



**BEGINNING
WITH HABITAT**

Toolbox

Your guide to creating and implementing a "conservation blueprint," or suite of local actions to reach conservation goals.

beginningwithhabitat.org

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About the Toolbox

What is the Toolbox?

The Beginning with Habitat (BwH) Toolbox is a guide to help towns develop and implement a "conservation blueprint", or suite of local actions that will achieve a municipality's land conservation goals. The purpose of this toolbox is to assist you, as a concerned citizen, municipal committee member, elected official or land trust member, achieve your land conservation goals by providing you with a series of tools that can be used to address common conservation issues that arise in many Maine towns.



The toolbox includes an introduction to using BwH data and principles in municipal comprehensive planning and open space planning and provides tools, including example ordinance language, which can be used to address conservation concerns. We have attempted to include local lessons learned and the advantages and disadvantages of each tool to help you evaluate which approach will best fits your local needs.

We strive to provide the best and most current examples of tools that are being used throughout the state to implement habitat-related goals and will continually be updating and adding to the list of examples provided here. We are interested in hearing your feedback as to the usefulness of these tools. **Please also forward any additional examples that you feel should be included on this site.**

How to Use the Toolbox

Click on subject headings to the right to find more information about comprehensive planning and open space planning, to find example tools that can be used to address common conservation issues, and to find methods for financing your town's habitat protection efforts. An outline of the Toolbox with summary descriptions and direct links to each tool is provided under the the Table of Contents link.

Need Assistance?

BwH is available to directly assist you with any questions you may have and with the development and implementation of these, and other, habitat conservation tools. BwH can meet with your local boards and committees to walk through examples of how municipalities have created and adopted open space plans, passed local land acquisition bonds, drafted

conservation subdivision ordinances, or passed habitat oriented overlay districts. By using habitat data specific to your community BwH can help you craft custom solutions that address local needs. Similarly, BwH is also available to assist local land trusts in strategic conservation planning and prioritizing local conservation focus areas.

For assistance, contact Beginning with Habitat at the information below.

Comprehensive Planning

[A Guide to Comprehensive Planning with BwH](#)

To be effective, a comprehensive planning committee should regularly ask itself: "will this set of measures in fact encourage most of the development during the next decade to locate in growth areas, and away from rural areas?" -[Comprehensive Planning: A Manual for Maine Communities](#)

Comprehensive planning started in Maine as a tool for communities to direct commercial and industrial activities to specific parts of town and to protect existing neighborhood character. Today, comprehensive plans are seen as a critical tool to promote responsible growth and to maintain the qualities of place that drive our decisions to live where we do. From a Beginning with Habitat (BwH) standpoint, comprehensive plans provide an invaluable vehicle for highlighting significant natural resources town by town and helping local citizens to develop town policies and strategies aimed at conserving their town's special places.



Comprehensive plans are the starting point for developing a municipal "conservation blueprint" or suite of local actions (incentives, fee acquisition, and regulatory mechanisms) that shape what your town could look like in 50 years. Ultimately, suggested strategies included in comprehensive plans are the legal underpinning of subsequent land use ordinances and typically serve as the catalyst for open space plan development. The BwH Toolbox attempts to provide you with a variety of the elements necessary to create and implement a "conservation blueprint".

Key to the success of any comprehensive planning effort is that policies intended to effectively shape a towns future are actually implemented. Certainly, there are many Maine towns that have crafted comprehensive plans that successfully result in on the ground changes. However, despite the success stories, and despite the fact that *most* plans tout the need to direct

growth and maintain "rural character", 60-80% of new growth in Maine occurs in rural areas where costs for services and impacts to hometown identity and wildlife habitat are highest. To avoid this situation, your committee should craft a plan that provides a thorough inventory and analysis, develops clear policies and specific strategies, assigns responsibilities, and establishes a credible timetable for implementation. It is critical that the public is cognizant of the plan's strategies and is supportive of moving forward with the actions laid out in your plan.

BwH can help in crafting or updating your comprehensive plan, however, the Comprehensive Planning Section of the BwH Toolbox is not intended to be a "how to" resource. That resource exists. The State Planning Office (SPO) publication, [Comprehensive Planning: A Manual for Maine Communities](#), is a thorough and easy to use resource for communities undertaking the planning process for the first time or for those updating existing plans. Even for those not currently involved with a comprehensive planning committee, this guide provides a great introduction to the municipal process and the variety of land use issues that are best addressed at the local level. As part of the BwH Toolbox, this section is intended to highlight how the BwH program and data can be used in addressing habitat-related topics required under Maine's Comprehensive Planning and Land Use Regulation Act (MRSA Title 30-A § 4301-4350).

[Using BwH in the Required Elements of a Comprehensive Plan](#)

Under Maine's Comprehensive Planning and Land Use Regulation Act (MRSA Title 30-A § 4301-4350), Comprehensive Plan Review Criteria Rule (Chapter 208), there are several elements of a comprehensive plan that must be included in order for the plan to be found consistent with the Act. Beginning with Habitat (BwH) data can be useful in the development of several of these elements, in particular, with drafting the topic area sections, with creating a future land use plan, and with developing a regional coordination program. Click the links below to find out more about how BwH data can contribute to these sections of your comprehensive plan.

The required elements of a comprehensive plan as identified in Maine's Comprehensive Plan Review Criteria Rule include:

A **Vision Statement** summarizing the public participation process and outlining how information gathered during the process was used to guide your plan.

- **Topic Area Components** including analyses, condition and trend data, policies, and strategies developed for each of thirteen required topic areas.
- A **Future Land Use Plan** which is intended to synthesize information collected in each topic area into a cohesive guide to realizing your community's vision, including the development of land use regulations/ordinances.
- A **Regional Coordination Program** which must be pursued with other communities to manage shared resources such as lakes, rivers, aquifers and transportation systems.
- **Plan Implementation** that prioritizes how implementation strategies will be carried out.



Evaluation Measures including an outline describing how the community will periodically evaluate the plan and progress toward achieving plan goals.

In addition, to meet the requirements of the Comprehensive Plan Criteria Rule, your community must submit a self-assessment checklist and provide certification of your plan. For a complete list of the required elements of a comprehensive plan, visit: [Maine's Comprehensive Plan Criteria Rule](#).

Using BwH in the Required Topic Areas of a Comprehensive Plan

One of the major required elements of a comprehensive plan is to address thirteen inter-related topics (listed below) as they relate to your town. Within each topic, your town must indicate the relevant state goal, assess current conditions using specific data, identify current and future trends, and identify key issues in your community by addressing a series of questions. Based on assessment of conditions and the identification of trends and key issues, a comprehensive plan must present policies designed to promote the community's stated vision along with strategies for implementation that describe what actions your town intends to take to carry out those policies.



Each of the thirteen topics listed below have implications for local natural resource conservation. Future policies developed under each topic are best crafted with an understanding of the affects that policy implementation will have on your town's "conservation blueprint".

The water resources, critical natural resources, and transportation related topics listed below have been highlighted given their direct ties to Beginning with Habitat (BwH) conservation planning goals. Click the links to find more information about using BwH in inventorying, analyzing and developing policies and strategies for these topic areas of your comprehensive plan. For a complete list of the required elements of a comprehensive plan, visit: [Maine's Comprehensive Plan Criteria Rule](#).

1. Topography, soils, geology, & water resources

By considering these elements of the landscape, a town can better determine what areas pose physical constraints to development and may help identify potential growth areas. Additionally, a consideration of water resources will show the interconnectedness between wetlands,

streams, ponds and the shoreline and can inform decisions regarding buffers for habitat and water quality.

2. Habitat & other critical natural resources

Beginning with Habitat (BwH) focuses primarily on this topic and resource occurrences included in this topic are inextricably tied to elements of Topic 1 above.

3. Historic & archeological resources

This topic is intended to capture key elements of a town's heritage and early settlement patterns that were likely driven by elements of Topics 1 & 2 above.

4. Agriculture & forest resources

Local natural resource industries rely on a towns physical and biological resources (Topics 1 & 2) and are historically guided by past land use (Topic 3), but future land use ultimately determines if adequate undeveloped acreage will persist that can support local agriculture and forestry.

5. Marine resources

Shellfish harvesting, lobstering, and other marine fisheries are all ultimately affected by land use decisions and resulting water quality. Our current marine resource opportunities are the result of how towns have addressed issues related to land use and water resource opportunities as a result of the previous four topics.

6. Economy

Whether it's driven by natural resources or modern infrastructure, a town's long-term economic vitality depends on maintaining a community in which people want to live. Numerous studies have shown that adequate open space, recreational opportunities, and healthy water quality all contribute to the choice people make about where to live.

7. Population & demographics

Understanding trends in growth and what segments of the population are growing help to predict future pressures on rural natural resources to better inform policy. Recent accelerated

growth may highlight the need to designate growth areas and guide where new housing should go.

8. Existing land use patterns

Understanding where past and current development has taken place and the factors driving development decisions will better enable a town to determine how much influence it should exercise in shaping future growth decisions that will effect both future natural resources and the local economy.

9. Housing

Are current development patterns sustainable? Can your town grow in a way that is more efficient in terms of acreage converted and acreage maintained for open space? The types of housing choices available to residents shapes the future character of a community's populace. Does your town actively encourage affordability with incentives, or is rural development in part driven by citizens seeking what they perceive as affordable alternatives?

10. Transportation

Transportation networks tie existing land uses together and facilitate future growth. At the same time, these same networks can divide natural resources, fragment habitats, and degrade water quality. Connecting "Point A" to "Point B" requires consideration of most other conservation planning topics listed here.

11. Recreation & open space

The availability of recreation and open space lands shape a town's character and quality of life, and determines not only what habitat types are protected, but what opportunities the public has to experience and develop an appreciation for a towns natural heritage.

12. Public facilities & services

How and where public services are delivered results from development choices and whether growth is spread out or centralized. How and where public services are delivered also has

significant local budget implications. Is your town experiencing increased expenditures as a result of having to service development in remote portions of town?

13. Fiscal capacity

This topic covers the town's bottom line. What is the town's ability to pay for the services required to meet the needs of anticipated population growth and patterns of development?

BwH Highlighted Topic: *Water Resources*

State Goal:

To protect the quality and manage the quantity of the State's water resources, including lakes, aquifers, great ponds, estuaries, rivers, and coastal areas.

Legislative Requirement:

The Act requires that each comprehensive plan include an inventory and analysis of:

Significant water resources such as lakes, aquifers, estuaries, rivers and coastal areas and when applicable, their vulnerability to degradation.



In addition, the Act requires that the implementation section of the plan:

Protect, maintain and, when warranted, improve the water quality of each water body pursuant to Title 38, chapter 3, subchapter I, article 4-A [the part of state law that establishes water quality classifications] and ensure that the water quality will be protected from long-term and cumulative increases in phosphorus from development in great pond watersheds.

Please Note: * below indicates some of the minimum conditions and trends data, analyses and key issues, policies, and strategies that are outlined under the Comprehensive Plan Review Criteria Rule. The information provided below addresses only the habitat-related requirements and offers additional suggestions. Visit the [Comprehensive Plan Review Criteria Rule](#) for a full list of minimum requirements.

Conditions & Trends:

Beginning with Habitat (BwH) data included in Map 1 Water Resources & Riparian Habitats can assist your community in collecting condition and trends data. Map 1 Water Resources & Riparian Habitats includes water features such as rivers, streams, brooks, lakes, ponds, coastal waters, and wetlands, as well as riparian habitat, the transition zone between aquatic habitats and upland areas. Water resources and riparian areas provide important habitat for many types of plants and wildlife and they provide essential services such as water quality protection and flood control. Map 1 also includes watershed boundaries, drainage divides, significant aquifers, impervious surfaces, public water supply wells, and drinking water source protection areas. The combination of the data layers on Map 1 will better enable your committee to consider water resources and existing development patterns holistically. By analyzing Map 1 you can see the interconnected nature of surface waters. You can also see which areas in town have the greatest relative percentage of impervious surfaces. This information will help your committee to better predict how these areas and any future growth in them might affect down stream resources through flooding or non-point source pollutants. Non-point sources are those inputs of contaminants or sediment that cannot be traced to a single pipe or "point", but result from stormwater sheet flow over impervious or unstable land surfaces. Non-point source pollution threatens water resources as contaminants flow downstream collecting in streams, rivers, lakes, and coastal areas reducing water quality. From Map 1 you can best evaluate what water resources should be considered priorities for greater protections such as buffering or increased setbacks. You can also better evaluate how many first order streams exist within town that may not currently receive local protections. Minimum standards under the State's Mandatory Shoreland Zoning Act only require the protection of second order streams and larger. In addition, Map 1 can also help you evaluate where public access to recreational water resources is lacking. Analysis of the water resources and riparian areas is useful for identifying potential wildlife corridors as well, which are essential to maintaining habitat connectivity. Riparian areas provide important travel corridors for many of Maine's species. Furthermore, Map 1 also includes information related to drinking water protection and can help you identify potential threats to the drinking water resources in your community as well as opportunities to protect these resources. Ultimately, the information presented in Map 1 should help to inform decisions regarding growth, rural and critical resource zone designations and should be a key consideration in future land use plan (FLUP) discussions and your resulting committee recommendations.

Analyses & Key Issues:

To best identify the key issues that relate to water resources, consider the following questions during committee review efforts:

- **Are there point sources (direct discharges) of pollution in the community? If so, is the community taking steps to eliminate them?*
- **Are there non-point sources of pollution related to development, agriculture, forestry, or other uses that are affecting surface water resources and riparian areas? If so, are existing regulations sufficient to protect these resources?*
- Are sources of pollution primarily related to development, or primarily related to agriculture, forestry, or some other activity? Are recreational or commercial fisheries threatened? Can sources be addressed through land use regulation?
- **Are public groundwater and surface water supplies and their recharge areas adequately protected? Are any public water supply expansions anticipated? If so, have suitable sources been identified and protected? Where are your communities significant aquifers located and how will future development patterns likely affect these areas? How can these areas receive adequate protection?*
- Is there growing coastline or lakeside development that raises concerns for future water quality? Are there adequate land use controls in place for such development? Is rapid development in any one watershed resulting in notable changes in stream habitats?
- What is your community's capacity to enforce land use controls, for example, erosion control and other measures that may be required of developers through site plan review or a subdivision ordinance? The best ordinance does little good if it can't be enforced. This is especially true of efforts to control nonpoint sources of pollution, where measures must be preventive to be effective.
- Do you share water resources with neighboring communities? Lakes, streams and rivers often cross town borders and will best benefit from shared management and protection efforts.
- **What non-regulatory measures can the community take to protect or enhance water quality? Are there opportunities to partner with local or regional advocacy groups that promote water resource protection?*
- **Do local road construction and maintenance practices and standards adequately protect water resources? Do public works crews and contractors use best management practices in daily operations (e.g. salt/sand pile maintenance, culvert replacement street sweeping, public works garage operations)?* Runoff from roads can significantly degrade water quality and poorly designed crossing structures such as culverts and bridges can affect water flow, water quality and the connectivity of habitats for aquatic species.

- **Are floodplains adequately identified and protected? Does the community participate in the National Flood Insurance Program? If not, should it? If so, is the floodplain management ordinance up to date and consistently enforced?*
- To what extent are riparian zones protected? Riparian areas provide important habitat for many of Maine 's species and are important travel corridors for much of Maine 's wildlife. They are also important for filtering runoff and protecting water quality of the aquatic areas they buffer. To what extent are corridors extending 75 to 250 feet back from streams - especially first order, more vulnerable streams - intact or broken up by development? Are riparian zone buffers maintained in a natural condition? Has the character and quality of streams through these zones changed? Have fisheries in your town been impacted as a result? Do these streams outlet to commercial shellfish flats? Is local enforcement capacity inadequate to protect these areas? Could additional protections of riparian areas benefit habitat connectivity and at the same time possibly support recreational trail networks?
- To what extent have sensitive wetlands and other water resources been incorporated onto land use maps or considered in local ordinances? Should the municipality rely on federal and state laws and regulations only to protect these resources or should the municipality adopt supplemental measures to better protect these important resources with local review authority?

Policies:

Possible policies drawn from the planning committee's answers to the analysis and identification of key issues, might include policies:

- **To protect current and potential drinking water sources.*
- **To protect significant surface water resources from pollution and improve water quality where needed.*
- **To protect water resources in growth areas while promoting more intensive development in those areas.*
- **To minimize pollution discharges through the upgrade of existing public sewer systems and wastewater treatment facilities.*
- **To cooperate with neighboring communities and regional/local advocacy groups to protect water resources.*
- To protect important riparian habitats.

Strategies:

Once policies are agreed to, your committee will develop strategies to meet policy objectives. In some communities, a major need related to water resources may be to remedy point sources of pollution. Strategies in this case may address upgrading a sewage treatment plant, extending sewer lines to correct septic system problems, or separation of the storm water collection system from the sanitary sewer system. If so, implementation strategies should indicate planning, engineering, funding, and construction steps to be taken. For most rural towns which do not foresee a need for a sewer treatment plant, implementation strategies should focus on policies to control nonpoint sources of pollution. In general, this will include land use controls. Some options for land use strategies are: (specific examples of many of these strategies can be found in the [Tools](#) and Conservation Strategy sections.)

