Attachment A- ENDANGERED SPECIES

Official IPaC Species List, Project Review Request, and USFWS Determination Letter



United States Department of the Interior

FISH AND WILDLIFE SERVICE New England Ecological Services Field Office 70 Commercial Street, Suite 300 Concord, NH 03301-5094 Phone: (603) 223-2541 Fax: (603) 223-0104 <u>http://www.fws.gov/newengland</u>



July 26, 2018

In Reply Refer To: Consultation Code: 05E1NE00-2018-SLI-2527 Event Code: 05E1NE00-2018-E-05920 Project Name: Bourne Stormwater MS4 NOI Project Revised

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/ eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/correntBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

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This species list is provided by:

New England Ecological Services Field Office

70 Commercial Street, Suite 300 Concord, NH 03301-5094 (603) 223-2541

Project Summary

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Event Code:	05E1NE00-2018-E-05920
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Project Description:	The area mapped is for the town of Bourne not including Joint Base Cape Cod. This is for the town's 2018 NOI for coverage under the Small MS4 General Permit. There are outfalls in this area that discharge stormwater from town owned impervious surfaces. There are no new outfalls or structural BMP construction planned at this time.

Project Location:

Approximate location of the project can be viewed in Google Maps: <u>https://www.google.com/maps/place/41.79162384636371N70.5394885459729W</u>



Counties: Barnstable, MA | Plymouth, MA

Endangered Species Act Species

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/9045</u>	Threatened
Birds	
NAME	STATUS
 Piping Plover Charadrius melodus Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: <u>https://ecos.fws.gov/ecp/species/6039</u> 	Threatened
Roseate Tern <i>Sterna dougallii dougallii</i> Population: northeast U.S. nesting pop. No critical habitat has been designated for this species.	Endangered

Species profile: https://ecos.fws.gov/ecp/species/2083

Reptiles

NAME	STATUS
Plymouth Redbelly Turtle Pseudemys rubriventris bangsi	Endangered
There is final critical habitat for this species. Your location is outside the critical habitat.	C
Species profile: https://ecos.fws.gov/ecp/species/451	

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Project Review Request Submitted 7/30/18 to USFWS



AECOM 250 Apollo Drive Chelmsford, MA 01824 aecom.com

Sean Maxwell AECOM 250 Apollo Dr. Chelmsford, Ma 01824

U.S. Fish and Wildlife Service Attn: David Simmons New England Field Office 70 Commercial Street, Suite 300 Concord, NH 03301

July 26, 2018

Re: Project Review Request, Bourne Stormwater MS4 NOI, Bourne, MA, 05E1NE00-2018-SLI-2527

We have reviewed the referenced project using the Environmental Protection Agency's (EPA) project review process for our Municipal Separate Storm Sewer System (MS4) and have followed provided guidance and instructions in completing the review. We completed our review on July 26, 2018 and are submitting our project package in accordance with the instructions for further review. The U.S. Fish and Wildlife Service's (Service) Information for Planning and Consultation (IPaC) species list indicated these species may be present in the project area: northern long-eared bat (*Myotis septentrionalis*), piping plover (*Charadrius melodus*), roseate tern (*Sterna dougallii dougallii*), and Plymouth redbelly turtle (*Pseudemys rubriventris bangsi*). We are submitting this letter as a non-Federal representative of the EPA pursuant to the requirements of the EPA's process for NPDES/MS4 permits.

Our proposed action consists of: permitting of stormwater utilities and associated allowable discharges, improved stormwater management through: public outreach and participation, illicit discharge detection and elimination, construction site erosion and sedimentation control, post construction stormwater management, good housekeeping, and actions to reduce pollutants to impaired waters.

The location action area is identified on the enclosed map that shows the land area within the Town of Bourne that is regulated under the Massachusetts 2016 Small MS4 permit.

Permit implementation will begin in the fall of 2018 and the permit has an expiration date of June 30, 2022.

This is a request for review by the Service pursuant to section 7 of the Endangered Species Act. EPA has determined that our proposed action will have no effect on the northern long-eared bat because clearing trees is not part of our stormwater program. We determined that the project may affect, but is not likely to adversely affect the other above listed species, because:

• Discharges from the project may reach the estuarine and shoreline environments used by the piping plover. However the project will implement BMPs to reduce pollutants to the



extent that the discharges are not known to have measureable impacts on piping plover, their habitat, or the food they eat.

- Although discharges from the project may reach the marine environment used by the roseate tern, the project will implement BMPs to reduce pollutants to the extent that the discharges are not known to have measureable impacts on roseate terns, their habitat, or the fish they eat.
- The range of Plymouth redbelly turtle within the Bourne limits is mapped as the area north of the Cape Cod Canal. This area overlaps with the area regulated by this permit in the most urbanized portion of the area of Bourne (see attached locus map). The Plymouth redbelly turtle can be found in ponds and rivers. There are two small ponds (Queen Sewell Pond and Bourne Pond) within the regulated area and a stream (Herring River) that is adjacent to the regulated area that receive stormwater from Bourne's MS4. These waterbodies are mostly surrounded by developed residential and commercial land. The project area occurs only in urbanized areas, where less upland habitat for the Plymouth redbelly turtle remains. Although discharges from the project may reach the freshwater pond environments that may be used by the Plymouth redbelly turtle, the project implements BMPs to reduce pollutants to the extent that the discharges are not known to have measureable impacts on Plymouth redbelly turtle, their habitat, or the food they eat. Bourne will consider prioritizing retrofits in areas that drain to ponds and streams in the turtle's range.

