

Part I: General Conditions

General Information

Name of Municipality or Organization: State:

EPA NPDES Permit Number (if applicable):

Primary MS4 Program Manager Contact Information

Name: Title:

Street Address Line 1:

Street Address Line 2:

City: State: Zip Code:

Email: Phone Number:

Fax Number:

Other Information

Stormwater Management Program (SWMP) Location (web address or physical location, if already completed):

Eligibility Determination

Endangered Species Act (ESA) Determination Complete? Eligibility Criteria (check all that apply): A B C

National Historic Preservation Act (NHPA) Determination Complete? 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? If 100% of 2003 requirements not met, enter an estimated date of completion (MM/DD/YY):

Web address where MS4 map is published:

If outfall map is unavailable on the internet an electronic or paper copy of the outfall map must be included with NOI submission (see section V for submission options)

Regulatory Authorities (if covered under the 2003 permit)

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

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

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

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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
Brochures/Pamphlets	Distribute pool & spa water drainage guidelines brochure.	Residents	Conservation, Building	Mail brochure to all owners of pools installed in past 5 years & known pool installers (record numbers sent & review number of complaints regarding pool drainage to street/neighbors over time before & after mailing). Display brochures in Conservation office.	2019
Brochures/Pamphlets	Develop & distribute salt/de-icing materials use & storage information.	Businesses, Institutions and Commercial Facilities	Conservation, DPW	Mail to all commercial property owners, and include in DPW commercial bills in January (record numbers sent).	2019

<p>Brochures/Pamphlets, Webpage</p>	<p>Develop & distribute sediment & erosion control practices & permitting information.</p>	<p>Developers (construction)</p>	<p>Conservation, Building, DPW, Planning</p>	<p>Compile list & mail to developers/contractors, including licensed utility contractors (review results of Conservation & Planning inspections & violations over time before & after mailing/posting, & number of projects applying for permits). Ensure information is posted on all Town permitting webpages.</p> <p>2020</p>
<p>Brochures/Pamphlets</p>	<p>Develop & distribute industrial materials storage information.</p>	<p>Industrial Facilities</p>	<p>Conservation, Board of Health</p>	<p>Compile list of industrial sector companies. Mail to industrial sector & in annual Hazardous Materials Storage Registrations mailing (record numbers sent).</p> <p>2020</p>

<p>Webpage, Video(s), Displays, Press Releases,</p>	<p>Conduct program to encourage on-site stormwater infiltration & provide general stormwater facts to public.</p>	<p>Residents/General Public</p>	<p>Conservation, DPW, Board of Health, Recreation, Library</p>	<p>Highlight/post additional information on Town website (redirect downspouts, rain gardens, permeable surfaces, etc.), silent videos/display in Town Hall Annex, Town Hall, and/or Human Services Lobbies, Library display, PSA on BCAT & other local media (track frequency), Rain Barrel Program (record number sold), information at Town events (e.g., Health Fair, Farmers' Market, Town Elections), Reverse 911 if there is a water ban.</p>	<p>2021</p>
<p>Brochures/Pamphlets</p>	<p>Develop & distribute waste & dumpster management information.</p>	<p>Businesses, Institutions and Commercial Facilities</p>	<p>Conservation, Board of Health</p>	<p>Include in annual Food Permits & Hazardous Materials Storage Registrations mailings (review results of Board of Health inspections & number of complaints regarding waste/dumpsters over time before & after mailing.</p>	<p>2021</p>

<p>Displays/Posters/Kiosks</p>	<p>Encourage consideration & use of LID techniques.</p>	<p>Developers (construction)</p>	<p>Conservation, Planning</p>	<p>Town Hall Annex Lobby display & silent video(s), & additional links & resources on all Town permitting webpages (evaluate whether LID use is being proposed more frequently in permitting applications over time).</p>	<p>2022</p>
<p>Brochures/Pamphlets</p>	<p>Develop & distribute targeted information regarding maintenance of parking lot surfaces.</p>	<p>Industrial Facilities</p>	<p>Conservation</p>	<p>Compile information on known site conditions at industrial sector companies, and mail targeted information (record number sent).</p>	<p>2022</p>
<p>TBD</p>	<p>Evaluate additional education and outreach needs and opportunities and potential for new actions to address specific issues that may be identified.</p>	<p>Any</p>	<p>Conservation</p>	<p>Track any additional education & outreach measures.</p>	<p>2018</p>
<p>Various</p>	<p>In accordance with part A.III of Appendix F and Part II of Appendix H, supplemental Residential and Business/Commercial/Institution programs with messages related to bacteria/pathogens and phosphorus.</p>	<p>Residents, Businesses, Institutions and Commerce</p>	<p>Conservation, Board of Health, DPW/Engineering, Planning, Recreation</p>	<p>See details in Part IV. Notes and additional information.</p>	<p>2018</p>
<p></p>	<p></p>	<p></p>	<p></p>	<p></p>	<p></p>
<p></p>	<p></p>	<p></p>	<p></p>	<p></p>	<p></p>

