

# FEASIBILITY STATEMENTS FOR BALD EAGLE GOALS & OBJECTIVES

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August 30, 2004

A public working group has recommended objectives for Bald Eagle conservation in Maine through the year 2019. Their feasibility, desirability, habitat capability, and possible consequences are discussed below.

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**Population Goal: Increase the population and expand the range of breeding bald eagles in Maine.**

**Population Objective: By 2019, increase the bald eagle population to at least 600 nesting pairs, and allow the population to naturally expand statewide.**

Feasibility: The abundance component of this population objective is certainly feasible based on models of eagle population dynamics and recovery rates observed to date in Maine. The target objective, a minimum of 600 nesting pairs by 2019, will be achieved if annual population growth averages at least 4.6% through the period. Yearly expansion of Bald Eagle numbers nesting in Maine averaged 7.8% during the period 1989 – 2004.

Natural range expansion is plausible with continued growth of Maine's resident eagle population. However, recovery patterns of Bald Eagles often reveal that pioneering and lasting changes in distribution may require intervals of 10 years or more. Until local populations build to moderate nest density, significant range expansion is unlikely.

Desirability: This objective is highly desirable. The target population more closely resembles historic abundance and distribution. Maine is currently the stronghold for nesting Bald Eagles in the northeastern U.S., but the few nests established in western Maine to date do not adequately bridge those emerging elsewhere in New England with secure populations in central, eastern, or northern Maine.

Capability of the Habitat: Suitable habitat is not yet limiting to Maine's Bald Eagle population. Greater development and habitat fragmentation may emerge as a liability to eagles nesting in southwestern Maine. Eagles have exhibited some adaptive tendencies by nesting in developed areas, but special regulations protecting nests may have mitigated many potential setbacks from disturbances or local habitat alterations.

Possible Consequences: As top-level predators, Bald Eagles can locally influence other wildlife. Ospreys, great blue herons, and double-crested cormorants have locally shifted in Maine following an increased eagle presence. A greater influence

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on these species seems related to marked niche overlap or vulnerability to predation. The overall impact on prey populations or competitors is presumably negligible. Occasional depredation by eagles on small pets, domestic waterfowl, lambs, etc. may occur sporadically.

### **Productivity Objective: Maintain a statewide minimum productivity of 9 fledged eaglets per 10 occupied breeding areas through 2019.**

Feasibility: Bald Eagle productivity averaged 0.9 eaglets fledged per occupied breeding area in Maine during 1989 – 2004. Achieving this rate assumes no major setbacks during the next 15 years from nest disturbances, diminished regulatory protection, environmental contaminants, or density-dependent adjustments within the eagle population.

Desirability: This reproductive rate (0.9) has enabled steady recovery among Maine eagles and serves as surrogate indicator of a self-sustaining population. Most Bald Eagle populations achieve greater nest success, elevated productivity, and accelerated growth.

Capability of the Habitat: Suitable habitat and food resources should not further impair eagle productivity in Maine through the 15-year planning horizon. Current deficiencies relative to other populations may stem from either natural limiting factors (e.g., Maine's harsh climate or sparse warm-water fishery) or human influences, such as contaminants and nest disturbances. Remedial management strategies are likely if future surveys reveal low productivity, especially if correlated with diminished protection of nests resulting in more frequent disturbances or cumulative losses of suitable habitat.

Possible Consequences: Low productivity is not necessarily problematic to further expansion of Bald Eagle populations. Mortality rates are more influential but difficult to monitor. However, biologists realize that chronically impaired eagle reproduction was the primary culprit in species endangerment. This parameter can serve as an early indicator of nesting problems but must be evaluated concurrently with observed population trends (Population Objective 1) to gauge net impacts and potential causes.

### **Habitat Goal: Identify, maintain, and enhance bald eagle breeding, foraging, and wintering habitat to allow for future expansion of the bald eagle population in Maine.**

**Habitat Objective 1: By 2019, ensure long-term protection of viable bald eagle nesting habitat through fee ownership, easements, and landowner agreements for a minimum of 300 nesting areas proportionately distributed throughout occupied range.**

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Feasibility: This objective is feasible, but cannot be achieved without partnerships and increased funding. Conservation ownership or easements partially protect more than 210 nesting areas in Maine at present. However, only sixty now have adequate habitat to assure long-term viability. Mechanisms and meaningful incentives for stewardship of private lands are critical to completing local conservation efforts and this objective.

