

EXECUTIVE SUMMARY

INTRODUCTION

Located at the northeast tip of the United States, the State of Maine is approximately 320 miles long and 210 miles wide. It is almost as large (33,315 square miles) as all other New England states combined. Maine is a land rich in contrasts between the boreal and temperate, freshwater and saltwater, upland and wetland, and alpine and lowlands. Maine is a transition area, and its wildlife resources represent a blending of species that are at or approaching the northern or southern limit of their ranges. This mosaic of diverse physical settings supports a wide diversity of wildlife that can be equaled in few other states.

Fish and wildlife play an important role in the lives of Maine people as they provide a source of enjoyment, recreation, and employment -- Maine's quality of life, its traditional "outdoor" values, and its economy, particularly its rural economy, are strongly shaped by the diversity and abundance of its fish and wildlife. The public has entrusted the conservation of Maine's fish and wildlife to the Maine Dept. of Inland Fisheries and Wildlife (MDIFW) and the Maine Dept. of Marine Resources (MDMR).

Maine's 2015 Wildlife Action Plan addresses the full array of wildlife and their habitats in Maine - vertebrates and invertebrates in terrestrial and aquatic (freshwater, estuarine, and marine) habitats – and wildlife is defined as any species of wild, free-ranging fauna including fish. It builds on a long history of public involvement and collaboration among conservation partners. It is meant to be dynamic, responsive, and adaptive. Hence, Maine's Action Plan serves as a solid foundation for the future of wildlife conservation that will help guide the collaborative efforts of state and federal agencies, tribes, conservation partners, and individuals to ensure success.

Road Map to the Eight Required Elements: To facilitate review of Maine's Action Plan, each of the eight required elements are addressed in separate chapters: elements 1, 2, 3, and 4 each have a unique chapter; we have combined elements 5 and 6 and also 7 and 8 into a single chapter because of their close relationships.

Element 1 – Species of Greatest Conservation Need

A critical dilemma facing conservation biologists and managers worldwide is the need to allocate limited dollars, staff, and programmatic resources toward an ever-growing list of conservation challenges. Foundational to this prioritization process in Maine's State Wildlife Action Plan is the development of a list of species of greatest conservation need (SGCN). Biologists from Maine Department of Inland Fisheries and Wildlife (MDIFW) and Maine Department of Marine Resources (MDMR), with cooperation from conservation partners and species experts, developed a suite of objective criteria for designating SGCN that is intended to be transparent and science-based, and recognizes that species conservation concerns can be identified at global, regional, and local scales. The primary themes for SGCN prioritization

include risk of extirpation, population trend, endemism, and regional conservation concerns. Secondary themes for SGCN prioritization include climate change vulnerability, survey knowledge, and indigenous cultural significance. Maine's 2005 list of SGCN totaled 213 species grouped into two priority levels. To help further advance the challenge of species prioritization, Maine's 2015 list of 376 SGCN are assigned to three species priority levels: Priority 1 (Highest; 58 SGCN), Priority 2 (High; 131 SGCN), and Priority 3 (Moderate; 187 SGCN), all of which are eligible for State Wildlife Grant (SWG) assistance from the U.S. Fish and Wildlife Service. The 2015 process for reviewing and identifying Maine SGCN included both species deletions (34) and additions (197) to the 2005 list. The net increase in SGCN is driven primarily from a) additional conservation science designation criteria, b) scrutiny of more invertebrate taxa, c) significantly greater attention to marine fauna in the Gulf of Maine, and d) more explicit recognition of climate change vulnerability. It is our hope that identifying a relatively comprehensive, prioritized suite of SGCN will help MDIFW, MDMR, and conservation partners implement meaningful conservation actions for some of Maine's most vulnerable and valued wildlife resources over the coming decade.

Differences from Maine's 2005 Comprehensive Wildlife Conservation Strategy are discussed.

Element 2 – Key Habitats and Natural Communities

Maine's Wildlife Action Plan employs The Northeast Terrestrial Habitat Classification System (NETHCS), developed by NatureServe and The Nature Conservancy (TNC), to identify the extent of habitats and community types essential to the conservation of Species of Greatest Conservation Need (SGCN). Federal and state agencies in the Northeast have endorsed the NETHCS as a tool for assessing habitat distribution and composition. The specific version of the NETHCS used in Maine includes a number of modifications made by the Maine Dept. of Marine Resources (MDMR) and the Maine Dept. of Inland Fisheries and Wildlife (MDIFW) to reflect Maine's landscape and coastal features. The basic layer within NETHCS is the habitat 'system', which corresponds to the Ecological Systems classification. There are approximately 150 Ecological Systems in Maine. The more general 'Macrogroup' level was used for several of our analyses, and there are 42 habitat macrogroups in Maine.

