Maine Wetland Program Plan
2017-2022

Second Edition, January 2017

Prepared by the Maine Department of Environmental Protection in collaboration with a multi-agency team pursuant to the U.S. Environmental Protection Agency's Enhancing State and Tribal Wetland Programs (ESTP) Initiative

Agency Participants and Partners

The following agency participants and non-governmental partners are included in planned activities listed in the 2017-2022 Maine Wetland Program Plan:

Maine State Agencies

Maine Department of Agriculture, Conservation and Forestry (DACF):
    Maine Coastal Program (MCP)
    Maine Forest Service (MFS)
    Maine Geological Survey (MGS)
    Land Use Planning Commission (LUPC)
    Maine Municipal Planning Assistance Program (MPAP)
    Maine Natural Areas Program (MNAP)
    Bureau of Parks and Lands (BPL)
Maine Department of Environmental Protection (DEP):
    Biological Monitoring Program (BMP)
    Land Division (Land)
Maine Department of Inland Fisheries and Wildlife (MDIFW)
Maine Department of Marine Resources (DMR)
Maine Department of Transportation (DOT)

Federal Agencies

US Army Corps of Engineers (USACOE)
US Environmental Protection Agency (USEPA)

US Fish and Wildlife Service (USFWS)
National Oceanic and Atmospheric Administration (NOAA)
Natural Resources Conservation Service (NRCS)

Additional Partners

Casco Bay Estuary Partnership (CBEP)
Gulf of Maine Council on the Marine Environment (GOMC)
Maine Audubon Society (MAS)
Maine Invasive Species Network (MISN)
Maine Stream Connectivity Work Group
NatureServe
New England Biological Assessment of Wetlands Work Group (NEBAWWG)
New England Interstate Water Pollution Control Commission (NEIWPCC)
New Hampshire Department of Environmental Services (NHDES)
The Nature Conservancy (TNC)
University of Maine
Wells National Estuarine Research Reserve (WNERR)

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Maine Wetland Program Plan: Background

Maine's landscape is graced with approximately 5 million acres of freshwater wetlands and 157,500 acres of coastal wetlands. Our abundant wetland resources provide habitat for a diverse array of wildlife and aquatic life including rare, threatened and endangered plant and animal species. Wetlands afford Maine residents and visitors with a wide variety of outdoor recreation opportunities, and serve vital functions related to water quality, flood control, and shoreline protection.

Recognizing the need to protect Maine's invaluable wetland resources for future generations, an interagency work group was assembled in the late 1990s to identify needed regulatory, management conservation, planning and research measures to address increasing environmental threats and cumulative impacts to wetlands. In 2001, the Maine Wetland Interagency Team completed the Maine State Wetlands Conservation Plan which included 6 broad wetland protection goals. The following updated goals are central to Maine's Wetland Program Plan:

Goal One: Identify and protect wetlands systems of statewide significance through fee acquisition, conservation easements, or other tools for permanent conservation.

Goal Two: Increase the knowledge base about Maine's wetlands through surveying, monitoring, research, and assessment to establish wetland condition, identify trends, and the causes and sources affecting wetland change.

Goal Three: Provide effective and responsible levels of protection and restoration of Maine's wetlands systems through an efficient regulatory program.

Goal Four: Promote the appreciation, stewardship and voluntary protection of wetland resources by private landowners, towns, and non-governmental entities.

Goal Five: Improve coordination between agencies with respect to wetland policies and regulatory programs to ensure efficiency in effort, consensus in outcome, and consideration of wetlands at the landscape scale.

Goal Six: Develop and maintain a wetland program, including a geospatial database, to track historic wetland loss, wetland compensation, and other wetland areas placed in permanent conservation, and to use the database to assess and evaluate progress.

The first Maine Wetland Program Plan was completed in 2011 as part of the US Environmental Protection Agency's Enhancing State and Tribal Wetland Programs (ESTP) Initiative. Guided by the Maine's overarching wetland protection goals, the Plan is organized according to EPA's four Core Elements of an Effective State and Tribal Wetland Program. The Core Elements include:

1. Monitoring and Assessment
2. Regulatory Activities, including 401 Certification
3. Voluntary Restoration and Protection
4. Water Quality Standards for Wetlands

Additional information about EPA's ESTP initiative and Core Elements Framework may be found here: https://www.epa.gov/wetlands/what-enhancing-state-and-tribal-programs-effort

The current Plan builds on past accomplishments and provides a framework to strengthen the core elements of Maine's wetland program. It addresses existing and emerging threats to wetlands including urbanization, habitat loss and fragmentation, nutrient enrichment, invasive species, toxic contaminants, hydrologic changes, and climate change. This Plan is a multi-agency effort and is a work in progress that may be revisited and revised as needed.

The following tables describe wetland program activities planned for 2017 through 2022, and are organized according to EPA's Core Elements framework and associated Maine wetland protection goals.

