WETLAND PASSERINE MANAGEMENT SYSTEM

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INTRODUCTION

This document describes the process used by the Department of Inland Fisheries and Wildlife (MDIFW) to implement research and management programs for obligate wetland songbirds. The species composition of this group of birds was defined in an assessment of research and management needs (Hodgman 1998). From this assessment, a public working group, convened during summer of 2000, established goals and objectives for management of Maine's wetland Passerines. In addition, an evaluation of the desirability, feasibility, capability of the habitat, and possible consequences have been identified, and a series of problems and strategies for overcoming limitations of the goals and objectives has been drafted.

Among the 120, or so, Passerines that occur in Maine at various times of the year, less than 10% of these can be considered wetland obligates. These wetland-dependant species include Marsh Wren, Northern Waterthrush, Louisiana Waterthrush, Palm Warbler, Saltmarsh Sharp-tailed Sparrow, Nelson's Sharp-tailed Sparrow, Swamp Sparrow, Red-winged Blackbird, and Rusty Blackbird. Sedge Wren is not considered, because it is state-listed as Endangered in Maine and warrants its own management system devoted to recovery of this species. Also excluded is Seaside Sparrow, which only occasionally breeds in Southern Maine (failed attempt in 1996 according to Lysle Brinker and possible attempt in 1998 [MDIFW unpublished data]). Despite these omissions, habitat management and outreach that will result from this system will assuredly benefit both of these species.

Although few species are included in the scope of this management system, several types of wetland habitats are represented. Marsh Wren, Swamp Sparrow, and Red-winged Blackbird typically use various types of emergent marshes; both Sharp-tailed Sparrows occupy saltmarshes; Palm Warblers breed in peatlands; Northern and Louisiana Waterthrushes use forested riparian areas; and Rusty Blackbirds are associated with shrubby wetlands, riparian zones, and beaver flowages.

MANAGEMENT GOALS AND OBJECTIVES

The strategic planning process employed by MDIFW solicits public input in the development of goals and objectives for species management. The following were developed for wetland Passerines:

Goal: Maintain the diversity and abundance of wetland Passerines, and increase the understanding and appreciation of wetland Passerines and their habitat requirements in Maine.

Population Objective: Identify and prioritize species of conservation concern by 2002, determine population trends by 2009, and develop population objectives for all at risk species by 2010.

Assumptions

- Meaningful objectives can be set at the state level given the complex life history of long-distance migrants.
- When using BBS data to indicate population status and trend, assume that trends based on counts of singing males are representative of trends for the entire population.
- For species with declining trend or evidence of a declining trend, assume that management activities in Maine can contribute to reversing trend even though the most limiting factor may not be known.
- For species in decline for which evidence of cause is closely linked to forces outside Maine, assume detailed monitoring of the population is Maine's greatest contribution to conservation of the species.

Habitat Objective 1: By 2017, increase the area of upland buffers of saltmarsh habitat in conservation status by 10,000 hectares, with at least 4,000 hectares in York, Cumberland, and Sagadahoc Counties.

Assumptions

- To "increase the acreage in conservation status" refers to any of several forms of habitat protection including, acquisition by a conservation agency or NGO, conservation easement held by a conservation agency or NGO.
- A mechanism for inventorying such conservation lands and monitoring additions to such a database can be developed within Maine.

- The amount of conservation land currently in Maine is inadequate to ensure long-term protection of all species in this group.
- Providing upland buffers is an appropriate method for protecting wetlands from human disturbances (see Findlay and Houlihan 1997).
- Area amounts identified by public working group are adequate for species needs.
- The primary threat to saltmarshes comes from development of adjacent uplands and this is more important than the spread of invasive plants, pollution from tidal rivers, or other human activities (i.e., recreation, restoration or management for other species) occurring within marshes.
- Saltmarshes are emergent tidal habitats coded in the National Wetlands Inventory as E2em.
- Working Group recommended protection of saltmarshes via buffers because protections afforded by shoreland zoning alone are inadequate and in some towns variances are too often granted.