- Amend local shoreland zoning ordinance to meet or exceed state minimum standards to better protect water resources. Augmenting your local shoreland zoning ordinance can go a long way to better protecting water resources. Current minimum state standards leave some gaps in the protection of resources, for example, wetlands smaller than 10 acres in size, forested wetlands, and first order streams are left without protective measures under minimum standards.
- **Amend local land use ordinances as applicable to incorporate stormwater runoff performance standards consistent with: a. Maine Stormwater Management Law and Maine Stormwater regulations (Title 38 MRSA §420-D and 06-096 CMR 500 and 502; b. Maine Department of Environmental Protection's allocations for allowable levels of phosphorus in lake/pond watersheds; c. Maine Pollution Discharge Elimination System Stormwater Program.* Regulations to control storm water runoff, the transport of phosphorus, and similar sources of pollution resulting from new development are often in the form of performance standards. Performance standards set a measurable requirement as to how a piece of land will "perform" after development. The developer must demonstrate how the standard will be met. For example, the standard for storm water runoff might require the rate of storm water runoff after development to be no greater than the rate prior to development for a 25-year storm (a storm with a 1 in 25 chance of happening in any year) of a given duration. The developer must show how, through use of buffer strips, detention ponds, or other means, the standard will be achieved.
- **Update the floodplain management ordinance to be consistent with state and federal standards.*

- **Consider amending local land use ordinances, as applicable, to incorporate low impact development standards. Tools, such as larger setback requirements, strengthened vegetation removal standards within setbacks, increased buffering around brook trout streams, inclusion of first order streams in local land use ordinances, and encouraging open space subdivision approaches to subdivisions in sensitive watersheds where designated open space augments current buffer requirements, may be necessary to meet the community's identified water quality objectives.*
- **Where applicable, develop an urban impaired stream watershed management or mitigation plan that will promote continued development or redevelopment without further stream degradation.*
- **Enact public wellhead and aquifer recharge area protection mechanisms, as necessary.*
- **Make water quality "best management practices" information available to farmers and loggers.*
- **Adopt water quality protection practices and standards for construction and maintenance of public roads and properties and require their implementation by the community's officials, employees, and contractors. Runoff from roads can significantly degrade water resources. The Maine Department of Transportation can provide your community with best management practices and standards for construction and maintenance of roads that will better protect water resources.*
- **Participate in local and regional efforts to monitor, protect and, where warranted, improve water quality. Watershed protection groups, water districts and land trusts exist throughout the state and can be important partners for communities in projects related to water quality protection.*
- **Provide educational materials at appropriate locations regarding aquatic invasive species. Your town's Conservation Commission can be responsible for implementing this strategy.*

BwH Highlighted Topic: Critical Natural Resources

State Goal: *To protect the State's other critical natural resources, including without limitation, wetlands, wildlife and fisheries habitat, sand dunes, shorelands, scenic vistas, and unique natural areas.*



Legislative Requirement:

The Act requires that each comprehensive plan include an inventory and analysis of:

Significant or critical natural resources, such as wetlands, wildlife and fisheries habitats, significant plant habitats, coastal islands, sand dunes, scenic areas, shorelands, heritage coastal areas as defined under Title 5, section 3316, and unique natural areas.

The Act further requires that each comprehensive plan, as part of its implementation strategy:

Ensure that its land use policies and ordinances are consistent with applicable state law regarding critical natural resources. A municipality or multi-municipal region, if authorized to enact ordinances, may adopt ordinances more stringent than applicable state law.

Conditions & Trends:

Beginning with Habitat (BwH) Map 2 High Value Plant and Animal Habitats, Map 3 Undeveloped Habitat Blocks, and Map 7 Wetland Characterization will all assist your community in collecting conditions and trends information regarding critical natural resources. Minimum conditions and trends data requirements can be found in the [Comprehensive Plan Review Criteria Rule](#).

Map 2 High Value Plant and Animal Habitats includes known rare, threatened, or endangered animal occurrence locations; rare, threatened or endangered plant occurrences; rare or exemplary natural community locations; Essential Habitats and Significant Wildlife Habitats; Atlantic salmon habitat; and impervious surfaces. Some, but not all, of these occurrences and habitats receive a level of protection under State laws.

Map 3 Undeveloped Habitat Blocks highlights the remaining large undeveloped blocks of relatively undisturbed habitats. Although these features are not a regulated habitat type, they often provide the best opportunity for municipalities to plan for meaningful habitat conservation providing multiple habitat functions able to keep common species common into the foreseeable future.

Map 7 Wetland Characterization highlights potential wetland functions and values likely to be performed by local wetland features. Having this additional understanding of the services that wetlands provide to your community may better inform decisions regarding where additional local wetland protections may be appropriate.

These maps and the combination of these resource datasets will provide your committee with a comprehensive understanding of important habitat and critical natural resource occurrences within town borders and will assist with the designation of growth, rural, and critical resource areas.

Analyses & Key Issues:

To best identify the key issues that relate to habitats and critical natural resources in your town, consider the following questions during committee review efforts.

- Based on local knowledge of your town how complete do the Beginning with Habitat datasets appear to be? Should there be future local efforts to supplement the information available from Federal and state sources using the knowledge of local experts?
- Are land use patterns, or changes in land ownership, threatening any of the critical natural resources shown on these maps? Are formerly large undeveloped habitat blocks being broken up into lots for individual ownership?
- **Are existing regulations sufficient to protect the community's critical natural resources threatened by development, overuse, or other activities?* Does review of development activity by Maine Department of Environmental Protection (DEP) under the Natural Resources Protection Act (NRPA) give sufficient protection to identified critical natural resources? What local regulations and efforts exist? Should local efforts- either additional regulation or acquisition of sensitive lands- be sought to supplement state laws?
- **Are local shoreland zone standards consistent with state guidelines and with the standards on adjacent shorelands in neighboring towns? Could additional increased*

protections above minimum standards better protect your towns critical natural resources?

- **What non-regulatory measures can the community take to protect critical natural resources? Are there opportunities to partner with local or regional advocacy groups? Does your town have a Conservation Commission? Is there a local or regional land trust, watershed group, or conservation organization that your town can partner with to develop non-regulatory measures such as education and outreach, land protection or land management efforts?*
- **Is there current regional cooperation or planning underway to protect shared critical natural resources? Is there a local or regional organization, such as a Conservation Commission, lake association, or a land trust, which can serve as a monitor of critical natural resources? How would cooperation with neighboring municipalities, with which natural resources are shared, advance protection of resources? Conversely, will a failure to cooperate jeopardize resources?*
- **In what other areas will protection of critical natural resources advance comprehensive plan policies (e.g. water resources, economy, recreation, agriculture, and forestry, etc.)?*

Policies:

The conservation planning concepts below can help guide your committee's development of policies relating to critical natural resources. Rules of thumb to consider include:

- Maintain a variety of habitats to support plants and wildlife. This will assure diversity in natural communities and help to maintain opportunity for most plants and animals native to your town.
- Preserve large tracts of land for healthy wildlife populations and to keep common species common.
- Link habitats (both terrestrial and aquatic) to one another. Travel corridors, although not a substitute for unbroken blocks of habitat, allow for movement of animals and prevent populations from becoming isolated and ultimately leading to localized extinctions.

Possible policies drawn from these concepts, and from the planning committee's answers to the analysis and identification of key issues, might include policies:

- **To conserve critical natural resources in the community.*

- To discourage fragmenting of large blocks of undeveloped land in rural areas. This is especially important where the large blocks buffer embedded significant habitats, rare species, or rare or exemplary natural communities.
- To preserve natural linkages and travel corridors between habitats. This is not only important for both terrestrial wildlife, but also aquatic species often impacted by poorly installed culverts and other crossing structures.
- To identify ample rural lands for conservation of wildlife habitat and other critical natural resources, while allowing sufficient room for development in designated growth areas away from these resources.
- **To coordinate with neighboring communities and regional and state resource agencies to protect shared critical natural resources. Consider joint agreements with neighboring towns to establish common standards, joint protection, or even joint ownership of a shared critical natural resource.*

Policies such as these lay a foundation for managing critical resources locally. To provide specific guidance, local policies also may want to address specific resources individually. The plan should include separate policies on plant and wildlife habitat, coastal islands, wetlands, and shoreland areas.

Strategies:

Your town may find that merely being consistent with state laws does not fulfill local goals and policies. Municipalities are encouraged to develop strategies that go beyond the state laws. Strategies, might include: (specific examples of many of these strategies can be found in the Tools and Financing Habitat Protection sections of this toolbox.)

- Sponsor an inventory of wetlands and other critical natural resources to obtain more comprehensive information than is currently available from existing federal and state sources.
- **Amend local shoreland zone standards to meet current state guidelines. Also consider augmenting shoreland zone standards and extending the town's resource protection provisions beyond shoreland areas to other areas with identified critical natural resources.*
- **Designate critical natural resources as Critical Resource Areas in the Future Land Use Plan. Areas with concentrations of significant habitat types, and large undeveloped habitat blocks, especially those containing other critical natural resources can be included in Critical Resource Areas and development restricted.*

- Identify specific land use measures or other tools when critical natural resources occur within areas identified as growth areas. At times, critical natural resources will fall in areas identified for growth.
- **Through local land use ordinances, require subdivision or non-residential property developers to look for and identify critical natural resources that may be on site and to take appropriate measures to protect those resources, including but not limited to, modification of the proposed site design, construction timing, and/or extent of excavation.*
- Require developers to work with the Maine Department of Inland Fisheries and Wildlife (MDIFW), Maine Natural Areas Program (MNAP) and the Beginning with Habitat (BwH) Program to best minimize effects of proposed development in critical or unique areas.
- Allow open space zoning / conservation subdivisions with dedicated open space encompassing wildlife habitats and other important resources. For clustering to be effective, the types of land to be included in open space must be clearly defined, and mechanisms should encourage that one project's open space connect with other open space in the area.
- Require that development be set back from critical natural resources. BwH and MDIFW regional staff can assist with setback suggestions specific to certain habitat types.
- Develop a critical natural resources overlay zone as part of a zoning ordinance. (An overlay zone is a type of zoning district that is superimposed on other zoning districts to protect a particular resource. It doesn't replace the underlying zoning district, but it does add requirements for proposed developments.) Specific land use requirements contained in the overlay zone would be triggered when a development is proposed near a critical natural resource (see Wildlife Habitat Overlay District for an example).
- **Through local land use ordinances, require the planning board (or other designated review authority) to incorporate maps and information provided by the Maine Beginning with Habitat program into their review process.*
- **Adopt natural resource protection practices and standards for construction and maintenance of public roads and properties and require their implementation by the community's officials, employees, and contractors.* Street design and maintenance practices can have direct consequences for wildlife habitat. Standards should maintain existing habitat values and minimize barriers to species travel.
- **Initiate and/or participate in interlocal and/or regional planning, management, and/or regulatory efforts around shared critical natural resource.*
- Appoint a Conservation Commission to monitor and advocate for protection of the community's critical natural resources.

- **Pursue public/private partnerships to protect critical natural resources such as through purchase of land or easements from willing seller. Land trusts have experience in land protection efforts and can be important partners for communities.*
- **Distribute or make available information to those living in or near critical natural resources about applicable local, state, or federal regulations.*

Many of these implementation strategies are multipurpose. In working to preserve wildlife habitat and other critical natural resources, goals relating to outdoor recreation, protection of water resources and protection of farm and forest land also will be advanced.

BwH Highlighted Topic: *Transportation*

State Goal:

To plan for, finance and develop an efficient system of public facilities and services to accommodate anticipated growth and economic development.

Legislative Requirement:

The Act requires that each comprehensive plan include an inventory and analysis of:

Existing transportation systems, including the capacity of existing and proposed major thoroughfares, secondary routes, pedestrian ways and parking facilities.

In addition, the Act requires that the implementation section of the plan:

Develop a capital investment plan for financing the replacement and expansion of public facilities and services required to meet projected growth and development.

Please Note: ** indicates minimum conditions and trends data, analyses and key issues, policies, and strategies that communities are required to address under the Comprehensive Plan Review Criteria Rule. The information provided below addresses only the habitat-related requirements and offers additional suggestions. Visit the [Comprehensive Plan Review Criteria Rule](#) for a full list of minimum requirements.*



Conditions & Trends:

The Beginning with Habitat (BwH) map series and conservation planning principles will help you to assess how transportation and habitats influence and impact each other. Map 1 Water Resources and Riparian Areas, Map 2 High Value Habitats, and Map 3 Undeveloped Blocks as well as the additional BwH maps each depict state and town roads as well as important habitat data. From these maps you will see that transportation infrastructure, fisheries and wildlife habitat, and land use are integrally linked and each influences and impacts the other. The linear nature of roads often results in a direct loss of habitat and the presence of wildlife travel corridors in turn poses a safety risk for drivers and passengers. Roads are constructed or improved in response to an identified need or demand. Additional capacity, however, often leads to increased development along corridors, which then necessitates more transportation improvements further fragmenting habitat. Roads can fragment landscapes, segment streams, isolate wildlife populations, restrict movement between breeding and feeding or over-wintering areas, restrict genetic flow, and increase the likelihood of local extinctions. Proactively aligning local transportation policies, land use, and wildlife concerns will benefit local species diversity, town character, and help to minimize future repair and maintenance costs.

Analyses & Key Issues:

Using the conditions and trends data, your committee will analyze and identify key issues related to transportation. To identify issues that relate to habitat, your committee may want to ask:

- **What, if any, environmental degradation caused by state or local transportation facilities or operations (e.g. wildlife mortality, habitat fragmentation, erosion, groundwater contamination, non-point source pollution) is occurring?*
- Are there deficiencies in current public works repair, maintenance, and construction practices related to the environment? For example, how does your community approach stream crossing design such as culverts and bridge crossings? Are these practices consistent with best management practices outlined by the Maine Department of Transportation (MDOT)?
- **What steps can the community take to encourage development to occur in a manner that minimizes transportation-related environmental impacts such as habitat fragmentation and/or vehicular CO2 emissions?*

- Does your community have a clear policy with regard to accepting privately built roads? Are there construction standards for such roads? Who is responsible for maintaining roads that are to remain privately owned?
- **Do planned or recently built subdivision roads (residential or commercial) simply dead-end or do they allow for expansion to adjacent land and encourage the creation of a network of local streets? Where dead-ends are unavoidable, are mechanisms in place to encourage shorter dead-ends resulting in compact and efficient subdivision designs? What are the implications for town services, such as snow plowing, school busing, and emergency services where dead-ends occur?*

Policies:

Based on analyses and key issues identified, transportation policies related to habitat might include policies:

- **To promote public health, protect natural and cultural resources, and enhance livability by managing land use in ways to maximize the efficiency of the transportation system and minimize increase in vehicle miles traveled.*
- To protect water quality.
- To protect aquatic and terrestrial habitat values and maintain connectivity between habitats.

Strategies:

Depending on the policies adopted, implementation strategies related to habitat might include: (specific examples of many of these strategies can be found in the [Tools](#) section.)

- Update or establish road construction, maintenance, and repair standards that address fish and wildlife passage using MDOT passage policy guidance as a starting point. For example, your community may wish to upgrade its approach to culvert designs to permit unrestricted flow, prevent flood damage, and provide for fish and wildlife passage. MDOT currently provides technical assistance to local public works departments.
- Update or establish road standards for subdivisions and private roads including dead-end length limits to minimize fragmentation of remaining undeveloped habitat blocks.

Crafting a Future Land Use Plan Using BwH

As stated in SPO's *Comprehensive Planning: A Manual for Maine Communities*, the strength of a community's land use plan lies:

First, in an understanding of the natural system, broken into its individual parts and reassembled, like layers of a cake, into a summary map of constraints and opportunities. Second, in an understanding of how human activity has settled on and used this landscape. Third, in decisions about where and how to direct future human activity, with due respect for what has been learned, and with broad participation of citizens of the town.



The ultimate goal of a comprehensive plan is the future land use plan. A future land use plan is intended to synthesize the elements of a comprehensive plan into a cohesive guide to realizing a community's vision. Through a future land use plan, your community will identify growth areas (where most future growth is to be encouraged), rural areas (where only a minority of future growth is to be encouraged), and critical resource areas (where maximum protection from development is to be afforded to natural resources, for ecological and/or economic reasons). In addition, through the future land use plan, your community will also identify current and proposed tools, both regulatory and non-regulatory, that your community intends to use to ensure the goals of your plan are achieved.

Beginning with Habitat (BwH) can certainly inform the conditions and trends phase of comprehensive plan work, but its real potential for Maine's future is to inform the future land use plan and public decisions regarding how best to direct growth in your community. BwH highlights areas of ecological significance, but at the same time highlights opportunities for responsible growth. By designing future growth plans within the framework of conservation priorities, a well-founded balance of future growth and conservation can be achieved. This theme is repeated throughout the BwH Toolbox as an approach to conserving declining plant and animal species, keeping common species common, and designing communities that will be prosperous and livable for generations to come.

For information on the required elements of a Future Land Use Plan, visit the [Comprehensive Plan Review Criteria Rule](#).

Development Sprawl

In many communities, one of the most important issues often raised during the comprehensive planning process, in particular during the existing land use analyses and key issues research, is sprawl. Sprawl is an unplanned, haphazard pattern of development that spreads outward from town centers and inefficiently consumes rural land. Is housing and commercial development leapfrogging out of traditional areas of settlement and into previously rural areas? Is the community losing a traditional village and-countryside, or urban-rural pattern of settlement? If so, is the resulting "suburban" pattern what the community wants? Is it what present zoning requires? This should be one of the crucial debates in your plan. Many communities in Maine are experiencing sprawling development patterns and are "suburbanizing."

Most local zoning ordinances, because they codify suburban standards, make anything but the suburban pattern of development difficult to achieve. The tendency toward low-density suburban standards springs from both consumers and public policy. For many consumers, suburbia has the image of a home "in the country," or in a park-like setting, or otherwise removed from other people and surrounded with space for play, leisure, and quiet. It feels safe, a good place to raise children. And despite its dependency on the automobile, suburbia carries the prospect of freedom: to do what you want in your home and backyard, with a great deal of privacy.

For public policy, a zoning ordinance that prescribes a uniform, low-density suburban pattern of development is the easiest and least controversial to write. It treats most property owners alike: whether the property is located in a village or on an outlying farm, each is granted the right to develop a home on every so many acres. At first glance, this may seem like the fairest public policy.

But if the suburban pattern of development is the only pattern prescribed in a town's ordinances, the certain result is "sprawl." Sprawl consumes large chunks of rural lands, pushes development into fragile environments, gives rise to commercial strips and traffic congestion, and is expensive to serve. It is the clash of these bigger community issues against consumer preferences and perceptions of fairness among property owners that defines much of the debate in comprehensive plans.

The outcome of this fundamental debate will help shape your community's decisions to designate "rural" and "growth" areas in your town. In some cases, rural towns now experiencing growth have never had a "town center," or had only a very small center with no public water or sewer and limited capacity for growth. These communities have relied on larger

towns in the region for centralized goods and services; their own development has been historically spread out at very low densities. The issue for these communities, as they receive more residential development, is whether a tighter, village pattern surrounded by rural land makes sense for the future; and if so, where should the village(s) or hamlet be? And if not, what steps can be taken so that the spread out pattern-which was acceptable when most of the land use was farm and forest rather than suburban lots with commuters-doesn't jeopardize the town's rural resources and character?