The enclosed project package provides the information about the species and/or critical habitat considered in our review, and we identified our determinations for the resources that may be affected by the project. We request you concur with our determination that the project may affect, but is not likely to adversely affect the species described above.

For additional information, please contact Sean Maxwell at the address listed above, by phone at (603) 674-0625, or Sean.Maxwell@aecom.com.

Kind regards,

Sean Maxwell Environmental Scientist IV AECOM T: 978-905-3141 M: 603-674-0625 E: Sean.Maxwell@aecom.com

Enclosures:

- 1) Locus Map of Action Area
- 2) IPaC Official Species List
- 3) Species profiles and fact sheets for listed species



Official Species List



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Critical habitats

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Piping Plover ECOS Profiles & Fact Sheet



U.S. Fish & Wildlife Service ECOS

ECOS / Species Profile for Piping Plover (Charadrius melodus)

Piping Plover (Charadrius melodus)

Range Information | Federal Register | Recovery | Critical Habitat | Conservation Plans | Petitions | Life History



Taxonomy: View taxonomy in ITIS

Listing Status: Endangered and Threatened

General Information

Size: 18 cm (7.25 in) in length. Color: Breeding season: Pale brown above, lighter below; black band across forehead; bill orange with black tip; legs orange; white rump. Male: Complete or incomplete black band encircles the body at the breast. Female: Paler head band; incomplete breast band. Winter coloration: Bill black; all birds lack breast band and head band.

The species historical range included Alabama, Colorado, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Puerto Rico, Rhode Island, South Carolina, South Dakota, Texas, Virginia, Virgin Islands, Wisconsin, Wyoming. See below for information about where the species is known or believed to occur.

Population detail

The FWS is currently monitoring the following populations of the Piping Plover

Current Listing Status Summary

Status	Date Listed	Lead Region	Where Listed
Endangered	12/11/1985	<u>Great Lakes-</u> <u>Big Rivers</u> <u>Region (Region</u> <u>3)</u>	[Great Lakes watershed DPS] - Great Lakes, watershed in States of IL, IN, MI, MN, NY, OH, PA, and WI and Canada (Ont.)
Threatened	12/11/1985	<u>Northeast</u> <u>Region (Region</u> <u>5)</u>	[Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered.

» Range Information

Current Range

- Great Lakes watershed
- DPS] Great Lakes,
- watershed in States of IL, IN, MI, MN, NY, OH, PA, and WI and Canada (Ont.)
- [Atlantic Coast and
- Northern Great Plains
 populations] Wherever found, except those
- areas where listed as endangered.

Zoom in! Some species' locations may be small and hard to see from a wide perspective. To narrow-in on locations, check the state and county lists (below) and then use the zoom tool.



Want the FWS's current range for all species? Click <u>here</u> to download a zip file containing all individual shapefiles and metadata for all species.

• [Great Lakes watershed DPS] - Great Lakes, watershed in States of IL, IN, MI, MN, NY, OH, PA, and WI and Canada (Ont.)

Listing status: Endangered

- States/US Territories in which this population is known to or is believed to occur: Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, Wisconsin
- US Counties in which this population is known to or is believed to occur: <u>View All</u>
- USFWS Refuges in which this population is known to occur: Blackbeard Island National Wildlife Refuge, Cabo Rojo National Wildlife Refuge, Fergus Falls Wetland Management District, <u>... Show All Refuges</u>
- Countries in which this population is known to occur: Canada, United States

• [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered.

Listing status: Threatened

- States/US Territories in which this population is known to or is believed to occur: Alabama , Arkansas , Colorado , Delaware , Florida , Georgia , Iowa , Kansas , Louisiana , Maine , Maryland , Mississippi , Montana , Nebraska , New Jersey , New Mexico , New York , North Carolina , North Dakota , Oklahoma , Rhode Island , South Carolina , South Dakota , Texas , Virginia , Wyoming
- US Counties in which this population is known to or is believed to occur: <u>View All</u>
- USFWS Refuges in which this population is known to occur: Amagansett National Wildlife Refuge, Anahuac National Wildlife Refuge, Aransas National Wildlife Refuge, <u>... Show All Refuges</u>
- Countries in which this population is known to occur: Canada, Mexico, United States

» Federal Register Documents

Federal Register Documents

Show

10

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Date 🚽	Citation Page 🗢	Title	9					
03/16/2016	81 FR 14121 14122	ETWP; Draft Revised Recovery Plan for the I						
01/21/2016	81 FR 3450	Draft Environmental Assessment, Habitat Co Piping Plover, Massachusetts Division of Fish						<u>bitat Co</u> n of Fisł
07/08/2014	79 FR 38560 38562	<u>Initia</u>	ation of 5-Year	Stat	tus F	Review	<u>ws of</u>	Nine Li
09/08/2011	76 FR 55638 55641	<u>90-[</u>	Day Finding on	a Po	etitio	<u>n To</u>	List t	<u>he Snov</u>
05/19/2009	74 FR 23476 23600	Revised Designation of Critical Habitat for the Texas						at for the
10/21/2008	73 FR 62816 62841	Revised Designation of Critical Habitat for the North Carolina; Final Rule					at for the	
09/30/2008	73 FR 56860 56862	Endangered and Threatened Wildlife and Pla information on the piping plover (Charadrius i					and Pla radrius ı	
06/09/2008	73 FR 32629	Correction to Revised Designation of Critical melodus) in Texas						
05/20/2008	73 FR 29294 29321	Rev	ised Designati	<u>on o</u>	f Crit	ical F	labita	at for the
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» Recovery