Habitat Objective 2: Prioritize peatlands by size, and by 2017, increase the area in conservation status for peatlands by 12,000 hectares and adjacent buffers by 24,000 hectares.

Assumptions

- Peatlands are abundant enough in Maine to require prioritization.
- Size is an appropriate means of prioritization.

- To “increase the area in conservation status” refers to any of several forms of habitat protection including, acquisition by a conservation agency or NGO, conservation easement held by a conservation agency or NGO.
- A mechanism for inventorying such conservation lands and monitoring additions to such a database can be developed within Maine.
- The amount of conserved peatland currently in Maine is inadequate to ensure long-term protection of all appropriate species in this group.
- Peatland mining is not expected to significantly effect Passerine populations.
- Providing upland buffers is an appropriate method for protecting wetlands from human disturbances (see Findlay and Houlihan 1997).
- Area amounts are adequate to protect species needs for the long term.
- Peatlands are areas defined as having accumulated organic matter as a result of prolonged breakdown of plant material, may develop dense shrub communities, and are coded in various forms within the Palustrine system of the National Wetlands Inventory.

Habitat Objective 3: Identify and prioritize forest riparian and emergent wetland habitats by 2002, and conserve habitat for forest riparian and emergent wetland Passerines at 5 priority sites by 2004 and at 20 additional priority sites by 2017.

Assumptions

- Within this objective, both habitat types are given equal priority.
- These habitat types are abundant enough in Maine to require prioritization.

- Size is an appropriate means of prioritization though not explicitly stated by working group.
- To “conserve habitat” refers to any of several forms of habitat protection including, acquisition by a conservation agency or NGO, conservation easement held by a conservation agency or NGO.
- A mechanism for inventorying such conservation lands and monitoring additions to such a database can be developed within Maine.
- The amount of conserved forest riparian and emergent wetland currently in Maine is inadequate to ensure long-term protection of all appropriate species in this group.
- Area amounts are adequate to protect species needs for the long term.
- Forested riparian habitats are defined as stands of trees with high tolerance for growing in a saturated substrate. A typical example would be a forest on a river floodplain. Within the National Wetlands Inventory, this wetland type would be coded with the prefix PFO.
- Emergent wetland refers to sites that are at least seasonally flooded with less than 30% cover of woody vegetation. Two typical examples could be a sedge meadow and a cattail marsh. The prefix code PEM would be used to identify this habitat in the National Wetlands Inventory.

Outreach Objective: By 2005, develop and begin implementing an outreach program that increases the understanding and appreciation of wetland Passerines and their habitat requirements in Maine.

Assumptions

- "Understanding" refers to an individuals knowledge of a species life history, niche, and conservation status in Maine.
- "Appreciation" refers to an individuals awareness of the difficulties involved in managing a species population or habitat, given the current social, political, and financial constraints.
- An appropriate (and receptive) audience can be identified and targeted by above plan.
- A formal outreach plan, however brief, is actually needed.

MANAGEMENT DECISION-MAKING PROCESS

The following three-part management system provides the framework for managing populations and habitats of wetland Passerines in Maine. Further, it identifies a system for improving public understanding and appreciation of this group of birds.

POPULATION MANAGEMENT SYSTEM

Decision Criteria

The following criteria determine the sequence of procedures used to conserve wetland Passerine populations in Maine (Fig. 1). Although this system applies to all species described above, it operates on an individual species basis (i.e., each species