List of Planned Activities by Core Element (2017-2022)

Core Element 1: Monitoring and Assessment:

Maine Goal 2: Increase the knowledge base about Maine's wetlands through surveying, monitoring, research, and assessment to establish wetlands condition, identify trends, and the causes and sources affecting wetlands change

Maine Goal 6: Develop and maintain a wetland program, including a geospatial database, to track historic wetland loss, wetland compensation, and other wetland areas placed in permanent conservation, and use the data base to assess and evaluate progress

Objective 1: Develop a monitoring and assessment strategy consistent with Elements of a State Water Monitoring and Assessment Program for Wetlands (USEPA, 2006)

Actions	Responsible agency(s)	Completed Activities	Planned activities	2017	2018	2019	2020	2021	2022	Potential Partners
a. Identify program decisions and long-term environmental outcome(s) that will benefit from a wetlands monitoring and assessment program	DEP/BMP	Wetlands included in water quality monitoring and assessment program	Provide monitoring and assessment data for wetland and water quality protection programs, restoration/mitigation projects, watershed management plans, TMDLs, etc. as requested.	X	X	X	X	X	X	
b. Define wetlands monitoring objectives and strategies	DEP/BMP	Updated DEP Comprehensive Surface Water Ambient Water Quality Monitoring and Assessment Strategy for wetland elements	Revise, refine and update Comprehensive Strategy as needed/required	X	X	X	X	X	X	USEPA
	DEP (coordinating agency)	Maine Wetland Program Plan completed in 2011 and updated in 2016 in accordance with USEPA Core Elements Framework.	Revise, refine and update Wetland Program Plan as needed	X	X	X	X	X	X	multiple State agencies

Actions	Responsible agency(s)	Completed Activities	Planned activities	2017	2018	2019	2020	2021	2022	Potential Partners
	MNAP/DACF, MDIFW, DEP	Supported acquisition of LiDAR data in Maine	Support the acquisition of improved wetlands mapping data for the state (such as NWI+ or other remote mapping methods)	X	X	X	X	X	X	
	MNAP/DACF and MDIFW	Completed revision of State's official Endangered and Threatened plant list (DATE); Completed update of State's Endangered and Threatened Animal list including additions/revisions to 6 wetland-related species (2015)	Evaluate and update conservation status of RTE wetland plants, animals, and natural communities (to include ETSC species, Species of Greatest Conservation Need, and S-ranks). Also relevant to Core Element 3.	X	X	X	X	X	X	NatureServe, Maine State Legislature
c. Develop monitoring design, or an approach and rationale for site selection that best serves monitoring objectives (e.g. census, probabilistic survey, rotating basin)	DEP/BMP	Wetlands integrated into river and stream BMP using 5-year rotating basin monitoring approach. Site selection process described in QAPP/SOPs.	Refine monitoring design and site selection process to include additional types of wetlands not routinely monitored (for example, forested wetlands)	X	X	X	X	X	X	
	MNAP/DACF	Completed coast-wide mapping and ground truthing of tidal marshes to create comprehensive data layer	Strategically identify RTE wetland plants, natural communities, ecosystems, and geographic areas in need of assessment and conduct field inventory and assessment	X	X	X	X	X	X	USEPA, TNC, and private and public landowners

Actions	Responsible agency(s)	Completed Activities	Planned activities	2017	2018	2019	2020	2021	2022	Potential Partners
	MDIFW	Revised Maine's Wildlife Action Plan and Species of Greatest Conservation Need list (2015)	Identify RTE wetland animals and priority Species of Greatest Conservation Need habitats in need of assessment and conduct field inventory and assessment	X	X	X	X	X	X	USEPA, TNC, and private and public landowners
	MCP/DACF		Develop methodology for analysis of barriers on tidal streams	X	X	X	X	X	X	MNAP/DACF, TNC, Casco Bay Estuary Partnership
d. Select a core set of indicators to represent wetland condition or a suite of functions	DEP/BMP	Current core indicators include aquatic macroinvertebrates, algae, water chemistry and habitat indicators for emergent/aquatic bed wetlands.	Continue refinement of core indicators, including application to additional types of wetlands. Develop new indicators and field methods, including for wetland plants and other biological indicators, soils and hydrology, as needed to enable comprehensive assessment of various wetland classes.	X	X	X	X	X	X	MNAP, NHDES, NEBAWWG
	MNAP/DACF and MDIFW	Surveyed, databased, and mapped rare, exemplary and high value wetlands hosting rare and endangered species statewide through the Ecoregional Survey Project	Continued refinement and updating of historic information and filling in data gaps on a statewide scale	X	X	X	X	X	X	