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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 Implementation
Public Participation	Hotline/webline - reporting problems/violations	DPW, Board of Health, Town Clerk	Add Report Illegal Dumping to Storm Drains form and contact information to website.	2018
Public Participation	Household haz. waste/used oil collection	Board of Health, Conservation	Continue to hold annual or biannual Household Hazardous Waste Days for residents. Distribute information regarding storm drains and water quality to attendees.	2018
Public Review	Public Meeting - Stormwater & SWMP Review	Conservation	Host public meeting to provide general stormwater information & present initial Stormwater Management Plan (SWMP) & provide opportunity for public comment. Incorporate comments as appropriate.	2019
Public Review	SWMP, NOI & Annual Reports available to public	Conservation	Post SWMP on website & solicit public comments. Incorporate comments as appropriate. Also post NOI and all Annual Reports on website.	2019
Public Participation	Stormwater Activities at Farmers' Market	Conservation, Recreation	Host table at Farmers' Market with activities for children (e.g. EnviroScape with Northern Middlesex Stormwater Collaborative) at least once during permit term.	2020

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Part III: Stormwater Management Program Summary (continued)

MCM 3: Illicit Discharge Detection and Elimination (IDDE)

BMP Categorization (enter your own text to override the drop down menu)	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
SSO inventory	Develop SSO inventory in accordance with permit conditions	DPW/Engineering	Complete within 1 year of effective date of permit (by 7/1/19) & update annually.	2018
Storm sewer system map	Create map and update during IDDE program completion in accordance with permit requirements and recommendations.	DPW/Engineering	Update map within 2 years of effective date of permit (by 7/1/20), update annually as information becomes available, and complete full system map within 10 years of effective date of permit	2018
Written IDDE program	Create written IDDE program. Evaluate whether to use consultant or Town staff to prepare.	DPW/Engineering	Complete within 1 year of effective date of permit (by 7/1/19) and update as required	2018
Assess and priority rank outfalls/interconnections	Rank outfalls based on potential for illicit discharges, SSOs and public health significance. In accordance with part A. III of Appendix F, catchments draining to waterbodies impaired for bacteria/pathogens shall be ranked Problem or High priority.	DPW/Engineering	Complete initial inventory & priority ranking within 1 year of effective date of permit (by 7/1/19), update annually and include in Annual Report, and complete final ranking within 3 years of effective date of permit (by 7/1/21).	2018

<p>Implement IDDE program</p>	<p>Implement catchment investigations according to program and permit conditions. Evaluate whether to use consultant or Town staff to prepare written procedures and implement.</p>	<p>DPW/Engineering</p>	<p>2019</p>
<p>Employee training</p>	<p>Train employees on IDDE implementation. Identify staff to be trained, evaluate whether to use consultant or Town staff to conduct trainings, and implement training program.</p>	<p>DPW/Engineering, Board of Health</p>	<p>2019</p>
<p>Conduct dry weather screening and sampling</p>	<p>Conduct in accordance with outfall screening procedure and permit conditions</p>	<p>DPW/Engineering, Conservation</p>	<p>2018</p>
<p>Conduct wet weather screening and sampling</p>	<p>Conduct in accordance with outfall screening procedure and permit conditions</p>	<p>DPW/Engineering, Conservation</p>	<p>2019</p>
<p>Ongoing screening</p>	<p>Conduct dry weather and wet weather screening (as necessary)</p>	<p>DPW/Engineering, Conservation</p>	<p>2019</p>
<p>Stormwater Intern Program</p>	<p>Create Stormwater Intern Program, working with local college(s)/universities. Use intern assistance for completing mapping, conducting screening & sampling, & other tasks.</p>	<p>DPW/Engineering, Conservation</p>	<p>2018</p>

IDDE Bylaw	Continue to administer the IDDE bylaw.	DPW/Engineering, Board of Health, Building	Coordinate responses between authorized enforcement agents/ departments. Track any enforcement activity.	2018
IDDE Resident Reporting	Encourage residents to report problems/ violations.	DPW, Board of Health, Town Clerk	Add Report Illegal Dumping to Storm Drains form and contact information to website.	2018

