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Publication Date

2005-08-29

MAINE'S BEGINNING WITH HABITAT PROGRAM AND TRANSPORTATION PARTNERSHIP

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Abstract: Transportation facilities and adjacent development are the greatest contributors to habitat loss and fragmentation in Maine. Transportation facilities present a linear structure that is either a physical barrier or zone of adverse habitat that has separated former habitat or, in the case of new facilities, a dividing or fragmenting influence on existing habitat. Maine's Beginning with Habitat (BWH) program and the Maine Department of Transportation have partnered to begin addressing transportation issues related to habitat and wildlife.

Beginning with Habitat is a collaborative, public-private partnership whose mission is to compile, integrate, interpret, and deliver the best available information, tools, and incentives to facilitate effective land-use planning and natural-habitat conservation at local, regional, and state-wide scales. In 2004, BWH won an Environmental Merit Award from EPA and the program is now serving as a model for other states that wish to integrate habitat protection with land-use planning. As Maine's landscape changes over time, the goal of the program is to sustain habitat that supports healthy populations of Maine's wildlife and native plants for current and future generations.

BWH was developed by a group of stakeholders concerned about the future of Maine's habitat and wildlife in the face of the increased rate of sprawling development. BWH provides all Maine towns with a collection of GIS maps and accompanying information depicting and describing various habitats of statewide and national significance found in the town. These maps provide communities with information that can help guide conservation of valuable habitats. During the last few years, BWH has met with over 140 towns and land trusts to give individualized presentations on the locations and conservation of high-value plant and animal habitat in their communities.

Current areas of synergy include:

- Developing Northeast regional relations with New England, the Canadian Maritimes, and Québec
- Creating a Maine Habitat and Transportation Working Group that has developed a six-point plan to integrate and act on habitat and transportation goals for the mutual benefit of Maine's transportation networks and habitat
- Using BWH data for transportation scoping early in projects
- Using BWH Focus Areas of statewide ecological significance for transportation-project compensatory-mitigation planning
- Linking transportation and open space components of municipal land-use plans

In addition, an effort is underway to secure funding to develop a habitat-connectivity analysis for enhancement of BWH data and transportation planning. This analysis will use BWH data as well as other data to identify habitat connectivity areas in order to direct strategies to maintain and restore connections.

The partners of this cooperative program include:

- Maine Audubon
- Maine Coast Heritage Trust
- Maine Cooperative Fish and Wildlife Research Unit
- Maine Department Environmental Protection
- Maine Department of Inland Fisheries and Wildlife
- Maine Department of Transportation
- Maine Forest Service
- Maine Natural Areas Program
- Maine State Planning Office
- Maine's 13 regional planning commissions
- Nature Conservancy
- U.S. Fish and Wildlife Service

Introduction

Beginning with Habitat (www.beginningwithhabitat.org) was developed by Maine's natural resource agencies and organizations to address the biggest threat to wildlife in Maine: sprawl. An unexpected partnership has recently developed and continues to develop with Maine's Department of Transportation.

The Road and Planning Landscape in Maine

Most new road construction in Maine consists of local subdivision roads. These roads fragment habitat, decreasing its value for wide-ranging and area-sensitive wildlife species. Responsibility for land-use planning to oversee this incremental road development lies at the local level in Maine. Unlike most states that have strong county governments responsible for land-use planning, Maine has no official regional land-use planning. Instead, 492 individual towns in Maine make all their own land-use planning decisions, with only sporadic, voluntary coordination. Local decision

makers are mostly planning-board volunteers with little or no training in planning, ecology, or transportation issues. For transportation issues, four Municipal Planning Organizations (Portland Area Comprehensive Transportation System (PACTS) in the Portland area, KACTS in the Kittery area, BACTS in the Bangor area, and the Androscoggin Transportation Resource Center (ATRC) in the greater Lewiston Auburn area) are relied on to come up with the overall transportation scheme for the areas they cover. These regional plans are currently oriented to traffic and level of service. They do not have strong habitat planning incorporated at this time. Unfortunately, neither the forces behind sprawl nor wildlife see political boundaries.