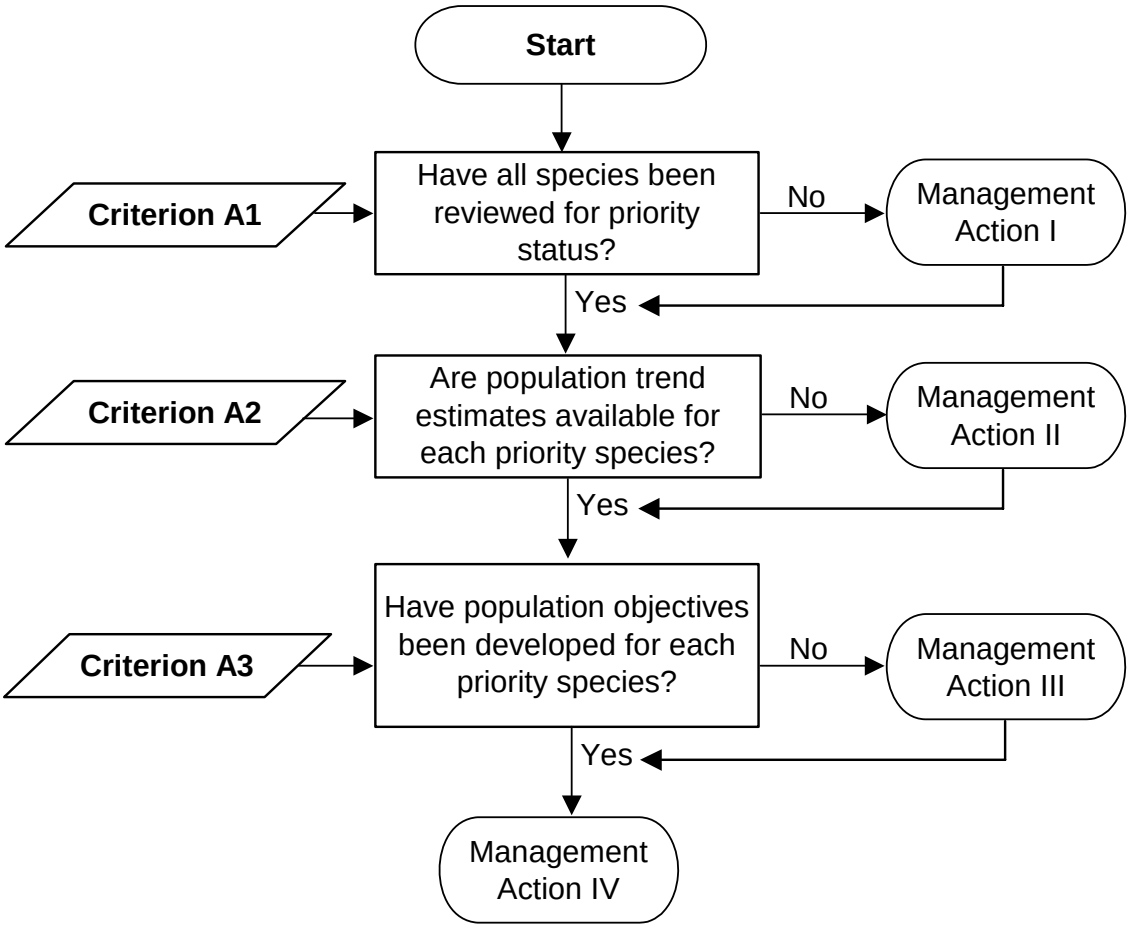

Figure 1. Flow diagram depicting decision criteria for Population Management System for wetland Passerines in Maine.

is to be run through each population criterion separately). Furthermore, this approach is to be carried out annually in the form of a review because of the dynamic nature of species priority/special concern lists, population trend estimates, etc.

Criterion A1: *Have all species been reviewed for priority status?*

This criterion addresses whether each of the 9 species in this group has been reviewed by this agency to determine the relative urgency of conservation action. Various organizations and agencies since the 1980s have recognized that populations of some Passerines are more vulnerable to decline than others and have developed, sometimes elaborate, ranking systems to focus attention on certain species (NESWDTC 1999, Carter et al. 2000). These lists of priority birds are the source of "data" to respond to this criterion.

