

Part I: General Conditions

General Information

Name of Municipality or Organization: Bedford State: MA

EPA NPDES Permit Number (if applicable): MAR 041028

Primary MS4 Program Manager Contact Information

Name: Adrienne St. John Title: Public Works Engineer

Street Address Line 1: 314 Great Road

Street Address Line 2:

City: Bedford State: MA Zip Code: 01730

Email: astjohn@bedfordma.gov Phone Number: (781) 275-7605

Fax Number: (781) 275-9010

Other Information

Stormwater Management Program (SWMP) Location (web address or physical location, if already completed): SWMP is not yet completed, but will be available by end of Year 1 as required.

Eligibility Determination

Endangered Species Act (ESA) Determination Complete? Yes

Eligibility Criteria (check all that apply): A B C

National Historic Preservation Act (NHPA) Determination Complete? Yes

Eligibility Criteria (check all that apply): A B C

Check the box if your municipality or organization was covered under the 2003 MS4 General Permit

MS4 Infrastructure (if covered under the 2003 permit)

Estimated Percent of Outfall Map Complete? 100% If 100% of 2003 requirements not met, enter an estimated date of completion (MM/DD/YY):

Web address where MS4 map is published: See Attached

Regulatory Authorities (if covered under the 2003 permit)

Illicit Discharge Detection and Elimination (IDDE) Authority Adopted? Yes Effective Date or Estimated Date of Adoption (MM/DD/YY): 03/27/12

Construction/Erosion and Sediment Control (ESC) Authority Adopted? Yes Effective Date or Estimated Date of Adoption (MM/DD/YY): 03/27/12

Post- Construction Stormwater Management Adopted? Yes Effective Date or Estimated Date of Adoption (MM/DD/YY): 03/27/12

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part II: Summary of Receiving Waters

Please list the waterbodies to which your MS4 discharges. For each waterbody, please report the number of outfalls discharging into it and, if applicable, the segment ID and any impairments.

Massachusetts list of impaired waters: [Massachusetts 2014 List of Impaired Waters- http://www.mass.gov/eea/docs/dep/water/resources/07v5/14list2.pdf](http://www.mass.gov/eea/docs/dep/water/resources/07v5/14list2.pdf)

Waterbody that receives flow from the MS4 and segment ID if applicable	Number of outfalls into receiving water segment	Chloride	Chlorophyll-a	Dissolved Oxygen/DO Saturation	Nitrogen	Oil & Grease/ PAH	Phosphorus	Solids/ TSS/ Turbidity	E. coli	Enterococcus	Other pollutant(s) causing impairments
Beaver Brook	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Concord River (MA82A-07)	7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fecal Coliform, Mercury in Fish Tissue
Elm Brook (MA83-05)	21	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fecal Coliform
Fawn Lake (MA83004)	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Mill Brook	4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Mill Pond	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Mongo Brook	20	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Peppergrass Brook	4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Shawsheen River (MA83-01)	21	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fecal Coliform
Shawsheen River (MA83-08)	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fecal Coliform
Shawsheen River (MA83-17)	14	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fecal Coliform
Spring Brook (MA83-14)	11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fecal Coliform
Vine Brook (MA83-06)	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fecal Coliform
Unnamed Ditch/Swale/Detention Basin	25	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Intermittent Stream	77	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Perennial Stream	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Pond	12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Wet Area	72	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Click to lengthen table

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary

Identify the Best Management Practices (BMPs) that will be employed to address each of the six Minimum Control Measures (MCMs). For municipalities/organizations whose MS4 discharges into a receiving water with an approved Total Maximum Daily Load (TMDL) and an applicable waste load allocation (WLA), identify any additional BMPs employed to specifically support the achievement of the WLA in the TMDL section at the end of part III.

For each MCM, list each existing or proposed BMP by category and provide a brief description, responsible parties/departments, measurable goals, and the year the BMP will be employed (public education and outreach BMPs also requires a target audience). **Use the drop-down menus in each table or enter your own text to override the drop down menu.**

MCM 1: Public Education and Outreach

BMP Media/Category (enter your own text to override the drop down menu)	BMP Description	Targeted Audience	Responsible Department/Parties (enter your own text to override the drop down menu)	Measurable Goal	Beginning Year of BMP Implementation
Special Events/Festivals/Fairs	Purchase give-away materials to distribute at Bedford Day, including pet waste bags with proper disposal information, and display boards with stormwater pollution education	Residents	Department of Public Works & Town Clerk	Distribute and Display a minimum of two educational stormwater messages spaced at least a year apart; annually at Bedford Day. Goal is to distribute a minimum of 400 rolls of pet waste bags annually.	2018
Web Page	Stormwater website with education and outreach including lawn maintenance and proper management of parking lots.	Businesses, Institutions and Commercial Facilities	Department of Public Works & Conservation	Distribute a minimum of two educational stormwater messages over the permit term. Goal is to track visitors to the website and increase 10% annually.	2020
Brochures/Pamphlets	Distribute brochures to developers including erosion control and LID design principles.	Developers (construction)	Department of Public Works & Code Enforcement	Distribute a minimum of two educational stormwater messages over the permit term.	2019