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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 Erosion and Sediment Control (ESC) measures	Complete written procedures of site inspections and enforcement procedures and begin implementation. Maintain consistency with existing Stormwater Management bylaw or as amended.	Conservation, Planning	Complete within 1 year of the effective date of permit (by 7/1/19)	2018
Site plan review and inspection and enforcement	Complete written procedures of site plan review and begin implementation. Evaluate whether to update Site Plan Rules & Regulations.	Planning, Conservation	Complete within 1 year of the effective date of permit (by 7/1/19)	2018
Develop procedure for tracking number of site reviews, inspections and enforcement actions, related to site plan review	Coordinate existing activities between permitting departments and determine if they could be more effective. Determine how to efficiently track numbers, possibly with an interdepartmental shared document/drive.	Conservation, Planning, DPW/Engineering, Board of Health, Building, Fire	Complete within 1 year of the effective date of permit (by 7/1/19). Record and report numbers in Annual Reports.	2018

<p>Erosion and Sediment Control</p>	<p>Evaluate whether to update Stormwater Management bylaw and requirements for construction operators to implement a sediment and erosion control program, including references and/or design standards.</p>	<p>Conservation, Planning</p>	<p>Complete within 2 years of the effective date of permit, in conjunction with bylaw requirements under MCM 5 (by 7/1/20)</p>	<p>2019</p>
<p>Waste Control</p>	<p>Evaluate whether to update Stormwater Management bylaw and requirements to control wastes, including but not limited to, discarded building materials, concrete truck wash out, chemicals, litter, and sanitary wastes.</p>	<p>Conservation, Planning</p>	<p>Complete within 2 years of the effective date of permit, in conjunction with bylaw requirements under MCM 5 (by 7/1/20)</p>	<p>2019</p>
<p>Erosion and Sedimentation Control Bylaw</p>	<p>Continue to administer the Stormwater Management Bylaw Governing Erosion and Sedimentation Control for New and Redevelopment Projects During Construction and Post-Construction Periods Bylaw.</p>	<p>Conservation, Planning</p>	<p>Track permits issued and any enforcement activity.</p>	<p>2018</p>
<p>Pre-Construction/Coordination Meetings</p>	<p>Continue to hold bimonthly or as needed interdepartmental Development Coordination Meetings to discuss upcoming development projects and permitting, including applicants when appropriate.</p>	<p>Planning, Board of Health, Building, Conservation, DPW/Engineering, Fire, Police</p>	<p>Planning Board coordinates ongoing meetings (record number of meetings held and/or number of projects discussed).</p>	

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Part III: Stormwater Management Program Summary (continued)

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

BMP Categorization <small>(enter your own text to override the drop down menu or entered text)</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
Ensure any stormwater controls or management practices for new development and redevelopment meet the retention or treatment requirements of the permit and all applicable requirements of the Massachusetts Stormwater Handbook	Amend/modify existing Stormwater Management Bylaw to meet permit requirements, including optimizing stormwater management BMPs for phosphorus removal in accordance with part II of Appendix H.	Conservation, Planning, Engineering	Complete within 2 years of effective date of permit (by 7/1/20).	2019
As-built plans for on-site stormwater control	Amend/modify existing Stormwater Management Bylaw and/or procedures to require as-built drawings within 2 years of project completion and procedures to ensure long term operation and maintenance.	Conservation, Planning	Include procedures in SWMP and report on measures to meet permit requirements in Annual Reports.	2019

<p>Street design and parking lot guidelines</p>	<p>Develop a report assessing requirements that affect the creation of impervious cover. The assessment will help determine if changes to design standards for streets and parking lots can be modified to support low impact design options. Evaluate Zoning Bylaw, Site Plan and Subdivision Rules & Regulations, Street Opening/Utility Connection Rules & Regulations, and other relevant bylaws/regulations.</p>	<p>Planning (including Planning Board per permit), DPW/Engineering</p>	<p>Complete within 4 years of effective date of permit (by 7/1/22) and implement recommendations of report. Report on status in Annual Reports.</p>	<p>2020</p>
<p>Allow green infrastructure</p>	<p>Develop a report assessing existing local regulations to determine the feasibility of making green infrastructure practices allowable when appropriate site conditions exist. Evaluate Zoning Bylaw, Site Plan and Subdivision Rules and Regulations and other relevant bylaws/regulations.</p>	<p>Planning, Board of Health, Building</p>	<p>Complete within 4 years of effective date of permit (by 7/1/22) and implement recommendations of report. Report on status in Annual Reports.</p>	<p>2020</p>

