/11	
Inland Water Survey	Fri 12/17/10	Thu 3/3/11	7-10
Geophysical Test Strip	Fri 12/17/10	Mon 12/20/10	
DGM Transects	Tue 12/21/10	Mon 1/24/11	
Transect Data Review	Tue 1/25/11	Mon 2/7/11	
DGM Grids	Tue 2/8/11	Thu 3/3/11	
Intrusive Investigation	Fri 2/11/11	Fri 3/11/11	13-15
Prepare Dig Sheets	Fri 2/11/11	Tue 3/8/11	
Reacquire/Dig Anomalies	Mon 2/14/11	Wed 3/9/11	
MEC Disposal	Thu 3/10/11	Thu 3/10/11	
MPPEH/MD Disposal	Fri 3/11/11	Fri 3/11/11	
Task 4a Complete	Fri 3/11/11	Fri 3/11/11	

Task 4b Optional Former Cape Poge Bomb Site Land/Beach Area

Civil Survey	Tue 1/25/11	Thu 1/27/11	Hand-held for transects;
Clearing	Wed 12/15/10	Thu 12/23/10	Bobcat with cutter head for
Geophysical Test Strip	Tue 12/7/10	Tue 12/7/10	grids
Land Area	Thu 12/9/10	Mon 1/24/11	7-10
Site Recon/Analog Transects	Thu 12/9/10	Tue 12/14/10	
Transect Data Review	Wed 12/15/10	Tue 1/11/10	
DGM Grids	Mon 1/17/11	Mon 1/24/11	
Beach Area	Tue 12/14/10	Fri 1/14/11	3-5
Site Recon/Digital Transects	Tue 12/14/10	Tue 12/14/10	
Transect Data Review	Wed 12/15/10	Tue 1/11/10	
DGM Grids	Wed 1/12/11	Fri 1/14/11	
Intrusive Investigation	Thu 1/20/10	Mon 2/7/11	13-15
Prepare Dig Sheets	Thu 1/20/11	Wed 2/2/11	
Reacquire/Dig Anomalies	**Fri 1/21/11**	**Thu 2/3/11**	
MEC Disposal	Fri 2/4/11	Fri 2/4/11	
MPPEH/MD Disposal	Mon 2/7/11	Mon 2/7/11	
Task 4b Complete	Mon 2/7/11	Mon 2/7/11	

Martha's Vineyard Schedule Summary by MRS

Date: 27-Sep-10

SOUTH BEACH

Task 4c Optional Ocean/Inland Water Area, South Beach

Task	Start Date	End date	
Civil Survey	Wed 4/07/11	Wed 4/12/11	**Crew Size**
Ocean Survey	Mon 6/14/10	Tue 5/18/10	10-12
Analog Transects	Thu 4/7/11	Fri 5/13/11	
MEC Transport Study Analog Grid	Mon 6/14/10	Wed 5/18/11	10-12
Delineate Grid	Mon 6/14/10	Thu 6/17/10	
Seed Grid	Fri 6/18/10	Wed 6/23/10	
Monitor Grid	Thu 6/24/10	Wed 3/16/11	
Recover Seeded Items	Mon 5/16/11	Wed 5/18/11	
Inland Water Survey	Mon 12/13/10	Tue 1/18/11	7-10
Geophysical Test Strip	Mon 12/13/10	Mon 12/13/10	
DGM Transects	Tue 12/14/10	Thu 12/16/10	
Transect Data Review	Fri 12/17/10	Thu 1/13/11	
DGM Grids	Fri 1/14/11	Tue 1/18/11	
Intrusive Investigation	Wed 1/19/11	Wed 1/26/11	13-15
Prepare Dig Sheets	Wed 1/19/11	Fri 1/21/11	
Reacquire/Dig Anomalies	Thu 1/20/11	Mon 1/24/11	
MEC Disposal	Tue 1/25/11	Tue 1/25/11	
MPPEH/MD Disposal	Wed 1/26/11	Wed 1/26/11	
Task 4c Complete	Wed 1/26/11	Wed 1/26/11	