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Part III: Stormwater Management Program Summary (continued)

MCM 2: Public Involvement and Participation

BMP Categorization	Brief BMP Description <small>(enter your own text to override the drop down menu)</small>	Responsible Department/Parties <small>(enter your own text to override the drop down menu)</small>	Additional Description/ Measurable Goal	Beginning Year of BMP Imple- ment- ation
Public Review	SWMP Review	Department of Public Works	Allow annual review of stormwater management plan and all annual reports. Post on website.	2019
Public Participation	Hotline/webline - reporting problems/violations	Department of Public Works/Code Enforcement/Conservation	Provide contact information on website for public to report on stormwater issues. Goal is to track reported issues through work order system.	2019
Public Participation	Cleanups - Roadside/Shoreline/General	Department of Public Works	Assist with volunteer clean-up groups and provide support as needed. Goal is to conduct a minimum of 2 clean up activities per year.	2019

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Part III: Stormwater Management Program Summary (continued)

MCM 3: Illicit Discharge Detection and Elimination (IDDE)

BMP Categorization <small>(enter your own text to override the drop down menu)</small>	BMP Description	Responsible Department/Parties <small>(enter your own text to override the drop down menu)</small>	Measurable Goal <small>(all text can be overwritten)</small>	Beginning Year of BMP Implementation
SSO inventory	Develop SSO inventory in accordance of permit conditions	DPW Operations	Complete within 1 year of effective date of permit	2019
Storm sewer system map	Revise completed MS4 map with permit requirements	Department of Public Works/Engineering & GIS	Update map within 2 years of effective date of permit and complete full system map 10 years after effective date of permit	2019
Written IDDE program	Create written IDDE program	Department of Public Works	Complete within 1 year of the effective date of permit and update as required	2019
Assessment and Priority Ranking of Outfalls/ Interconnections	Complete initial inventory and ranking to assess illicit discharge potential	Department of Public Works & Conservation	Complete within 1 year of effective date of permit	2019
Employee training	Train employees on IDDE implementation	DPW Operations	Annually train employees and inspectors	2019
Conduct dry weather screening	Conduct in accordance with outfall screening procedure and permit conditions	Department of Public Works	Complete 3 years after effective date of permit. Goal is to complete 50% screening by permit year 2.	2019
Conduct wet weather screening	Conduct in accordance with outfall screening procedure	Department of Public Works	Complete 10 years after effective date of permit	2022

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Part III: Stormwater Management Program Summary (continued)

MCM 4: Construction Site Stormwater Runoff Control

BMP Categorization (enter your own text to override the drop down menu or entered text)	BMP Description	Responsible Department/Parties (enter your own text to override the drop down menu)	Measurable Goal (all text can be overwritten)	Beginning Year of BMP Implementation
Site inspection and enforcement of Sediment and Erosion Control measures	Complete written procedures of site inspections and enforcement procedures	DPW Engineering/Conservation	Complete within 1 year of the effective date of permit	2019
Site plan review and inspection and enforcement	Complete written procedures of site plan review and begin implementation	DPW Engineering/Planning/Zoning/Conservation	Complete within 1 year of the effective date of permit	2019
Bylaw and regulations for construction site stormwater runoff control	Modify local bylaw if necessary and establish regulations that require use of sediment and erosion control practices at construction sites	Department of Public Works	Review current program and modify if necessary within 1 year of the effective date of permit	2019
Waste Control	Require contractors to manage proper disposal of building materials, concrete truck wash out, chemicals, litter, and sanitary wastes	Code Enforcement	Implement within 1 year of the effective date of the permit	2019

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary (continued)

MCM 5: Post-Construction Stormwater Management in New Development and Redevelopment