Strategies for Directing Growth

A variety of habitat-related tools and implementation strategies have been used by communities throughout Maine to direct growth, maintain rural areas, and protect critical resources. These tools have been compiled in the Beginning with Habitat (BwH) Toolbox and some specific strategies listed below. Only habitat-related land use tools have been included here. For a list of minimum policy and strategy requirements for a Future Land Use Plan, visit the [Comprehensive Plan Review Criteria Rule](#).

Land Use Regulatory Tools

- Increase minimum lot sizes in certain rural areas to promote traditional activities such as forestry and agriculture and discourage residential development in more remote areas of town. Proposals for down zoning, or decreasing the number of units possible per acreage, are often controversial and typically faced with opposition. It is important to balance such proposals with some kind of benefit such as reduced assessed value for the affected landowner. **A note of caution:** Often, political compromise around down zoning proposals results in 5-10 acre minimum lot size zoning. Lots of this still small size, however, can exacerbate habitat fragmentation and do little for maintaining traditional rural uses.
- Require mandatory open space zoning (also known as conservation subdivisions) in rural areas, in which all subdivisions are required to retain a percentage of the original parcel (often 50% to 80%) as open space outside of the newly created lots. Designated open space areas should be responsive to public goals. Requirements for the designation of open space need to be clearly articulated and are best guided by an [Open Space Plan](#).
- In zoning provisions, [combine low maximum density with a small maximum lot size in rural areas](#). For example, if the density in a rural area is set at one dwelling unit per 10 acres and the maximum lot size is one acre, then for every one-acre lot created, nine acres of land must be permanently protected through conservation easements or deed

restrictions. This technique might make it easier for a farmer or woodlot owner to slice off an occasional lot while protecting the remaining land for farming or forestry.

- If your town does not have zoning, a point system to determine where and how intensively development can occur in rural areas could be considered.

Land Protection Tools

- Write an [open space plan](#) that prioritizes public open space objectives, informs future acquisition proposals, and sets a path forward for identifying public funding sources. The Comprehensive Plan should include the open space plan, or propose that such a plan be written.
- Purchase land or purchase conservation easements on land considered especially important to the community's rural territory. Local funds, private funds (for example, through a land trust), and or state funds (for example, through the Land for Maine's Future Program) might be considered. See the Financing Habitat Protection section of this toolbox.
- Use of "transfer of development rights" in the community, with rural areas serving as "sending" areas. Under a transfer of development rights program, landowners in rural areas (designated as "sending" areas) are able to sell credits for higher residential density to landowners in designated growth areas ("receiving" areas). This tool compensates rural landowners for reduced development potential while providing developers an incentive to concentrate development in growth areas. To work effectively, developers must see benefit for developing more densely in growth areas.

Tax Incentive Tools

- Encourage owners of active agricultural lands to take advantage of the state's Farm and Open Space Tax Law.
- Encourage owners of commercially viable woodlands to take advantage of the state's Tree Growth Tax Law.

Regional Coordination for Natural Resources

The Importance of Regional Coordination

Most land use decisions in Maine are made at the town level. Developing comprehensive plans, identifying land use priorities, defining rural and growth areas, and creating zoning ordinances, for example, are most often done within individual municipalities. Many of the forces that drive development proposals, however, and many of the resources that are affected by development, are regional in nature. Maine's diverse plant and wildlife population and natural resource and natural community occurrences don't recognize town boundaries. Towns share rivers and streams with neighboring communities, lakes are bisected by town lines, and species migrate between municipalities. Nearly all of Maine's Focus Areas of Statewide Ecological Significance include multiple towns. Residents of any given town depend on nearby communities for jobs, cultural amenities, and outdoor recreation. Decisions made by towns up river or up wind from our homes, or even within a shared viewshed may impose the most immediate impacts to our daily lives, but incremental land use decisions in neighboring communities also have the potential to significantly degrade the quality of local resources over time.



However your town pictures its future, more than likely it will find that it cannot achieve its goals without the assistance of the neighboring communities. Without shared, consistent land use planning it is difficult to address sprawl, protect large blocks of unfragmented habitat and effectively manage non-point sources of pollution, for example. Planning for natural resources requires not only assessing the resources present within your town, but also considering the natural habitat connections that cross municipal boundaries. Maintaining communications with neighboring towns is an effective way to ensure that consistent approaches are taken to protect shared resources along town borders, and helps to lay the foundation for more formal regional partnerships.

Maine's Comprehensive Planning and Land Use Regulation Act (MRSA Title 30-A § 4301-4350), requires that comprehensive plans include a discussion of regional coordination describing how municipalities intend to coordinate the management of shared resources such as roads, lakes, rivers, aquifers and major natural resource features that extend beyond town boundaries.

In order to help your town visualize the extent of shared resources, Beginning with Habitat (BwH) can provide a [Regional Map](#) that highlights the significant natural resources, including streams, rivers, lakes, ponds, wetlands, undeveloped habitat blocks and high value habitats, in your town as well as the surrounding communities. This map can help identify your regionally shared resources and it can serve as a starting point for multi-town discussions of how to plan together for the future of these resources.

Regional Coordination Efforts in Maine

Regional natural resource planning can happen on a variety of levels. Informal discussions with neighboring towns, for example, can be useful and can successfully resolve conflicting zoning and land uses decisions made along town borders. These discussions can also be useful to develop complimentary standards for the practices that are incorporated in each town's ordinance.

Regional coordination discussions are happening in midcoast Maine through the Sagadahoc Region Rural Resource Initiative (SRRRI). SRRRI is a group of thirteen towns comprising the rural area that complements the Brunswick/Topsham/Bath service center, as well as several local, regional, and statewide natural resource agencies and conservation organizations. Together the towns and organizations are working to devise a regional open space plan and to develop shared tools to identify and protect rural and natural resources of regional significance. They are using BwH and other data to identify local focus areas and to work together to protect the region's important rural resources and special places that support their communities.

Similarly, the [Mt. Agamenticus to the Sea Conservation Initiative](#) (MtA2C) brings together national, regional and local partners in a region of York County to protect the community values and the health of that region's shared environment. The goal of the effort is to conserve a mosaic of wildlife habitat, farmland, scenic views, healthy water supplies and public access for the enjoyment of current and future generations and for those people whose traditional livelihoods are still connected to the land and the sea. Through MtA2C, the region's individuals, organizations, and municipalities worked together to develop a regional conservation plan to guide and focus conservation efforts in the area. BwH information was used to better understand the resources present in the region. To achieve the goals identified in their conservation plan, MtA2C identified a two-pronged approach to regional conservation. The approach includes promoting land protection efforts and working with MtA2C's six municipalities to assist each town in implementing local and regional conservation goals. Through this partnership, MtA2C and the communities are working toward developing a

regional map of existing and future zoning, preparing inter-local agreements for land use planning, compiling build out studies for the region to inform the regional open space planning processes, and examining innovative approaches to directing growth and protecting the rural areas.

More formal agreements, even those without legal obligations, can be useful and can develop from regional land use planning efforts. Signed inter-local agreements to prepare a land-use plan around a shared resource, a lake or watershed, for example, can define the goals, process, and timeline for planning and management of the resource. Inter-local agreements, for example, are being used in the [Gateway 1 Regional Land Use and Transportation Planning](#) effort that is going on the Route 1 Corridor between Brunswick and Stockton Springs. The twenty municipalities along the corridor have signed agreements with the Maine Department of Transportation. Together they are developing a strategic land use transportation plan in a way that reduces impacts on rural resources and arterials, makes use of multiple modes of travel, and preserves downtowns and overall quality of life in Maine's mid-coast region.

Inter-local agreements are also being used in the Central Penobscot Regional Greenprint, an effort, coordinated by The Trust for Public Land, that brings together several municipalities and stakeholders in the Bangor area to work together to develop a regional open space plan. Using TPL's Greenprinting technology, a planning tool that reflects shared regional land-use priorities, the partner towns and stakeholders are identifying and prioritizing community values, developing tools to preserve priority open space and providing a forum for inter-municipal cooperation.

In even more formal regional natural resource planning efforts, some towns have established a multi-town land use regulatory authority to enforce existing and additional standards around certain important shared resources. Recognizing the importance of the Saco River and its resources to their communities, towns along the river came together to protect the public health, safety, and quality of life the river supports. The [Saco River Corridor Commission](#), which is made up of representatives from each town involved, is a state chartered commission with permitting authority for land use on either side of the Saco River as it flows through Maine. While this approach may not be accepted by many towns, it has been a successful approach along the Saco River Corridor.

Towns can also partner to develop joint comprehensive plans. Under the Growth Management Act, instead of developing a comprehensive plan specific to an individual town, groups of two or more towns are allowed to jointly conduct their planning and implementation activities and

it provides for the adoption of multi-municipal, regional comprehensive plans. Towns can work together to develop joint future land use plans and to jointly designate growth and rural areas that provide for the needs of the region and not just the needs of an individual town. Local ordinances can then be based on implementation of the joint future land use plan and towns can develop agreements to share costs and revenues that result from the development of shared growth areas.

For more information on these and other regional coordination efforts throughout Maine, contact Beginning with Habitat.

Example Comprehensive Plans

Included below are recently completed comprehensive plans. These plans were chosen as examples for their thorough natural resources inventories and for the development of their policies and implementation strategies.

In September 2007 a new Comprehensive Plan Review Criteria Rule was passed that updates the requirements and review procedures for comprehensive plans being submitted to the State Planning Office for review. The plans attached below may not reflect this new rule. As plans are submitted under this rule, however, we will attach additional examples here.



Open Space Planning



Why Plan for Open Space: The story of a Maine town

Imagine the Town of Dirigo, it is a rural community situated approximately 12 miles from the nearest "hub town" in which its residents work, shop for groceries, or go to a movie. Historically, Dirigo was founded as a farming community and by the early twentieth century, witnessed the establishment of a few summer camp colonies on the shores of the

town's three great ponds. Today, Dirigo is primarily a bedroom community populated largely by commuting professionals, but the town also supports a smattering of small service sector businesses along its main roads. In the past year, the town has added 50 new homes and has recently grown from having a population of 3,700 in the 1990's to just over 4,300 residents today. The number of housing units has increased from 1,700 to 2,200 during that same period. Much of the growth is happening in rural subdivisions not located within walking distance to town services. Young couples leaving the nearby "hub town" in search of lower property taxes, and retirees taking advantage of reasonable land prices in a rural setting have triggered most of this growth. Given the popularity of the rural lifestyle offered by Dirigo, and the recreational opportunities provided by the town's lakes, the population is expected to grow to 6,500 by 2030.

Residents are now witnessing ever-increasing demands for new town expenditures annually at town meeting and per-capita non-school related expenses have nearly doubled since the early 1990's. New subdivisions have cropped up on many former farm fields and woodlots. The residential growth, although adding to the overall assessed value in town, has triggered much of the new demands on town budgets. Concerns over growing property tax bills have resulted in long-time residents pushing selectmen to do something to alleviate the burden.

Dirigo just recently updated its comprehensive plan for the first time in ten years and although the plan identifies public interest in protecting the town's rural qualities and cherished natural resources, the committee could not come up with specific goals or detailed implementation strategies to help guide conservation of these resources. Implementation strategies simply suggest that local ordinances be brought up to state minimum guidelines and that the subdivision ordinance should include a "cluster" or "open space" design option. Few details

regarding how such a provision would work were provided and no priorities for types or locations for open space were included in the plan's narrative. The Comprehensive Plan Committee closely examined options for expanding the tax base in hopes of alleviating pressure on residential property taxes. It also does a fairly thorough job in laying the groundwork for an economic development committee and assigns this future committee with developing an economic development plan for the town.

The changes Dirigo is experiencing, and the town's chosen approach to addressing these changes, is a very common scenario being played out throughout Maine. Towns, especially those within commuting distance of hub communities, are experiencing increased residential growth that is driving town costs and forcing limited town staff and volunteer boards to make significant planning decisions, all the time hearing from disgruntled residents struggling to keep up with their property tax bills. Not knowing how best to accommodate demands for new housing, or knowing what tools are available, towns often focus solely on economic development proposals in hopes of attracting businesses that will better balance the tax base. Meanwhile, the qualities of the town that could best attract the desired businesses are incrementally eroded by ad hoc, cookie-cutter residential development that continues to drive-up the costs associated with providing services and, in turn, makes the need for business development even more critical. This cycle cannot be broken unless communities are pro-active in their growth decisions in the early stages of experiencing the symptoms of residential sprawl.

The Importance of Being Pro-Active

For the most part, Maine towns have a history of being reactive when it comes to designating or protecting open space. When a well-known farm, favored hunting area, or stretch of coastline goes on the open market, neighborhood residents jump to attention and try to rally elected officials, land trust board members, and state agencies to take notice and save the property. Much time and effort is spent trying to justify the purchase by invoking any environmental cause that may or may not be locally applicable. However, the typical motivating factor is often to simply stop development in the neighborhood. After completing a few of these reactive open space investments, municipalities often find that



taxpayer appetites for "taking more land off the tax roles" is diminished by the perceived ad hoc nature of the prior purchases.

Just as a community would be remiss if it were to site a new business park, school or fire department without a well thought out plan in place, preserving open space without a well-articulated vision for how it will shape a town's future can be ripe with unintended consequences. Effective and meaningful open space protection pays for itself, influences the future of a community's growth patterns, and positions a town for successful long-term economic development. Open space planning is not simply finding money to buy land, but should be viewed as a way to engage local citizens in developing a "conservation blueprint" for their town that can be implemented using a variety of tools and results in an interconnected and strategically located system of green spaces that address a variety of shared public objectives.

This section of the Beginning with Habitat (BwH) Toolbox is intended to outline a process that a town can use to develop an open space plan using BwH data as a starting point. It includes tips for community outreach, how to best address common public concerns, and how to ultimately implement plan strategies.

What is an Open Space Plan?

An open space plan is a critical element of a town's "conservation blueprint". It not only identifies priorities for what to protect and where, but in turn guides where growth is most appropriate as well.

Successful community planning for long-term benefit must consider both the best places to develop and the most important places to conserve simultaneously. Many communities work hard to ensure that commercial development is encouraged near existing infrastructure and within designated growth areas, yet they lack clear guidelines for where open space should be planned or what qualities the open space should have and they lack a comprehensive vision for future open space functions that is responsive to the needs of town residents.



Open space planning not only directs where conservation and recreation lands are protected, but also allows communities to better direct future development patterns by clearly prioritizing areas to be left undeveloped. These proactive public determinations in turn provide guidance

and predictability for the development community. All too often local land use decisions in Maine communities are made by developers left with having to work with relatively loose ordinance language that offers little guidance. When municipalities lack definitive plans that use incentives to direct development to where it is most appropriate and tools to discourage growth where it costs town residents in terms of increased government services and less quantifiable public values such as rural character and wildlife habitat, they are leaving their future to chance. Without clear guidance these towns are also setting themselves up for unnecessary conflict as concerned citizen groups question local board decisions.

The open space planning process is often one of the first endeavors undertaken following the completion of a town's comprehensive planning process. Open space plans are typically initiated based on a well-defined community need that is identified during the comprehensive planning process or by a local conservation commission in response to a Board of Selectmen's or Town Council request. Most plans incorporate an inventory of all town-owned open spaces and known protected lands in private ownership. Recreational facilities ranging from public hiking and snowmobile trails, to ball fields and boat ramps are also included in many of these efforts. The purpose of the inventory work is to identify community needs for acquisition of new facilities and to assess management priorities at existing facilities. By incorporating wildlife habitat concerns and landscape level planning, towns can better arrive at an open space plan that addresses a variety of objectives including wildlife conservation, recreational trail development, protection of rural character, and traditional access for hunting and fishing.

[The Open Space Planning Process](#)

Open space plans can and do take many forms depending upon the needs and resources of the individual community. The following can be used as a guide to assist the process as an open space plan is developed in your town. There is no one best model of an open space plan as they are truly specific to local landscape condition and priorities.

Plan Participants

An open space plan is best completed by local residents who know their community, and care about their community's future. Open space planning committee representation should be broad and include when possible: elected officials (town councilor or selectperson), local citizens (especially large landowners), a conservation commission member, a planning board member, a recreation commission member, a school board member, a local land trust board member, an economic development committee member, and local developers and realtors. Towns that have professional staff will certainly want to include their town planner and recreation director.



Typical technical assistance often includes GIS consultants to prepare maps, a planning consultant to suggest strategies, a landscape architect or similar to provide scenic inventory assistance, ecological consultants to assist with resource inventories, recreation planning consultants if your plan is to include an assessment of active recreation needs, and public meeting facilitators. However, many towns that do not have professional staff or significant monetary resources available to dedicate to open space plans produce effective open space plans using local volunteers who have experience in the above disciplines. Beginning with Habitat (BWH) staff are also available to assist were needed.

The best and most successful plans are those that take public input throughout the process from the widest variety of stakeholders and incorporate the greatest cross-section of community interests. However, it is important to have a strong leader to direct the planning process to keep things moving forward. It is easy for a committee to fall into the trap of doing its work without reporting on progress regularly to the public and elected officials. This often results in plan failure in the final stages. Keep meetings open, well advertised, and always have an agenda and minutes that are circulated to town leadership.

Plan Goals

Setting clear goals up front will help set the direction for open space plan work to proceed and can help determine the format of the plan itself by dividing it into topics or themes based on the goals. Goals should be determined based on local comprehensive plan objectives and local citizen input. Some examples of wildlife habitat oriented goals might include:

1. Maintain a functional network of connected conservation lands that also provide recreational opportunities.
2. Provide accessible conservation land and trail connections in each neighborhood.
3. Protect rare species habitat and rare and exemplary natural communities critical to maintaining the town's biodiversity.
4. Create a vision for conservation that will guide future development decisions and minimize uncertainty for developers and landowners alike.
5. Provide access to water resources for a variety of users at multiple locations.

Plan Objectives

Once open space plan goals are determined, outlining objectives will provide the strategies necessary to achieve plan goals by identifying the necessary actions for plan implementation. For instance, if you are considering example Goal 1 above, what information do you need to first analyze the current state of your town's progress to date in piecing together a "network of connected conservation lands"? An objective may be to:

a. Inventory and map conserved lands within the town including privately held conservation easements, town owned forestland and open space, and any state or federally held protected lands.