Desirability: Maintaining suitable habitat for the special needs of nesting eagles is a major challenge to safeguard species recovery. This objective essentially doubles the habitat “safety net” established as a criterion for delisting Bald Eagles in Maine.

Capability of the Habitat: Long-term protection naturally prioritizes large, contiguous blocks of suitable habitat. In some regions of the state, this effort will require more ambitious efforts to conserve fragmented, disjunct habitat components.

Possible Consequences: Conservation ownership or easements and landowner incentives can influence property valuations, property taxes, and municipal revenue. Many feel that these are modest concerns and far outweighed by ecological benefits, enhanced quality of life, open space virtues, etc.

### **Habitat Objective 2: By 2019, promote private stewardship of 300 additional viable bald eagle nest sites through landowner agreements, outreach, tax credits, or other means.**

Feasibility: This objective doubles the protection level of Habitat Objective 1 to secure an overall total of 600 nesting habitats (equaling the abundance target set in Population Objective 1). It is an ambitious target made feasible by utilizing a wide array of conservation tools that focus on the role of private lands. Incentives for private stewardship are a relatively new subject likely to evolve further in emerging policies, enabling legislation, new funding, etc. Successful implementation of meaningful landowner incentives is pivotal to this objective and related programs.

Desirability: This objective expands the scale and diversity of lands to safeguard eagle nesting habitat. Proactive strategies minimize last-minute conflicts, litigation, etc. that often result from reactive modes of habitat protection.

Capability of the Habitat: Initial eagle recovery and habitat conservation efforts have been in relatively optimal settings: large, contiguous blocks of suitable habitat with few ownerships. This expanded conservation objective will certainly require more creative solutions in more challenging settings.

Possible Consequences: Stable land ownership or covenants that pass to new parcel owners enable effective private stewardship. Successful ventures also require timely, two-way communications with landowners. A formal stewardship program is not yet in place within MDIFW but would be beneficial. Future survey designs need to consider this management need as well as population monitoring functions.

**Habitat Objective 3: By 2008, determine the amount and distribution of shoreline habitat that is currently protected for feeding, wintering, and future nesting sites for bald eagles; and determine the amount of additional shoreline that needs to be protected to ensure the viability of 600 nesting pairs of eagles in Maine.**

Feasibility: The stated objective is a feasible analytical task. Site conservation designs could be improved by research directed toward lesser-known facets of eagle habitat use: areas peripheral to the immediate nest vicinity and seasonal shifts during fall, winter, and spring. Some insights accrue through traditional monitoring efforts, but a telemetry study of resident adult eagles could refine management strategies on this subject.

Desirability: This objective is intended to promote maintenance of a functional landscape for Bald Eagles. Foraging areas, diurnal perches, and roosts are not yet limiting in Maine but are valid concerns as future pressures mount on waterfront habitat favored by eagles.

Capability of the Habitat: Extensive shoreland habitats exist across Maine. Conservation efforts often focus on this feature for its multiple resource benefits. Land use planning that promotes low impact uses or conservation practices (resource protection, shoreland zones, floodplains, rural development, tree growth, etc.) are critical to this objective.

Possible Consequences: Eagle habitat protection often dovetails with other conservation efforts for wildlife, open space, waterfront access, and aesthetics. Habitat suitability can suffer from acquisition and the resulting multiple uses imposed on public property.

**Recovery Safeguard Goal: Safeguard recovery of Maine's bald eagle population through outreach and education and through establishing de-listing and re-listing strategies.**

**Outreach Objective: By 2006, develop, and begin implementing, an outreach program that increases the understanding and appreciation of bald eagles and their habitat requirements in Maine; and increases awareness of human-related activities that result in bald eagle deaths, injuries, reproductive failure, etc.**

Feasibility: Increased public appreciation may not be feasible, measurable, or necessary. Research in the 1990s revealed very high values for Bald Eagles among Maine citizens. An improvement in their awareness and understanding of management issues is possible. Traditional outreach efforts have focused on specific "user groups" (e.g., landowners, hunters, trappers, etc.) in response to specific management issues. A broader outreach venture should seek partnerships beyond MDIFW resources.