BMP Categorization (enter your own text to override the drop down menu or entered text)	BMP Description	Responsible Department/Parties (enter your own text to override the drop down menu)	Measurable Goal (all text can be overwritten)	Beginning Year of BMP Implementation
Bylaw and regulations for post-construction stormwater management	Modify local bylaw if necessary and establish regulations to meet provisions of section 2.3.6.a. Regulations will require infiltration of roof runoff from new buildings.	Department of Public Works	Review current program and modify if necessary within 2 years of the effective date of permit. Provide infiltration for a minimum of 20,000 sf of roof area annually.	2019
Target properties to reduce impervious areas	Identify at least 5 permittee-owned properties that could be modified or retrofitted with BMPs to reduce impervious areas and update annually	DPW Engineering/Planning/Conservation	Complete 4 years after effective date of permit and report annually on retrofitted properties. Report reduction of impervious area in Annual Report, targeting 1,000 s.f. minimum per year.	2021
As-built plans for on-site stormwater control	The procedures to require submission of as-built drawings and ensure long term operation and maintenance will be part of SWMP	Department of Public Works/Planning/Code/Conservation	Require submission of as-built plans for completed projects within 2 years after effective date of permit	2019

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary (continued)

MCM 6: Municipal Good Housekeeping and Pollution Prevention

BMP Categorization (enter your own text to override the drop down menu or entered text)	BMP Description	Responsible Department/Parties (enter your own text to override the drop down menu)	Measurable Goal (all text can be overwritten)	Beginning Year of BMP Implementation
Operation & Maintenance Program	Develop written O&M procedures including all requirements contained in 2.3.7.a.ii for parks and open spaces, buildings and facilities, and vehicles and equipment and include in SWMP	Department of Public Works	Complete and implement within 2 years after effective date of permit	2019
Inventory all permittee-owned parks and open spaces, buildings and facilities, and vehicles and equipment	Create inventory	Department of Public Works/Recreation Department	Complete 2 years after effective date of permit and implement annually	2019
Infrastructure O&M	Establish and implement program for repair and rehabilitation of MS4 infrastructure	DPW Engineering and Highway Department	Complete 2 years after effective date of permit. Goal of repairing a minimum of 10 failing catch basins annually.	2019
Stormwater Pollution Prevention Plan (SWPPP)	Create SWPPPs for maintenance garages, transfer stations, and other waste-handling facilities	DPW Engineering	Complete and implement 2 years after effective date of permit	2020
Catch basin cleaning	Establish schedule for catch basin cleaning such that each catch basin is no more than 50% full and clean catch basins on that schedule	DPW Operations	Clean catch basins on established schedule and report number of catch basins cleaned and volume of material removed annually. Goal to clean catch basins in critical areas such as commercial districts and at the bottom of steep slopes annually.	2019

Street sweeping program	Sweep all streets and permittee-owned parking lots in accordance with permit conditions	DPW Operations	Sweep all streets and permittee-owned parking lots once per year in the spring	2019
Road salt use optimization program	Establish and implement a program to minimize the use of road salt	DPW Operations	Implement salt use optimization during deicing season	2019
Inspections and maintenance of stormwater treatment structures	Establish and implement inspection and maintenance procedures and frequencies	DPW Operations	Inspect and maintain treatment structures at least annually	2019

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary (continued)

Actions for Meeting Total Maximum Daily Load (TMDL) Requirements

Use the drop-down menus to select the applicable TMDL, action description to meet the TMDL requirements, and the responsible department/parties. If no options are applicable, or more than one, **enter your own text to override drop-down menus.**

Applicable TMDL	Action Description	Responsible Department/Parties <small>(enter your own text to override the drop down menu)</small>
Shawsheen River (Fecal Coliform)	Adhere to requirements in part A.III of Appendix F	Department of Public Works
Elm Brook (Fecal Coliform)	Adhere to requirements in part A.III of Appendix F	Department of Public Works
Vine Brook (Fecal Coliform)	Adhere to requirements in part A.III of Appendix F	Department of Public Works
Spring Brook (Fecal Coliform)	Adhere to requirements in part A.III of Appendix F	Department of Public Works

Part IV: Notes and additional information

Use the space below to indicate the part(s) of 2.2.1 and 2.2.2 that you have identified as not applicable to your MS4 because you do not discharge to the impaired water body or a tributary to an impaired water body due to nitrogen or phosphorus. Provide all supporting documentation below or attach additional documents if necessary. Also, provide any additional information about your MS4 program below.

With regard to the Endangered Species Act Determination under Criterion C in Part I, the Town of Bedford agrees that stormwater discharges and actions planned under the permit will have no effect on the Northern Long Eared Bat and also that US Fish & Wildlife will be consulted as needed during the permit term on any future best management practices.