- Recovery Plan Information Search
- Information Search FAQs

Current Recovery Plan(s)

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entries

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03/16/2016	Volume II: Draft revised recov piping plover (Charadrius mel piping plover (Charadrius mel continental United States.	very plan for odus) and (odus) in its	the wintering Comprehensiv coastal migrat	<u>rang</u> e cor tion a	e of the servatic nd winte
03/16/2016	Volume I: Draft Revised Reco (Charadrius melodus)	overy Plan fo	or the Northern	<u>n Gre</u>	at Plain
09/08/2003	Recovery Plan for the Great L	akes popula	ation of Piping	l Plov	<u>vers</u>
05/02/1996	Piping Plover Atlantic Coast F	Population R	Revised Recov	very F	<u>Plan</u>
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Other Recovery Documents

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Date 🚽	Citation Page 🔶	Title
03/16/2016	81 FR 14121 14122	ETWP; Draft Revised Recovery Plan for the I
07/08/2014	79 FR 38560 38562	Initiation of 5-Year Status Reviews of Nine Lis Species
09/30/2008	73 FR 56860 56862	Endangered and Threatened Wildlife and Pla review; request for information on the piping
09/16/2003	68 FR 54241 54242	Approved Recovery Plan for the Great Lakes
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https://ecos.fws.gov/ecp0/profile/speciesProfile?sId=6039

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Five Year Review					
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Date	•	Title			
09/29/2009		Piping Plover (Charadr	ius melodus) {	5-Yea	ar Revie
<					2
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» Critical Habitat

Critical Habitat Spatial Extents



05/19/2009	74 FR 23476 23600	<u>Revised Designed Plover (Chara</u>	gnation of Crit	ical F s) in ⁻	labita Fexas	at for th∉∧ <u>s</u>
10/21/2008	73 FR 62816 62841	<u>Revised Designed Plover (Chara</u>	gnation of Crit	ical F s) in f	labita North	at for the Carolin
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09/11/2002	67 FR 57638 57717	Endangered a for the Northe	and Threatene ern Great Plair	ed Wi ns Bre	Idlife eedin	and Pla
12/28/2001	66 FR 67165 67166	ETWP; Propo Breeding Pop and Notice of	esed Designati ulation of the Availability of	ion of Pipin Draf	^f Criti g Plc t Eco	ical Hab over; Re nomic A
07/10/2001	66 FR 36137 36143	<u>ETWP; Final</u> <u>36137-36143</u>	Determination	of C	ritica	<u>I Habitat</u>
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To learn more about critical habitat please see http://ecos.fws.gov/crithab

» Conservation Plans

Habitat Conservation Plans (HCP) (learn more)

Show 10 🗸

entries

HCP Plan Summaries

 Volusia Beaches

 Town of Orlean's Plover Low Effect HCP

 Piping Plover HCP (State of Massachusetts)

 Magic Carpet Woods Association

 Escambia County Beaches

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» Life History

No Life History information has been entered into this system for this species.

» Other Resources

<u>NatureServe Explorer Species Reports</u> -- NatureServe Explorer is a source for authoritative conservation information on more than 50,000 plants, animals and ecological communities of the U.S and Canada. NatureServe Explorer provides indepth information on rare and endangered species, but includes common plants and animals too. NatureServe Explorer is a product of NatureServe in collaboration with the Natural Heritage Network.

<u>ITIS Reports</u> -- ITIS (the Integrated Taxonomic Information System) is a source for authoritative taxonomic information on plants, animals, fungi, and microbes of North America and the world.

<u>FWS Digital Media Library</u> -- The U.S. Fish and Wildlife Service's National Digital Library is a searchable collection of selected images, historical artifacts, audio clips, publications, and video.





States in which the piping plover is found. This map includes both summer and winter locations.

What is the Piping Plover?

The Great Lakes population of the piping plover is at a perilously low level. Since 1983, the number of nesting pairs has ranged from 12 to 32. In 2000, all of the Great Lakes pairs nested in Michigan.

U.S. Fish & Wildlife Service

Endangered Species Facts



Piping Plover

The piping plover in the Great Lakes area is an *endangered species*. Endangered species are animals and plants that are in danger of becoming extinct. The Northern Great Plains and Atlantic Coast piping plovers are *threatened species*. Threatened species are animals and plants that are likely to become endangered in the foreseeable future. Identifying, protecting, and restoring endangered and threatened species is the primary objective of the U.S. Fish and Wildlife Service's endangered species program.

Scientific Name - Charadrius melodus

Appearance - These small, stocky shorebirds have a sand-colored upper body, a white underside, and orange legs. During the breeding season, adults have a black forehead, a black breast band, and an orange bill.

Habitat - Piping plovers use wide, flat, open, sandy beaches with very little grass or other vegetation. Nesting territories often include small creeks or wetlands.

Reproduction - The female lays four eggs in its small, shallow nest lined with pebbles or broken shells. Both parents care for the eggs and chicks. When the chicks hatch, they are able to run about and feed themselves within hours.

Feeding Habits - The plovers eat insects, spiders, and crustaceans.

Range - Piping plovers are migratory birds. In the spring and summer they breed in the northern United States and Canada. There are three locations where piping plovers nest in North America: the shorelines of the Great Lakes, the shores of rivers and lakes in the Northern Great Plains, and along the Atlantic Coast. Their nesting range has become smaller over the years, especially in the Great Lakes area. In the fall, plovers migrate south and winter along the Gulf Coast or other southern locations.