BwH [Map 3](#) provides a good starting point for addressing this objective, but is no substitute for local information available through the Assessor's office. Once local information is incorporated onto a single map, the next logical step may be to:

b. Identify remaining blocks of undeveloped habitat that support the greatest number of native species and connections between habitat blocks that allow for habitat connectivity.

The BwH [Map 3 Undeveloped Habitat Blocks](#) provides a good starting point for determining where there is opportunity to protect large contiguous blocks of forest likely to harbor most species native to your community and for identifying likely paths animals use to travel between one undeveloped block and another. A good rule of thumb when estimating likely habitat connections is to look for those areas where undeveloped habitat block edges are in close proximity to one another on either side of the dividing road; where development density is light (spaces between houses >500 feet); and where a good portion of the land in between existing development has tree and shrub cover where species can move without disturbance from light pollution and have cover from outdoor pets and other predators. Reviewing Map 3 side by side

with aerial photo coverage provided in your BwH package helps to visualize likely connections and woody cover conditions. The next objective could then be:

c. Develop a sketch plan of existing unfragmented blocks of habitat and their corridor connections within town to guide conservation efforts ("conservation blueprint") and suggest a mixed "toolbox" of strategies that could help to avoid and minimize further fragmentation of these areas as the town grows.

Work necessary to complete the first part of this objective may be as straight forward as sketching polygons that encompass linked blocks of undeveloped habitat. Using the aerial photo and local knowledge of recent development activity will allow the committee to best refine the BwH undeveloped habitat block boundaries. Editing based on local knowledge will help to avoid inadvertently including new residential development within these sketched planning areas. Once this "conservation blueprint" sketch plan is complete, strategies to help avoid and minimize future fragmentation of these areas can be identified. Several tools that address potential strategies can be found in the [Tools](#) section of this site.

The next component of Goal 1 to be addressed is an assessment of potential recreational opportunities that could be provided as a secondary benefit of habitat protection. A well-conceived open space plan identifies possible user groups up front and involves representatives of these groups throughout the process. User groups can provide a strong voice of advocacy at town meetings, and often include community members who do not typically come forward if the issue is solely framed as an "environmental" concern.

User groups including local hunting and fishing associations, professional Maine guides, ATV clubs, snowmobile associations, Audubon chapters, mountain bike enthusiasts, and scouting organizations can all provide feedback regarding where existing trails are located, where new trails could be built or enhanced, and which parcels are key in protecting habitat, favorite hunting grounds, trout streams, and other user group interests.

Methods to Solicit Public Input

There are several methods that have been successfully used to solicit public input during the open space planning process. Your town may want to consider using more than one of these approaches to best collect a wide cross section of thoughts from your community.

- **Surveys**

Many open space planning committees elect to develop a survey that is distributed to community residents. A public opinion survey used to identify local open space plan priorities can be as simple as the following:

1. How important are the following open space objectives for (town)? Please rate each of the following according to their importance to you. (1=very important, 2=somewhat important, 3=low importance, 4=not important/disagree)	
	a. Protect the water quality in (town's) lakes, ponds and streams for people and fisheries and wildlife. b. Maintain active farmlands.
	c. Increase connectivity between conservation properties, creating blocks of contiguous conservation land and connected/protected trails and open space corridors.
	d. Preserve large areas of forest for recreation and wildlife habitat. e. Encourage land conservation in rural zones to limit sprawl and encourage growth in growth zones. f. Work with land owners to protect identified scenic viewpoints and viewsheds.
	g. Provide information to landowners on conservation options, including current use tax programs, conservation easements, and estate planning.
	h. Leave a legacy of parks, open spaces, and natural lands for our children and grandchildren. i. Protect cultural and historic sites. j. Create a system of trails (both motorized and non-motorized) in town, linking to surrounding communities where possible.

	k. Work with neighboring towns on regional open space opportunities.
	l. Create playgrounds and neighborhood green spaces where children can play safely. m. Develop water access sites (both for motorized and hand carry boats) and bank fishing opportunities. n. Protect rare, threatened, and endangered plants and animals and their habitats.
	o. Revise town ordinances to promote open space preservation and conservation.
2. What are the open space needs for (town)?	
3. What conservation or recreation uses do you want to see established or maintained in the next 10 or more years?	
4. What are the "special places" that contribute most to the unique community character of (town)?	
5. What suggestions do you have for the (town) open space planning committee?	

- **Neighborhood meetings and broader public forums**

Beyond a direct mailing to local residents, many towns electing to undertake open space planning efforts hold a variety of public meetings outside of the regularly scheduled committee meetings in order to elicit public opinion prior to finalizing plan goals and prioritizing actions to achieve those goals. These outreach events typically take two forms, neighborhood meeting and public forums:

Neighborhood Meeting- Because citizen identified priorities for open space often vary by neighborhood, especially in Maine's more populous towns, hosting small focused outreach events can not only identify neighborhood specific concerns, but is a good chance to garner broad geographic support. Identification of specific neighborhoods is, of course, best

completed by local residents on the open space planning committee, but should include downtown neighborhoods, waterfront neighborhoods, and pockets of rural populations defined by housing densities. These meetings should be used as a follow-up to a mailed opinion survey (if used) and should have as a primary goal identifying neighborhood "special places", a neighborhood "wish list" of open space needs, and as a mechanism to recruit plan supporters and future volunteers to help implement plan strategies.

Public Forum- Public forums offer a less intimate, but often as productive venue as neighborhood meetings for gathering public input. Usually held at a public meeting room or local school, these forums allow for a more structured presentation by the committee before an audience of town wide representation. Common activities include an introduction of committee members and a presentation discussing plan goals and process followed by a question and answer session and a facilitated break-out group activity such as prioritizing town open space needs and putting "special places" on maps. Your committee may also wish to host a wrap-up public forum to unveil the draft plan prior to town meeting or town council hearing.

- **Getting the Word Out**

Neighborhood meetings and public forums are only productive if the public shows up. Posters in neighborhood convenient stores, town web-sites, public access cable channels and local papers are all good mechanisms to advertise meetings. Targeted mailings to key stakeholder groups and landowners should also be considered.

- **Incorporating public input**

Public input received as a result of a public opinion survey, or as collected at public meetings should be compiled into a *Summary of Needs* that reflects what aspects of open space protection were identified by residents as priorities needing action. The summary should be included as part of the plan's introduction and it should be clear to the reader how public input served as the basis for developing the plan's goals and objectives ultimately resulting in a list of specific actions recommended by the committee.

Plan Costs and Funding

Open space plans cost money to research, prepare, print, and distribute. The more detailed the plan, the more it will likely cost to complete, but also the easier it will be to implement. Consultant fees are typically the most significant cost associated with plan development. There are many Maine consultants in the planning, landscape architecture, and natural resource fields

that have developed competitively priced approaches to assisting your community. Beginning with Habitat (BWH) staff are also available to help assist with habitat oriented components of the plan free of charge thanks in large part to Maine citizens purchasing conservation license plates and Maine Outdoor Heritage Fund lottery tickets. The cost to complete an open space plan varies widely based on overall scope. The Freeport Conservation Commission completed their plan in 2001 for approximately \$6,000.00. The Town of Brunswick completed one of the most ambitious plans in the state for \$85,000 which included fees for several consultants, 93 public meetings over 3.5 years, and 13,000 copies of a 16-page insert published in local papers. Many grant opportunities are available to help fund municipal planning work, especially planning work that balances natural resource conservation with growth needs. Potential funding sources have been included in *Financing Habitat Protection* section of this document. The costs for completing a plan that guides your town's future conservation efforts are an investment that will pay for generations to come.

Components of an Open Space Plan: A Brief Outline

While specific guidelines for the process and components of an open space plan don't exist, the following provides a basic outline of what your committee may want to consider.

Introduction

The introduction for an open space plan should include:

1. Identification of committee members, contributors, and acknowledgement of professional services used and consultant roles in plan development.
2. Reference to Comprehensive Plan and other town documents that direct the open space planning effort.
3. The local definition of open space: what types of features are considered by the plan? Conservation and passive recreation areas only? Ball fields and downtown parks? Scenic Areas? Farmland? Cemeteries?
4. Benefits of open space to the town- economic implications, social values, environmental functions. Why should we, the citizens of Town X, care?
5. What is the guiding open space vision for the town? List the goals and objectives that come from this vision.



Methods

The methods section of an open space plan should address:

1. What implementation strategies or town goals identified in the comprehensive plan informed or directed open space plan development, and how were these utilized in plan development?
2. How was public input solicited and utilized in determining open space plan goals and objectives?
3. What professional studies or inventory efforts were completed as a result of the effort?
4. What process was used to distill the various recommendations and findings into a list of actions?

Inventory and Analysis

The inventory and analysis section of an open space plan should include:

1. A description of existing open space resources in town, the functions they serve, and an analysis of unmet management or maintenance needs.
2. A description of ecologically significant resource occurrences in town including an assessment of whether adequate protections are in place locally.
3. An inventory and analysis of other types of features as determined important to the open space vision of your community. These can include:
 - Historical/Cultural resources
 - Scenic resources
 - Parks and active recreational resources
 - Public access to water
 - Farmland
 - Trails

Recommendations

Recommendations for an open space plan should restate the guiding open space vision for the town as included in the introduction and it should breakdown open space plan recommendations by individual goal as identified in the introduction. Under each goal, the recommendations should include identified public priorities, and a description of what needs to be conserved and how. Addressing the "what and how" will require a close examination of existing tools available locally (town committee roles and responsibilities, land trust roles and

responsibilities, and current land use ordinance protections). What resources are currently not adequately protected in your local ordinance? What mechanisms are available that could result in more open space conservation? Approaches to consider may include:

1. Creating a local dedicated fund for open space acquisition
2. Revising local subdivision ordinances to encourage open space protection of priority open spaces or local focus areas
3. Increasing local protections for wetlands, streams, and rare feature occurrences
4. Encouraging voluntary protections by promoting current use tax programs or offering conservation lease options
5. Implementing a local open space impact fee
6. Appointing a local conservation commission
7. Establishing a local trails committee

Implementation Strategy (Action Plan)

As is the case with any successful plan, implementation depends on actions being clearly defined and responsibility for those actions being clearly assigned to the most appropriate party. Implementation strategies defined in the plan should also be prioritized and a time frame should be assigned for accomplishing the specific tasks. For each action recommended by the plan, the reader should be able to answer the question: " *who is doing what, and by when?* "

The following table is an example of a well crafted action plan.

Table 1. A portion of an action plan outlined in the Town of Casco Open Space Plan. Action steps identify plan objectives and strategies as well as who is responsible for implementation.			
Objectives	Strategies	Who	When
<i>Provide adequate funding</i>	Sponsor an annual article for Town Meeting to increase the amount set aside for land protection from \$30,000 to \$60,000 annually.	BOS	June 2006 On-going
-	Include a request for donations to the land protection fund with each tax bill.	BOS	Oct 2006 On-going

<i>Charter a Conservation Commission</i>	Appoint an interim group to act on these items until a permanent group is formed.	BOS	July 2006
-	Research the chartering of a Conservation Commission as provided by state law.	Interim Group	Sept 2006

Using BwH in Open Space Plan Inventories



Beginning with Habitat (BwH) maps provide a good starting point for developing an open space vision or "conservation blueprint" for your community. Other sections of the BwH Toolbox provide examples of tools that can be used to implement the "conservation blueprint" you develop to address your town's conservation goals and objectives. Open space planning with BwH will not only highlight key natural resource features to consider, but will also help to highlight where future development could take place in a fashion that

avoids or minimizes further habitat fragmentation and potentially minimizes regulatory issues and infrastructure investment.

Using the three core BwH maps to get started:

Map 1 Water Resources & Riparian Habitats: As a town-wide depiction of major wetlands, streams, and water bodies on the landscape, Map 1 clearly shows the interconnected relationship of surface water resources in a given community. It also provides information that can be used in planning a simple approach to connecting habitats across the landscape: protect water resources and their riparian buffers. Incorporating Map 1 features as the starting point of your local "conservation blueprint" by recommending enhanced buffer protections or additional stream and wetland protections will benefit not only local wildlife and fisheries, but will provide corridors for potential trail connections and help maintain water quality vital to the local shellfish industry or public drinking supplies. Features depicted on Map 1 typically have some level of existing natural resource protections already in place. Whether these protections are in the form of state and federal wetland regulations or mandatory shoreland zoning, to an extent, each of these features and their buffers as depicted, carry an existing minimum level of

protection that can be augmented through local action (examples included in the *Wetlands and Shoreland Zoning Tools* section).

Water tends to be the focus of many traditional outdoor recreation activities in Maine, including fishing, boating, swimming, or simply having access to scenic vistas. As a result, Map 1 can also provide your open space planning committee with a starting point from which to assess public access needs. Protecting and adequately buffering water resources is as much an economic development issue as it is an ecological issue. Maybe the additional protections your committee proposes as part of your open space plan will maintain a native brook trout stream that brings tourists to town year after year. Where might additional shoreland buffer provisions help prevent excess phosphorus from entering a popular lake destination? What stream systems drain to local mud flats that employ commercial shellfish harvesters?

Map 2 High Value Plant and Animal Habitats: If you can think of a "conservation blueprint" as a cookie, then the features shown on this map are the chocolate chips. These features are the key elements of local diversity, and although some receive a degree of state regulatory protection individually, effectively protecting clusters of these key features in an intact, unfragmented landscape can *only* be accomplished through local efforts. None of these elements can persist in isolation, but require habitat connections and intact surrounding landscape conditions in order to support each aspect of their life histories, whether dispersing seed or young, finding a mate or moving seasonally for dietary or hibernation requirements. Highlighting and prioritizing these high value elements in a local open space plan can also help with the success of conservation acquisition grant proposals (see *Financing Habitat Protection*). Many funding sources scrutinize applications to make sure the funds are used to address clearly defined local priorities. Highlighting and prioritizing Map 2 in a local open space plan can also help build public awareness of a community's "special places" which may in turn help build public support for future conservation actions and ordinance revisions.

BwH Map 3 Undeveloped Habitat Blocks: Large areas that remain undeveloped in your community provide some of the best opportunity to achieve the correct future balance of growth and conservation for your town's future and to keeping common species common. The key is figuring out the correct balance and applying the right tools in the right place. Certainly the larger, more connected, the block of habitat is, the more species will benefit. Given fiscal and political realities and town growth needs, however, it typically can't all be preserved. A good place to start is working with landowners. Are there some key parcels and landowners who would appreciate the chance to work with your committee? Consider limited development and conservation subdivision approaches that would create incentives for concentrating

development along road frontage and previously disturbed areas while avoiding the unfragmented interior and remaining habitat connections. Prioritize those portions of undeveloped blocks that harbor high value plant and animal habitats and those portions closest to overland connections and corridors that can also be protected through limited development or acquisition approaches. Many examples of [tools](#) used by Maine communities are included in the Beginning with Habitat Toolbox. These tools are designed not to stop growth, but are intended to help your town grow in a way that minimizes habitat impact.

Designating Local Focus Areas Using BwH

What are Beginning with Habitat Focus Areas?

Beginning with Habitat (BwH) Focus Areas of Statewide Ecological Significance are naturally occurring areas of statewide ecological significance that contain unusually rich concentrations of at-risk species and habitats. These areas, identified by state and federal biologists from the Maine Natural Areas Program (MNAP), Maine Department of Inland Fisheries and Wildlife (MDIFW), and the U.S. Fish and Wildlife Service (USFWS), support rare plants, animals, and natural communities, high quality common natural communities; significant wildlife habitats; and their intersections with large blocks of undeveloped habitat. BwH Focus Area boundaries are drawn based on the species and natural communities that occur within them and the supporting landscape conditions that contribute to the long-term viability of the species, habitats, and community types.

It is hoped that the mapping of a BwH Focus Area will help to build regional awareness and draw attention to the exceptional natural landscape conditions throughout the state that result in a convergence of multiple resource occurrences of statewide significance. The resulting appreciation of these truly special places can then provide momentum to municipalities, land trusts, and regional initiatives focused on strategic approaches to conservation.

Are Other Areas Insignificant? Designating Local and Regional Focus Areas

To date, collaborative efforts by state, federal, and conservation organization biologists have resulted in the designation of 97 Focus Areas of Statewide Ecological Significance. Areas that rise to the level of statewide ecological significance may not occur within the boundaries of every town. Strategic conservation planning, however, is critical at all levels and the BwH Focus Area model can be used to identify areas of local or regional significance as well. Although the frame of reference for BwH efforts has been a comprehensive statewide analysis, the criteria used in designating focus areas can be easily adapted to the local or regional perspective. BwH

maps including [Map 1 Water Resources and Riparian Areas](#), [Map 2 High Value Plant and Animal Habitats](#) and [Map 3 Undeveloped Habitat Blocks](#) offer good starting points to identify unique locations rich in significant habitat feature convergence that can then be designated as local focus areas that can serve as focal points in your town's "conservation blueprint". Focus areas of local significance can be useful tools in building public support for local conservation efforts by providing an easy to visualize, location specific objective. The focus area concept also offers an approach to explicitly define where conservation should occur. By clearly defining these priorities, communities are in a much better position to ultimately realize their conservation goals.

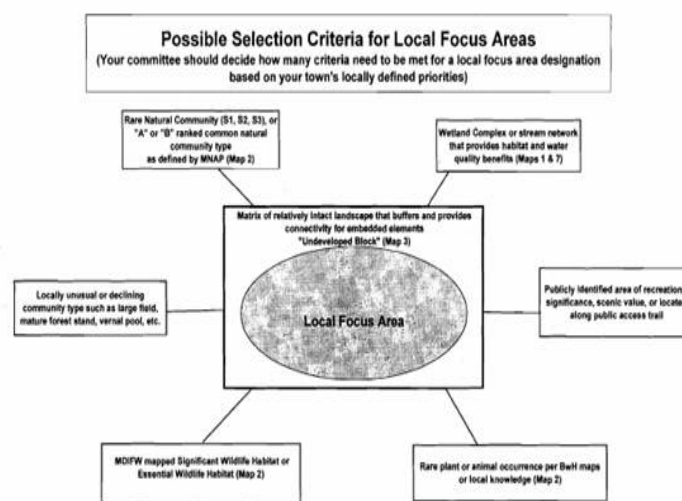


Figure 1: This diagram has been adapted from the BWH criteria for proposing candidate focus areas of statewide ecological significance. The criteria suggested here can be modified to reflect local priorities. [Click to enlarge.](#)

Refining Your Approach with the Other Maps

Use of the three core BWH maps ([Map 1 Water Resources and Riparian Areas](#), [Map 2 High Value Plant and Animal Habitats](#), and [Map 3 Undeveloped Habitat Blocks](#)) in the initial phases of open space planning should be complimented by referencing other BWH maps. Each provides information key to further refining the designation of local focus areas and the overall development of a local "conservation blueprint".