Rule of Thumb: Species will be considered a priority, and thus addressed by this management system, if upon annual review:

1. They are recognized by Partners in Flight (PIF) as priority birds in categories IA, IB, IIA, IIB, and IIC for either the Northern Spruce Hardwood Forest, Northern New England, or Southern New England Physiographic Regions, or,
2. They are listed by the U.S. Fish & Wildlife Service (USFWS) as a species of management concern, or,

3. They are listed by the Northeast Endangered Species and Wildlife Technical Committee as a species of conservation concern (NESWDTC 1999), or,
4. They are considered by MDIFW to be a species of special concern, or if,
5. >5% of their global population occurs in Maine.

An affirmative response will require that all appropriate prioritization lists (see "Rule of Thumb" above) and population data have been reviewed (annually) to determine if any of the species in this group qualify.

Criterion A2: *Are reliable population trend data available for all priority species?*

This criterion addresses the adequacy of current monitoring programs in Maine. Currently, the North American Breeding Bird Survey (BBS) provides the only reliable data and trend estimates for Passerines breeding in Maine. There are no regular winter residents among the 9 species within this group.

An affirmative response will require statistically reliable trend estimates based on BBS data for Maine.

Rule of Thumb: Trend estimates from the BBS will be based on at least 14 routes in Maine with $P \leq 0.10$ from the most recent half of the BBS period (i.e., currently 1980-1999). If <14 routes are available for Maine in that time period, use trend

estimates (same P-value and time frame) for Northern New England or Northern Spruce/Hardwood regions (switch this to BCR 14 when available) if based on 30 or more routes for either region. Trends not conforming to this rule of thumb are not reliable.

Criterion A3: *Have population objectives been determined for each priority species?*

This criterion addresses the need for numerical population objectives for priority species (i.e., those species identified in Criterion A).

An affirmative response is only possible with assistance from a public working group.

Management Actions

The following management actions are the recommended procedures for accomplishing the population objective. Specific management actions result from responses to decision criteria identified in Figure 1.

Management Action I

1) Annually, determine if any species covered by this management system meet priority criteria listed in “rule of thumb” under Criterion A1.
2) Prepare list of species that will be considered a priority for this management system.

Management Action II

1) If possible, improve BBS coverage by:
    a. Encouraging long-term commitments by current participants (i.e., to decrease route “down time”; when routes are assigned to new observers the first 3 years data are not used. This is considered a *de facto* training period).
    b. Increasing actual participation among currently assigned routes. Increase participation rate to $\geq$ 90% or at least 51 of 56 routes run each year. Participation has waned over the past several years: 1995 (90% of routes were run), 1996 (100%), 1997 (80%), 1998 (82%), 1999 (70%), and 2000 (63%). Accomplish this via:
        i. Send letter to all observers thanking them for their volunteer participation and explaining the importance of BBS data to monitoring species populations.
        ii. Make follow up phone call to volunteers who have not run their assigned route two or more times since 1997. Encourage these individuals to resume survey or relinquish route to another interested individual.
    c. If possible, increase total number of routes available in Maine. This is not likely for the foreseeable future as the number of routes was recently increased for the 2002 survey.

2) Develop separate monitoring programs for species not adequately monitored by the BBS if they are recognized as a priority under Criterion A. This will require additional volunteer support and may be coordinated with Maine Audubon.
3) If unsuccessful or deemed to have too little power to detect trend at state scale, build partnerships in northeast region to:
    a. Expand BBS coverage using above-mentioned steps, and/or
    b. Develop regional monitoring program specifically targeting poorly monitored species (e.g. Project Mountain Birdwatch).

Management Action III

1) Convene public working group to establish population objectives for priority species.

Management Action IV

1) Develop new management system based on revised goals and objectives.

HABITAT MANAGEMENT SYSTEM

Decision Criteria

The following criteria determine sequence of procedures used to conserve habitat for wetland Passerines in Maine (Fig. 2).