Part V: Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name:

Title:

Signature:

Date:

[To be signed according to Appendix B, Subparagraph B.11, Standard Conditions]

Note: When prompted during signing, save the document under a new file name

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part V: Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name:

Title:

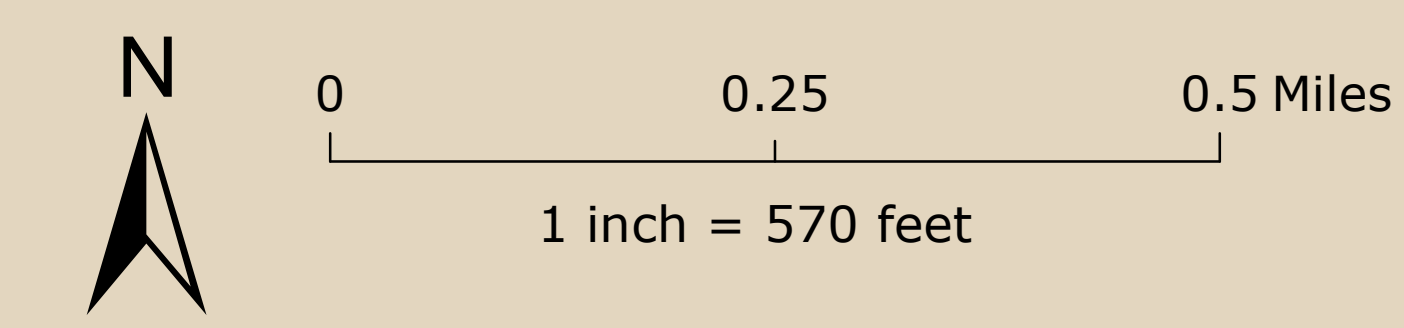
Signature:

Date:

[To be signed according to Appendix B, Subparagraph B.11, Standard Conditions]