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Desirability: The general public already holds Bald Eagles in high esteem, but improving awareness of human influences on Bald Eagles and their habitats can offset such impacts.

Capability of the Habitat: Not relevant.

Possible Consequences: Without guidance, human activities can degrade otherwise suitable eagle habitats. Outreach efforts should stress realistic strategies for coexistence, compromises, and seasonal safeguards that enhance functional habitat availability. Case histories and solutions based on actual management experience are helpful to many. Efforts that do not acknowledge human needs and use opportunities will likely polarize attitudes against Bald Eagles.

### **Delisting Objective 1: Prior to delisting the bald eagle, establish mechanisms to continue MDIFW review and comment on projects now covered under Essential Habitat.**

Feasibility: After delisting, formal MDIFW input on projects now subject to Essential Habitat regulations would require statutory changes to the Maine Endangered Species Act or new legislation specific to Bald Eagle protection. Two alternative strategies are available immediately: (1) offer technical assistance to decision makers, and (2) request notifications of decisions for tracking outcomes. Guidelines drafted by USFWS to avoid infractions under the Bald Eagle and Golden Eagle Protection Act may promote similar protection under this federal statute.

Desirability: Advance notification to property owners, objective review guidelines, and customizing decisions based on site-specific circumstances / individual eagle tolerances appear to be the successful elements of Maine's Essential Habitat regulation protecting Bald Eagle nest sites. These attributes can continue via mechanisms other than formal regulatory oversight that can only be enabled by legislation.

Capability of the Habitat: Not relevant.

Possible Consequences: Standardized, consistent reviews of projects by various towns and agencies potentially making decisions affecting eagle habitats is fundamental to avoiding past problems and litigation. Initial training for this role, technical assistance during implementation, and tracking effectiveness are minimal precautions. If significant problems arise despite reasonable attempts to transfer decision-making authority, this may be ample justification for renewed formal roles for MDIFW.

### **Delisting Objective 2: Prior to delisting the bald eagle, establish mechanisms to ensure MDIFW continues to annually identify and monitor nesting sites, and to notify landowners of nesting sites on their property, until the population objective has been met (600 nesting pairs); after that, develop periodic monitoring strategies.**

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Feasibility: Escalating operational costs and competing demands on staff jeopardize the practicality of this objective. Alternative financial support for annual nesting surveys is necessary. Federal aid (Section 6 funds) will likely diminish after delisting by USFWS. State Wildlife Grants are an alternative, but needs for other species already exceed current funding levels. New state monies are necessary to bolster many programs.

Desirability: Continued annual nesting surveys and prompt notifications to owners of new sites appear warranted to pursue other objectives and carefully gauge any setbacks from diminished regulatory protection. This objective is beyond the scope of preliminary strategies being drafted for monitoring Bald Eagles after delisting by USFWS, but special vulnerabilities and strategic importance of Maine's population are widely acknowledged.

Capability of the Habitat: Not relevant.

Possible Consequences: This is already an ambitious undertaking that seasonally involves more than 10 biologists in the Wildlife Division to conduct surveys. Components of the task may be accomplished by related research projects, environmental monitoring initiatives, etc.

### **Re-listing Objective: Prior to delisting, adopt peer-reviewed criteria for reclassifying the bald eagle as Threatened or Endangered in Maine.**

Feasibility: This objective is feasible and assumes that thresholds for relisting Bald Eagles may differ from general guidelines applied by MDIFW for listing species as Endangered or Threatened.

Desirability: Relisting triggers should be compatible with general listing guidelines but also incorporate the considerable insights on vulnerability and management issues accumulated from nearly 30 years of recovery efforts.

Capability of the Habitat: Not relevant.

Possible Consequences: Public attitudes and support for conservation of Endangered Species will be strongly influenced by the effectiveness of early recovery programs. Most agencies and programs have little or no experience delisting species. Formal relisting triggers and strategies for future monitoring are prudent safeguards gaining broader acceptance.