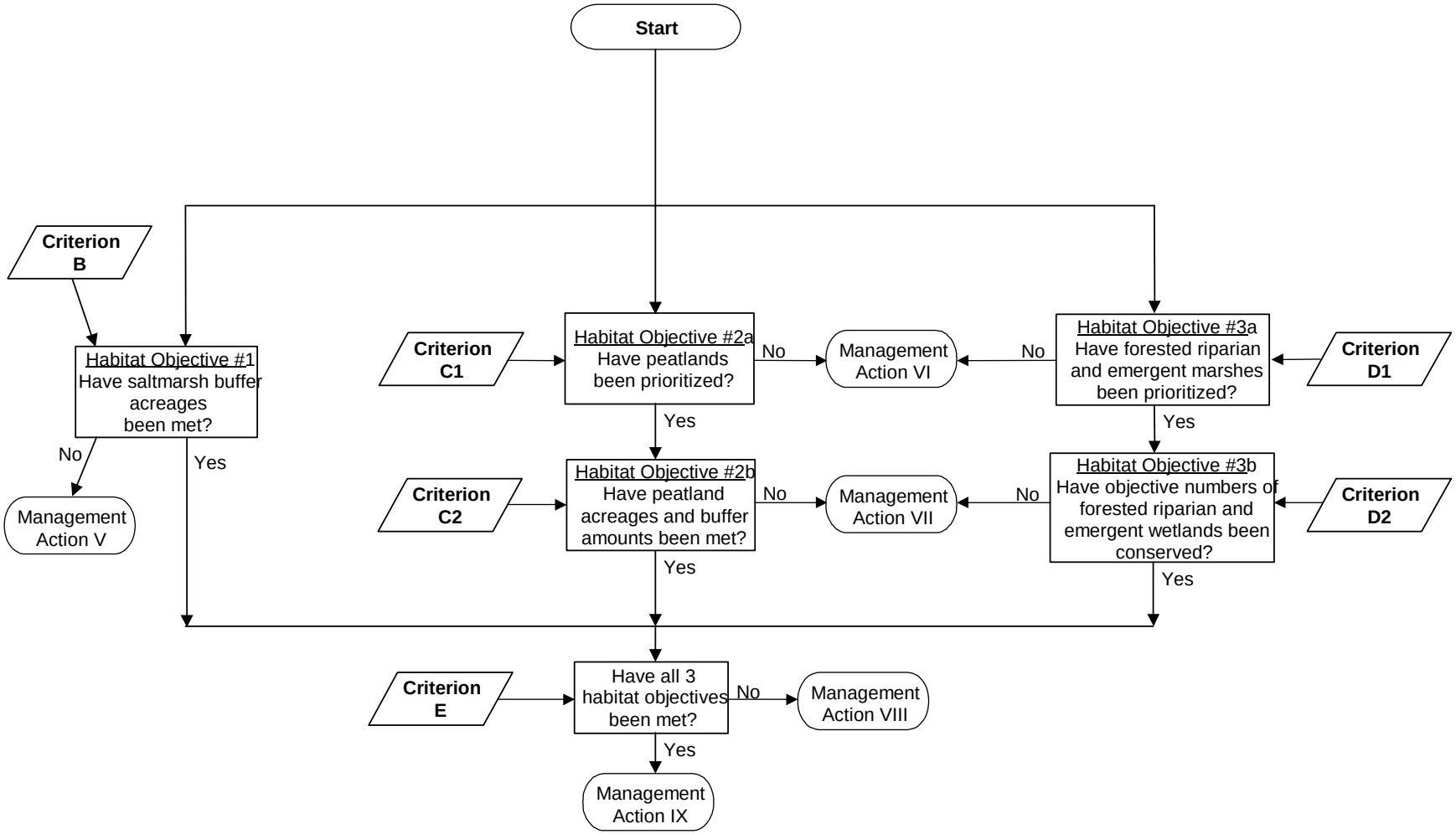

Figure 2. Flow diagram depicting decision criteria for Habitat Management System for wetland Passerines in Maine.

Criterion B: *Has the objective amount of upland buffers around saltmarsh habitat been conserved?*

This criterion evaluates protection of upland buffers around saltmarsh habitat.