Note: When prompted during signing, save the document under a new file name

Drainage Outfalls

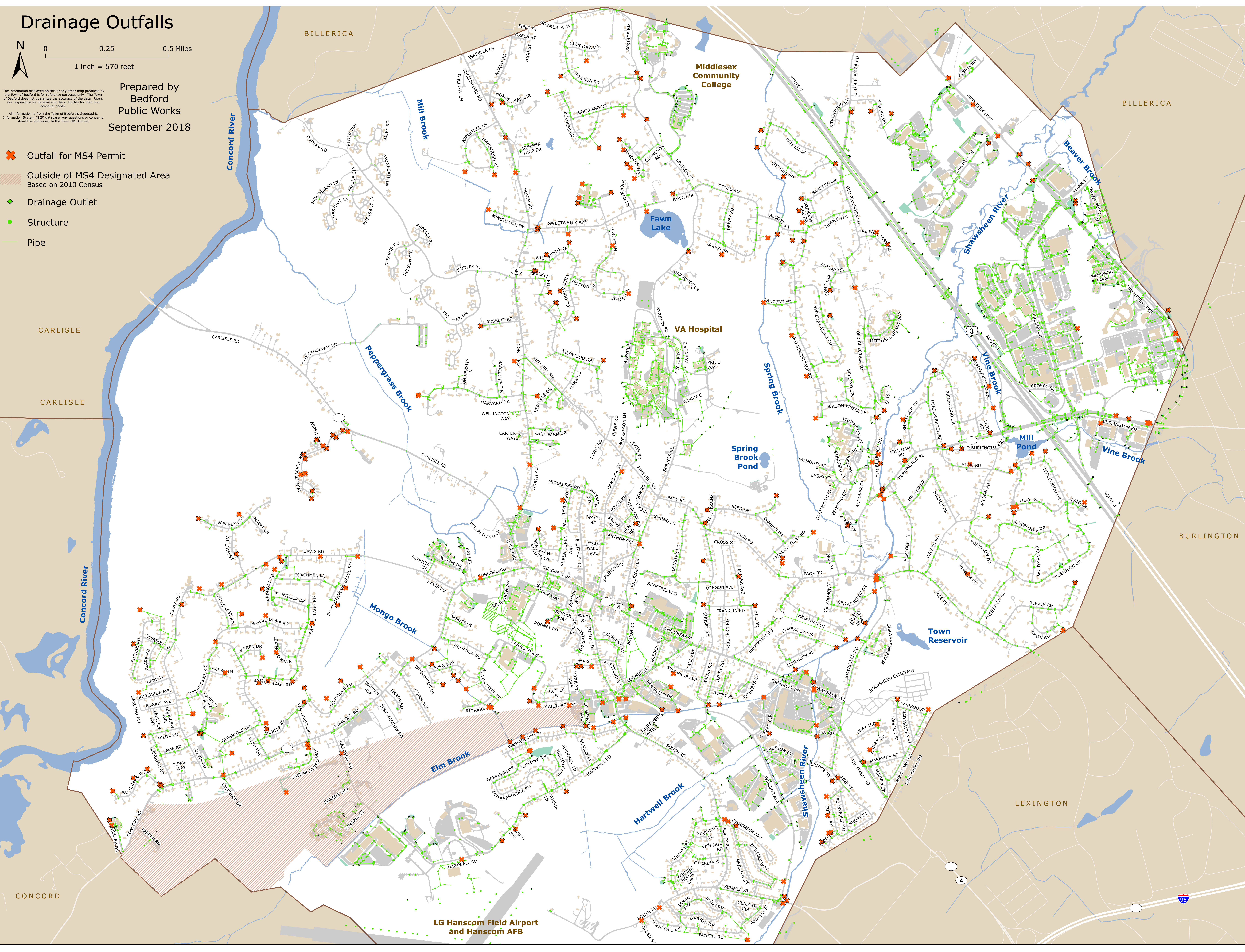


Prepared by
Bedford
Public Works
September 2018

The information displayed on this or any other map produced by the Town of Bedford is for reference purposes only. The Town of Bedford does not guarantee the accuracy of the data. Users are responsible for determining the suitability for their own individual needs.

All information is from the Town of Bedford's Geographic Information System (GIS) database. Any questions or concerns should be addressed to the Town GIS Analyst.

- ✖ Outfall for MS4 Permit
- ▨ Outside of MS4 Designated Area Based on 2010 Census
- ◆ Drainage Outlet
- Structure
- Pipe



CONCORD

LG Hanscom Field Airport and Hanscom AFB



Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part IV: Notes and additional information

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With regard to the Endangered Species Act Determination under Criterion C in Part I, the Town of Bedford agrees that stormwater discharges and actions planned under the permit will have no effect on the Northern Long Eared Bat and also that US Fish & Wildlife will be consulted as needed during the permit term on any future best management practices.

IPaC resource

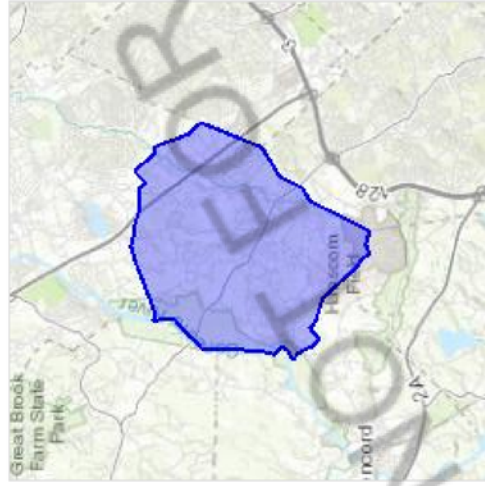
This report is an attempt to generate staff species and other resources that have a habitat (eventually referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be in or near the project area referenced below. The staff may also identify other resources that are in the project area, but that do not appear to be directly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

WS W

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Middlesex County, Massachusetts



Location

New England Regional Service Field Office

☎ (603) 223-2541

📠 (603) 223-0104

70 Commercial Street, Suite 300
Concord, NH 03301-5094

<http://www.fws.gov/newengland>

Endangered

his resource list is for informational purposes only and does not constitute an analysis of v project le el impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of v the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act requires Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) if [vspecies under the jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered PaCals species that are candidate, or proposed, for listing. See the [listing status page](#) for more information.
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME

STATUS

North American Woodpecker
Northern Red-breasted Nuthatch
<http://ec.fws.gov/ecp/pecie/9045>

Threatened

Critical habitat

potential effect of critical habitat on the environment and on the species it is intended to protect.

THE EASTERN COASTAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The following are important factors to consider when evaluating the potential effects of critical habitat on migratory birds. The following information is intended to provide a general overview of the factors that may affect migratory birds and their habitats. For more information, please refer to the [USFWS Bird Conservation Plan](#) and the [Migratory Bird Conservation Act](#). The following information is intended to provide a general overview of the factors that may affect migratory birds and their habitats. For more information, please refer to the [USFWS Bird Conservation Plan](#) and the [Migratory Bird Conservation Act](#). The following information is intended to provide a general overview of the factors that may affect migratory birds and their habitats. For more information, please refer to the [USFWS Bird Conservation Plan](#) and the [Migratory Bird Conservation Act](#).

For guidance on how to submit your list, please refer to the PRESENCE OF BIRDS IN YOUR PROJECT AREA. The most likely birds to be present in your project area are listed below.

NAME

BREEDING SEASON (IF A

BREEDING SEASON IS INDICATED LISTEN TO THE PRESENCE OF BIRDS IN YOUR PROJECT AREA.