Actions	Responsible agency(s)	Completed Activities	Planned activities	2017	2018	2019	2020	2021	2022	Potential Partners
	MNAP/DACF	Created vegetation-based monitoring protocol for Ecological Reserves in open wetlands	Create a protocol for collecting data to detect changes related to climate change in wetlands within Ecological Reserves (such as groundwater monitoring, soil chemistry, and/or soil organic content); Develop strategy for implementing additional monitoring features; Install monitoring stations or incorporate protocol in to future rounds of Ecological Reserve monitoring and analysis	X	X	X	X	X	X	NEBAWWG, MGS/DACF, NRCS
	MNAP/DACF	Completed landscape analysis and field inventory of floodplain forests in Penobscot and Kennebec River watersheds; Similar effort underway for Saco and Androscoggin Rivers	Develop and implement an approach for conducting landscape analysis and field inventories of wetlands and connectivity corridors that have the potential to provide refugia, support native biodiversity or species movement, or be highly resilient to changing environmental patterns related to climate change	X	X	X	X	X	X	TNC, public landowners
	MNAP/DACF, MCP/DACF	Acquired equipment needed to install Surface Elevation Tables for monitoring sediment accretion or loss in tidal marshes (MCP/DACF)	Develop and implement a plan for long-term monitoring of tidal marshes and associated wetland/upland buffers to detect and assess changes resulting from wetland restoration projects, changes in flow regimes (e.g. following opening of tidal flow), sea level rise and inundation (potentially including sediment accretion/erosion, vegetation, soils, salinity)	X	X	X	X	X	X	NRCS, MGS/DACF, MDIFW, NOAA, WNERR
	MNAP/DACF		Develop and implement consistent pre- and post-restoration monitoring protocols and wetland condition assessments for mitigation projects (conservation, restoration, or enhancement), including possible application of EIA methodology	X	X	X	X	X	X	DEP, MDIFW, NatureServe
	DACF (formerly State Planning Office)	Vernal pool remote identification completed and partially field verified in 12 municipalities	Continue to engage towns to undertake wetland mapping process to identify priority wetland resources.	X	X	X	X	X	X	Regional Councils, MPAP, MAS, University of Maine, MDIFW

Objective 2: Implement a sustainable monitoring program consistent with the wetlands monitoring strategy

Actions	Responsible agency(s)	Completed Activities	Planned activities	2017	2018	2019	2020	2021	2022	Potential Partners
a. Ensure the scientific validity of monitoring and laboratory activities	DEP/BMP	Comprehensive Biological Monitoring QAPP and SOPs completed in accordance with DEP Quality Management Plan	Review QAPP and SOPs annually and revise as needed. Complete additional SOPs as new field, lab and data management procedures are added.	X	X	X	X	X	X	USEPA
b. Monitor wetland resources as specified in strategy	DEP/BMP	Wetland monitoring conducted annually on a 5-year rotating basin schedule.	Continue annual wetland monitoring and assessment using rotating basin schedule as resources allow. Conduct monitoring for special research needs and management questions as requested and resources allow (e.g. regulatory programs, restoration projects, impact assessments, Baxter State Park, Acadia National Park, Maine Ecological Reserves)	X	X	X	X	X	X	Various State and Federal agencies, tribes and NGOs
	MDIFW	First iteration of high resolution aerial-image based impervious surface mapping, statewide	Periodically update and revise high resolution impervious surface mapping in order to identify trends in wetland loss over time.			X	X	X	X	MNAP/DACF
	MDIFW	Published revised tidal waterfowl and wading bird habitat layer (2016)	Improve mapping, identification, and monitoring of Significant Wildlife Habitat types (including significant vernal pools, inland waterfowl and wading bird habitats, and tidal waterfowl and wading bird habitats)	X	X	X	X	X	X	MNAP/DACF
	MDIFW, MNAP/DACF	Created and implemented a pilot effort of GIS based potential vernal pool mapping on select Wildlife Management Areas	Create and field verify a potential vernal pool map for MDIFW Wildlife Management Areas statewide	X	X	X	X	X	X	

Actions	Responsible agency(s)	Completed Activities	Planned activities	2017	2018	2019	2020	2021	2022	Potential Partners
	MNAP/DACF	Provided technical review of all MNRCP-proposed projects from 2011-2015; Collaborated with MDIFW on environmental review and species surveys of proposed MNRCP projects	Conduct field surveys and assessments of wetland habitats and species associated with potential or actual wetland restoration and conservation projects, as a proactive support effort for In Lieu Fee mitigation; provide technical support in the review of MNRCP-proposed projects	X	X	X	X	X	X	MDIFW, USEPA, TNC
	MNAP/DACF	Established open wetland Ecological Reserve monitoring plots	Conduct scheduled Ecological Reserve monitoring; Refine or modify wetlands monitoring protocol for ecoreserves; Update and maintain wetland ecoreserves monitoring data; Conduct analysis of ecoreserve monitoring data. See also "reference wetland" initiative, Core Element 1, Objective 1	X	X	X	X	X	X	TNC, MDIFW, BPL
	MNAP/DACF	Completed landscape analysis, field inventory, and landowner outreach as part of Vulnerable Forested Wetlands, Wetlands at Risk, and Forested Floodplain Mapping projects	Conduct landscape analysis, field inventories, landowner outreach, data analysis, and database management to address data or assessment needs, update historic information, conduct environmental review, assist in conservation planning, and provide management recommendations to landowners. Also relevant to Core Element 3.	X	X	X	X	X	X	USEPA, TNC, MDIFW and private and public landowners
	MNAP/DACF and MDIFW	Hundreds of new and updated rare, threatened, and endangered plant, animal, natural community, and ecosystem records documented in previous 5 year WPP period	Progress toward statewide documentation of location, extent, composition, and quality of high value wetland types hosting rare and endangered plant and animal species and rare, exemplary wetland communities.	X	X	X	X	X	X	TNC, public and private landowners