<p>Target properties to reduce impervious areas</p>	<p>Identify/inventory at least 5 permittee-owned properties that could be modified or retrofitted with BMPs to reduce impervious areas, including BMPs that infiltrate stormwater in accordance with part II of Appendix H, and update annually. In addition, identify all properties with retrofit opportunities for structural BMPs (for phosphorus removal) also in accordance with part II of Appendix H.</p>	<p>DPW/Engineering, Fire, Recreation, Schools</p>	<p>Complete within 4 years of effective date of permit (by 7/1/22) and report annually on retrofitted properties. Identify additional properties in the fifth year Annual Report (2022-2023) to maintain a minimum of 5 sites in the potential retrofit inventory. In addition, complete inventory of all properties within 5 years of effective date of permit (7/1/23).</p>	<p>2020</p>
<p>Erosion and Sedimentation Control Bylaw</p>	<p>Continue to administer the Stormwater Management Bylaw Governing Erosion and Sedimentation Control for New and Redevelopment Projects During Construction and Post-Construction Periods Bylaw.</p>	<p>Conservation, Planning</p>	<p>Track permits issued and any enforcement activity.</p>	<p>2018</p>

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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
O&M procedures	Create 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, including additional requirements in part II of Appendix H.	DPW, Fire, Recreation, Schools, Board of Health	Complete and implement within 2 years of effective date of permit (by 7/1/20)	2018
Inventory all permittee-owned parks and open spaces, buildings and facilities, and vehicles and equipment	Create inventory	DPW, Fire, Recreation, Schools	Complete within 2 years of effective date of permit (by 7/1/20) and update annually	2018
Infrastructure O&M	Establish and implement program for repair and rehabilitation of MS4 infrastructure	DPW/Engineering	Complete and implement within 2 years of effective date of permit (by 7/1/20)	2019
Stormwater Pollution Prevention Plan (SWPPP)	Create SWPPPs for maintenance garages, transfer stations, and other waste-handling facilities	DPW, Fire, Recreation, Schools, Board of Health	Complete and implement within 2 years of effective date of permit (by 7/1/20)	2019
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	Clean catch basins on established schedule and report number of catch basins cleaned and volume of material moved annually	2018
Street sweeping program	Sweep all streets and permittee-owned parking lots in accordance with permit conditions, including part II of Appendix H.	DPW	Sweep all streets and permittee-owned parking lots twice per year in the spring & in the fall	2018

Road salt use optimization program	Establish and implement a program to minimize the use of road salt	DPW	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/Engineering, Schools	Inspect and maintain treatment structures at least annually	2019
Employee Training as required in SWPPPs	Identify staff to be trained, evaluate whether to use consultant or Town staff to conduct trainings, and implement training program.	DPW, Fire, Recreation, Schools, Board of Health	Conduct employee trainings annually.	2020
Site Inspections as required in SWPPPs	Evaluate whether to use consultant or Town staff to conduct inspections, and implement inspection program.	DPW, Fire, Recreation, Schools, Board of Health	Conduct inspections quarterly, with at least one inspection conducted when a stormwater discharge is occurring.	2020
Control of Toxic and Hazardous Material/Bylaw	Continue to administer the Control of Toxic and Hazardous Material Bylaw for commercial and industrial establishments as well as relevant Town facilities.	Board of Health	Ensure compliance with bylaw. Track registrations and any enforcement activity.	2018
Composting Program	Continue to offer compost bins to residents at a reduced rate & promote program.	DPW	Record number of bins purchased.	2018
Household Hazardous Waste Collection	Continue to offer household hazardous waste (HHW) collection days for residents twice a year.	Board of Health	Record HHW days held and quantity of material collected if feasible.	2018
Medical Waste Collection	Continue to offer drop off disposal of sharps and unused & unwanted medications for residents.	Fire, Police	Maintain Sharps Kiosk for "home" sharps at Fire Station. Maintain drop off for prescription & over-the-counter medicines at Police Station.	2018

Recycling Program & Yard Waste Collection	Continue to offer curbside recycling & seasonal yard waste collection to residents.	DPW	Promote recycling & yard waste collection with annual mailer to residents & implement programs.	2018

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.

Endangered Species Act (ESA) Determination: Burlington is listed as containing the threatened Northern Long-eared Bat (*Myotis septentrionalis*). There are no critical habitats listed in Burlington. The MS4 has determined that all planned BMPs will have no effect on the Northern Long Eared Bat and the Small Whorled Pogonia. The MS4 agrees that if during the time of the permit, if the MS4 plans any structural BMPs not identified in this NOI, the MS4 will consult with US Fish and Wildlife as appropriate. See appendix for the IPAC resource list for Burlington.