Why is the piping plover endangered?	Habitat Loss or Degradation - Many of the coastal beaches traditionally used by piping plovers for nesting have been lost to commercial, residential, and recreational developments. Through the use of dams or other water control structures, humans are able to raise and lower the water levels of many lakes and rivers of plover inland nest sites. Too much water in the spring floods the plovers' nests. Too little water over a long period of time allows grasses and other vegetation to grow on the prime nesting beaches, making these sites unsuitable for successful nesting.
	Nest Disturbance and Predation - Piping plovers are very sensitive to the presence of humans. Too much disturbance causes the parent birds to abandon their nest. People (either on foot or in a vehicle) using the beaches where the birds nest sometimes accidentally crush eggs or young birds. Dogs and cats often harass and kill the birds. Other animals, such as fox, gulls, and crows, prey on the young plovers or eggs.
What is being done to prevent extinction of the	Listing - The Great Lakes population of the piping plover was listed as an endangered species in 1986, and the Northern Great Plains and Atlantic Coast populations were listed as threatened species that same year.
piping plover?	Recovery Plans - The U.S. Fish and Wildlife Service developed recovery plans that describe actions that need to be taken to help the bird survive and recover.
	Research - Several cooperative research groups have been set up among federal and state agencies, university and private research centers, and the Canadian Wildlife Service. Studies are being conducted to determine where plovers breed and winter, estimate numbers, and monitor long-term changes in populations.
	Habitat Protection - Measures to protect the bird's habitat are conducted each year (often by volunteers), including controlling human access to nesting areas, nest monitoring and protection, limiting residential and industrial development, and properly managing water flow. In Michigan, several landowners have formally agreed to protect plover nesting habitat.
	Public Education - Many states and private agencies are running successful public information campaigns to raise awareness of the plover's plight. In Michigan, residents of coastal communities where the birds nest have been contacted by an "ambassador" and provided with information about the plight of the plover.
What can I do to prevent the extinction of species?	Learn - Learn more about the piping plover and other endangered and threatened species. Understand how the destruction of habitat leads to loss of endangered and threatened species and our nation's plant and animal diversity. Tell others about what you have learned.
U.S. Fish & Wildlife Service 1 Federal Drive Fort Snelling, Minnesota 55111 612/713-5337	Volunteer - If piping plovers live near you, join the "Plover Patrol" (information about the "Plover Patrol" is on the website to the right). Or volunteer your time at a nearby Nature Center, Wildlife Sanctuary or National Wildlife Refuge. Make sure you control pets, and always remove litter on beaches. Encourage others to do the same.

http://midwest.fws.gov/eco_serv/endangrd

Roseate Tern ECOS Profiles & Fact Sheet



7/26/2018



DEEP: Roseate Tern Fact Sheet

Connecticut during 1989 include Tuxis Island near Madison and Duck Island near Clinton. Several small islands in the New London area were occupied by roseate terns in the 1970s.

Approximately one-fourth of the roseate tern breeding population in a given year at Falkner Island does not return the following year. Presently, it is not known if this loss is due to mortality or emigration to other colony sites.

Interesting Facts: According to the U.S. Fish and Wildlife Service (USFWS), islands with manned lighthouses were favorite nesting areas for roseates because the human presence deterred large gulls from nesting. Since the automation of almost all lighthouses, gulls have moved in and displaced the terns. The USFWS officially listed the northeastern breeding population of the roseate tern as endangered in December, 1987.

Adult terns are mainly preyed on by avian species such as owls, gulls and raptors. Eggs and young are also vulnerable to predation, as well as to adverse weather conditions and disturbance. Predation may completely wipe out production in a given colony. The combination of adult mortality, delayed maturity and low productivity can, in a short time, result in serious population declines unless they are offset by subsequent years of high productivity.

Roseate terns catch their prey by diving headfirst into the water. Their diet of small fish may have led to the alias mackerel gull, which also reflects their membership in the gull family. Graceful tern was another common name given to this adept flier.

In 1975, studies on Gull Island, New York, reported the hybridization of common terns and roseate terns. Similar crosses have not been documented since.

Protective Legislation: *Federal* - Endangered Species Act of 1973, Migratory Bird Treaty Act of 1918. *State* - Connecticut General Statutes Sec. 26-311.

What You Can Do: Respect all roseate tern nesting areas that are fenced or posted for the birds' protection. Do not approach or linger near roseate terns or their nests. Avoid landing vessels at offshore islands inhabited by terns.



Connecticut Range



The production of this Endangered and Threatened Species Fact Sheet Series is made possible by donations to the Endangered Species-Wildlife Income Tax Checkoff Fund. (rev. 12/99)

Printable Version

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Plymouth Redbelly Turtle ECOS Profiles & Fact Sheet





ECOS

ECOS / Species Profile for Plymouth redbelly Turtle (Pseudemys rubriventris bangsi)

Plymouth Redbelly Turtle (Pseudemys rubriventris bangsi)

Range Information | Federal Register | Recovery | Critical Habitat | Conservation Plans | Petitions | Life History

Taxonomy: View taxonomy in ITIS

Listing Status: Endangered

Where Listed: WHEREVER FOUND

General Information

10-15 3/4" (25.4-40 cm). Carapace brown to black with flattened or slightly concave vertebral scutes; red bar on each marginal scute. Prominent notch at tip of upper jaw flanked by toothlike cusps; arrow-shaped stripe runs atop head, between eyes, to snout. Plastron reddish; dark markings along scute seams fade with age. Male has elongated, straight claws on front feet.

The species historical range included Massachusetts. See below for information about where the species is known or believed to occur.