Actions	Responsible agency(s)	Completed Activities	Planned activities	2017	2018	2019	2020	2021	2022	Potential Partners
	MNAP/DACF	Established invasive plant program within MNAP/DACF; Hired full time Invasive Plant Biologist; Launched iMapinvasives web program and centralized data repository (2014)	Strategically monitor, map, and address invasive wetland plant and animal issues throughout the state; administer Maine's iMapinvasives program and data quality control; conduct invasive plant outreach, early detection, and management training through multiple venues and partners for both public and private landowners and land managers	X	X	X	X	X	X	BPL, MFS, MDIFW, DEP, MISN, public and private landowners
	MNAP/DACF		Use current field inventory and remote imagery to compare current status of wetlands to historic conditions as part of a broader effort of development of a Biodiversity Report Card	X	X	X	X	X	X	TNC, USFWS, MDIFW
c. Establish reference condition	DEP/BMP	Interim reference criteria used to define condition gradient for biological monitoring data analysis	Better define reference criteria, including physical, chemical and biological attributes, and process of characterizing and measuring reference standard condition for minimally disturbed wetlands. Continue to build reference network and monitor sites to provide baseline data for disturbance gradient and trend analysis, and to refine wetland tiered aquatic life use criteria and Biological Condition Gradient (BCG) models.	X	X	X	X	X	X	MNAP, NEBAWWG

Actions	Responsible agency(s)	Completed Activities	Planned activities	2017	2018	2019	2020	2021	2022	Potential Partners
	DEP/BMP, MNAP/DACF	Final methodology for Ecological Integrity Assessment of wetlands in Maine completed by MNAP/DACF (2016); Completed initial assignment of Coefficients of Conservatism to all plants in Maine; Red maple swamp pilot study conducted in 2015, including assessment of plant communities using FQA.	Use vegetative indicators (such as floristic quality assessment index) and/or Ecological Integrity Assessments to establish criteria for reference standard or reference gradient wetlands; collect field data for a reference catalog of wetland sites in Maine; Evaluate the integration of FQAI and EIA into existing wetland monitoring and assessment protocols; Currently working with NEIWPCC to assign Coefficients of Conservatism for all plants by USEPA Ecoregion	X	X	X	X	X	X	USEPA, NEIWPCC, NEBAWWG, NatureServe
d. Track monitoring data in a system that is accessible, updated on a timely basis, and integrated with other state or tribal water quality data	DEP/BMP	Monitoring data tracked in agency-wide water quality database. Wetland site locations and monitoring results available on Biomonitoring website in Google platform.	Update and maintain biomonitoring data in DEP's EGAD database and Google Earth site as new data are collected. Also update analysis routines and electronic reports as needed.	X	X	X	X	X	X	DEP EGAD coordinator and office of Information Technology
	MNAP/DACF		Conduct data quality control, review rare feature quality ranks, apply EIA to previously mapped natural communities and ecosystems, improve consistency in Biotics database	X	X	X	X	X	X	DEP/BMP, NatureServe
	MNAP/DACF	Created and continuously updated mitigation site database based on new field data	Update and maintain database of potential wetland conservation and restoration sites; work to integrate database with other developing efforts. Coordinate efforts to develop inclusive database of restoration sites for proactive and compensatory restoration work.	X	X	X	X	X	X	USEPA, TNC, DEP, MCP/DACF

Actions	Responsible agency(s)	Completed Activities	Planned activities	2017	2018	2019	2020	2021	2022	Potential Partners
e. Analyze monitoring data to evaluate wetlands extent and condition/function or to inform decision-making	DEP/BMP	Completed linear discriminant model to predict attainment of narrative aquatic life criteria based on aquatic macroinvertebrates.	Test macroinvertebrate model with new data and refine as appropriate.	X	X	X	X	X	X	
	DEP/BMP	Completed linear discriminant model to predict attainment of narrative aquatic life criteria based on epiphytic algae	Test epiphytic algae model with new data and refine as appropriate.	X	X	X	X	X	X	
	DEP/BMP	Currently testing metrics for linear discriminant model to predict attainment of narrative aquatic life criteria based on phytoplankton.	Complete phytoplankton model and test with new data.	X	X	X	X	X	X	
	DEP/BMP		Develop metrics and data analysis methods for wetland plant communities to predict attainment of narrative aquatic life criteria and/or for other measures/indices of wetland condition.	X	X	X	X	X	X	MNAP, NEBAWWG
	DEP/BMP	Wetland aquatic life use class attainment reported in Integrated Report since 2010 using macroinvertebrate community data to interpret narrative criteria.	Continue making wetland aquatic life use attainment determinations based on macroinvertebrate data and include results in the Integrated Report. Begin using wetland algae data to determine aquatic life use attainment and include results in the Integrated Report.	X	X	X	X	X	X	