National Historic Preservation Act (NHPA) Determination: Burlington contains a number of listed or eligible properties, however the municipality was authorized by the previous MS4 permit and our discharges do not have the potential to cause effects on historic properties. The Town is not currently undertaking any activities constructing or installing control measures involving subsurface land disturbance.

Please also see attached table with additional information on actions for meeting TMDL requirements and requirements related to Water Quality Limited Waters, including more detailed action descriptions and responsible departments.

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

ACTIONS FOR MEETING TOTAL MAXIMUM DAILY LOAD (TMDL) REQUIREMENTS

Applicable TMDL	Action Description	Responsible Department/Parties
Shawsheen River (Bacteria/Pathogen)	In accordance with part A.III of Appendix F, for Public Education, supplement Residential program with an annual message regarding pet waste. Message options will include the following depending on the year: Mail brochure or other written materials with dog license renewals and distribute at annual Rabies Clinic; submit press releases/articles to local newspapers; run PSA and/or interview on local cable TV; post messages on Town social media accounts. Written materials will be distributed at least once during permit term.	Conservation, Town Clerk's Office, Board of Health
Shawsheen River (Bacteria/Pathogen)	In accordance with part A.III of Appendix F, for Public Education, supplement Residential program with an annual message regarding septic systems. Message options will include the following depending on the year: Distribute brochure or other written materials to all septic system owners, permitted septage haulers, and residents with "water only" accounts; submit press releases/articles to local newspapers; run PSA and/or interview on local cable TV; post messages on Town social media accounts. Written materials will be distributed at least once during permit term.	Conservation, Board of Health, DPW
Shawsheen River (Bacteria/Pathogen)	In accordance with part A.III of Appendix F, for Illicit Discharge Detection & Elimination Program, catchments draining to waterbodies impaired for bacteria/pathogens shall be ranked Problem or High priority.	DPW/Engineering

ACTIONS FOR MEETING REQUIREMENTS RELATED TO WATER QUALITY LIMITED WATERS

Pollutant	Action Description	Responsible Department/Parties
Phosphorus (Townwide)	In accordance with part II of Appendix H, for Public Education, supplement Residential program with an annual message in the spring regarding grass clippings and fertilizers. Message options will include the following depending on the year: Include information in March Recreation Program Guide and in DPW Trash/Recycling/Yard Waste mailer (include pesticide/herbicide information as space permits) and excerpt in inground irrigation bills; submit press releases/articles to local newspapers; run PSA and/or interview on local cable TV; post messages on Town social media accounts. Written materials will be distributed at least	Conservation, Recreation, DPW

Phosphorus (Townwide)	<p>In accordance with part II of Appendix H, for Public Education, supplement Business/Commercial/Institution program with an annual message in the spring regarding grass clippings and fertilizers. Mail brochure or other written materials to landscapers and arborists (include pesticide/herbicide information as space permits), and include information in DPW commercial bills in April. Update standard Planning Board landscaping conditions to include relevant regulatory or best practices requirements.</p>	Conservation, DPW, Planning
Phosphorus (Townwide)	<p>In accordance with part II of Appendix H, for Public Education, supplement Residential program with an annual message in the summer regarding pet waste. Message options will include the following depending on the year: Mail brochure or other written materials to all licensed dog owners; include information in August Recreation Program Guide; submit press releases/articles to local newspapers; run PSA and/or interview on local cable TV; post messages on Town social media accounts. Written materials will be distributed at least once during permit term. Evaluate whether add additional signage should be added at Mill Pond Reservoir & Conservation Area, and install as needed. Post signage on message board at Burlington Dog Park once park is</p>	Conservation, Town Clerk's Office, Recreation, DPW
Phosphorus (Townwide)	<p>In accordance with part II of Appendix H, for Public Education, supplement Business/Commercial/Institution program with an annual message in the summer regarding pet waste. Mail brochure or other written materials to all kennel owners, commercial dog walkers, veterinarians, pet stores and groomers. Consider partnering with businesses to post/disseminate information.</p>	Conservation, Board of Health
Phosphorus (Townwide)	<p>In accordance with part II of Appendix H, for Public Education, supplement Residential program with an annual message in the fall regarding leaf litter. Message options will include the following depending on the year: Include information in August Recreation Program Guide; include information in DPW Trash/Recycling/Yard Waste mailer and excerpt in inground irrigation bills; submit press releases/articles to local newspapers; run PSA and/or interview on local cable TV; post messages on Town social media accounts. Written materials will be distributed at least</p>	Conservation, Recreation, DPW
Phosphorus (Townwide)	<p>In accordance with part II of Appendix H, for Public Education, supplement Business/Commercial/Institution program with an annual message in the fall regarding leaf litter. Mail brochure or other written materials to landscapers and arborists. Include information in DPW</p>	Conservation, DPW