Current Listing Status Summary

Status	Date Listed	Lead Region	Where Listed
Endangered	04/02/1980	Northeast Region (Region 5)	Wherever found

» Range Information

Current Range

Ł

Wherever found



Search for images on digitalmedia.fws.gov

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Zoom in! Some species' locations may be small and hard to see from a wide perspective. To narrow-in on locations, check the state and county lists (below) and then use the zoom tool.

Want the FWS's current range for all species? Click <u>here</u> to download a zip file containing all individual shapefiles and metadata for all species.



• Wherever found

Listing status: Endangered

- States/US Territories in which this population is known to or is believed to occur: Massachusetts
- US Counties in which this population is known to or is believed to occur: View All
- USFWS Refuges in which this population is known to occur: Massasoit National Wildlife Refuge

» Federal Register Documents

Federal Register Documents

Show 10 ▼ entries

Date 💂	Citation Page 🗧 🖨	Title
10/03/2006	71 FR 58363 58364	Endangered and Threatened Wildlife and Plants; 90-D (Pseudemys rubriventris bangsi)
04/21/2006	71 FR 20717 20718	Initiation of a 5-Year Review of Nine Listed Species: th clava), Northern Red-bellied Cooter (Pseudemys rubri (Helonias bullata), Northern Riffleshell (Epioblasma to (Triodopsis platysayoides), Puritan Tiger Beetle (Cicin heterodon)
04/02/1980	45 FR 21828 21833	ETWP; Listing as Endangered With Critical Habitat for
09/13/1979	44 FR 53422 53424	ETWP; Reproposal of Critical Habitat for the Plymouth

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Showing 1 to 5 of 5 entries	< Previous	1	Next >	>

» Recovery

Show

• Recovery Plan Information Search

▼ entries

• Information Search FAQs

Current Recovery Plan(s)

10

Date -	Title	Plan	Action \$	Status
05/06/1994	Plymouth Redbelly Turtle	<u>View</u> I	mpleme	entation
•				•
Showing 1 to 1 of 1 ent	tries	< Previo	us 1	Next >

Other Recovery Documents

Show	10	▼	entries

Date 💂	Citation Page 🔶	Title
04/21/2006	71 FR 20717 20718	Initiation of a 5-Year Review of Nine Listed Species: the perpurpurea), Clubshell (Pleurobema clava), Northern rubriventris bangsi), Roanoke Logperch (Percina rex), Northern Riffleshell (Epioblasma torulosa rangiana), F Snail (Triodopsis platysayoides), Puritan Tiger Beetle Wedgemussel (Alasmidonta heterodon)
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Five Year Review

Show 10 ▼ entries

Date -	Title	
09/10/2007	Northern Red-Bellied Cooter 5-Year Review	* *
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Showing 1 to 1 of 1 entries



» Critical Habitat

Critical Habitat Spatial Extents





▼ Date	Citation Page	Title
04/02/1980	45 FR 21828 21833	ETWP; Listing as Endangered With Critical Habitat for Turtle in Massachusetts
09/13/1979	44 FR 53422 53424	ETWP; Reproposal of Critical Habitat for the Plymouth
05/19/1978	43 FR 21702 21705	Proposed Endangered Status and Critical Habitat for 7 mud turtle and Plymouth red-bellied turtle);
•		

Showing 1 to 3 of 3 entries

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To learn more about critical habitat please see http://ecos.fws.gov/crithab

» Conservation Plans

Species Profile for Plymouth redbelly Turtle (Pseudemys rubriventris bangsi)

No conservation plans have been created for Plymouth redbelly Turtle.

» Pet	itions	6		
Show	10	▼	entries	

Showing 1 to 1 of 1 entries

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» Life History

No Life History information has been entered into this system for this species.

» Other Resources

<u>NatureServe Explorer Species Reports</u> -- NatureServe Explorer is a source for authoritative conservation information on more than 50,000 plants, animals and ecological communities of the U.S and Canada. NatureServe Explorer provides in-depth information on rare and endangered species, but includes common plants and animals too. NatureServe Explorer is a product of NatureServe in collaboration with the Natural Heritage Network.

<u>ITIS Reports</u> -- ITIS (the Integrated Taxonomic Information System) is a source for authoritative taxonomic information on plants, animals, fungi, and microbes of North America and the world.

<u>FWS Digital Media Library</u> -- The U.S. Fish and Wildlife Service's National Digital Library is a searchable collection of selected images, historical artifacts, audio clips, publications, and video.



Northern red-bellied cooter

Pseudemys rubriventris

One of the challenges an animal or plant can face is separation from others of its type. In Massachusetts, a native freshwater turtle - the northern redbellied cooter – lives more than 250 miles from the rest of the species, which lives along the coast in southern New Jersey, Delaware, Maryland, Virginia and North Carolina. As an ecologically and geographically distinct population, the northern red-bellied cooter faces difficult odds; its small population size and limited range can hinder its long-term survival. This turtle received Endangered Species Act protection in 1980 and is considered endangered.

Northern red-bellied cooters today live in just one county in Massachusetts, but archaeological data indicate that northern red-bellied cooters likely lived farther to the north, south and west in pre-colonial times. Additionally, data from prehistoric Indian middens in New England suggest that humans used cooters for food, perhaps causing local extinctions.

In more recent times, environmental pressures have challenged turtle survival. Extensive residential and agricultural development has altered its coastal plain pond habitat. Development, roads and stream channel alteration have fragmented habitat, eliminating many of the natural movement corridors between ponds. Such habitat modifications are a large part of the northern red-bellied cooter's predicament.