Maine further consolidated the macrogroups into three broad habitat categories to facilitate development of conservation actions. The broad categories are Coastal and Marine, Terrestrial (including Freshwater Wetlands) and Freshwater Aquatic (Rivers, Lakes, and Ponds). The importance of various habitats to SGCN is not related to their statewide abundance; habitats such as pine barrens, open freshwater wetlands, and rivers and streams are disproportionately important compared to many other habitat types. It is estimated that there are 3,824,842 acres of conservation land in Maine, accounting for nearly 20% of the State. Much of this conserved land lies within Focus Areas of Statewide Significance, which have been identified to help prioritize Maine's landscape for SGCN and other habitat values.

Differences from Maine's 2005 Comprehensive Wildlife Conservation Strategy are discussed.

Element 3 – Problems Affecting SGCN and Their Habitats

Maine's Wildlife Action Plan focuses much attention on the habitats used by Species of Greatest Conservation Need (SGCN). The Plan uses a coarse filter – fine filter approach to conservation to ensure, where possible, that individual conservation initiatives benefit multiple species, while also acknowledging that some species require individualized attention. We assigned stressors to both habitats and to SGCN, in order to clearly identify the issues that should be addressed at each level in the conservation hierarchy. As with most other states in the Northeast, we identified stressors using the International Union for the Conservation of Nature (IUCN) Threat Classification Scheme. While the IUCN system is useful for categorizing stressors to SGCN and their habitats, we found that the system lacks the resolution to clearly identify the specific issues that should be considered for conservation attention. Therefore, when assigning stressors we chose to adopt the primary and secondary IUCN categories, but replaced the tertiary category with a detailed narrative that fully describes the issue and its impact on the species or habitat being considered. In addition, we adapted Table 7 (*Threat characteristics and categorical ratings*) from The Northeast Lexicon to identify characteristics for each stressor assignment.

We assigned stressors to Priority 1 and 2 SGCN, and assigned 'Severity' and 'Actionability' characteristics for each Stressor – SGCN interaction. The concepts of Likelihood, Certainty and Spatial Extent were considered implicitly, and only those Stressors that were determined to have a moderate or high impact for each of these characteristics were assigned. In addition, only those stressors with moderate or high severity were assigned to SGCN. In addition, we developed a simple matrix to prioritize SGCN stressors, using the combination of the Impact scores for 'Severity' and 'Actionability.' We identified stressors for terrestrial and freshwater aquatic habitats using Anderson et al. (2013) as our primary source of reference material. Because no single comprehensive source is available that describes that state of marine habitats along Maine's coast, we used a wide variety of scientific publications to compile information on stressors. We assumed that the habitat systems within each terrestrial and marine macrogroup all faced similar conservation problems; therefore we assigned stressors to each macrogroup, but did not identify stressors separately for each habitat system, with the exception of freshwater aquatic habitats (River and Streams, and Lakes and Ponds) where we identified stressors separately for each of systems. Unlike our approach for SGCN, we assigned all 7 stressor characteristics for each habitat – stressor combination.

We assigned 38 unique stressors to 190 Priority 1 and 2 SGCN species, for a total of 1,108 SGCN – stressor combinations. Habitat Shifting or Alteration, Lack of Knowledge, and Fishing and Harvesting of Aquatic Resources were identified as stressors for the largest number of total SGCN. Lack of Knowledge, Agricultural and Forestry Effluents, and Fishing and Harvesting of Aquatic Resources were identified as medium-high or high priority stressors for the largest number of SGCN. We assigned 31 unique stressors to 34 habitats macrogroups, for a total of 342 habitat – stressor combinations. Invasive Non-native/Alien Species/Diseases, Roads and Railroads, and Housing and Urban Areas were assigned to the largest number of habitats.

Differences from Maine's 2005 Comprehensive Wildlife Conservation Strategy are discussed.

Element 4 – Conservation Actions

Maine's 2015 conservation actions consist of complimentary coarse- and fine-filter approaches that maximize limited conservation resources. The Maine Dept. of Inland Fisheries and Wildlife

(MDIFW), the Maine Dept. of Marine Resources (MDMR), the Maine Natural Areas Program (MNAP), and other conservation partners worked closely to develop thorough lists of coarse- and fine-filter conservation actions. They attempted to balance action specificity with flexibility so that actions can be adapted as needed to emerging issues and information. Conservation actions are non-regulatory, but rather are undertaken voluntarily by agencies and conservation partners. Actions are not intended to replace current management strategies but can be used to bolster existing or inspire new efforts. The actions identified reflect several stages of prioritization.