Phosphorus (Townwide)	In accordance with part II of Appendix H, for Good House Keeping & Pollution Prevention, establish & implement procedures to properly manage grass cuttings & leaf litter, including prohibiting blowing organic waste materials onto adjacent impervious surfaces.	Recreation, Schools, DPW
Phosphorus (Townwide)	In accordance with part II of Appendix H, for Good House Keeping & Pollution Prevention, increase street sweeping of streets & parking lots to at least two times a year, once in spring (after winter activities such as sanding) & once in fall (9/1-12/1, after leaf fall)	DPW, Recreation, Schools
Phosphorus (Townwide)	In accordance with part II of Appendix H, for Stormwater Management in New Development and Redevelopment, amend/modify existing Stormwater Management Bylaw to meet permit requirements, including optimizing stormwater management BMPs for phosphorus removal.	Conservation, Planning
Phosphorus (Townwide)	In accordance with part II of Appendix H, for Stormwater Management in New Development and Redevelopment, identify/inventory at least 5 permittee-owned properties that could be modified or retrofitted with BMPs to reduce impervious areas, including BMPs that infiltrate stormwater, and update annually.	DPW/Engineering, Fire, Recreation, Schools
Phosphorus (Townwide)	In accordance with part II of Appendix H, complete a Phosphorus Source Reduction Identification Report within 4 years of effective date of permit (7/1/22) and submit with year 4 Annual Report (2021-2022). Evaluate whether to use consultant or Town staff.	DPW/Engineering
Phosphorus (Townwide)	In accordance with part II of Appendix H, evaluate all permittee-owned properties with retrofit opportunities or areas for structural BMPs within 5 years of effective date of permit (7/1/23). Provide list of planned BMPs and plan and schedule for implementation in year 5 Annual Report (2022-2023). Plan and install.	DPW/Engineering, Fire, Recreation, Schools
Phosphorus (Townwide)	In accordance with part II of Appendix H, plan and install a minimum of one structural BMP as a demonstration project within 6 years of effective date of permit (7/1/24).	DPW/Engineering, Fire, Recreation, Schools
Phosphorus (Townwide)	In accordance with part II of Appendix H, track any BMPs installed by Town and estimate the amount of phosphorus removal, and report in Annual Reports.	DPW/Engineering, Fire, Recreation, Schools

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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

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly 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.

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.

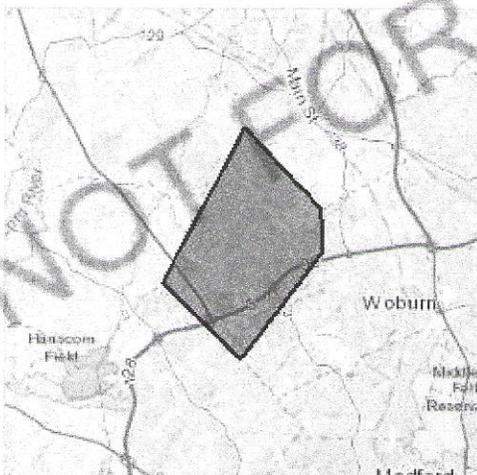
Project information

NAME

Burlington NOI 2018

LOCATION

Middlesex County, Massachusetts



DESCRIPTION

MS4 NOI only.

Local office

New England Ecological Services Field Office

☎ (603) 223-2541

📅 (603) 223-0104

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

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

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level 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 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. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. 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](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, 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

Northern Long-eared Bat *Myotis septentrionalis*
No critical habitat has been designated for this species.
<https://ecos.fws.gov/ecp/species/9045>

Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL 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 birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD 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 THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Bald Eagle *Haliaeetus leucocephalus*