Actions	Responsible agency(s)	Completed Activities	Planned activities	2017	2018	2019	2020	2021	2022	Potential Partners
	DEP/Land		Conduct analysis of wetlands impact data in historic wetland loss tracking database		X		X			LUPC, TNC, MNAP/DACF
	DEP/Land		Make improvements to wetlands loss tracking database in order to address information gaps and increase utility.		X		X		X	LUPC, TNC, MNAP/DACF
	DEP/Land, former State Planning Office	Added tracking for in lieu fee compensation through Maine Natural Resource Compensation Program (MNRCP) and developed report to identify un-entered data.	Develop reports with new report software to increase access to data and utility.	X	X					LUPC, MNAP, TNC
	MDIFW, MNAP/DACF	Thousands of environmental and forest management plan reviews completed through increased environmental review capacity	Support a part to full-time wetland habitat and GIS specialist to support and implement aquatic and wetland related database management, mapping, and analysis efforts. Also relevant to Core Element 2.	X	X	X	X	X	X	USEPA, DEP

Objective 3: Incorporate monitoring data into agency decision making

Actions	Responsible agency(s)	Completed Activities	Planned activities	2017	2018	2019	2020	2021	2022	Potential Partners
a. Evaluate monitoring program to determine how well it is meeting a state/tribe's monitoring program objectives	DEP/BMP	Interviews conducted with USEPA contractor	Participate in adapting USEPA Biological Assessment Program Review framework for wetlands as time and resources allow (USEPA 820-R-13-001, Office of Science and Technology, February 2013) .	X	X	X				USEPA

Actions	Responsible agency(s)	Completed Activities	Planned activities	2017	2018	2019	2020	2021	2022	Potential Partners
b. Evaluate the environmental consequences of a federal or state/tribal action or group of actions; modify programs as needed based on monitoring and assessment data	DEP/BMP	ongoing	Provide review and technical support for other state and federal wetland and water quality protection programs as requested	X	X	X	X	X	X	various state and federal agencies
c. Improve the site-specific management of wetland resources	DEP/BMP	Conducted pilot study using biological monitoring methods to evaluate the success of compensatory mitigation projects	Include a subset of wetland restoration and/or mitigation projects in annual monitoring as resources allow to document performance/success based on attainment of biological criteria	X	X	X	X	X	X	various state agencies and NGOs
d. Develop geographically-defined wetland protection, restoration and management plans										

Core Element 2: Regulatory Activities, including 401 Certification

Maine Goal 3: *Provide effective and responsible levels of protection and restoration of Maine's wetland systems through an efficient regulatory program.*

Maine Goal 5: Improve coordination between agencies with respect to wetland policies and regulatory programs to ensure efficiency in effort, consensus in outcome, and consideration of wetlands at the landscape scale.

Objective 1: Clearly define the jurisdictional scope of the program

Actions	Responsible agencies	Completed Activities	Planned activities	2017	2018	2019	2020	2021	2022	Potential Partners
a. Provide clear and comprehensive jurisdictional coverage of aquatic resources	DEP/Land	Jurisdiction defined in state statute and rules								
b. Clearly identify a comprehensive scope of activities to be regulated	DEP/Land	Defined in state statute and rules								
c. Provide clear guidance to public on how to identify jurisdictional waters and activities	DEP/Land	ongoing								
d. Evaluation/periodic review	MDIFW, DOT, DEP, DMR	With other stakeholders, collaboratively developed a statewide aquatic conservation and restoration strategy plan (Aquatic Resource Management Strategy)								

Objective 2: Administer regulatory activities efficiently and consistently

Actions	Responsible agencies	Completed Activities	Planned activities	2017	2018	2019	2020	2021	2022	Potential Partners
a. Adopt regulations or rules to implement state/tribal and/or federal water quality statutes	DEP/Land	Wetlands and Waterbodies Protection rules in place								
b. Develop and operate according to a clear and effective set of criteria for reviewing and responding to applications	MNAP/DACF, MDIFW	Significant progress made; work on-going	Work toward new mapping protocols and protection guidelines for ETSC wetland species potentially subject to environmental review. Provide support for a part to full-time wetland habitat and GIS specialist at MDIFW to develop mapping protocols, protection guidelines, and conduct environmental review.	X	X	X	X	X	X	USEPA, DEP
	LUPC		Prepare application instructions and pamphlet that explains the LUPC and Army Corps requirements for wetland permits			X				USACOE
	LUPC		Explore participation in the Maine Department of Environmental Protection in-lieu-fee program		X					
c. Actively review proposed impacts to waters of the state	DEP	ongoing								
d. Adopt and apply comprehensive project review criteria	LUPC		Complete research and consider other regulatory revisions to further improve consistency between the LUPC and DEP natural resource protection rules		X					
e. Coordinate among agencies, programs and industry groups to reduce duplicative efforts by the programs and the regulated public	DEP	ongoing								
f. Require effective mitigation for authorized impacts	DEP	ongoing								