Life as a cooter

With an adult size of 10 to 12 inches and weighing up to 10 pounds, the northern red-bellied cooter is larger than most freshwater turtles except the snapping turtle. Females are larger than males, and the two sexes are differently patterned and colored. Females reach sexual maturity at 15 to 20 years; that timing may be somewhat less for males.



Northern red bellied cooter

In late spring and early summer, females select nesting sites in sandy soil, usually within 100 yards of a pond, though some females travel even greater distances in search of suitable nesting sites. Warmth from the sun and other temperature conditions at cooter nest sites can affect the sex ratio of hatchlings; cool nests will produce more males, while warm nests produce more females.

The nest's five to 17 eggs incubate for up to 80 days. Hatchlings may emerge from nests to enter ponds in late summer, or they may overwinter in the nest chamber and emerge the following spring.

Life is uncertain for cooter eggs and small hatchlings. Skunks and raccoons eat eggs and hatchlings in the nest. Bull frogs will eat hatchlings; herons, snapping turtles and introduced predatory fish may also eat them. Nearly 100 percent of northern red-bellied cooter hatchlings do not survive their first year.

A head start for turtle babies

Because hatchling survival is essential to building and maintaining a breeding population, biologists have established a headstarting program. When a nest is found, it is screened to prevent disturbance by predators. When it is time for the eggs to hatch, biologists revisit the nest and take half the hatchling turtles into captivity, where they are kept warm and fed on demand for about eight months. The nest's remaining hatchlings are released directly into their birth pond. The aquarium-residing headstarted hatchlings grow rapidly to become two to six times the size of similar-aged turtles in the wild. Survival of hatchling turtles in captivity is high, as is survival of released headstarted hatchlings, which are too large for most predators to kill and eat. Young headstarted turtles are returned to new pond and river habitats to expand existing populations. The turtles remain faithful to their release pond territory. Headstarted turtles have been found alive and healthy a dozen years after returning to the wild.

It's all about the habitat

While headstarting is an important part of the recovery strategy for northern red-bellied cooter, the strategy's emphasis is on habitat protection. Changes in land use have caused loss of nesting and basking sites. In the past, fires frequently burned the pine barren habitat occupied by this turtle, leaving openings in the mixed pine and oak forest. For 100 years, the area has been protected from fire; allowing most of the remaining undeveloped areas to grow into closed-canopy pine forest. With these closed-canopy forests surrounding most ponds, suitable nesting habitat with adequate heating from the sun for incubation is scarce.

Biologists are clearing overhanging vegetation from nesting sites to provide sunnier conditions at ponds where redbellied cooters lay their eggs. Opening vegetation at beaches close to ponds will provide additional nesting opportunities. Trees removed to expose nesting beaches to sunlight can be anchored in shallow water to provide additional basking sites.

In some locations, cranberry growers incidentally maintain open spaces suitable as nesting habitat, and the turtles seek out these locations. Cranberry growers have cooperated in research and recovery efforts for this endangered turtle in many ways, among them granting biologists access to private lands and alerting employees to watch for turtles and nests.

What's to be done?

With nest protection and headstarting, the number of northern red-bellied cooters is believed to have doubled since 1980. But we need to learn more. Little is known about the effect of pesticides or other agricultural chemicals on northern red-bellied cooters. The same is true for heavy metals or other contaminants. Even though this turtle has been studied for over 100 years, intensively for the past 30, we still do not fully understand what limits the northern red-bellied cooter's distribution to just a handful of coastal ponds. Most likely, a combination of factors is affecting the cooter. Some we do know - the turtle's late maturation, low reproductive rate and the loss of coastal pond habitat. Some we guess at perhaps the number of nest and hatchling predators has increased, or an introduced aquatic species is devastating the turtle at a vulnerable life stage.

We do know that the cooperation of the private landowners, the state of Massachusetts and the U.S. Fish and Wildlife Service is crucial to continuing the northern red-bellied cooter's slow and steady climb away from extinction.

U.S. Fish & Wildlife Service 300 Westgate Center Drive Hadley, MA 01535

Federal Relay Service for the deaf and hard-of-hearing 1 800/877 8339

U.S. Fish & Wildlife Service 1 800/344 WILD http://www.fws.gov

August 2006

Northern Long-eared Bat Fact Sheet



Northern Long-Eared Bat

Myotis septentrionalis

The northern long-eared bat is federally listed as a threatened species under the Endangered Species Act. *Endangered* species are animals and plants that are in danger of becoming extinct. *Threatened* species are animals and plants that are likely to become endangered in the foreseeable future. Identifying, protecting and restoring endangered and threatened species is the primary objective of the U.S. Fish and Wildlife Service's Endangered Species Program.

What is the northern long-eared bat?

Appearance: The northern longeared bat is a medium-sized bat with a body length of 3 to 3.7 inches and a wingspan of 9 to 10 inches. Their fur color can be medium to dark brown on the back and tawny to pale-brown on the underside. As its name suggests, this bat is distinguished by its long ears, particularly as compared to other bats in its genus, *Myotis*.

Winter Habitat: Northern long-eared bats spend winter hibernating in caves and mines, called hibernacula. They use areas in various sized caves or mines with constant temperatures, high humidity, and no air currents. Within hibernacula, surveyors find them hibernating most often in small crevices or cracks, often with only the nose and ears visible.