Beginning with Habitat Program Background

The Beginning with Habitat program (BWH) was designed as a mechanism to assist these local planners with their land-use decisions. BWH is a cooperative, non-regulatory landscape approach to conserving native species on a developing landscape. Its strength and uniqueness lie in the collaboration of nonprofit organizations and state and federal agencies. This partnership started with several years of planning that produced a pilot phase of the program in 2001.

BWH has the potential to be a key vehicle in Maine for getting road-related habitat issues into local planning to reduce the impacts of roads on wildlife.

Through the BWH program, participants (mostly towns and land trusts) are provided ecological education, data, tools, and resources. The most up-to-date wildlife and plant-habitat information available for conservation and land-use planning is provided to municipal officials, land trusts, conservation organizations, and state and federal agencies through presentations, GIS maps and interpretation, digital data, and follow-up assistance. GIS allows BWH partners to produce map products showing many data layers in a format that citizen boards and municipal staff can easily utilize.

BWH promotes a landscape model designed to ensure that all of Maine's wildlife species, both common and rare, will continue to be viable for future generations. The model, which was developed by the University of Maine's Cooperative Fish and Wildlife Research Unit (CFWRU), has three main components, each of which is shown on an individual map. Together, these maps can be used to build a conservation landscape.

The first map or component is Riparian Habitat. The Riparian layer is considered as the skeleton of the landscape. Riparian areas provide habitat for the majority of Maine's vertebrate species and connectivity among other habitat areas. According to the CFWRU, strong conservation of these areas would ensure that about 50 to 75 percent of Maine's vertebrate species would continue on the landscape into the future.

The second component in the model and map consists of identified high-value plant and animal habitats. The model predicts that conservation of these areas, along with the Riparian Habitats, would support up to 80 to 85 percent of vertebrate species in Maine over the long term. This map includes locations of rare, threatened, and endangered plants and animals; Essential and Significant Wildlife habitats (designated under Maine's Endangered Species and Natural Resources Protection Acts); rare and exemplary natural communities; and important habitat for US Fish and Wildlife Service (USFWS) trust species (identified through the USFWS Gulf of Maine Program).

Finally, to ensure the long-term viability of the remaining 20 percent of vertebrate species in Maine, BWH identifies and encourages communities to conserve large, undeveloped habitat blocks. These are unroaded areas that provide habitat for large area-dependent species, ensure habitat for more common species, enhance the viability of habitats of management concern, and provide open space for other social and community values.

As of May 2005, 137 towns and over 40 land trusts and regional groups have received BWH presentations and maps.

Beginning with Habitat Program and Maine Department of Transportation Partnership

Habitat planning and transportation planning face some similar challenges in Maine. Both habitat and transportation systems function at a scale that is not easily addressed by local land-use planning. The Maine Department of Transportation (MDOT) and BWH have come together to explore the ways in which planning for transportation and wildlife can be mutually beneficial. From the BWH point of view, roads and associated development are the greatest cause of habitat loss and fragmentation. Improved habitat connectivity is possible through changes in road, bridge, and culvert designs. Additionally, some habitat-conservation opportunities can benefit both transportation and wildlife goals.

From the MDOT point of view, this partnership provides an opportunity for MDOT to fulfill its commitment to natural-resource stewardship, as well as another means to address human-safety issues related to vehicle and wildlife collisions. In addition, efficient and sustainable transportation systems are impacted by land-use decisions. For example, increased curb cuts decrease a road's long-term effectiveness and ability to move traffic. Curb cuts also impact large habitat blocks, causing habitat fragmentation and loss. Cost savings for transportation projects can be reduced via upfront planning for wildlife. BWH provides some of the tools needed to do this efficiently. Furthermore, required mitigation can be streamlined through information provided by BWH.

What's Been Done to Date

Introductory meetings between MDOT and BWH were held in 2003. As a result, the first Maine Conference on Roads and Wildlife for Planning, Transportation, and Wildlife Professionals was held in January 2004, sponsored by Maine Audubon, Maine Department of Transportation and Maine Department of Inland Fisheries and Wildlife (MDIFW). As an outcome, the Maine Habitat and Transportation Working Group was established. This group's mission is to integrate and act on habitat and transportation goals for the mutual benefit of Maine's transportation networks and habitat. Group members attended and presented at the first Northeast Wildlife and Transportation Conference in September 2004.