Actions	Responsible agency(s)	Completed Activities	Planned activities	2017	2018	2019	2020	2021	2022	Potential Partners
	DACF, DEP		Investigate opportunity for towns to implement parts of NRPA through delegated authority and possibility of creating linkage between growth areas and expedited permitting.	X	X	X	X	X	X	USACOE, USEPA
g. Track permit/certification program activity	LUPC		Improve data quality in the tracking system to better track development trends, wetland impacts and wetland loss	X						DEP
h. Track/Evaluate	DEP/Land and MDIFW		Review and adapt regulatory program and protocols related to Significant Wildlife Habitats if necessary depending on outcome of any proposed legislative changes	X	X	X	X	X	X	
	DEP/Land	For projects requiring compensation, impact locations are geo-referenced by points. For compensation projects approved through the MNRCP, compensation parcels are geo-referenced by shape files	Work toward geo-referencing wetland impacts by polygon and linking to compensation parcels	X	X	X	X	X	X	TNC

Objective 3: Evaluate regulatory activities to ensure environmental results

Actions	Responsible agencies	Completed Activities	Planned activities	2017	2018	2019	2020	2021	2022	Potential partners
a. Monitor the implementation of permit/certification conditions										
b. Enforce aquatic resource protections	DEP	ongoing								
c. Ensure impact assessments and mitigation crediting lead to replacement of aquatic resources with similar structural, functional or condition attributes										
d. Incorporate the watershed approach into the regulatory decision-making process	MNAP/DACF, DEP/Land		Update Compensation Planning Framework, as required by ACOE for continuation of ILF program. Follow up on data gaps and research needs identified through compensation planning framework process.				X	X	X	USACOE, TNC, stakeholders
e. Perform public education and outreach about wetland protection, regulated waters and activities, and authorization process	DEP, MNAP/DACF, MDIFW	Initial discussions of data sets were completed through revisions to Maine's State Wildlife Action Plan (2015)	Share information on who has what data related to wetlands and evaluate needs/potential outcomes of making more data available through a variety of printed and digital formats	X	X	X	X	X	X	
f. Measure/track environmental results	DEP/Land	Updated Chapter 1000 Guidelines for Municipal Shoreland Zoning Ordinances to reflect legislative mandates, effective 1/26/2015	Work toward strengthening enforcement and implementation of shoreland zoning regulations	X	X	X	X	X	X	
	DEP/Land		Maintain existing penalties and fees	X	X	X	X	X	X	

Actions	Responsible agency(s)	Completed Activities	Planned activities	2017	2018	2019	2020	2021	2022	Potential Partners
	DEP, MNAP, MDIFW		Gather to share information on who has what data related to wetlands and consider making more data available online		X		X		X	

Core Element 3: Voluntary Restoration and Protection

Maine Goal 1: Identify and protect wetlands systems of statewide significance thought fee acquisition, conservation easements, or other tools for permanent conservation.

Maine Goal 4: Promote the appreciation, stewardship and voluntary protection of wetland resources by private landowners, towns and non-governmental entities.

Objective 1:   Clearly and consistently define restoration and protection goals throughout the state

Actions	Responsible agencies	Completed Activities	Planned activities	2017	2018	2019	2020	2021	2022	Potential partners
a. Establish goals that are consistent or compatible across relevant agencies	MNAP/DACF, MDIFW and DEP		Using information about identified threats and historic losses, coordinate with relevant resource agencies to identify priorities and develop strategies for wetland protection and restoration. Also relevant to Core element 1	X	X	X	X	X	X	USEPA, TNC, DMR, NOAA, USFWS, NRCS
b. Consider watershed planning, wildlife habitat, and other objectives when selecting restoration / protection sites	MNAP/DACF	Published Maine's Natural Community Classification and subsequently made factsheets for each natural community type available through MNAP/DACF website	Update Maine's Natural Community Classification for aquatic, tidal, and palustrine wetland types; Make outreach materials available through both digital printed formats	X	X	X	X	X	X	MGS/DACF, MDIFW
	MNAP/DACF		Use field surveys, landscape analysis, and other data sets to prioritize mitigation opportunities within ecoregions and communicate results to partners	X	X	X	X	X	X	TNC, MDIFW, BPL

Actions	Responsible agency(s)	Completed Activities	Planned activities	2017	2018	2019	2020	2021	2022	Potential Partners
	MNAP/DACF		Use reference data on representation, frequency and location of significant wetland habitats to conduct conservation planning for protection of resource and high value integrated upland-wetland sites	X	X	X	X	X	X	TNC, USFWS, MDIFW
	MNAP/DACF, MGS/DACF	Completed modeling to identify opportunities to support the migration of tidal marshes under multiple sea level rise scenarios	Continue to update and work with partners to incorporate marsh migration and coastal resilience data into conservation, restoration, or municipal planning decisions	X	X	X	X	X	X	MCP/DACF, TNC, MDIFW
	MNAP/DACF		Facilitate the incorporation of Maine wetlands data into the review of statewide and regional conservation and restoration initiatives (e.g. LMF, Forest Legacy)	X	X	X	X	X	X	MDIFW
	MDIFW	Revised online MapViewer is now available for habitat Maps 1 (riparian) and 2 (plant and animal habitats)	Continue to collect data on rare and significant wetlands and wildlife and incorporate into technical assistance, outreach, and environmental review and provide to regulatory agencies, land managers, and municipalities	X	X	X	X	X	X	MNAP/DACF
	MDIFW		Incorporate Priority State Wildlife Action Plan wetland conservation and restoration actions into habitat outreach efforts	X	X	X	X	X	X	MNAP/DACF, USEPA, USFWS, NGOs
	MDIFW		Review and refine Areas of Statewide Ecological Significance and connectivity maps with respect to wetlands and significant wetland habitats and species, as needed.	X	X	X	X	X	X	MNAP/DACF, TNC