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>

Breeds Oct 15 to Aug 31

Black-billed Cuckoo *Coccyzus erythrophthalmus*

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

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

Breeds May 15 to Oct 10

Bobolink *Dolichonyx oryzivorus*

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

Breeds May 20 to Jul 31

Buff-breasted Sandpiper *Calidris subruficollis*

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

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

Breeds elsewhere

Canada Warbler *Cardellina canadensis*

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

Breeds May 20 to Aug 10

Dunlin *Calidris alpina arctica*

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

Breeds elsewhere

Evening Grosbeak <i>Coccothraustes vespertinus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Lesser Yellowlegs <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Nelson's Sparrow <i>Ammodramus nelsoni</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 15 to Sep 5
Prairie Warbler <i>Dendroica discolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Prothonotary Warbler <i>Protonotaria citrea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Red-throated Loon <i>Gavia stellata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Rusty Blackbird <i>Euphagus carolinus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Semipalmated Sandpiper <i>Calidris pusilla</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Short-billed Dowitcher <i>Limnodromus griseus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Snowy Owl <i>Bubo scandiacus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

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

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

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

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events 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 properly present the pattern of presence across the year, 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, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it 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 10, 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 (|)

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.

Evening Grosbeak
 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.)

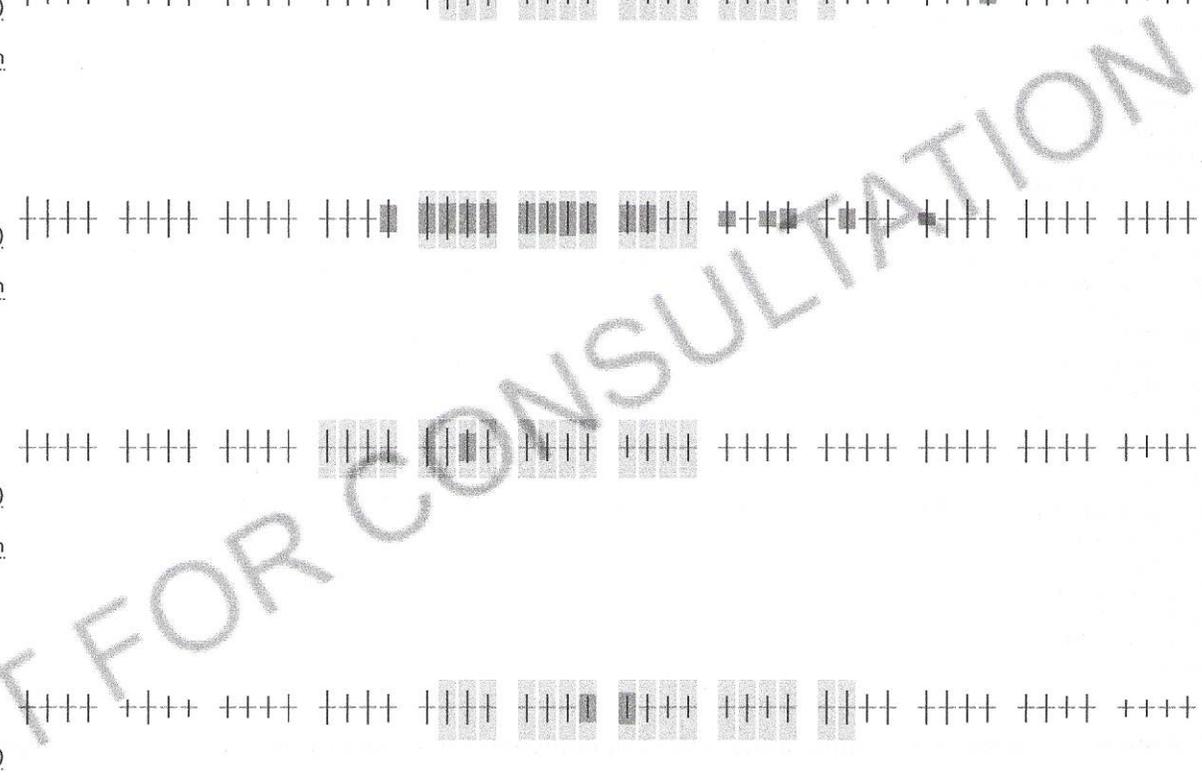
Prairie Warbler
 BCC Rangewide (CON)
 (This is a Bird of
 Conservation Concern
 (BCC) throughout its
 range in the
 continental USA and
 Alaska.)