BIRDS MAY BREED IN YOUR

PROJECT AREA SOMETIME WITHIN

THE TIMEFRAME SPECIFIED,

WHICH IS A VERY LIBERAL

ESTIMATE OF THE DATES INSIDE

WHICH THE BIRD BREEDS

ACROSS ITS ENTIRE RANGE.

"BREEDS ELSEWHERE" INDICATES LISTEN TO THE PRESENCE OF BIRDS IN YOUR PROJECT AREA.

THAT THE BIRD DOES NOT LIKELY

BREED IN YOUR PROJECT AREA.)

Bald Eagle *Haliaeetus leucocephalus*

Breeds Oct 15 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1626>

Black-billed Cuckoo *Coccyzus erythrophthalmus*

Breeds May 15 to Oct 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9399>

Bobolink *Dolichonyx oryzivorus*

Breeds May 20 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Buff-breasted Sandpiper *Calidris subruficollis*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9488>

Canada Warbler *Cardellina canadensis*

Breeds May 20 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Dunlin *Calidris alpina arctica*

Breeds rarely

This is a Bird of Conservation Concern (BCC) only in parts of the continental USA.

Eastern Screech Owl *Antrostomus vociferus* Breeds May 1 to August 20

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Evening Grosbeak *Coccothraustes vespertina* Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Golven Eagle *Aquila chrysaetos* Breeds elsewhere

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibility to certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1680>

King Rail *Rallus elegans* Breeds May 1 to September 5

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/8936>

Lesser Yellowlegs *Tringa flavipes* Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9679>

Nelson's Sparrow *Ammodramus nelsoni* Breeds May 15 to September 5

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Prairie Warbler *Dendroica discolor* Breeds May 1 to July 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Prothonotary Warbler *Protonotaria citrea* Breeds April 1 to July 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Red-shouldered Hawk *Melanerpes erythrocephalus* Breeds May 10 to September 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Red-tailed Loon *Gavia stellata* Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Udd Turn ton Arenaria interpres morinella Q

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Region (BCR) in the continental USA

Breeds elsewhere

Red-tailed Blackbird Euphagus carolinus

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds elsewhere

Saltmarsh Sparrow Ammodramus caudatus

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 15 to September 5

Semipalmated Sandpiper Calidris pusilla

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds elsewhere

Short-billed Dowitcher Limnodromus griseus

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds elsewhere

<https://ecos.fws.gov/ecp/species/9480>

Snowy Owl Bubo scandiacus

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds elsewhere

Willet Tringa semipalmata

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds April 20 to August 5

Wood Thrush Hylocichla mustelina

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 10 to August 31

Probability of Presence Summary

The graph below provides our best understanding of when a bird of conservation concern is likely to be present in our project area. This information can be used to tailor and schedule our project activities to avoid or minimize impact to birds. Please make your own assumptions and understand that a "Probability of Presence" for a Bird of Conservation Concern is not a guarantee of presence. A "Probability of Presence" for a Bird of Conservation Concern is not a guarantee of presence.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell (our project overlap) during a particular week of the year. (A relative probability of 124-week month.) A taller bar indicates a higher probability of presence. The survey effort (low) can be Q

used to establish a level of confidence in the presence score. One can have high confidence in the presence score if the corresponding score is also high.

How is the probability of presence score calculated? The calculation is done in the steps:

1. The probability of presence for each week is calculated as the sum of surveys in that week which the species was detected divided by the total number of surveys that week. For example, if in week 12 there were 20 surveys and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To compare the pattern of presence across the area, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, if the probability of presence in week 20 is 0.25 and the probability of presence in week 12 is 0.05, then the relative probability of presence in week 12 is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 1, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (🟡)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (l)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

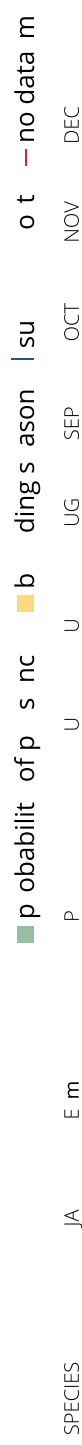
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

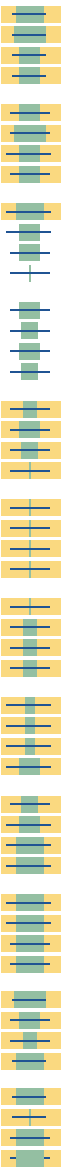
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Bald Eagle
B Vulnerable
(This is a Bird of
service)
center (Bird) in this
area but warms
attention because of
the Eagle Act
protection
susceptibilities in
shelter areas from
certain types of
development
activities.)