Map 3 also depicts conserved lands. Given that the data represented on this map comes from BWH's state and federal agency partners, it likely does not represent all protected lands in town, but should capture those acquired using state and federal funds. Building off of past conservation efforts by protecting additional areas adjacent to protected lands may be the

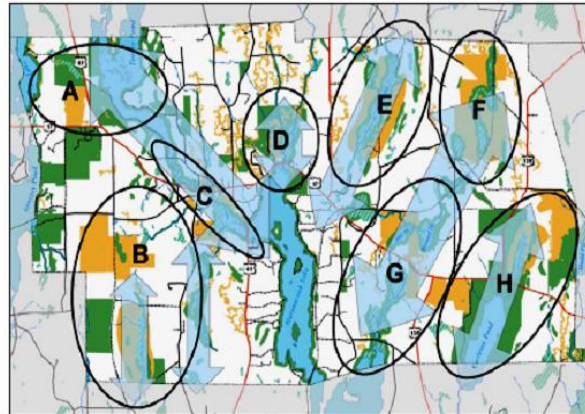
most efficient approach in providing protection of large blocks of habitat in your town. Viewing the distribution of protected lands in town offers your committee a chance to evaluate how past efforts have addressed priorities identified in local focus areas, and can help to identify where key parcels could be protected to link past efforts whether for habitat purposes or for future recreational trail development. Are there neighborhoods that lack access to open space?

Local knowledge is critical in adding other protected lands to this map such as those held by private land trusts or those owned by your town that may not be included in the state's database. Once you have a complete depiction of existing protected lands, it becomes apparent where additional conservation efforts could better protect locally defined focus areas, or help to develop or protect trail connections that could double as habitat connections. In terms of overall habitat value, creating large blocks of conserved land by building off past conservation successes often produces the greatest benefit for the dollar. Additionally, many land acquisition funding sources favor projects that abut already conserved properties.

Map 7 Wetlands Characterization: All wetlands are not created equally, but each wetland no matter how small or whether forested or non-forested, provides ecological functions and values. Many of these naturally provided functions and values are vital for a community's long-term well-being and are expensive to artificially replace once lost or degraded. Common wetland functions and values, besides providing wildlife habitat, include groundwater recharge, floodflow alteration, erosion and sedimentation retention, nutrient attenuation, and stormwater detention. Map 7 attempts to illustrate the likely functions that major wetlands in town provide. A computer model processing general characteristics of each wetland scored the likely functions and values provided. The map should not be considered conclusive, but is a good starting point for identifying key wetland complexes in your community that could better inform the designation of local focus areas.

Multi-Value Priority Areas

These priority areas are the result of identifying areas with overlapping open space values. (See table, next page.)



Multi-Value Priority Areas

- A) Potential for connecting open space parcels
Part of an identified open space corridor
Includes water access
Includes existing trails
Contains significant wildlife habitats
- B) Contains significant wildlife habitats
Potential for connecting open space parcels
Is part of a large block of relatively unfragmented open space
Includes a large ownership tract/parcel
Includes farmland
Includes existing trails
- C) Contains significant wildlife habitats
Part of an identified open space corridor
Includes water access
Includes an identified high-value scenic view
Includes existing trails

(Continued next page.)

Figure 2: The Town of Readfield conducted a fairly broad brush approach to identifying "Multi-Value Priority Areas" that serve as local focus areas for planning purposes. Click to enlarge the image.

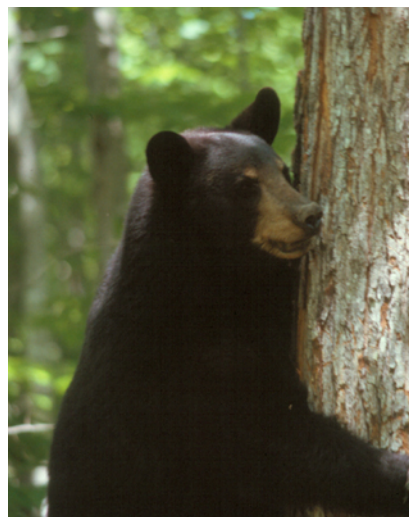
Need Help?

Beginning with Habitat staff are available to work with your town to assist with the development of local open space planning process and with the development of a "conservation blueprint". Contact us for assistance.

Commonly Raised Public Concerns

1. Taking land off the tax roles cannot be good for my community

The operating budgets of Maine towns depend on collecting taxes based on property values. The purchase of land for open space results in no taxes being collected on that property, or a reduction in what could be collected if the property was developed. If a town buys land for open space, the parcel purchase price, property management costs, and loss of property taxes become the shared burden of town residents. In recent times a proposed increase in taxes is closely scrutinized at best, if not vehemently opposed by those Mainers already struggling to keep up with their present tax bills. Study after study, however, demonstrates that when the fiscal implications are examined, although the initial land purchase results in a short-term increase in local taxes, open space (especially passive conservation land) soon pays for itself through the increased prices residents are willing to pay for nearby lots resulting in higher tax revenues than would otherwise be expected. Furthermore, when the conserved lands are strategically located through open space planning, they have the effect of eliminating future infrastructure needs and costs of services associated with the alternative of additional rural residential development.



Properly examining the economic implications of conservation land requires an analysis of several components of economic value and their associated public financial impacts. The following framework was developed by Paul Anton of Wilder Research in his report: *The Economic Value of Open Space, Implications for Land Use Decisions (2005)*. It provides a fairly simple approach to analyzing the broader implications of conservation decisions. Although dollar figures used in this analysis are at best estimates based on fairly broad assumptions, the analysis provides a valid methodology for responding to public concerns should they arise.

Table 2. Examining the economics of conserved land.

Preservation of Conservation Land	(-) one time cost and (+) savings	(-) annual cost and (+) savings
Addition to nearby property values		(+) increased tax revenue
Avoided costs of alternative development	(+) avoided public infrastructure costs	(-) lost property taxes from avoided development
		(+) avoided cost of providing public services, infrastructure maintenance, etc.
Recreational amenities	(-) cost of improvements	(-) operation and maintenance costs
Other factors to consider: Water quality protection (both surface and ground water)		
Wildlife habitat and production		
Scenic value Value to non-abutting users (recreation) Value for economic development (<i>both for attracting businesses and tourists</i>)		
Totals	Total one-time capital cost (-) or capital investment savings (+)	Total annual cost (-) or savings (+)

Estimating the addition to the value of nearby property (top row) is best approached with the assistance of a local assessor, but results of national research and findings from Maine provide good rules of thumb. This estimation can be conducted by:

1. Counting the number of houses that exist or the number of units that could potentially be built within 500 feet of the proposed conservation land;
2. Total or project the likely value of those housing units;
3. Apply an appropriate premium to the total market value of those units (research indicates a 3-15% increase in home values between 500 and 1000 feet from protected passive use conservation lands). Wilder research suggests 7% as a conservative figure.
4. Finally, apply the appropriate tax rate for the jurisdiction being analyzed.

Similarly, estimated avoided public infrastructure costs and costs of providing public services require that several factors be considered. These factors include:

1. If the subject parcel would alternatively be used for residential development, how many units would it support and how many residents would that translate to based on current per household census figures?
2. What would the public roadway impacts be? This includes maintenance of new roads, increased wear and tear on existing roads from new vehicle trips to and from the potential development. Costs can be estimated using your town's budget figures for road maintenance.
3. What increases in public safety spending would be necessary? This includes police, fire, and emergency medical service and estimates should consider whether the site is in an existing patrol zone, likely response times, and need for new personnel, or capital expenditures might be necessary.
4. What increases in general government services might be necessary? These services include inspections, registrations, trash collection and solid waste disposal, etc.
5. What increases in school costs would be necessary? How many new pupils would a development likely contribute? Would a development require longer bussing routes? What types of homes could be expected and how would these affect state aid?
6. Are there implications at the county level?

2. How much open space is enough?

Whether it's at a town meeting vote to consider the acquisition of a single parcel, or during public forum seeking input on an open space plan, the question of "how much open space do we need?" always comes up. The lack of a specific answer, number, or quantifiable set of measures, is often received as vague and frustrating to proposal critics or those wrestling with tight town budget decisions. So how can this concern be addressed?

When it comes to active recreation fields and parks that serve a measurable public need, organizations like the National Recreation and Parks Association have estimated that 10-acres of fields are necessary to serve 1,000 residents. What about wildlife habitat? It is hard to assign metrics or develop strategies to monitor success especially if the plan incorporates a broad goal such as maintaining local species diversity. It is therefore important to take a comprehensive look at what habitat opportunities exist within your town's borders and prioritize to arrive at an easily conveyed vision. This vision, although not a hard and fast acreage figure, should be specific enough to highlight an interconnected network of habitats across the landscape. The vision should also be refined enough to demonstrate that adequate land to accommodate expected growth has been incorporated into the plan. BwH is a good tool to begin this planning process. What are the truly key areas to conserve? What areas are best suited to accommodating growth demands? Where can remaining undeveloped blocks be linked to accommodate long-term species needs and support recreational trail connections? Which blocks harbor unique species occurrences and specialized habitats? What areas are less significant, but could be protected in part through well-conceived open space development or performance standards that preserve key ecological functions?

The best way to answer the "how much open space" question when it comes to resources that do not have commonly considered market value is to be able to point to clearly articulated goals and objectives in a publicly vetted and accepted open space plan that result in an easy to comprehend vision for your town's future. These goals can be incorporated by drawing lines on a map that represent an interconnected network of local focus areas with a written goal of *"maintaining habitat integrity and connectivity within this green belt"*. Exact acreage figures and specific parcels certainly do not need to be identified up front in the open space plan, but the plan needs to be written with enough specificity that any future conservation proposals tie directly to achieving predefined, and publicly accepted, plan goals and objectives.

A common pitfall experienced by communities that do not have a mapped network of priority conservation areas to point to, or do not have specific goals written, is that they are faced with acquisition decisions at every turn and in every corner of the community. Patches of green space commanding premium prices are protected ad-hoc throughout town. This habit can unintentionally push development further into areas of town where it is was not expected or cannot be efficiently supported. Conservation proposals that cannot be tied to plan goals or vision, may not be appropriate for public funding, but rather be determined by free market forces. Often these projects are initiated by private interest groups and often their fate is best determined with the availability of private funds.

3. Does open space impact affordability?

A frequent concern related to land conservation is that it will increase the surrounding land values and prohibit affordable housing. Certainly, conserved lands have the effect of increasing adjacent land values, but does this effect really limit the potential for affordable housing? Similar to wildlife habitat protection, there are not many incentives in the free market to build affordable housing without some kind of government involvement. Towns that do not have open space plans, or are not actively buying land for conservation have the same challenges in providing truly affordable housing. Most significant conservation lands typically occur outside of growth areas in more rural sections of a community. These rural areas are generally not the best locations for affordable housing anyway despite the fact that the land is typically cheap. Affordable housing is best situated in areas where residents would have the fewest expenses while occupying it. For most towns, this means areas within growth zones, close to infrastructure, and within walking distance to services. After conducting research in 28 metropolitan areas around the country, the Center for Housing Policy concluded that once your one-way commute exceeds approximately 12 miles, transportation costs including fuel, wear and tear, and insurance outweigh any benefit of owning cheaper to buy rural housing. Just like open space, truly affordable housing needs to be actively encouraged through regulatory and incentive based mechanisms if it is to happen in your community.

4. Management vs. hands-off approaches

Who is going to manage open space land in your town? How is it going to be managed? How will restrictions be enforced? It is important to be able to answer these questions when asked by town residents. For the most part, many conservation lands require little or no active management depending on their history of past use. Oftentimes if a forest stand has been managed for timber in the past, it may require some initial treatment to bring it to a state where nature can take over. Typically this involves thinning especially if the stand is even-aged upon acquisition. Other properties may require regular mowing or burning to maintain open field or early successional conditions. Impounded ponds come with their own set of maintenance issues. Each acquisition should have some kind of management needs assessment prior to purchase in order to fully evaluate costs of ownership. Improved access amenities such as trails should also be carefully considered for their cost implications both for initial creation and annual maintenance. Proper placement of trails and their design are critical in minimizing initial construction costs, and future maintenance needs. The Maine Conservation Corps provides top notch affordable trail planning and construction services (<http://www.mainecareercenter.com/mcc/fieldteam.html>). The Maine Forest Service

(<http://www.maine.gov/doc/mfs/index.shtml>) offers services to communities to assist in the management of conservation lands through their Woods Wise and Project Canopy programs.

5. Providing public access vs. preservation of sensitive habitat

Public support for open space conservation is greater when the public has access to and recreational benefit from the conserved lands. Promoting use of local conservation lands especially by children and families, helps to foster awareness of and appreciation for Maine's natural resources. Often times, however, there is local concern that providing public access may impact the ecological values intended to be preserved through the land's acquisition. Despite the fact that there are many sensitive natural communities and wildlife habitats in Maine, there are few scenarios under which public access needs to be permanently prohibited. Seasonal restrictions may be appropriate for sensitive nesting areas or deer wintering areas. Well-designed and placed trails are key in preventing erosion and foot traffic that could impact streams, wetlands, and sensitive plant habitat. A well-developed management plan will allow your committee to find a balance between encouraging public use and protecting key features. Both the [Maine Department of Inland Fisheries and Wildlife](#) and the [Maine Natural Areas Program](#) are available for consultation during management plan development.

6. The "Takings Issue"

From the Maine State Planning Office's: Comprehensive Planning: A Manual for Maine Communities 2005

The "taking issue" refers to the legal question of whether governmental regulation has gone so far as to have effectively "taken" private property, requiring compensation to the property owner. It is a shorthand reference to the Fifth Amendment to the U.S. Constitution's prohibition: "nor shall private property be taken for public use without just compensation." Taking is a complex legal issue. The courts have never offered a formula for determining when a "taking" has occurred. Reviews are made case-by-case. But there are several tests:

- What is the economic impact of the regulation on the property owner?
- Has the owner been left with a reasonable economic use? *It doesn't have to be "highest and best" use or the use the owner hoped for. It merely has to be "reasonable" use.*
- Does the regulation promote a valid police power objective? *The "police power" is the power of government to regulate to protect the public health, safety, and welfare. Courts try to balance the public welfare against the diminished value of private property that may result from regulations. Where regulations prevent a public harm-for example,*

by protecting environmentally sensitive lands-this test is easier to meet. Where regulations create a public benefit-for example, a park-that did not previously exist, it is difficult to meet.

- *What is the character of the governmental action? If the regulation requires a landowner to conserve open space to prevent a public hazard, such as flooding, it is easy to defend. If the action in effect reserves private land for a uniquely public function-for example, for a utility line or a park-or allows public "invasion" of the property, as in the case of points of public access, it is likely a taking.*

Within this framework, zoning to preserve open space can be the subject of argument. In 1980 the U.S. Supreme Court held that an ordinance discouraging premature development of open space advanced a legitimate governmental goal. (*Agins v. City of Tiburon*, 447 U.S. 225) Subsequent cases have warned that there must be a direct connection between the regulation and the harm that the regulation is trying to prevent; and against regulation that, while guarding against a legitimate concern, such as flooding, also requires a land owner to allow public access.



Example Open Space Plans

The following case studies provide good examples of habitat-oriented approaches to open space planning. The first is from the Town of Casco. Casco's plan builds directly off of key Beginning with Habitat (BwH) principles (landscape level planning, prioritizing large blocks, maintaining habitat connections, and identifying key habitat components) then identifies four "open space focus areas". The plan suggests a variety of tools to protect land within these focus areas including

conservation leases and easement acquisition.

The second case study is the report of Brunswick's Flora and Fauna Subcommittee, one of several topic specific sub-committees that were involved in the drafting of Brunswick's Parks, Recreation, and Open Space Plan (see <http://173.162.156.84:8080/osrtf/index.html>). This report provides an inventory of existing habitat features, rare natural community types, and rare plant and animal occurrences, and led to the adoption of Brunswick's [Wildlife Habitat Overlay Districts](#), included as an example land use tool in the BwH Toolbox.

Additionally, the towns of Sanford, Topsham and Readfield have also developed open space plans based off of Beginning with Habitat information and approaches.

Conservation Commissions

The Importance of a Local Conservation Commission

The business of town government is a complex web of competing priorities. Always challenged by too little money, too little time and too few staff, municipalities depend heavily on dedicated citizen volunteers to identify new opportunities and new ways of tackling tough issues. Without local champions able to successfully navigate town office operations and local politics, habitat and open space protection rarely rise to the level of being high municipal priorities.

Conservation Commissions can fill this role as an appointed body serving under elected officials, and as a publicly approachable body dedicated to local natural resource concerns.



No other entity at the local level can focus as significant an amount of time to balancing conservation with a town's future growth vision than can a Conservation Commission. Planning Boards are typically overwhelmed with applications and have little time to actually plan for their community's future outside of the case-by-case, lot by lot structure provided through the typical development review process. Selectmen are often too busy balancing constituent concerns

over rising property taxes with school and emergency service personnel concerns and the rising costs of providing citizen required services. As a result, these elected officials rarely have the time to take up conservation related issues, and when they do, they are often criticized for not concentrating on issues perceived as being of more immediate priority. Paid town staff, often limited in rural towns to the positions of town administrator, clerk, codes enforcement officer, assessor and tax collector, typically do not have the time or the technical expertise to implement additional habitat protections either.

In addition, towns should not rely on their local land trust to maintain municipal habitat functions through their land protection efforts. While they are tremendous partners, local land trusts often opt to function outside of the universe of local politics, ordinances, and town planning documents. Land trust priorities are typically reflective of their board members and contributors and may not fully mirror the conservation or open space needs of the community. Besides, fee acquisition of land is only one piece of the local habitat conservation puzzle. There

will never be adequate private funds available to purchase all the land necessary to maintain long-term habitat functions and public outdoor recreation opportunities.