MDIFW, MDMR, and partners identified conservation actions for 395 Species of Greatest Conservation Need (SGCN). Of these, 212 were applied to individual SGCN, 166 were applied to guilds, and 17 were applied to one or more taxonomic groups. Nine of these actions were assigned to all SGCN species.

MDIFW, MDMR, MNAP, and partners also identified 362 habitat conservation actions, including 173 marine and coastal habitat actions, 69 freshwater aquatic habitat actions, and 120 terrestrial and freshwater wetland habitat actions. Given the volume of habitat conservation actions identified, workgroups developed several themes to organize actions into discrete packages of related actions that address common stressors or use similar techniques. Actions within a theme are often complimentary, and may be the most effective and efficient use of conservation resources. Three 'super-themes' emerged across habitat groups: Connectivity, Invasive Species, and Mapping and Outreach. Actions included in these themes will benefit from coordinated efforts across habitats.

MDIFW, MDMR, and partners also identified 11 Programmatic Actions to help guide implementation and tracking of the 2015 Wildlife Action Plan -- Outreach and Engagement, Funding and Tracking, Action Development, and Regional Partnerships.

Each conservation action is linked to its target SGCN or habitat and the stressor(s) the actions is addressing in a relational database, an idea proposed in the 2005 CWCS and successfully developed as part of the 2015 Action Plan.

A proposed suite of considerations for MDIFW, MDMR, and partners to use when selecting conservation actions for implementation are presented.

Differences from Maine's 2005 Comprehensive Wildlife Conservation Strategy are discussed.

Element 5 – Monitoring Element 6 – Periodic Review

We outline the methods we will use to monitor SGCN and their habitats, describe how we will monitor the progress made in implementing the Action Plan over the next ten years, and address the procedures we will use to review and update the Action Plan. We work closely with federal, state, and private conservation partners to develop and participate in cooperative species monitoring programs. Where possible, monitoring programs target multiple species, usually within the same taxonomic group. In the pages that follow, we describe the monitoring

programs that are in place for SGCN in Maine. We include a table for each of the five taxonomic groups that are referenced throughout this plan.

MDIFW and partners identified habitat-scale survey and monitoring needs during development of conservation actions. We present these actions with examples of existing and general survey and monitoring techniques that could be used to achieve these habitat monitoring objectives.

MDIFW and partners developed 11 programmatic actions to help guide Action Plan implementation over the next ten years. Three of these actions address monitoring and are described in greater detail.

MDIFW will use the programmatic actions to monitor conservation action progress at least annually. MDIFW will also establish an Implementation Committee in the Fall 2015 comprised of agency staff and conservation partners. This committee will review Action Plan accomplishments and address emerging issues or adaptive management needs. We will undertake a comprehensive plan review beginning in year eight of the 2015 Action.

Differences from Maine's 2005 Comprehensive Wildlife Conservation Strategy are discussed.

Element 7 – Coordination with Partners **Element 8 – Public Participation**

Maine has a long history of successful collaboration among conservation partners -- conducting comprehensive wildlife planning and public involvement for nearly forty years. The Maine Dept. of Inland Fisheries and Wildlife (MDIFW) began assembling a SWAP coordination team in January 2014. This planning team developed the strategies necessary to achieve the eight required elements of the 2015 SWAP. In September 2014, the Coordination Team established a SWAP Steering Committee to guide the overall development of the SWAP. The Steering Committee represented the broader partner group by providing regular and timely input into the activities and proposed strategies of the Coordination Team. The Coordination Team and the Steering Committee began preparing Maine's charter early in the update; the Steering Committee officially adopted the charter in November 2014. The Coordination Team invited 158 conservation partners to participate in the preparation of Maine's 2015 SWAP, representing 102 unique organizations and the public from July 2014 – June 2015 the partners attended five, seven-hour "conservation partner" meetings at which they collaborated in the development of elements 1-5 of the 2015 SWAP.

MDIFW sought to both inform the public of its intent to revise the Action Plan and to encourage public participation. It established a Public Outreach Subcommittee to guide its public participation efforts. The subcommittee identified effective methods for engaging and soliciting input from the public, and the Coordination Team and Steering Committee scaled these methods to make effective use of agency resources and ensure an appropriate level of public participation.

The success of Maine's 2015 Wildlife Action Plan depends on continued partner and public engagement during plan implementation. To help guide implementation of these actions and to encourage continued public involvement, MDIFW and its partners developed six outreach

Programmatic Theme that relate to 1. Outreach and Engagement and 2. Program Funding and Tracking.

Differences from Maine's 2005 Comprehensive Wildlife Conservation Strategy are discussed.