Black billed
Cuck

B. Ranges
(CON) (This is a Bird
of Conservation
Concern (BCC)
throughout its range
in the continental
USA and Alaska.)



Bobolink

BCC Ranges
(CON) (This is a Bird
of Conservation
Concern (BCC)
throughout its range
in the continental
USA and Alaska.)



Buff-breasted
Sandpiper

BCC Ranges
(CON) (This is a Bird
of Conservation
Concern (BCC)
throughout its range
in the continental
USA and Alaska.)



Canada Warbler

BCC Ranges
(CON) (This is a Bird
of Conservation
Concern (BCC)
throughout its range
in the continental
USA and Alaska.)



Dunlin

B. Ranges
Bird of Conservation
Concern (BCC) in
particular Bird
service Regions
(BCC) in the
continental USA)

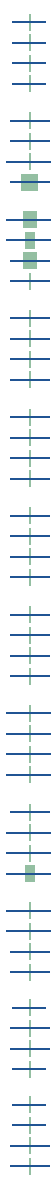


Eastern Whip

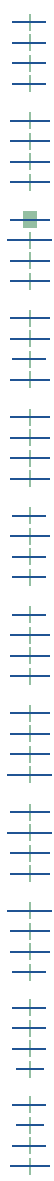
protection
B. Ranges
(CON) (This is a Bird
of Conservation
Concern (BCC)
throughout its range
in the continental
USA and Alaska.)



Evening G
BCC R ngewide
(CON)(Thi i Bid
fC n e v t i n
C n c e n (BCC)
th ugh ut it nge
in the c ntinent I
U A ndAl k.)



G Sden E gle
Non-BCC.Vulne le
(Thi i n t Bid Sf
C n e v t i n
C n c e n (BCC) in thi
e , ut wa nt
t t e n t i n e c u e f
the E gle Act f
p t e n t i l
Susceptibilities in
offshore areas from
certain types of S
development or
activities.)



King Rail
BCC Rangewide
(CON)(This is a Bird
of Conservation
Concern (BCC)
throughout its range
in the continental
USA and Alaska.)



Lesser Yellowlegs
BCC Rangewide
(CON)(This is a Bird
of Conservation
Concern (BCC)
throughout its range
in the continental
USA and Alaska.)



Nelson's Sparrow
BCC Rangewide
(CON)(This is a Bird
of Conservation
Concern (BCC)
throughout its range
in the continental
USA and Alaska.)



Prairie Warbler
BCC Rangewide
(CON)(Thi i Bid
fC n e v t i n
C n c e n (BCC)
th ugh ut it nge
in the c ntinent I
U A ndAl k.)



P Sth n t y
Wa le
BCC R ngewide
(CON)(Thi i Bid
fC n e v t i n
C n c e n (BCC)
th ugh ut it nge S
in the c ntinent I
U A ndAl k.)



**Red-headed
Woodpecker**



CC Rangewide
(CON) (This is a Bird
of Conservation
Concern (CC)
throughout its range
in the continental
USA and Alaska.)

Red-throated Loon



CC Rangewide
(CON) (This is a Bird
of Conservation
Concern (CC)
throughout its range
in the continental
USA and Alaska.)

Ruddy Turnstone



BCC - BCR (This is a
Bird of Conservation
Concern (BCC) only in
particular Bird
Conservation Regions
(BCRs) in the
continental USA)

Rusty Blackbird



BCC Rangewide
(CON) (This is a Bird
of Conservation
Concern (BCC)
throughout its range
in the continental
USA and Alaska.)

Saltmarsh Sparrow



BCC Rangewide
(CON) (This is a Bird
of Conservation
Concern (BCC)
throughout its range
in the continental
USA and Alaska.)

**Semipalmated
Sandpiper**



BCC Rangewide
(CON) (This is a Bird
of Conservation
Concern (BCC)
throughout its range
in the continental
USA and Alaska.)

**Short-billed
Owl**



CC Rangewide
(CON) (This is a Bird
of Conservation
Concern (CC)
throughout its range
in the continental
USA and Alaska.)

Snowy Owl
n_ewide
(ON)(This is a bird
of conservation
concern ()
throughout its range
in the continent I
USA and Alaska.)



Willow
n_ewide
(ON)(This is a bird
of conservation
concern ()
throughout its range
in the continent I
USA and Alaska.)



Wood Thrush
BCC Rangeland
(CON)(This is a Bird
of Conservation
Concern (BCC)
throughout its range
in the continental
USA and Alaska.)



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

In the Migratory Bird Resource List, only a subset of birds that may occur in your project area is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [E-bird Explore Data Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of success data is continuous! b ing u dat d as n w and b tt r in or mation b comes availabl . To l ar n mor about how th robabilit o r s nc gra h s ar roduc d and how to int r r th m, go th Probabilit o Pr s nc Summar and th n click on th "T ll me about th s gra hs" link.