Conservation Commissions serve as the vital link to help translate Beginning with Habitat (BwH) information into the local government structure and to help oversee its implementation. Conservation Commissions function as the natural resource planning body in town and act in a consulting role to town staff, elected officials, and other local committees. Conservation Commissions also often act in the capacity of town representative to local land trusts. Typical major roles played by Conservation Commissions include:

- Assisting with the town Comprehensive Plan Natural Resource Inventory, and related implementation strategies
- Assisting with, or leading, the development of a local Open Space Plan
- Providing comments to the Planning Board regarding proposed open space to be allocated in conservation or open space subdivisions
- Working with elected officials and the Planning Board to craft and/or review proposed land use ordinance tools to better protect local natural resources
- Partnering with local land trusts on habitat acquisition projects and strategic conservation plans
- Applying for state and federal grants to offset costs associated with local studies, or land acquisition / management projects (see *Funding Opportunities*)
- Managing town conservation lands and developing public access amenities such as trails, kiosks, and parking areas
- Conducting field surveys to add local knowledge to BwH map sets and data
- Developing public education and outreach materials to foster greater awareness of locally significant resources

The Maine Association of Conservation Commissions (MEACC) (www.meaccme.org) is the best place to start if your town is considering creating a local Conservation Commission. The MEACC web-site includes links to 'The Maine Manual for Conservation Commissions' that describes in detail everything from the statutory authority behind local Conservation Commissions to how to run effective meetings and develop annual budgets. MEACC provides a useful service enabling Conservation Commissions to learn from one another, share success stories, and view the latest Conservation Commission news and upcoming events.

How to Increase Your Commission's Effectiveness

If your town already has a Conservation Commission established, but the Commission is currently inactive or unsure of its role, Beginning with Habitat (BwH) can serve as a good vehicle to re-invigorate or inspire local conservation actions.

- Has your town sponsored a BwH presentation? Maybe it has been a while, or there are new faces on local boards and committees who could benefit from another presentation? Besides our standard introductory presentation, BwH is also willing to develop presentations tailored to local needs and current issues in your town.
- Has your Conservation Commission reviewed the natural resource or land use implementation strategies as outlined in your local Comprehensive Plan? These strategies represent publicly agreed upon next steps for your town and provide guidance for local actions. Let your selectmen know if your commission is willing to take on priority actions not yet addressed.
- Meet with your codes enforcement officer, planning board and town planner. Are there issues that come up repeatedly during development review? Can your Commission help craft new approaches that may clarify or enhance local resource protections?
- Review the BwH maps for your town. How are the key resources (riparian zones, important plant and animal habitats, and undeveloped blocks) protected? Are there features such as certain habitat types or rare species occurrences that receive no local protections? Are there opportunities to implement additional or enhance existing ordinance tools to better protect these features?
- Does your Commission have a map of protected lands in town? Does this map include trails or highlight public access opportunities? Do these lands require any management such as invasive species control?
- Has your Commission met with the local or regional land trust? What are their priorities? Are there opportunities to partner on projects?
- How well informed are your local citizens regarding water quality protection, rare species conservation, invasive plant control, and options to protect and manage their land for habitat purposes?

BwH can offer guidance for your Commission on any number of the potential items listed above. If we cannot provide direct assistance, we can help your Commission navigate the variety of conservation opportunities and organizations in the state to locate the information you need. The Maine Association of Conservation Commissions (www.meaccme.org) also offers an invaluable opportunity to network with other commissions throughout the state.

Tools

Introduction to BwH Example Tools

Beginning with Habitat (BwH) has compiled examples of tools that are being used by towns throughout Maine to achieve their habitat conservation goals and to implement their comprehensive and open space plans. These examples offer perspective into how other towns are addressing their habitat needs and they provide possible approaches for your town to consider and implement when addressing habitat-related goals.



In most cases, implementing efforts to better protect terrestrial habitat from incremental fragmentation is the key piece missing from local zoning efforts that attempt to address conservation. This issue is addressed in the BwH Toolbox in examples of a habitat overlay district approach and an example conservation subdivision ordinance. If a town is successful in its implementation of shoreland zoning guidelines, it can also provide protections for some locally important riparian habitat areas. Additionally, wetland standards can be strengthened locally by revising ordinance definitions of "wetland" to include all wetlands as defined by the Maine Department of Environmental Protection and the US Army Corps of Engineers, and by requiring that net residential densities on any given parcel be calculated by first subtracting wetland acreage. Similarly, most standard subdivision ordinances have review criteria that pertain to rare and unusual natural features. Such criteria should be reviewed carefully to make sure they take into consideration rare, threatened, and endangered plant and animal occurrences, rare and exemplary natural communities, and habitat as specifically as possible to provide useful direction for project applicants. BwH data can help in identifying the types of resources project applicants should be looking for within proposed development areas that should be considered under a "rare and unusual natural features" or similar standard. A variety of tools have been included within this toolbox including sample language used by communities to address each of the issues listed above as well as others.

The examples compiled here are organized into general categories including land use ordinance tools, wetland and shoreland zoning tools, and performance standards. Click the links at the top of this page to find more information and a list of tools in each category.

Some of the tools listed in this site have regulatory implications while others do not and not every tool will be suitable for use in your town or it may need to be adjusted on a town by town situation. BwH staff are available to assist you with selecting and developing tools that will address the unique needs and opportunities of your town. In addition, we strive to provide the best and most current examples of tools that are being used throughout the state to implement habitat-related goals and will continually be updating and adding to the list of examples provided here. We are interested in hearing your feedback as to the usefulness of these tools. **Please also forward any additional examples that you feel should be included on this site.**

Land Use Ordinance Tools

Introduction to Land Use Ordinance Tools

The local land use ordinance is the primary regulatory mechanism that a town typically has at its disposal allowing it to review development proposals and to provide clear guidance to applicants concerning how development proposals are expected to balance economic benefits to the land owner with greater community values such as clean water, habitat conservation, and town character as identified in the comprehensive plan. The standards set through the ordinance are what your town is limited to in terms of legally enforceable planning board review and powers of the code enforcement officer. Once the bar is set through your local ordinance, your town's ability to negotiate greater public benefit is limited to the good will of the project applicant. It is, therefore, important to carefully consider which tools are appropriate to ultimately guide local development in a direction that best meets the objectives identified in your comprehensive plan, open space plan or other guiding documents.



The State Planning Office (SPO) has prepared a document titled "How to Write a Land Use Ordinance", that may be useful for your community. This manual is for local officials, planning committees, and others in small to mid-size communities who are interested in preparing a local ordinance to implement their comprehensive plan. It contains basic information needed to draft a land use ordinance and contains suggestions for amending existing ordinances. While

"How to Write a Land Use Ordinance" provides a good general overview of land use ordinances, the following examples provide an in-depth look at land use ordinances with habitat-oriented goals.

Example Tools

- [Wildlife Habitat Overlay Districts](#)- A tool to reduce habitat fragmentation resulting from residential development and the division of land using unfragmented blocks of forest and connecting overland corridors as its focus.
- [Transfer of Development Rights](#)- A tool that provides incentives to encourage land conservation in rural areas and transfer development to growth areas.
- [Open Space Impact Fees](#)- A tool to equip a municipality with a mechanism to pay for future green space, open land, and/or recreational facilities by requiring a fee for new development to cover the need for additional open space and recreation facilities.
- [Conservation Subdivision Ordinances](#)- An open space "cluster" subdivision approach that considers municipal conservation land priorities in subdivision and open space design, enabling towns to better negotiate how future development will fit into its rural landscape and to better maintain town-wide landscape-level habitat benefits.
- [Land Use Ordinance Performance Standards](#)- Standards to clarify and expand on criteria identified in the State of Maine Subdivision Law to better maintain town-wide habitat benefits.

Wildlife Habitat Overlay District

Introduction

This example of a Wildlife Habitat Overlay District was designed to provide a tool to reduce habitat fragmentation resulting from residential development and division of land. It is intended to work in concert with a town's underlying subdivision ordinance and to provide additional guidance for open space approaches to subdivision layout.

Although the goal of this tool is to reduce habitat fragmentation and uses unfragmented blocks of forest and connecting overland corridors as its focus, the overlay district approach can readily be adapted to apply to other resource types. In fact, an overlay district, or zone, can be applied to any well-defined (spatially specific) resource, such as a lake, large field, rare natural community, deer wintering area, etc., that can be accurately delineated and represented on a local zoning map as a distinct area. Overlay districts are intended to work in concert with the town's underlying zoning and subdivision ordinance and to supplement the underlying zones

with additional performance standards. Overlay zoning is useful in enabling a municipality to impose additional standards on specific areas without amending the basic zoning ordinance defining uses or allowed densities for the district or districts overlapped with the overlay zone. This approach is useful in protecting landscape elements that cross underlying district lines and can be the most useful tool in protecting long-term habitat contiguity and connectedness.

What This Example Covers

This example addresses the fragmentation of large undeveloped blocks of habitat by offering both "sticks" and "carrots" intended to minimize a development's footprint while 1) not changing the allowed density of the underlying district; 2) not rendering any property "undevelopable"; and 3) leaving design choices to the developer by not specifically requiring an open space or "cluster" approach to development. Each of these three issues (reducing density, prohibiting uses, and mandating development type), although arguably useful tools in some cases, can become contentious "lightning rod" issues that may lead to the defeat of a proposed ordinance no matter how well balanced otherwise. This ordinance was crafted to focus primarily on residential developments that trigger subdivision review, but uses "disturbance" of vegetation as its measure of impact thereby offering a mechanism to address development that does not technically trigger the state subdivision definition (Title 30-A § 4401(4)).

This example ordinance specifically exempts traditional agricultural uses, commercial forestry, and allows for a one-time lot split without triggering formal review. These exemptions have been suggested to avoid placing additional regulations on rural land uses that can contribute significantly to a town's rural character and sense of place while typically resulting in limited long-term wildlife habitat impacts. The one-time lot split exemption is intended to address affordability concerns and allow families to offer a lot to a relative without an increase in regulatory burden.

Most subdivision ordinances, if they include requirements for open space set asides, do not include clear guidelines as to what types of land should be set aside and how these open spaces should be configured on the landscape. As a result, the dedicated open space is often in fragmented chunks and has limited conservation value. This ordinance is intended to clearly define up front where open space should be targeted to maintain an ecologically functional landscape while still responding to development demands.

This example ordinance is not to be considered a "cure all" for local habitat conservation concerns. The ordinance is intended to offer one approach that can help to minimize

fragmentation impacts in key areas of town. It can help to achieve these benefits with little need for technical expertise beyond what is typically available at a local town planning office and planning board. By utilizing this tool in conjunction with other tools included in the Beginning with Habitat (BwH) Toolbox, such as conservation subdivision ordinances, local wetland protection rules, strengthened shoreland protection standards, and creative land acquisition strategies, towns can establish their local "conservation blueprint" and start to build and conserve a functional ecological infrastructure.

How This Ordinance Works

This example ordinance is intended to provide towns with a tool that can help implement BwH objectives by creating incentives to maintain contiguous blocks of open space during the development process. As an overlay district, it should be used with an existing land use zoning ordinance and established zones. The example does not include all sections necessary for stand-alone adoption. A municipality desiring to incorporate the provisions of this overlay district into an existing comprehensive land use ordinance should review those sections of their local ordinance that address subdivision approval and administrative matters to ensure consistency and to avoid redundancy.

The success of this ordinance depends on its ability to address specific local concerns through a fair and balanced approach. Several sections may not work for your town and can likely be removed or edited as deemed appropriate. Certainly, the disturbance and mitigation threshold numbers specified in this document could all be adjusted to best respond to local priorities for habitat protection.

The attached Wildlife Habitat Overlay District ordinance language was crafted by the Town of Brunswick based on the recommendations of the Brunswick Rural Smart Growth Advisory Committee. The committee's report and additional information can be found by visiting the Town of Brunswick's web-site: <http://www.brunswickme.org/planning/ruralsmartgrowth/ruralsmartgrowth.htm>

In addition to the example ordinance language with explanatory notes, also included below are responses to frequently asked questions that were prepared by the Town of Brunswick in response to questions generated by town residents as the ordinance was being developed.

Example Tools

- [Brunswick Wildlife Habitat Overlay District Ordinance](#)

- [Frequently Asked Questions](#)

Transfer of Development Rights and Development Transfer Fee

Introduction to Transfer of Development Rights

In concept, Transfer of Development Rights (TDR) is a tool that can achieve land conservation and growth objectives at a variety of scales, either within a single municipality, or regionally if committed to by multiple municipalities. A TDR program encourages land conservation in rural areas (sending areas), identified based on an open space plan or similar objectives, and transfers development to growth zones (receiving areas), designated by local land use plans. By providing incentives, TDR programs can benefit both the rural landowner, who may not wish to develop currently, but for whom compensation would better enable them to hold onto their land, and the developer seeking the ability to build more units than current zoning allows. A successfully implemented TDR program offers towns the ability to accomplish two complimentary goals in one transaction: strategic open space preservation to protect habitat, recreational opportunities and rural industries, and development directed to traditional town centers and designated growth areas.

TDR allows rural landowners in the identified sending area to voluntarily transfer their right to develop a certain number of housing units based on existing zoning to a parcel within a pre-determined receiving area or growth zone. Once the units are "transferred" by the rural land owner, the rural landowner does not surrender ownership or all uses of their property, only the ability to build or subdivide the equivalent number of units transferred. A conservation easement or deed restriction is crafted to ensure the future use of the development potential is prohibited in perpetuity while still often allowing traditional uses such as farming and forestry uses.

In theory, if carefully developed, TDR can be an attractive growth management tool and an attractive way to protect land in strategically identified areas with high conservation values. It offers incentives to concentrate development close to public infrastructure resulting in long-term cost savings to the community while protecting open space at little cost to the taxpayer. In order for a TDR program to be successful, however, several criteria must be met. First, a town must be experiencing adequate development pressure and market demand for 'in town' units to encourage developers to seek greater density than is currently allowed by ordinance. Secondly, sending and receiving areas must be clearly identified and based on identified community priorities. The development receiving area must have suitable developable land

area or redevelopment opportunity available and must be relatively free from potential future not-in-my-backyard concerns that could derail a developer's will to pursue greater density. A TDR program should be part of a town's overall growth management program as well and result from a town's comprehensive planning process. The sending areas, or those areas to be conserved, should be well-defined, discrete areas identified through public process such as in an open space plan. Public education and community support are also critical to the success of a TDR Program. TDR is only effective under certain conditions and, therefore, it is important for a town to have a clear picture of its future before this type of program can work.

Unfortunately, what works well in theory may not be as effective (yet) in practice. There are certainly TDR success stories in other parts of the northeast such as Montgomery County, Maryland and the Pinelands in New Jersey. In Maine, although some towns have TDR programs on the books, none are mandatory and few are being actively promoted at this time.

An alternative approach: Development Transfer Fee Program

While Transfer of Development Rights (TDR) programs have largely not been successfully implemented in Maine at this time, a slight revision to the traditional TDR approach is showing promise. A Development Transfer Fee program is based of the same basic concept as TDR, where development rights are transferred from designated rural (sending) areas to designated growth (receiving) areas. The difference is that a Development Transfer Fee program is fee-based using a third party as the broker. A developer pays a transfer fee to the town. This payment enables them to buy and build an additional number of units in the designated growth area than would be allowed under current density limits. In turn, the payment is deposited into a town fund for land acquisition. Accumulated funds are then used to conserve lands in the designated rural sending areas once an opportunity becomes available. Through this process a developer can build at greater density where it is most appropriate and willing land owners are compensated for voluntarily giving up their rights to develop. The overall goal of directing growth to designated areas while conserving important parcels of open space can still be achieved.

The advantages of the Development Transfer Fee program are that it is simpler for the developer than a TDR Program. The developer simply pays the fee for the additional density bonus units and doesn't have to have a conservation parcel and willing land owner identified prior to submitting a project. Conservation can occur whenever there is a "ripe" opportunity and conservation decisions are left in the hands of the municipality rather than requiring the

developer to work out the details. Towns can work more closely with landowners of specific parcels with important values to negotiate a protection effort.

Open Space Impact Fees

Introduction

Impact fees equip a municipality with a mechanism to pay for future infrastructure, service and open/green space needs that grow as the local population expands. Impact fees work by requiring that private residential developments creating the need for the increased municipal services pay a fee that helps to cover the costs for that specific service expansion. The fees collected must be used to address the need created by the new residents moving into town. These fees should not be used to address pre-existing problems not created by new growth. Although impact fees have traditionally been used to fund new sewer systems or road projects, many communities are using impact fees to address the ever-growing need for green space, open land, and recreational facilities. Each community interested in crafting a local impact fee ordinance for open space should first complete an open space plan that assesses local desire for future facilities, inventories existing green space, and can serve as a basis for moving ahead with an ordinance.

Additional information on impact fees can be found in [Financing Infrastructure Improvements through Impact Fees: A Manual for Maine Municipalities on the Design and Calculation of Development Impact Fees](#), a document provided through the State Planning Office.

Conservation Subdivision Ordinance

Introduction

Subdivision ordinances are a common regulatory tool among most Maine towns. When a division of land meets the state definition of a subdivision (generally the creation of 3 or more lots within a 5-year period, see Title 30-A M.R.S.A. §4401), locally adopted subdivision ordinances typically dictate the number of units that can be placed on the land based on parcel acreage (residential density), and the ordinances set a variety of performance standards including minimum lots sizes, road frontage and sideline setback requirements, etc. Many towns have adopted local subdivision ordinances that allow "open space" approaches to

subdivision design. The intent of the open space subdivision approach (often referred to as "clustering") is to create a compact development that establishes protected green space through the development process. This green space is often owned by the subdivision homeowners association and may include neighborhood trails and provide some habitat benefit, but more often this land's primary value is as a buffer between neighboring developments.