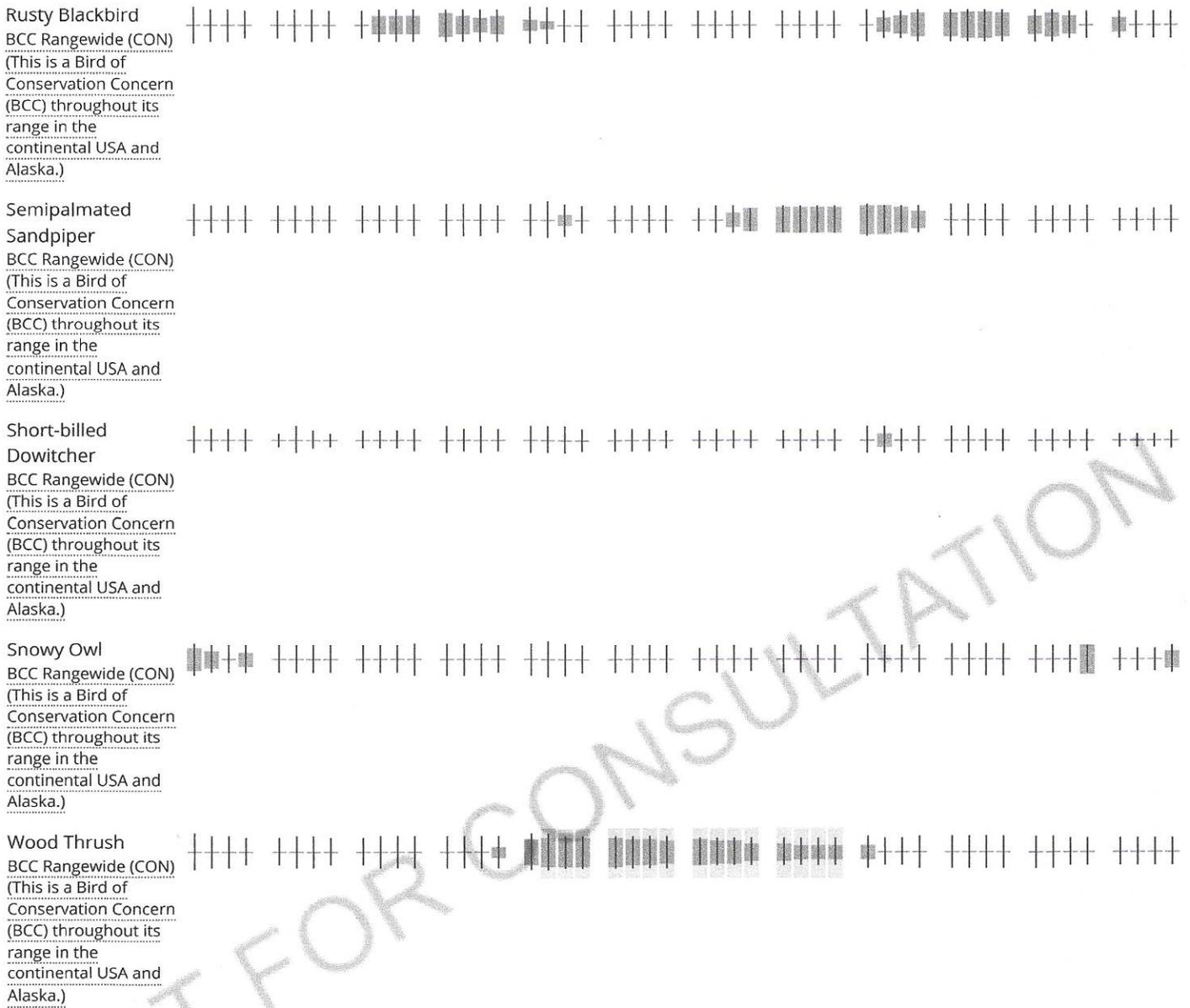
Prothonotary
 Warbler
 BCC Rangewide (CON)
 (This is a Bird of
 Conservation Concern
 (BCC) throughout its
 range in the
 continental USA and
 Alaska.)

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

SPECIES JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

Red-throated Loon
 BCC Rangewide (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.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It 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 presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

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

To see what part of a particular bird's range your 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 of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

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 I have eagles on my list?

If 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 list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources 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.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the 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 out of date. 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

PEM1E

PEM1/UBFh

PEM1Fh

PEM1Ex

PEM1Ed

PEM1Cd

PEM1/UBF

PEM1F

FRESHWATER FORESTED/SHRUB WETLAND

PFO1E

PFO1Ed

PSS1E

PFO1/4E

PFO1B

PSS1/EM1E

PFO1C

PFO1/4B

PSS1Ed

PSS1F

PSS1Fh

PFO1Bd

PSS1/FO1E

PSS1B

PFO1A

PSS1C

PFO1Ex

FRESHWATER POND

PUBHh

PUBHx

PUBH

LAKE

L1UBHh

RIVERINE

R2UBHx

R2UBH
R4SBC
R4SBCx
R5UBH
R4SBA
R4SBAx

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 tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.