How do I know if a bird is breeding, entering, migrating or present year-round in my project area?

To see what articles about a particular bird's range our project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology](#), [All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird's range), the [Cornell Lab of Ornithology Neotropical Birds Guide](#). If a bird on our migratory birds checklist has a breeding season associated with it, it is that bird does occur in our project area, then make a note at some point within the time frames identified. "Breeds where" is indicated, then the bird likely does not breed in our project area.

What are the levels of concern for migratory birds? Why?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#), and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if we have eagles on my list? Why?

Your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird checklist is not a list of all birds in our project area, only a subset of birds of prior concern. To learn more about how our checklist is generated, and sections or identifying what other birds may be in our project area, please see the FAQ "What do sIPaC users generate that migratory birds potentially occurring in my checklist location?". Please be aware that the "robustness" of birds within the 10 km grid cell(s) that overlap your project; not our exact project footprint. On the grounds provided, please also look at

carefully a e ur eyeffor (indica ed by e black er ical bar) and for e exi ence of e “no da a” indica or (a red orizon al bar). A ig ur eyeffor i e key componen . f e ur eyeffor i ig , en e probabili y of pre ence core can be lewed a more dependable. n con ra , alo ur eyeffor bar or no da a bar mean a lack of da a and, erefore, a lack of cer ain y about pre ence of e pecie . T i li i no perfec ; i imply a ar ing poin for iden ifying wha bird of concern a e e po en ial o be in your projec area, when ey mig be ere, and if ey mig be breeding (whic mean ne mig be pre en). T eli elp you know wha o look for o confirm pre ence, and elp guide you in knowing when o implemen con er a ion mea ure o a oid or minimize po en ial impac from your projec ac i ie , ould pre ence be confirmed. To learn more about con er a ion mea ure , i e FAQ "Tell me about con er a ion mea ure can implemen o a oid or minimize I impac o migra ory bird " a e bo om of your migra ory bird ru re ource page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

This location overlaps the following National Wildlife Refuge lands:


LAND

ACRES

Great Meadows National Wildlife Refuge

1,528.29 acres

 (978) 443-4661

 (978) 443-2898

MAILING ADDRESS

C/o Eastern Massachusetts Nwr Complex

73 Weir Hill Road

Sudbury, MA 01776-1420

PHYSICAL ADDRESS

Great Meadows Nwr

73 Weir Hill Road

Sudbury, MA 01776-1420

http://www.fishwildlife.gov/refuge/_profile/_index.cfm?id=53511

Fish Hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION. |

Wetlands Inventory National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be outdated. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

[PEM1/SS1E](#)
[PEM1E](#)
[PEM1C](#)
[PEM1Cd](#)
[PEM1Ed](#)
[PEM1Eg](#)
[PEM1/UBF](#)
[PEM1/UBFx](#)

FRESHWATER FORESTED/SHRUB WETLAND

[PFO1E](#)
[PFO1Ed](#)
[PSS1E](#)
[PFO1Eg](#)
[PFO1/4E](#)
[PFO1/4Ed](#)
[PSS1Ed](#)
[PFO1/4Eg](#)
[PFO1/SS1Ed](#)
[PFO4Eg](#)
[PFO1/4Eb](#)
[PFO1C](#)
[PFO4Eb](#)
[PFO1/EM1E](#)
[PFO1/EM1E](#)
[PFO1Eb](#)
[PFO1A](#)
[PSS1Eb d](#)
[PFO4E](#)
[PSS1/EM1E](#)
[PFO1Fb](#)
[PFO4C](#)

FRESHWATER PO ND

[P_BH](#)
[P_BH](#)
[PUBHX](#)
[PUBHb](#)

LAKE

[L1UBH](#)

RIVERINE

[R2UBH](#)

[R2UBHX](#)

[R4SBCX](#)

[R4SBC](#)

[R5UBH](#)

[R4SBA](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted.

Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercfid worm reefs) have also been excluded from the inventory.

Some habitats, such as soft bottom, oolite, and other features, are also excluded from the inventory.

Data precautions

Field data, state, and other agency data with jurisdiction over wetlands may differ from aerial photography and products of the inventory, to different limits of proprietary jurisdiction of any Federal, state, or local government or stable in the geographic scope of the agency programs of government agencies. Proper interpretation of field data, activities involving modifications within or adjacent to wetlands and associated activities of appropriate field data, state, or other agency concerning specific agency programs and proprietary jurisdictions that may affect such activities.