From a habitat conservation perspective, however, most typical open space subdivisions provide limited value. Many of the open space subdivision ordinances crafted in the 1980's and 1990's simply established a fixed percentage of land required to be set aside that may have varied depending on the designated land use zone. The requirement of open space set-asides was typically written in a way that provided little guidance or direction to the developer regarding what types of land should be protected, and what the objectives were in terms of overall town open space protection goals. Over time, towns began to realize the limited benefits provided by many of the early open space subdivisions once they were built. The open space land set aside in these projects was usually the unbuildable wetlands and slopes located in random pockets throughout the project. Many municipal open space subdivision ordinances have now been revised to require that the dedicated open space be tied to community values identified in local open space plans or comprehensive plans. Several towns have also required that wetland and other sensitive acreage be subtracted from allowed development density calculations (see net residential density) and required that the designated open space calculations be based on a percentage of the remaining buildable acreage.

More recently, communities have started to adopt the "conservation" subdivision approach. This enhanced approach to the open space subdivision process is designed to go one step further in terms of encouraging development projects that take into consideration the surrounding landscape and do not simply focus on the specific project parcel. As you will see in the attached example, Falmouth has identified six defined priorities for land to be set aside in the subdivision process. These priorities include Beginning with Habitat topics such as landscape connectivity (both for wildlife and human use in the form of trail connections), retention of large unfragmented blocks (requiring dedicated open space to abut existing open space), and habitat for rare species. By defining these conservation land priorities in the ordinance, the town is in a better position to negotiate just how future development will fit into its rural landscape and maintain town-wide landscape-level habitat benefits.

How This Ordinance Works

The Falmouth approach, like the wildlife habitat overlay district, creates an overlay district. In Falmouth's case, this district covers most if not all rural districts in the town (those outside of the designated growth zone) and, unlike the wildlife habitat overlay ordinance that regulates based on "disturbance", requires that any new subdivisions choose an approach of either "*Conservation*", or "*Country Estate Lot*" subdivisions. Under the first option, the applicant is required to set aside a given amount of conservation land based on a percentage of the net residential acreage. To be accepted, the conservation lands must be screened against certain conservation priorities set by the town and based on identified concerns in the town's comprehensive plan and open space plan. The ordinance also establishes a specific 4-step design process that each subdivision project must complete prior to final review. Alternatively, a developer can opt to follow the "*County Estate Lot*" approach. Under this alternative scenario, the number of possible lots that can be expected based on parcel acreage is cut significantly (8-acre density requirement). The Town of Freeport has taken a similar approach. In Freeport, applicants can either opt for an open space approach to subdivision or they are limited to one unit per 5-acres.

A Word of Caution!: Down zoning, or increasing the minimum lot size requirement is typically controversial and may not be the best approach for a municipality if one of the local goals is to protect unfragmented habitat. A requirement for larger lot sizes may result in less homes within a given area, but the homes become more spread out often resulting in significantly more "edge" habitat and less potential for "interior" habitat associated with unfragmented blocks (refer to Beginning with Habitat's *[Our Wildlife Legacy](#)*, page 12, for a further discussion of "edge effect"). This approach can actually contribute to sprawl by leap frogging and further decentralizing development. If a town is to pursue this approach, it is important to consider what larger lots, with longer roads and driveways will look like on the landscape.

For the purposes of this document, the Falmouth ordinance has not been included in its entirety. Standard subdivision design and performance sections that do not have direct habitat implications have been omitted. The complete text can be found on the Town of Falmouth's web-site (http://www.town.falmouth.me.us/Pages/FalmouthME_Admin/Ordinances).

Example Tools

- [Falmouth Resource Conservation Zoning Overlay District \(RCZO\)](#)
- [Falmouth Four Step Design Process for Subdivisions in RCZO](#)

Land Use Ordinance Performance Standards

Introduction

The State of Maine Subdivision Law contains twenty criteria for approval of a proposed subdivision that must be considered prior to project approval. However, the standards in the statute are left intentionally general and vague. Therefore, one of the main purposes of local, municipal subdivision regulations is to clarify and expand upon the criteria of the statute based on locally identified concerns and priorities. These approval criteria also provide the procedural framework under which a proposed subdivision is reviewed by outlining local performance standards and steps necessary to satisfy locally defined requirements. Towns that do not have their own adopted Subdivision Regulation or Ordinance would only use these twenty criteria as written in the statute in order to base a decision.

BwH in Review Criteria

Review criteria #8. *Aesthetic, cultural and natural values*, speaks directly to those elements on Beginning with Habitat (BwH) [Map 2 High Value Plant and Animal Habitats](#) and is the focus of the attached tools. As discussed throughout the BwH Toolbox, land use decisions made at the local level often present the best opportunity for conserving Maine's rare, threatened and endangered plants and animals and rare and exemplary natural communities. It is critical that your community take the time to review performance standards and adjust them to best capture the specific types of resources identified as priorities in your comprehensive or open space plans. Although wetlands, streams, and shorelines are guaranteed some level of protection under other state (*Natural Resources Protection Act, Mandatory Shoreland Zoning*) and federal laws (*Clean Water Act*), features such as rare plants and rare natural communities rarely receive formal protection at the state or federal level. Similarly, scenic areas, historic sites, and water access each typically fall squarely into local jurisdiction if they are to be conserved during the development review process.

The following are examples of how Maine towns have expanded upon the state required review criteria #8. *Aesthetic, cultural and natural values* and added clear guidance for development project applicants. One of the examples has been taken out of the Maine State Planning Office's Model Subdivision Ordinance as prepared in collaboration with the Southern Maine Regional Planning Office. For additional tips for crafting successful performance standards see the full version at: (<http://www.smrpc.org/landuse/subord/Article%201.pdf>).

Example Tools

- [State of Maine Subdivision Review Criteria](#)
- [Maine Model Subdivision Performance Standards](#)
- [Brewer Subdivision Performance Standards](#)
- [Brunswick Subdivision Performance Standards](#)

Wetland and Shoreland Zoning Tools

Introduction to Wetland and Shoreland Zoning Tools

Importance of Wetlands and Shoreland Zones

Wetlands and shoreland zones, or riparian areas, provide important habitat for the majority of Maine's terrestrial vertebrate species for a part of their life cycle. They also provide important services to Maine's communities, including water quality protection and recreational opportunities.



Despite the importance of wetland and riparian areas and despite the regulations that currently exist to protect these areas, wetlands losses continue to occur. Cumulative loss of wetlands has led to significant stormwater runoff problems in some Maine communities and threatens to eradicate local populations of some wildlife species. Conservation of wetlands and riparian areas is essential to ensuring the full complement of Maine's plant and animal species on the landscape.

Regulations Protecting Wetlands and Shoreland Zones

Most wetlands and shoreland areas in Maine are given some level of oversight through the permitting process. At the Federal level, Congress has established federal regulatory power concerning wetlands under Section 404 of the Clean Water Act. The federal definition of regulated wetlands is established through the US Army Corps of Engineers and included in the 1987 US Army Corps of Engineers Wetlands Delineation Manual (see definitions section attached below).

Maine is also charged with implementing provisions of the federal Clean Water Act at the state level. In order to implement wetland protections at the state level, in 1988 Maine passed the Natural Resources Protection Act (NRPA) that established state regulatory authority over wetlands. The state definition of regulated wetlands is consistent with the federal definition.

At the local level, Maine communities regulate wetlands under the home rule provisions of the Maine Constitution and under Maine's Municipal Shoreland Zoning statute. While the federal and state definitions of regulated wetlands are consistent, the definition of regulated wetlands under Municipal Shoreland Zoning differs (see definitions section attached below). As drafted,

the Municipal Shoreland Zoning guidelines give explicit authority to local governments to regulate *non-forested wetlands greater than ten acres in size* and small wetlands and forested wetlands receive little to no protection. Loss of these wetland can result in cumulative losses that can have a significant impact on habitat as well as the important services these areas provide Maine communities. The minimum guidelines defined in the Municipal Shoreland Zoning statute, however, leave the option for towns to go beyond regulating only larger non-forested wetlands should they choose to do so.

Furthermore, the different definitions of "Freshwater Wetlands" and "Streams" used by federal and state rules and local shoreland zoning rules often lead to confusion at the local level. It is important to point out that towns can adopt definitions consistent with state and federal rules and by doing so will gain an added level of local authority leaving these towns not entirely reliant on the state and federal review process to protect these important local landscape features. For more information on the differences in definitions under federal, state and local rules, see the attached document, "Wetland and Shoreland Zoning Definitions".

The Beginning with Habitat Toolbox provides several examples of how towns have adopted more specific rules beyond what minimum shoreland zoning guidelines require. As a result, these towns have not only increased habitat protections, but are in better control of protecting surface and groundwater quality, and managing stormwater at the local level.

Example Tools

- Wetland and Shoreland Zoning Definitions- A document clarifying the differences in federal, state and local wetland and shoreland zoning definitions.
- Model Municipal Freshwater Wetlands Ordinance- A tool to reduce the cumulative impacts of wetland losses resulting from small wetland alterations not subject to compensation requirements under state law or regulation.
- Amendments to Shoreland Zoning to Protect Habitat- Suggested amendments to local shoreland zoning ordinances to protect habitat adjacent to significant wetlands.
- Resource Protection Ordinances- Tools to implement specific protections for natural resources that fall through the gaps of typical Shoreland Zoning rules, including increased buffer protections for streams, wetlands and vernal pools.
- In Lieu Fee Mitigation Funds- A wetland compensation tool that may facilitate municipal participation in the mitigation process by providing a source of dedicated funds that can implement pre-identified land protection and restoration projects involving significant wetlands.

Useful Links

- [Wetlands Protection- A Federal, State and Local Partnership](#)
- [Maine Shoreland Zoning- A Handbook for Shoreland Owners](#)
- [Wetland Rules under the Natural Resources Protection Act \(NRPA\)](#)
- [Natural Resources Protection Act \(NRPA\)](#)
- [Permit-by-Rule \(NRPA\)](#)
- [Maine's Wetlands- Their Functions and Values](#)
- [Designing Projects to Minimize Impacts upon Natural Resources](#)
- [Essential Wildlife Habitat](#)
- Significant Wildlife Habitat
 - [Bird Habitats](#)
 - [Significant Vernal Pools](#)
 - [Vernal Pools](#)
- [Maine Wetlands and their Boundaries](#)

[Definitions](#)

Model Municipal Freshwater Wetlands Ordinance

Introduction

This model for a Municipal Freshwater Wetlands Ordinance, developed by the State Planning Office (SPO) is designed to provide Maine communities with a tool to reduce the impacts of wetland losses from land use activities. It addresses the cumulative impacts resulting from small wetland alterations, which, although regulated by the Maine Department of Environmental Protection (DEP), are not presently subject to compensation requirements under state law or regulation. In other words, although small impacts to wetlands result in direct losses and incremental degradation of the functions performed by those wetlands, such as flood protection, runoff filtration, and habitat values, there are no requirements to replace those lost functions. The loss of ecological services performed by wetlands at the local level translates to direct economic costs for the community when artificial remedies are necessary to replace these services.

These uncompensated small wetland losses can add up. DEP regulations do not require compensation for wetland alterations involving less than 20,000 square feet of disturbance unless the alterations occur in wetlands defined by the regulations (DEP Rule 310) as wetlands of special significance (refer to [Recommended Shoreland Zoning Amendments](#)). Over half of all wetland alterations regulated by the state involve less than 20,000 acres, and cumulatively these wetland alterations amount to over 25% of the total wetland losses from regulated wetland activities ([Wetland Regulation Under the Natural Resources Protection Act \(NRPA\): Program Overview 2002, Maine DEP and Maine State Planning Office](#)).

What This Example Covers

This model ordinance addresses wetland alterations that are regulated by the state but not required to provide compensation. These alterations include activities that disturb at least 4,300 square feet (current NRPA permitting threshold for lower value wetlands) and up to 20,000 square feet of wetlands. However, most wetland alterations involving a "wetland of special significance" as defined by DEP regulations would not be covered by this example. DEP generally requires compensation for alteration of wetlands of special significance, unless the alteration is deemed "minor" (less than 500 square feet) and the DEP finds that the alteration will have only a minimal effect on the wetland functions and values.

This model does not address wetland losses that occur from activities that are "exempted" from DEP review by the NRPA (as provided in Section 480-Q of that law), or that are explicitly exempted from compensation requirements (certain projects involving crossings of a river, stream, or brook, and projects involving walkways and access structures for educational purposes or disabled access). This model was crafted to mirror the DEP review process so as not to increase regulatory burden other than to recapture lost wetland functions at the local level. A community may wish to consider expanding the scope of this model ordinance to address some exempt activities such as impacts to wetlands below the 4,300 square foot DEP threshold.

How This Example Works

This model minimizes the need to invent new standards and processes for reviewing wetland alteration projects by "piggy-backing" onto the standards and application procedures of the DEP [Natural Resources Protection Act \(NRPA\)](#). This ordinance adopts by reference the standards and guidelines contained in the NRPA and the DEP rules developed through the authority provided to it in the NRPA (Chapter 310: Wetlands and Waterbodies Protection Rules; and Chapter 305: Permit by Rule). For simplicity and to avoid duplication of application effort, this ordinance is designed to accept the NRPA application as the application for a Wetlands

Permit at the local level. Lastly, and most fundamentally, it accepts a permit granted by the DEP as meeting its wetland objectives for all intents and purposes except for compensating for (and therefore minimizing) cumulative wetland losses from small scale wetland alterations. By accepting DEP rulings on permits, the ordinance does not require the municipality to have technical review capacity beyond what would be offered by a Codes Enforcement Officer, Planner or Planning Board.

The purpose of this model is to add a final level of review at the local level in order to achieve additional wetland compensation for small scale projects, which although not a concern from a statewide perspective, can be significant from a local perspective, particularly when cumulative impacts are considered, or when an alteration affects a wetland of "local significance." The model provides a choice to an applicant as to what form of compensation will be provided: the applicant can choose to pay a Wetland Compensation Fee (which is paid into a Wetland Compensation Fund established by the municipality); or to implement a wetland compensation project involving preservation, restoration, or enhancement of an existing wetland.

The model also provides choice for the municipality to tailor the Ordinance in terms of how Wetland Permit Applications are reviewed and approved: 1) the Planning Board could both review and approve Wetland Permit Applications; or, 2) the review function could be assigned to a Planning Staff or Code Enforcement Officer, who would conduct the technical review and provide a recommendation to the Planning Board for a permit action. In this second option, the Planning Board remains the permitting authority. It is likely that most permit applications will be for activities already subject to local development review. It is unlikely that adoption of this wetland review process will unreasonably add to the local paperwork burden. The municipality should carefully consider the best way to process applications based on local staff capacity and ease of coordination with local development review procedures.

Example Tool

- [Model Municipal Freshwater Wetlands Ordinance](#)

Amendments to Shoreland Zoning to Protect Habitat Adjacent to Significant Wetlands

Introduction

The protection of upland buffers or riparian zones surrounding streams and wetlands, not only protects wetland functions and values, but also is integral for maintaining overland travel

corridors and connections between significant habitat components. Shoreland Zoning is often the best tool municipalities have to review the incremental impacts posed by small projects such as individual lot development that typically only require a building permit from the Codes Enforcement Office. The State Mandatory Shoreland Zoning Act requires municipalities to zone and protect a 250-foot area adjacent to wetlands that are ten or more acres in size, excepting forested wetlands, as part of a Shoreland Zoning Ordinance. However, there is no similar requirement to zone and protect small streams, forested wetlands or wetlands less than 10 acres in size, even though these wetlands may have significant ecological values deserving protection.

To address this gap in protection of significant wetland values, a municipality has the ability to consider amending its Shoreland Zoning Ordinance or the shoreland zoning provisions of a town-wide zoning ordinance. Suggested approaches for such amendments are provided below. Section I. presents an overview of suggested provisions and includes explanatory notes supporting the need for the various provisions. Section II. provides example language for the suggested provisions and amendments. A municipality can choose to adopt all or part of these recommendations.

Note: Any amendments to Shoreland Zoning must be approved by the Maine Department of Environmental Protection. Further, any amendments to the Shoreland Zoning Ordinance or shoreland provisions of a town-wide zoning ordinance that extend the area regulated beyond the state minimum (such as increasing the shoreland zone to include areas around headwater streams, or wetlands less than 10 acres in size, or increasing the shoreland zone beyond 250 feet) must be supported by policies and strategies in the municipality's adopted Comprehensive Plan, and the Plan must have been deemed consistent with the State Planning and Land Use Regulation Act (Title 30-A § 4301 et seq.).

Example Tool

- [Suggested Amendments to Shoreland Zoning to Protect Habitat](#)

Resource Protection Ordinances

Introduction

Several towns have chosen to adopt resource protection ordinances that implement specific protections for natural resources that fall through the gaps of typical shoreland zoning rules. Most of these municipal approaches target wetlands smaller than the shoreland zoning 10-acre threshold, often including all wetlands, even small forested wetlands. Many towns have also included protections for headwater streams whereas shoreland zoning guidelines generally limit stream protections to those larger stretches below the confluence of two perennial streams as depicted on USGS maps.

How These Ordinances Work

The Town of Falmouth example, attached below, addresses wetlands, streams, and vernal pools and is crafted to apply town-wide, both within and outside of the traditional shoreland zone. The Falmouth approach, defines two categories of wetlands that must be buffered from residential development. The wetland categories (High Value and Low Value) are distinguished primarily based on observable wetland hydrology, mapped hydric soil types, and the wetland plant community present. The presence of a locally defined vernal pool will also trigger High Value status. This ordinance also establishes buffer requirements for each resource type and offers a relatively simple approach that could be easily adopted even by Towns that do not have the staffing resources to take on a more complex ordinance.

Cape Elizabeth has taken what is arguably the most comprehensive approach to wetland protection at the local level in Maine. Their approach, also attached below, adds certain wetlands to the Shoreland Zoning Resource Protection district, establishes buffer requirements, defines allowed uses, and creates a permit process for activities within the Resource Protection zones.

The Cape Elizabeth ordinance creates three Resource Protection zones. Two of these are specific to freshwater wetlands that are not necessarily protected under state shoreland zoning guidelines. The third zone addresses flood prone areas, steep banks, and areas subject to erosion hazards. Similar to the Falmouth approach, Cape Elizabeth's ordinance distinguishes its wetland focused Resource Protection zones based on soil drainage classes and vegetation ratings as well as wetland size.