Actions	Responsible agency(s)	Completed Activities	Planned activities	2017	2018	2019	2020	2021	2022	Potential Partners
	MDIFW		Work with strategic partners to implement high priority conservation actions for freshwater and coastal wetlands and associated Species of Greatest Conservation Need as identified in Maine's State Wildlife Action Plan	X	X	X	X	X	X	MNAP/DACF, USFWS, University of Maine, private and public landowners
	MCP/DACF, DMR, DEP	Thousands of in-stream barriers have been identified by various parties and crossings on public roads, public lands, and private priorities for which permission has been received are now on the Stream Habitat Viewer. The Viewer does not itself prioritize areas for restoration. Also relevant to Core Element 1.	The Habitat Viewer V 2.0 will be available in January 2017. Discussions about prioritization will continue via the Stream Connectivity Work Group; Work towards development of watershed based prioritization process for barrier removal and habitat restoration.	X	X	X	X	X	X	MCP/DACF Stream Connectivity Work Group, TNC
	MNAP/DACF, MCP/DACF		Update the online Maine Stream Habitat Viewer to include updated tidal and freshwater wetland maps for the purpose of identifying high priority connectivity restoration projects.	X	X	X	X	X	X	MDOT, MDIFW, DMR
c. Provide clear guidance on appropriate restoration and management techniques and success measures	MNAP/DACF	Completed an evaluation of potential threat of specific invasive plants	Update Maine's invasive plant list as needed; Provide technical assistance and expertise to the evaluation of invasive plants (e.g. invasiveness, level of threat, habitat associations, management guidelines)	X	X	X	X	X	X	DEP, DACF, MISN

Actions	Responsible agency(s)	Completed Activities	Planned activities	2017	2018	2019	2020	2021	2022	Potential Partners
	DACF (formerly State Planning Office)	MCP's Restoration Coordinator has assisted in the development of more than 30 coastal habitat restoration projects (15 of which were during 2011-2015)	Provide technical assistance for restoration project planning, implementation and monitoring	X	X					DMR, MDOT, MDIFW, GOMC, USFWS
	MNAP/DACF		Work with partners to encourage the development of invasive plant management plans, provide technical support and critical tools for implementation, and review invasive plant management strategies as needed	X	X	X	X	X	X	DACF, MISN, public landowners, towns, TNC
	MNAP/DACF		Provide technical assistance in restoration planning, implementation, and monitoring for wetlands degraded by invasive plants	X	X	X	X	X	X	DEP
	MDIFW		Develop and implement a plan for monitoring and preventing the spread of diseases (e.g., chytridiomycosis, ranavirus, etc.,) that affect wetland organisms.	x	x	x	x	x	x	DEP/BMP, MNAP/DACF

Objective 2: Protect wetlands from degradation or destruction

Actions	Responsible agencies	Completed Activities	Planned activities	2017	2018	2019	2020	2021	2022	Potential partners
a. Establish partnerships to leverage additional protections	MNAP/DACF	Reviewed approximately 600 Forest Management Plans/year over the past 5 years, and provided wetlands data to owners of 5 million + acres of private forest land	Work with forest landowners through various avenues (FMPs, forest certification) to promote wetland conservation on private lands	X	X	X	X	X	X	DACF, MDIWF
b. Establish and institutionalize long term protection using mechanisms such as incentives, purchase of land title or easements to protect wetlands	MDIFW		Work with strategic partners to implement high priority conservation actions for freshwater and coastal wetlands and associated Species of Greatest Conservation Need as identified in Maine's State Wildlife Action Plan	X	X	X	X	X	X	MNAP/DACF, USFWS, University of Maine, private and public landowners
	MDIFW, MNAP/DACF		Distribute information about significant wetland habitats and rare species out to private landowners to make informed decisions	X	X	X	X	X	X	
	MNAP/DACF		Share wetlands data with State and Federal public lands managers for use in land management planning	X	X	X	X	X	X	USFWS, BPL, NRCS, MDIFW

Actions	Responsible agency(s)	Completed Activities	Planned activities	2017	2018	2019	2020	2021	2022	Potential Partners
	DEP/Land	In fall of 2016, the ACOE and DEP signed A Special Area Management Plan (SAMP) for Vernal Pools in Maine, which establishes an alternative mitigation process for projects impacting vernal pools within Designated Development Areas. The Town of Topsham has begun the process of seeking delegated authority under the Natural Resources Protection Act (NRPA) to regulate vernal pool impacts in accordance with the SAMP. Partial delegation of the NRPA is expected to be sought in 2017.	Investigate opportunity for towns to implement parts of NRPA through delegated authority and possibility of creating linkage between growth areas and expedited permitting	X	X	X	X	X	X	DAFC/MDIFW, USACOE, USEPA