Task 4d Optional South Beach Site Land/Beach Area

Civil Survey	Mon 2/7/11	Tue 2/8/11	Hand-held for transects;
Clearing	Mon 12/20/10	Tue 12/21/10	Bobcat with cutter head for
Geophysical Test Strip	Wed 12/8/10	Wed 12/8/10	grids
Land Area	Wed 12/15/10	Fri 2/4/11	7-10
Site Recon/Analog Transects	Wed 12/15/10	Fri 12/17/10	
Transect Data Review	Mon 12/20/10	Fri 1/14/11	
DGM Grids	Thu 2/3/11	Fri 2/4/11	
Beach Area	Wed 12/15/10	Wed 2/2/11	3-5
Site Recon/Digital Transects	Wed 12/15/10	Thu 12/16/10	
Transect Data Review	Fri 12/17/10	Mon 12/20/10	
DGM Grids	Tue 1/25/11	Wed 2/2/11	
Intrusive Investigation	Tue 2/8/11	Wed 2/16/11	7-10
Prepare Dig Sheets	Tue 2/8/11	Tue 2/15/11	
Reacquire/Dig Anomalies	**Wed 2/9/11**	**Wed 2/16/11**	
MEC Disposal	Wed 2/16/11	Wed 2/16/11	
MPPEH/MD Disposal	Wed 2/16/11	Wed 2/16/11	
Task 4d Complete	Wed 2/16/11	Wed 2/16/11	

Martha's Vineyard Schedule Summary by MRS

Date: 27-Sep-10

TISBURY GREAT POND

Task 4e Optional Ocean Area Tisbury Great Pond

Task	Start Date	End date	
Civil Survey	Tue 3/22/11	Fri 3/25/11	**Crew Size**
Ocean Survey	Mon 5/16/11	Mon 6/6/11	10-12
Analog Transects	Mon 5/16/11	Mon 6/6/11	
Task 4e Complete	Mon 6/6/11	Mon 6/6/11	

Task 4f Optional Pond Area of Tisbury Great Pond

Civil Survey	Thu 3/10/11	Tue 3/15/11	
Pond Survey	Wed 3/16/11	Thu 4/7/11	
Geophysical Test Strip	Wed 3/16/11	Wed 3/16/11	7-10
DGM Transects	Thu 3/17/11	Wed 3/23/11	
Transect Data Review	Thu 3/24/11	Thu 3/24/11	
DGM Grids	Fri 3/25/11	Thu 4/7/11	
Intrusive Investigation	Wed 3/30/11	Fri 4/22/11	
Prepare Dig Sheets	Wed 3/30/11	Tue 4/19/11	13-15
Reacquire/Dig Anomalies	Thu 3/31/11	Wed 4/20/11	
MEC Disposal	Thu 4/21/11	Thu 4/21/11	
MPPEH/MD Disposal	Fri 4/22/11	Fri 4/22/11	
Task 4f Complete	Fri 4/22/11	Fri 4/22/11	

Task 4g Optional Tisbury Great Pond Land/Beach

Civil Survey	Wed 2/9/11	Mon 2/14/11	
Clearing	Mon 1/10/11	Thu 1/13/11	Hand-held for transects;
Geophysical Test Stip	Mon 12/20/10	Mon 12/20/10	Bobcat with cutter head for
Land Area	Mon 12/20/10	Mon 2/21/11	grids
Site Recon/Analog Transects	Mon 12/20/10	Fri 12/24/10	7-10
Transect Data Review	Mon 1/10/11	Fri 1/21/11	
DGM Grids	Thu 2/10/11	Mon 2/21/11	
Beach Area	Tue 12/21/10	Wed 2/9/11	
Site Recon/Digital Transects	Tue 12/21/10	Tue 12/21/10	3-5
Transect Data Review	Wed 12/22/10	Tue 1/18/11	
DGM Grids	Mon 2/7/11	Wed 2/9/11	
Intrusive Investigation	Tue 2/15/11	Thu 3/10/11	
Prepare Dig Sheets	Tue 2/15/11	Mon 3/7/11	7-10
Reacquire/Dig Anomalies	Wed 2/16/11	Tue 3/8/11	
MEC Disposal	**Wed 3/9/11**	**Wed 3/9/11**	
MPPEH/MD Disposal	Thu 3/10/11	Thu 3/10/11	
Task 4g Complete	Thu 3/10/11	Thu 3/10/11	