Summer Habitat: During the summer, northern long-eared bats roost singly or in colonies underneath bark, in cavities or in crevices of both live trees and snags (dead trees). Males and non-reproductive females may also roost in cooler places, like caves and mines. Northern longeared bats seem to be flexible in selecting roosts, choosing roost trees based on suitability to retain bark or provide cavities or crevices. They rarely roost in human structures like barns and sheds.

Reproduction: Breeding begins in late summer or early fall when males begin to swarm near hibernacula. After



This northern long-eared bat, observed during an Illinois mine survey, shows visible symptoms of white-nose syndrome.

copulation, females store sperm during hibernation until spring. In spring, females emerge from their hibernacula, ovulate and the stored sperm fertilizes an egg. This strategy is called delayed fertilization.

After fertilization, pregnant bats migrate to summer areas where they roost in small colonies and give birth to a single pup. Maternity colonies of females and young generally have 30 to 60 bats at the beginning of the summer, although larger maternity colonies have also been observed. Numbers of bats in roosts typically decrease from the time of pregnancy to post-lactation. Most bats within a maternity colony give birth around the same time, which may occur from late May or early June to late July, depending where the colony is located within the species' range. Young bats start flying by 18 to 21 days after birth. Maximum lifespan for the northern longeared bat is estimated to be up to 18.5 years.

Feeding Habits: Like most bats, northern long-eared bats emerge at dusk to feed. They primarily fly through the

understory of forested areas feeding on moths, flies, leafhoppers, caddisflies, and beetles, which they catch while in flight using echolocation or by gleaning motionless insects from vegetation.

Range: The northern long-eared bat's range includes much of the eastern and north central United States, and all Canadian provinces from the Atlantic Ocean west to the southern Yukon Territory and eastern British Columbia. The species' range includes 37 States and the District of Columbia: Alabama, Arkansas, Connecticut, Delaware, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Vermont, Virginia, West Virginia, Wisconsin, and Wyoming.

Why is the northern long-eared bat in trouble?

White-nose Syndrome: No other threat is as severe and immediate as

this. If this disease had not emerged, it is unlikely that northern long-eared bat populations would be experiencing such dramatic declines. Since symptoms were first observed in New York in 2006, white-nose syndrome has spread rapidly from the Northeast to the Midwest and Southeast; an area that includes the core of the northern long-eared bat's range, where it was most common before this disease. Numbers of northern longeared bats (from hibernacula counts) have declined by up to 99 percent in the Northeast. Although there is uncertainty about the rate that white-nose syndrome will spread throughout the species' range, it is expected to continue to spread throughout the United States in the foreseeable future.

Other Sources of Mortality:

Although no significant population declines have been observed due to the sources of mortality listed below, they may now be important factors affecting this bat's viability until we find ways to address WNS.

Impacts to Hibernacula: Gates or other structures intended to exclude people from caves and mines not only restrict bat flight and movement, but also change airflow and microclimates. A change of even a few degrees can make a cave unsuitable for hibernating bats. Also, cave-dwelling bats are vulnerable to human disturbance while hibernating. Arousal during hibernation causes bats to use up their energy stores, which may lead to bats not surviving through winter.

Loss or Degradation of Summer

Habitat: Highway construction, commercial development, surface mining, and wind facility construction permanently remove habitat and are activities prevalent in many areas of this bat's range. Many forest management activities benefit bats by keeping areas forested rather than converted to other uses. But, depending on type and timing, some forest management activities can cause mortality and temporarily remove or degrade roosting and foraging habitat.

Wind Farm Operation: Wind turbines kill bats, and, depending on the species, in very large numbers. Mortality from windmills has been documented for northern long-eared bats, although a

small number have been found to date. However, there are many wind projects within a large portion of the bat's range and many more are planned.

What Is Being Done to Help the Northern Long-Eared Bat? *Disease Management:* Actions have

been taken to try to reduce or slow the spread of white-nose syndrome through human transmission of the fungus into caves (e.g. cave and mine closures and advisories; national decontamination protocols). A national plan was prepared by the Service and other state and federal agencies that details actions needed to investigate and manage white-nose syndrome. Many state and federal agencies, universities and non-governmental organizations are researching this disease to try to control its spread and address its affect. See www.whitenosesvndrome. org/ for more.

Addressing Wind Turbine

Mortality: The Service and others are working to minimize bat mortality from wind turbines on several fronts. We fund and conduct research to determine why bats are susceptible to turbines. how to operate turbines to minimize mortality and where important bird and bat migration routes are located. The Service, state natural resource agencies, and the wind energy industry are developing a Midwest Wind Energy Habitat Conservation Plan, which will provide wind farms a mechanism to continue operating legally while minimizing and mitigating listed bat mortality.

Listing: The northern long-eared bat is listed as a threatened species under the federal Endangered Species Act. Listing a species affords it the protections of the Act and also increases the priority of the species for funds, grants, and recovery opportunities.

Hibernacula Protection: Many federal and state natural resource agencies and conservation organizations have protected caves and mines that are important hibernacula for cave-dwelling bats.

What Can I Do? *Do Not Disturb Hibernating Bats:*

To protect bats and their habitats, comply with all cave and mine closures, advisories, and regulations. In areas without a cave and mine closure policy, follow approved decontamination protocols (see http://whitenosesyndrome. org/topics/decontamination). Under no circumstances should clothing, footwear, or equipment that was used in a whitenose syndrome affected state or region be used in unaffected states or regions.

Leave Dead and Dying Trees

Standing: Like most eastern bats, the northern long-eared bat roosts in trees during summer. Where possible and not a safety hazard, leave dead or dying trees on your property. Northern long-eared bats and many other animals use these trees.