At this meeting, the work of the Habitat and Transportation Working Group was synthesized into the following six-point plan:

1. Integrate MDOT with Maine's Comprehensive Wildlife Conservation Strategy and find ways to integrate natural resource and habitat planning with transportation planning, including MDOT's 20-year, six-year, and work-plan scoping efforts.
2. Develop a statewide habitat-connectivity map.
3. Promote the use of the ecosystem-based approach to decision making.
4. Integrate wildlife and transportation efforts with regional planning activities.
5. Develop a "tool box" guidebook (what to do, how to do it, resources to make it happen) for transportation and wildlife targeting towns.
6. Education and outreach—get the wildlife and transportation message out.

Compensatory Mitigation and MDOT Research Grant

A very tangible outcome of the BWH and MDOT discussions and partnership is the use of BWH Focus Areas by MDOT. Focus Areas are areas of statewide ecological significance identified by BWH. These areas, which are based on available information from MDIFW, the Maine Natural Areas Program (MNAP), and USFWS, synthesize and simplify existing habitat data to help focus conservation effort on the most important targets. They are nonregulatory and are not "no development" areas.

Through discussions with BWH, the MDOT Natural Resource Mitigation Specialist learned about Focus Areas and took the initiative to use the information for a project impacting 1.6 acres of wetland along a state road. There were no on-site opportunities along the project roadway for wetland restoration that would have any real ecological value. But nearby was a Focus Area (Saco Heath) with significant conservation land, including wetlands of statewide ecological significance. An adjacent 45-acre parcel had been identified by the Nature Conservancy (TNC) and was available from a willing seller. MDOT was able to purchase the land and transfer it to TNC, thereby meeting the mitigation requirements and adding significantly to state habitat-conservation goals.

MDOT recognized the BWH Focus Areas as potential tools that would help streamline environmental review, improve the mitigation process, and serve as a starting point for a watershed-based mitigation approach. Specifically, the BWH Focus Areas can serve as a screening tool for early identification of resources of statewide or regional importance and deciding which projects to scope. The usefulness of BWH Focus Areas to MDOT made it clear that an accelerated process was needed to identify Focus Areas statewide. Currently, they are only identified for part of the state. In March 2005, MDOT awarded a research grant to finish BWH Focus Area identification statewide.

The Future

The partnership has identified several additional areas of synergy, including: developing northeast regional relations within New England, the Canadian Maritimes, and Quebec, particularly with respect to:

- Moose-vehicle collision issues
- Using BWH data for transportation scoping early in projects
- Linking transportation and open-space components of municipal land-use plans

Ongoing and future initiatives include:

- Continuing the Habitat and Transportation Working Group's efforts
- A statewide study to identify key elements of habitat connectivity
- Developing educational materials on roads and wildlife for the general public
- Identifying Focus Areas for the rest of the state

The potential benefits of a partnership between habitat and transportation planners and professionals are enormous. Through continued coordination and communication, we hope to realize a range of outcomes to benefit Maine's citizens and wildlife. The future we envision as a result of this partnership will include:

- Transportation projects that are less expensive due to early identification of habitat needs
- Roads that are safer for people
- Roads that are more permeable for wildlife due to well-designed and placed bridges, culverts, and roads
- Reduced fragmentation of large, undeveloped habitat blocks by new roads
- Mitigation that provides the highest possible benefit for wildlife and habitat

Biographical Sketches: Barbara Charry has a B.A. in English from Grinnell College in Grinnell, Iowa and a M.S. in environmental science from Antioch New England in Keene, New Hampshire. She has worked for Maine Audubon as a biologist and GIS manager since 1992. Areas of work have included endangered-species management, grassroots organizing, natural-history information, northern forest issues, and sprawling development's impacts on wildlife.

Richard Bostwick has a B.Sc. in biology from Mt. Allison University in New Brunswick, Canada. He has worked for the Maine Department of Transportation in the fields of transportation and biology since 1984. His background includes resource identification and assessment, environmental work on NEPA and other planning studies, and animal-vehicle crash study for the Maine DOT.