An affirmative response requires that 10,000 ha of upland buffers be conserved statewide, with at least 4,000 ha in York, Cumberland, and Sagadahoc Counties.

Criterion C1: *Have peatlands been prioritized?*

This criterion addresses whether Maine peatlands have been prioritized by size.

An affirmative response will require a database of Maine peatlands sorted by size.

Criterion C2: *Have amounts of peatland habitat and adjacent upland buffer been met?*

This criterion addresses protection of peatlands and of adjacent upland buffers around peatland habitat.

An affirmative response will be achieved when 12,000 ha of peatland and 24,000 ha of upland buffers around peatlands have been conserved.

Criterion D1: *Have Forested Riparian and Emergent Wetlands been prioritized?*

This criterion addresses whether floodplain forest and emergent marshes have been prioritized.

An affirmative response will require a database of floodplain forests and emergent marshes, each sorted by size.

Criterion D2: *Has Forested Riparian and Emergent Wetland habitat been conserved?*

This criterion addresses whether floodplain forest and emergent marshes have been conserved.

An affirmative response will be achieved if 5 priority sites have been conserved by 2004, and at 20 additional sites by 2017.

Criterion E: *Have all habitat objectives been met?*

An affirmative response will be achieved when all components of all habitat objectives have been realized.

Management Actions

The following management actions are the recommended procedures for accomplishing habitat objectives. Specific management actions result from responses to decision criteria identified in Figure 2.

Management Action V

1) Encourage acquisitions or easements of lands that contribute to meeting this objective through notification to:
    a. MDIFW Land Acquisition Committee,
    b. Maine Wetlands Coalition, and,
    c. Maine Land Trust community.
2) Monitor additional acquisitions or easements by:
    a. Identifying and communicating with most appropriate individuals within this agency, BPL, and others.
    b. Developing network within State Government (perhaps informal interagency committee??) to oversee monitoring effort.
3) Work with IFW personnel and Division Director to identify potential needs common to both this management action and “Beginning With Habitat” as appropriate.
4) Explore additional regulatory options for habitat protection.
5) Determine if, and if so why, existing regulations fall short of adequate protection for conservation of species habitat.

6) Develop database of existing lands that meet objective by:
    a. Identifying contact person(s) at State Planning Office, Bureau of Parks and Lands, MNAP, etc.
    b. Identifying database needs common to all state resource agencies.
    c. Develop conservation lands database.

Management Action VI

1) Explore existence of Peatland/Emergent/Forested Riparian wetland database.
2) If no database currently exists for a wetland type or if it is unsatisfactory, develop database of existing lands that meet objective using National Wetland Inventory.
3) Sort database by size and type of wetland.

Management Action VII

1) Encourage acquisitions or easements of lands that contribute to meeting this objective through notification to:
    a. MDIFW Land Acquisition Committee,
    b. Maine Wetlands Coalition,
    c. Maine Land Trust community.
2) Monitor additional acquisitions or easements by:
    a. Identifying and communicating with most appropriate individuals within this agency, BPL, and others.

   b. Developing network within State Government (perhaps informal interagency committee??) to oversee monitoring effort.

3) Work with IFW personnel and Division Director to identify potential needs common to both this management action and “Beginning With Habitat” as appropriate.
4) Explore additional regulatory options for habitat protection.
5) Determine if, and if so why, existing regulations fall short of adequate protection for conservation of species habitat.
6) Work with DEP on monitoring expansion of peat mining and with forest industry on forest buffers around peatlands.
7) Develop database of existing lands that meet objective by:
   a. Identifying contact person(s) at State Planning Office and Bureau of Parks and Lands, MNAP, etc.
   b. Identifying database needs common to all 3 agencies.
   c. Develop database.

Management Action VIII

1) Continue work to meet all objectives.

Management Action IX

1) Convene public working group to redraft habitat objective.

OUTREACH MANAGEMENT SYSTEM

Decision Criteria

The following criteria determine sequence of procedures to be used to improve the understanding and appreciation of wetland Passerines in Maine.