Objective 3: Restore wetland acres, condition and function

Actions	Responsible agencies	Completed Activities	Planned activities	2017	2018	2019	2020	2021	2022	Potential partners
a. Increase wetland acreage through restoration (re-establishment)										
b. Improve natural wetland conditions and functions through restoration (rehabilitation)	MNAP/DACF		Work toward the development of an invasive wetland plant strike force for the mapping and strategic management of invasive plant infestations	X	X	X	X	X	X	DEP, BPL, MDIFW, MFS, MISN
c. Establish partnerships to leverage more restoration										

Objective 4: Monitor and Track progress over time, document results, and modify practices as appropriate

Actions	Responsible agencies	Completed Activities	Planned activities	2017	2018	2019	2020	2021	2022	Potential partners
a. Track restoration/protection projects										
b. Monitor restoration/protection sites to ensure that they are implemented and managed correctly and linked to relevant watershed planning efforts										
c. Modify restoration/protection techniques as needed										

Core Element 4:   Water Quality Standards for Wetlands

Maine Goal 3: *Provide effective and responsible levels of protection and restoration of Maine's wetland systems through an efficient regulatory program.*

Maine Goal 5: *Improve coordination between agencies with respect to wetland policies and regulatory programs to ensure efficiency in effort, consensus in outcome, and consideration of wetlands at the landscape scale.*

Objective 1:   Ensure that wetlands are treated as waters within state and tribal water quality programs.

Actions	Responsible agencies	Completed Activities	Planned activities	2017	2018	2019	2020	2021	2022	Potential partners
a. Adopt an appropriate definition of wetlands	DEP	completed								
b. Ensure the appropriate wetlands definition is included in water quality standards	MGS, DEP, MCP		Review definition of coastal wetlands with regard to sea level rise	X		X		X		

Objective 2:   Develop wetland- specific water quality standards

Actions	Responsible agencies	Completed Activities	Planned activities	2017	2018	2019	2020	2021	2022	Potential partners
a. Gather and analyze monitoring data and other information that will become the basis of water quality standards	DEP/BMP	Used biological monitoring data to complete statistical models for macroinvertebrates and epiphytic algae to interpret narrative criteria for wetlands. Models will serve as basis for wetland-specific numeric criteria when implemented into rules.	Complete predictive model for phytoplankton. Begin collecting and analyzing wetland vegetation data to support future biological criteria based on plant communities.	X	X	X	X	X	X	

Actions	Responsible agency(s)	Completed Activities	Planned activities	2017	2018	2019	2020	2021	2022	Potential Partners
b. Establish and adopt appropriate wetland-specific designated uses to be achieved and protected	DEP/BMP	Designated uses for other surface waters apply to wetlands, including tiered aquatic life uses.								
c. Establish and adopt narrative criteria that qualitatively describe the condition or suite of functions that must be achieved to support a designated use.	DEP/BMP	Narrative criteria for other surface waters apply to wetlands, including narrative biological criteria.								
d. Establish and adopt numeric criteria representing wetland specific values for chemical, physical and biological parameters that may not be exceeded, must be exceeded, or some combination to protect or restore designated uses.	DEP/BMP	Provisional numeric criteria established (macroinvertebrates and epiphytic algae).	Initiate rulemaking to incorporate wetland-specific numeric criteria for wetland macroinvertebrates and algae into Maine's biological criteria rules (Chapter 579)			X	X	X		multiple stakeholders
e. Better define state/tribal antidegradation policies for wetlands, requiring full protection of existing uses (functions and/or condition), maintenance of functions/condition in high quality wetlands, and a prohibition against lowering functions/condition in outstanding national resource waters	DEP/BMP	State anti-degradation policy applies to wetlands.	Review anti-degradation policy as part of numeric criteria rulemaking process and clarify/better define issues for wetlands as needed			X	X	X		

Objective 3: Incorporate wetland-specific water quality standards into agency decision making

Actions	Responsible agencies	Completed Activities	Planned activities	2017	2018	2019	2020	2021	2022	Potential Partners
a. Use water quality standards as basis for regulatory decisions	DEP/BMP	ongoing	Provide technical support and wetland water quality class attainment information to state and federal regulatory programs as requested to inform permit/license decisions, compliance issues and monitoring requirements	X	X	X	X	X	X	Various agency programs
b. Use water quality standards as basis for evaluating restoration/protection projects and mitigation/compensation projects	DEP/BMP	Completed pilot study using biological monitoring to evaluate mitigation success, including attainment of aquatic life criteria.	Conduct follow-up monitoring on study sites as time and resources allow. Include additional restoration/mitigation project sites in annual monitoring as resources allow.	X	X	X	X	X	X	
c. Incorporate water quality standards into monitoring and assessment program	DEP/BMP	Wetland aquatic life use attainment reported in Integrated Report since 2010 based on narrative biocriteria and macroinvertebrate data.	Continue reporting wetland aquatic life use attainment in Integrated Report. Conduct follow-up monitoring for listed impaired/threatened wetlands and for wetlands lacking sufficient information to determine attainment. Incorporate additional water quality criteria (algae, plants) into monitoring programs as available.	X	X	X	X	X	X	