Install a Bat Box: Dead and dying trees are usually not left standing, so trees suitable for roosting may be in short supply and bat boxes may provide additional roost sites. Bat boxes are especially needed from April to August when females look for safe and quiet places to give birth and raise their pups.

Support Sustainability: Support efforts in your community, county and state to ensure that sustainability is a development goal. Only through sustainable living will we provide rare and declining species, like the northern longeared bat, the habitat and resources they need to survive alongside us.

Spread the Word: Understanding the important ecological role that bats play is a key to conserving the northern long-eared and other bats. Helping people learn more about the northern long-eared bat and other endangered species can lead to more effective recovery efforts. For more information, visit www.fws.gov/midwest/nleb and www.whitenosesyndrome.org

Join and Volunteer: Join a conservation group; many have local chapters. Volunteer at a local nature center, zoo, or national wildlife refuge. Many state natural resource agencies benefit greatly from citizen involvement in monitoring wildlife. Check your state agency websites and get involved in citizen science efforts in your area. **USFWS Determination Letter**



United States Department of the Interior

FISH AND WILDLIFE SERVICE



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

September 24, 2018

To whom it may concern:

The U.S. Fish and Wildlife Service (USFWS) reviewed the stormwater discharge activities associated with the 2016 National Pollutant Discharge and Elimination System (NPDES) Massachusetts (MA) Small Municipal Separate Storm Sewer System (MS4) general permit (MA MS4 General Permit) issued by the Environmental Protection Agency (EPA). We determined those activities may affect, but are not likely to adversely affect, certain species listed under the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) when specific conditions are met. When these conditions are met, we do not need to review individual projects. These comments are provided in accordance with section 7 of the ESA and complement existing 2016 MA MS4 General Permit Appendix C Guidance. We understand the applicant is acting as a non-Federal representative of the EPA for the purpose of consultation under section 7. **This letter provides additional guidance for meeting Criterion B and should be submitted as part of your application package to the EPA.**

If the USFWS Information for Planning and Consultation website (https://ecos.fws.gov/ipac/) indicates your MA MS4 General Permit project action area may contain one or more of the following federally listed endangered species: roseate tern (*Sterna dougallii*), northern red-bellied cooter (*Pseudemys rubriventris*), dwarf wedgemussel (*Alasmidonta heterodon*), rusty patched bumble bee (*Bombus affinis*), northeastern bulrush (*Scirpus ancistrochaetus*), or American chaffseed (*Schwalbea americana*); threatened species: piping plover (*Charadrius melodus*), bog turtle (*Glyptemys muhlenbergii*), Puritan tiger beetle (*Cicindela puritana*), northeastern beach tiger beetle (*Cicindela dorsalis*), or red knot (*Calidris canutus rufa*); or their federally designated critical habitat; and the specific conditions listed below are met, you may submit this letter to complete the **MA MS4 General Permit Appendix C: Step 4** in place of a concurrence letter for informal consultation as documentation of ESA eligibility for **USFWS Criterion B**.

In addition, this letter also satisfies the requirement in the MA MS4 General Permit Appendix C: Step 2 (3) to contact the USFWS and obtain a concurrence letter, if you have not yet done so. If your project action area includes one or more of the above-listed species *and* one or more of the

species listed under **Criterion C**,¹ you may still use this letter to certify under **Criterion B**. All existing guidance regarding requirements for certifying eligibility according to the USFWS Criterion A, B, or C for coverage by the 2016 MS4 Permit (see MA MS4 General Permit Appendix C – Endangered Species Guidance) remains unchanged.

We have determined that proposed stormwater discharge activities covered under the 2016 MS4 Permit *may affect, but are not likely to adversely affect*, the above-listed species and the species' critical habitat when the following are true:

- 1. all stormwater discharges are pre-existing or previously permitted by EPA;
- 2. any planned operations and maintenance work covered by this permit will only affect previously disturbed areas where stormwater controls are already installed. In these situations the chance of encountering any of the subject species is discountable;
- 3. the project implements EPA MS4 Best Management Practices (BMPs) and meets Clean Water Act and Massachusetts Water Quality Standards. Although permitted discharges may reach the environment used by these species, BMPs reduce pollutants to the extent that discharges are not known to have measurable impacts on these species or their habitat;
- 4. no new construction or structural BMPs are proposed under this permit at this time; and
- 5. you agree that if, during the course of the permit term, you plan to install a structural BMP not identified in the Notice of Intent (NOI), you will re-initiate consultation with the USFWS as necessary (see MA MS4 General Permit Appendix C: Step 2 (5)).

If the above criteria are met, further consultation with the USFWS under section 7 of the ESA is not required at this time; however, if the proposed action changes in any way such that it may affect a listed species in a manner not previously analyzed or if new information reveals the presence of additional listed species that may be affected by the project, the applicant or the EPA should contact us immediately and suspend activities that may affect those species until the appropriate level of consultation is completed with our office. Thank you for your cooperation, and please contact David Simmons of this office at (603) 227-6425 if you have questions or need further assistance.

Sincerely yours,

Thomas R Chapman Supervisor New England Field Office

¹ Criterion C includes guidance for project action areas that may contain species for which EPA has already made a determination. These species include the northern long-eared bat (*Myotis septentrionalis*), sandplain gerardia (*Agalinis acuta*), small whorled pogonia (*Isotria medeoloides*), and/or American burying beetle (*Nicrophorus americanus*) (MA MS4 General Permit Appendix C: Step 3 – Determine if You Can Meet Eligibility USFWS Criterion C).

Attachment B

Outfall Map