In Lieu Fee Mitigation Funds

Introduction

While grants from state, federal, and private sources together with local fund-raising activities provide much of the capital for land protection and habitat restoration throughout the state, Maine's mitigation requirements for unavoidable environmental impacts offer another tool that well-prepared municipalities can take advantage of to achieve locally identified habitat restoration and preservation goals. Additionally, Maine's newly created in lieu fee program (ILF) for wetland compensation may further facilitate municipal participation in the mitigation process by providing a source of dedicated funds that can implement pre-identified land protection and restoration projects involving significant wetlands.

Mitigating adverse environmental impacts to wetlands and significant wildlife habitat is an integral part of Maine's Natural Resources Protection Act (NRPA) (38 M.R.S.A. § 480 A - BB), a regulatory program administered by the Maine Department of Environmental Protection (DEP). In general, resource mitigation is a sequential process of avoiding adverse impacts whenever possible, minimizing those impacts that cannot be practicably avoided, and compensating for those that cannot be further minimized. Depending on the type of activity requiring mitigation and the type of mitigation offered by the developer, land is protected anywhere from a 1 to 1 acre ratio up to 8 acres for each acre disturbed. Typically, the developer offers a proposed approach to mitigation, and the proposal is approved, modified, or rejected by the review agency.

In formulating a proposal, applicants for development undertake a mitigation site search in the area surrounding the project site. This site search results in several alternative approaches to mitigation that are then submitted to the review agency. Recently, developers have been using Beginning with Habitat data to strategically identify significant areas that would result in greater mitigation value. Municipalities that are pro-active in identifying potential mitigation opportunities within their town borders are in a much better position to actually have these projects implemented by private developers in search of local alternatives. This local "readiness" may also provide an additional incentive that could attract local economic development. The identification of potential mitigation projects (significant habitat preservation and wetland restoration in the form of restoring hydrology and buffers for example) can be one result of a local open space planning effort (refer to the [Open Space Planning](#) section).

The recently created ILF program is a new twist on the state's approach to compensatory mitigation. ILF allows developers and others to pay a fee, rather than have a mitigation project selected when they impact wetlands in their development projects. The accumulated fees are then used toward the restoration, enhancement, protection or preservation of other nearby mitigation projects that are pre-qualified based on their ability to provide similar functions and values. The goal of the in lieu fee mitigation program is to ensure there is no "net loss" of wetlands by identifying projects with the greatest chance for success and having a third party use ILF funds to implement the projects.

How ILF Works

In those cases where wetland impacts are unavoidable, under the NRPA, a permit applicant can pay a fee in-lieu to compensate for the impacts they propose in their development plans. The fee amount is based upon the compensation costs that would be otherwise necessary to restore, enhance, create or preserve wetlands with similar functions or values to the one effected. The fee is banked in an account to be managed by a third party and the accumulated funds can then be spent on projects that restore, enhance, or preserve other wetlands and bordering uplands with similar functions and values that are located within the same biophysical region as the permitted disturbance.

Possibilities for Identifying ILF Projects

Aside from managing ILF funds, the third party administering organization will be responsible for identifying eligible projects through application/proposal process and by conducting a review of key areas such as Beginning with Habitat Focus Areas of Statewide Ecological Significance in each biophysical region. Towns conducting open space plans or similar systematic inventory and prioritization efforts could identify potential projects and submit them as candidates to the organization administering ILF. The ILF program allows the DEP to create a more systematic process for wetland mitigation in the State and provides the opportunity to undertake more ecologically meaningful compensation projects. By combining the fees into a single fund, the ILF program also provides a vehicle through which larger, more comprehensive mitigation projects can be accomplished than is typical for a single applicant. It can also be used to restore a variety of wetland types of varying sizes at a number of locations.

When projects are identified, using the accumulated ILF funds, the DEP may enter into an enforceable, written agreement with a public, municipal or a private nonprofit organization for the restoration or protection of these areas. The organization must demonstrate the ability to

receive compensation fees, and ensure that compensation projects are implemented and the lands protected in perpetuity.

The utilization of ILF funds can be a good way for municipalities and land trusts to meet their land and habitat protection objectives. Through their strategic conservation plan, comprehensive plan or open space plan, land trusts and towns have the opportunity to identify high value wetlands and habitat protection opportunities in their area. The process described in the [Open Space Planning](#) section of this document to identify local focus areas, and the [Wetlands Characterization Map](#) offered by Beginning with Habitat, for example, can be good starting points for land trusts and towns to identify potentially high value mitigation projects.

Performance Standards

Introduction to Performance Standards

Upland Sandpiper Performance standards are an important part of any ordinance. They regulate the effects of various uses and help to provide clear and definitive standards that current and future land uses must meet. Some performance standards apply to all uses, while others apply only to specific uses. Attached below are performance standards that address habitat-related topics.

Net Residential Density

Introduction

The manner in which a community defines Net Residential Density can, over time, provide significant ecological protections by limiting the potential density of future development in sensitive areas. Net Residential Density determines the number of units that could be placed on any given parcel during the subdivision process by subtracting the area of sensitive features from the overall acreage of the parcel. The remaining acreage is then divided by the minimum lot size in the parcel's land use zone. This calculation ultimately determines the potential number of lots that can be created. By including elements such as wetlands and certain habitat types as parcel features that are subtracted from net residential density calculations and thus remain undeveloped, a town can add an additional layer of resource protections.

Example Tool

- [Brunswick Net Residential Density](#)

-

Reduced Lot Size Outside of Subdivision Review

Introduction

Strict adherence to a set minimum lot size requirement may not offer a community much in the way of flexibility in responding to sensitive resources during lot-by-lot development that occurs outside of the subdivision process. There is no perfect answer when it comes to determining a minimum lot size or residential density that would be most protective of habitat values at the landscape level. Many towns set a rural minimum lot density of 2 to 4 acres. Some towns have adopted a large lot approach by requiring minimum lot sizes ranging from 5 to 10 acres. No matter what the approach, residential development inherently fragments habitat.

Flexibility should be the goal of any community interested in revising ordinances to better provide long-term habitat protections at the landscape scale. For the most part, tools that offer design alternatives are only available if an applicant submits a project for subdivision review. What about single lot development, or projects that do not trigger subdivision review? Typically no options are available for this type of development. One tool that is currently being used by the Town of Brunswick allows the creation of lots down to the state minimum size (State Law requires a minimum lot size of 20,000 square feet if an individual septic system is to be included on the parcel). Lots as small as 20,000 square feet are allowed in any zone as long as the soils can support the septic design and the balance of the zone's minimum lot size is protected against future development through an indenture (see attached) either adjacent to the reduced lot or elsewhere in the zone.

This tool has been used by farmers and woodlot owners to realize income from a lot sale while not relinquishing the current use of the entire minimum lot size acreage. It can be thought of as a very localized approach to [Transfer of Development Rights](#). If, for example, the minimum lot size in the zone is 5-acres, a landowner can sell a 1-acre house lot and put the 4-acre balance under protection through an indenture anywhere on their property and retain all rights other than the right to develop on the property. This can have the effect of an incremental open space development.

Example Tool

In the Town of Brunswick, single lot splits may result in a lot size reduction to a minimum of 20,000 square feet, as long as the balance of the density requirement of the underlying zone is

placed in permanent protection by filing an Indenture for Division of Land form with the Codes Enforcement Office and recording the Indenture in the Cumberland County Registry of Deeds. Applicants for new lots that do not trigger subdivision review under the provisions of this Section are encouraged to attend a meeting with the town's Department of Planning and Development Staff prior to the creation of the new lots.

- [Brunswick Coastal Protection Zone Indenture](#)

Habitat Related Measures to Augment Local Road Review

Introduction

Street design and acceptance policies do not just have public safety and public works maintenance budget implications, but also have direct consequences for wildlife habitat. The manner in which towns accept roads will often determine how developers approach subdivision design. Limiting the length of dead end roads, or not accepting dead end roads unless they are part of a conservation subdivision, is often the only incentive needed by developers to design more habitat friendly projects. Additionally, a road ordinance can be crafted with design standards that can help to maintain existing habitat values and to minimize barriers to overland species travel.

Additional Information

- For a summary of stream crossing concerns view the [Maine Stream Crossings Poster](#).

Example Tools

- [Street Standards](#)- A tool to reduce direct consequences for wildlife habitat that can result from some street design and acceptance policies.
- [Waterway and Wildlife Crossing Policy and Design Guide \(Maine Department of Transportation\)](#)- Includes in-depth information regarding the physical and biological needs for wildlife passage on Maine's roads and guidance for the installation, replacement, repair and maintenance of both aquatic and terrestrial crossing structures including culverts, pipes, and bridges. Although the document was developed for Maine DOT projects with waterway crossings, direct wildlife habitat or travel corridor impacts, the design guidance can be adapted to similar municipal or private projects.

Invasive Plant Species

Introduction

Invasive species are, unfortunately, here to stay. Many non-native invasive plants became established as a result of Victorian Era gardens when few people considered potential issues with plant importation. Today, aside from labor intensive removal and restoration programs, towns should remain vigilant in preventing further establishment of problematic species.

One approach is to provide local contractors and landscape architects with a list of species to avoid when crafting landscape plans for projects going through project review. Many municipalities require that a landscaping plan be submitted with development applications. This process offers the municipality with a mechanism to screen the proposed species list for potential invasive plants. Although most landscape professionals are aware of the issues posed by invasive species, many do not realize which species are, or have the potential to become, invasive. The list (attached below) is intended as guidance for project applicants and also as a reference for project review staff.

Invasive species can also be addressed in your local shoreland zoning ordinance vegetation clearing standards. For more information visit [Recommended Shoreland Zoning Amendments](#), included as part of the Beginning with Habitat Toolbox.

Additionally, there is no substitute for community education when your town addresses the ever-spreading issue of invasive species. Conservation commissions, local schools, and even scouting organizations can be instrumental in helping to educate landowners and the general public.

- [List of Invasive Species](#)

Financing Habitat Protection

Opportunities for Financing Habitat Protection

Unlike land trusts that have land protection and acquisition as a primary function, municipalities typically struggle with limited funds having to be allocated across a variety of functions and capital improvement projects. Unfortunately, dedicating monies for open space acquisition often ends up low on the priorities list, and if available at all, these monies are fairly limited and offer little purchase power especially given rising land prices. Although



land trusts are vital partners for any local conservation efforts, relying on private efforts alone to satisfy local conservation needs won't satisfy all the public needs that town ownership can offer. For example, public access, neighborhood green space, and recreational use are all open space functions that may best be served through common municipal ownership.

This section of the Beginning with Habitat (BwH) Toolbox is intended to provide a broad overview of tools that have been implemented by Maine communities that enable municipal purchase of land in fee or interest via easements and long-term leases. Simply using one approach might not be enough to satisfy the open space needs of a given community, but the right combination of funding tools with some of the regulatory ordinance provisions previously discussed, can go a long way in preserving a town's special places.

Open Space Impact Fees

Introduction

Impact fees equip a municipality with a mechanism to pay for future infrastructure, service and open/green space needs that grow as the local population expands. Impact fees work by requiring that private residential developments creating the need for the increased municipal services, pay a fee that helps to cover the costs for that specific service expansion. The fees collected must be used to address the need created by the new residents moving into town and should not be used to address pre-existing problems not created by new growth. Although impact fees have traditionally been used to fund new sewer systems or road projects, many communities are using impact fees to address the ever-growing need for green space, open land, and recreational facilities. Each community interested in crafting a local impact fee ordinance for open space should first complete an [open space plan](#) that assesses local desire

for future facilities, inventories existing green space, and can serve as a basis for moving ahead with an ordinance.

Example Tools

The following examples are from the Towns of Brunswick and Saco. The Brunswick example includes links to the impact fee ordinance language as well as to a thorough explanation of the methodology used to determine the fee amount.

- [Brunswick Ordinance Relating to Impact Fees](#)
- [Brunswick Open Space Impact Fee Methodology](#)
- [Saco Impact Fee Ordinance](#)

Additional information on impact fees can be found in [Financing Infrastructure Improvements through Impact Fees: A Manual for Maine Municipalities on the Design and Calculation of Development Impact Fees](#), a document provided through the State Planning Office.

Local Land Bonds

Many communities have, in part as a response to the success of the Land for Maine's Future Program (LMF), elected to send local land acquisition bond referendum measures to the voters. Local funding for land acquisition demonstrates a strong local commitment to land protection that usually offers a community more opportunity to leverage private and other public funds thereby stretching the local dollar. The table below summarizes local land bond and land acquisition measures that have been successful in the past decade.

Table 1. Recent local land bond measures in Maine.

<i>Town</i>	<i>Date</i>	<i>Description</i>	<i>Funds Approved</i>
Freeport	1996	Bond for specified park land	\$450,000
Falmouth	1997	Bond for recreation and open space	\$1 million
Scarborough	2000	Bond for parks and land conservation	\$1.5 million
Freeport	2000	Bond for open space, habitat, and farmland	\$500,000
Falmouth	2001	Bond for open space preservation	\$1.5 million
Saco	2002	Bond for parks and recreation	\$1.5 million
Scarborough	2003	Bond for natural areas and recreation	\$2.5 million
York	2003	Advisory measure for dedicated acquisition fund	n/a
York	2004	Bond for specific open space purchase	\$200,000
<i>Total</i>	-	-	<i>\$9,150,000</i>

The success of a land bond effort depends on the municipality's ability to create a clear vision for conservation and open space lands within their town that is well-received and supported by its citizens. These efforts typically follow the creation of an [open space plan](#) with input gathered from public visioning sessions and that addresses the full range of open space needs including wildlife habitat, public access, recreational trails, and neighborhood green space. Bond expenditures also require well thought out guidelines identifying specifically how acquisitions will be prioritized (typically referencing priorities identified in an open space plan) and how proposed parcels are screened for consistency with program goals and objectives.

Attached below are examples of locally adopted measures including a land board charter, a referendum question to be put before voters, and a detailed acquisition evaluation methodology for parcels considered. Each town in Maine that has successfully passed a local land bond has followed a similar approach to that summarized in the example documents provided.

Current Use Tax Programs

Tree Growth and Farm and Open Space

Many landowners in Maine have experienced dramatic increases in their property taxes. The rising demand for land has driven up selling prices which in turn has led to increased property valuations. In many cases, no longer affordable property taxes are forcing families and long-time landowners to sell. Consequently, many special places are being developed or transformed and their working, scenic and natural landscapes and values are being altered.

The Tree Growth Tax Law and the Farm and Open Space Tax Law were established in the 1970's to prevent property taxes from forcing productive woodlands, farms and significant open spaces into tax delinquency or conversion to development. These programs make it easier for landowners to achieve a more manageable tax assessment. Under the tree growth and farmland programs, land is assessed depending on its productive value, without regard to its development potential and taxes are based on very low land levels. The open space program, on the other hand, applies percent value. Tax reductions in this program range from 20 percent to 95 percent for land under forever wild easement that guarantees public access.

Each of the current use tax programs has specific guidelines for eligibility. Only properties that are undeveloped can be enrolled in the Tree Growth and Farm and Open Space Tax Programs (portions that contain buildings or structures cannot be enrolled in the program and remain taxed at the standard level). For tree growth classification, the property must be forested, managed according to a forest management plan, and contain at least ten contiguous acres. For farmland classification, the tract must be used for farming, agriculture, or horticultural activities, and must contain at least five contiguous acres. The landowner must also obtain an agricultural income of at least \$2,000 annually from the land. For open space classification, there is no minimum acreage, however the tract must be preserved or restricted in use to provide a public benefit by conserving scenic resources, enhancing public recreation opportunities, promoting game management, or preserving wildlife or wildlife habitat. To enroll in these programs, landowners apply to the town for consideration (or the State Tax Assessor in the case of the unorganized towns).

Working Waterfront

In addition to the Tree Growth and the Farmland and Open Space Tax Laws, the State of Maine also has a Working Waterfront Tax Law that was developed in 2006 to encourage the preservation of working waterfront land and to prevent the conversion of these properties to other uses as the result of economic pressures caused by the assessment of that land for

purposes of property taxation. To allow the property to be valued for property tax purposes based on what the value of the property would be in the marketplace if its future use were required to remain the same as the way it is currently being used as working waterfront. This law requires the assessor to place a value on the property which recognizes what the property is worth as working waterfront land and not what its market value would be if the property could be converted to other uses.

Benefits of Current Use Programs

While landowners can receive reductions on their property taxes by enrolling in these programs, they are assessed a penalty if the property is withdrawn from the program or its uses change no longer qualifying it. Although, not permanent, the Current Use Tax programs can be a useful method that gives landowners monetary incentives to keep their properties undeveloped, providing a temporary level of protection from development sprawl.

For more information on current use tax programs visit the [Maine Revenue Service](#) website.

Grant Sources

Introduction

Given the relative lack of discretionary funds available to most municipalities for addressing conservation projects, grants can be a vital source of money to support conservation-related projects. Depending on the source, grants provide monetary assistance for land acquisition, trail development and public access, habitat restoration and enhancement, open space planning, and strategic conservation planning.

Grant amounts and availability may vary from year to year and matching funds or in kind donations must be provided to receive most awards. In addition, each grantor has a mission and specific areas of interest and will generally only fund those projects that will meet their goals and may only fund certain types of organizations. Make sure that you research the foundation or grant-making organization and specific fund thoroughly to be certain your project and organization are a good fit before spending the time and effort to prepare a proposal. Also, grant funds received and local matching requirements have local budget implications. Grant administration and reporting takes time and all partners should be made aware of their likely roles and responsibilities through project completion.

The following section briefly summarizes the major programs currently available to support land conservation in Maine and offers examples of how communities and organizations have used these sources to complete conservation projects. There may be other funding sources available that are not included on the following list. Additional information on grant opportunities can be found through the [Maine Philanthropy Center](#) at the University of Southern Maine. The Maine Philanthropy Center provides references for funding sources through the Foundations Center Database, a comprehensive and searchable CD for identifying grants. Additionally the [USFWS Gulf of Maine Program](#) provides a list of potential funding sources as well as technical assistance.

For those with limited grant writing experience or with an interest in improving their grant writing skills, grant writing workshops are available throughout the state and may be helpful to attend. Workshops are offered by the Maine Philanthropy Center (www.mainephilanthropy.org), the Maine Association of Non-Profits (www.nonprofitmaine.org), and the Maine Community Foundation (www.mainecef.org).

- [List of Grant Sources](#)