Criterion F1: *Has an outreach plan been developed?*

This criterion simply addresses whether a plan for increasing the understanding and appreciation of wetland Passerines and their habitat requirements in Maine has been assembled.

An affirmative response will be met when a brief document describing outreach materials and a schedule for their distribution have been drafted.

Criterion F2: *Has an outreach plan been implemented?*

This criterion addresses whether a plan for increasing the understanding and appreciation of wetland Passerines and their habitat requirements in Maine has been put in place.

An affirmative response will have been achieved when outreach materials have been developed and distributed.

Management Actions

The following management actions are the recommended procedures for accomplishing outreach objective. Specific management actions result from responses to decision criteria identified in Figure 3.

Management Action X

1) Identify target audience.
2) Identify components of plan.
3) Identify and contact potential cooperators (e.g., Maine Audubon, National Wildlife Refuges, etc.)
4) Determine method of delivery (e.g. radio, poster, pamphlet, articles).
5) Identify sites for implementation (e.g., specific refuges and nature centers, radio programs, magazines/newspapers/journalists).

Management Action XI

1) Prepare outreach materials as planned and scheduled in Management Action X.
2) Deliver outreach materials as planned and scheduled in Management Action X.

Management Action XII

1) Reconvene public working group and redraft outreach objective

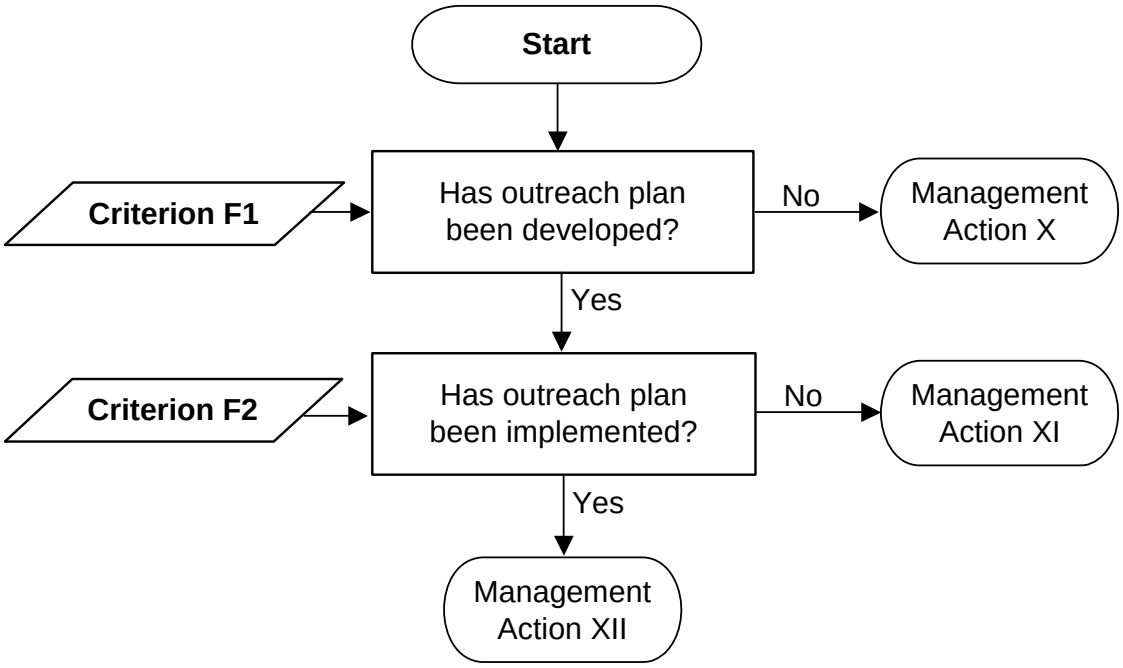

Figure 3. Flow diagram depicting decision criteria for Outreach Management System for wetland Passerines in Maine.

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