

QUARTERLY ECONOMIC REPORT

STRATEGIC LAND CONSERVATION IN MAINE

SEPTEMBER 2014



MAINE
DEVELOPMENT
FOUNDATION



Introduction

The Maine Development Foundation (MDF) staffs the Maine Economic Growth Council, an independent body created in statute to develop a long-term vision for Maine’s economic growth and develop a broad range of indicators to assess our progress towards that vision. The Growth Council’s annual *Measures of Growth In Focus* is a reliable and trusted report tracking Maine’s progress on a number of critical indicators that collectively measure the performance of Maine’s economy. MDF has partnered with the University of Maine’s School of Economics (SOE) on this quarterly newsletter, which explores these topics further and provides a timely look at the various elements of Maine’s economy. The Council’s vision is a high quality of life for all Maine people, grounded in a vibrant and sustainable economy, vital communities, and a healthy environment.

Strategic Land Conservation in Maine

For a number of years, the Council measured the total acreage of conserved land in Maine, with the benchmark of 1.8 million conserved acres by 2010. With the inclusion of acreage conserved by conservation easement, Maine’s total conserved acreage was just under 3.7 million acres in 2010, or 19% of the state’s total land area. With the total acreage goal met, the Council no longer includes this as a separate indicator, but emphasizes the continuing need to focus future conservation efforts on strategic holdings for protecting natural and working lands, with an emphasis on habitat connectivity and other priorities identified by Land for Maine’s Future and the Department of Agriculture, Conservation, and Forestry and the Department of Inland Fisheries and Wildlife.

Maine has been a leader in land conservation efforts in the United States. According to the 2010 Land Trust Census by the Land Trust Alliance, Maine is second in the nation for total acres conserved. There are over 88 land trusts operating in Maine, ranking 6th in the nation. Since 1999 alone, well over one million acres have been protected from development, primarily through conservation easements.

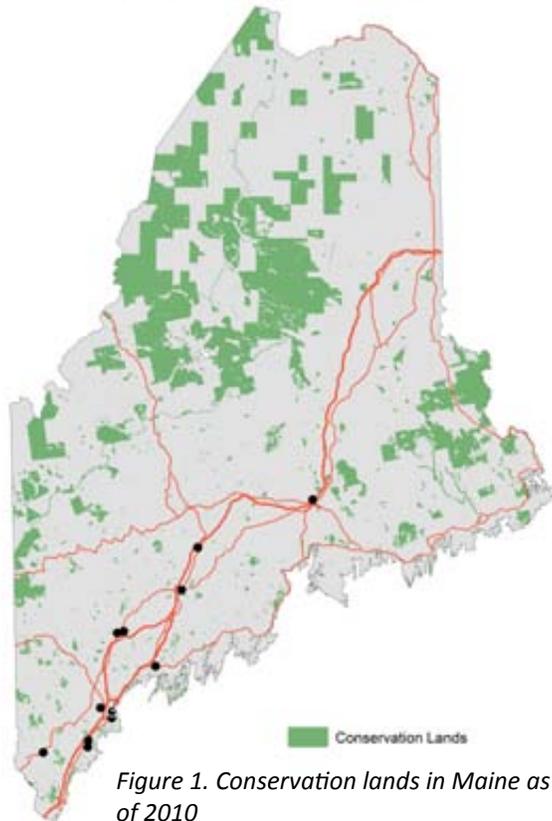


Figure 1. Conservation lands in Maine as of 2010

Assessing our conservation outcomes to date is helpful in setting future goals that can help to guide decision making going forward. Conservation lands offer a wide variety of benefits, providing recreation opportunities, protecting wildlife habitat, and conserving working landscapes, depending on the type, location, and amount of land that is conserved. Increasingly, emphasis is being placed on the social benefits of conservation lands, such as public health, in addition to ecologically oriented goals. Conservation outcomes can be evaluated by looking at the characteristics of conserved lands, vegetation types, or landscape metrics which represent how well conserved areas sustain biodiversity and foster migration and gene flow. Table 1 shows the proportion of land cover types that are protected in Maine.

Distribution patterns offer another perspective on existing conservation outcomes. Figure 1 shows that the majority of land conservation in Maine is in the northern, more rural

parts of our state. This clustered distribution of lands may indicate existing conservation lands are uneven in their protection of conservation targets. Lands in the North Woods are predominantly spruce-fir and in remote areas, while southern Maine lands include more mixed and hardwood forests and settlements. Comparing the map with Table 1 also suggests that agricultural lands may be underrepresented by existing land conservation. Given the increasing emphasis on social benefits of conservation, conserving lands near population centers may be an important future target, by increasing access to conservation lands, with the added benefit of increasing representation of southern Maine habitats.

Another way to evaluate conservation is to consider the level of protection afforded by different conservation efforts. Maine is a leader in tracking conservation easement information via the Maine Conservation Easement Registry. This database enables monitoring of easements and also provides the ability to examine the effects of these levels of protection over time.

Achieving desired goals can be difficult because not all lands are available for conservation at the same time, and, some, maybe never. In the vast majority of situations, conservation lands are protected voluntarily, by willing sellers. Landowners must be willing to either sell the land in full, or place a conservation easement on the land, which can limit development rights and future actions taken on the land. Interwoven with this issue of willing sellers are the land use regulations, coordinated primarily at the town level in Maine, that determine what uses a piece of land can legally support. Land purchases and/or conservation easements may not be necessary in some locations as land use regulations already afford protection for some wetlands, vernal pools, and shoreland areas.

Table 1. Percent Conserved in Maine, by Land Cover Type, as of 2010

Land Cover Type	Acres	Percent of Land Cover Type Conserved
Agriculture and Fields	33,553	3%
Hardwood Forest	592,736	16%
Evergreen Forest	1,042,595	23%
Mixed Forest	1,100,464	18%
Scrub/Shrub	301,804	18%
Wetlands	359,696	18%
Other*	49,488	3%
Total	3,480,337	19%

* Other includes barren, ice/rock, grassland, developed, and herbaceous.

Strategic prioritization of which additional lands should be conserved also involves identifying how best to balance multiple conservation goals. Conservation prioritization also should consider the demands of other land uses, including where development is most likely to occur and which lands are most suitable for agriculture and forestry. University of Maine researchers Rob Lillieholm, Chris Cronan, Michelle Johnson, and Spencer Meyer have developed methods to prioritize and visualize conservation priorities in concert with other land uses, by working with stakeholders to identify and rank values for conservation, agriculture, forestry, and development suitabilities (Meyer et al. 2014). Results of this process can be replicated by other conservation groups and are available online at mainelandusefutures.org. This is one of many successful examples of prioritization efforts that conservation groups are engaging in across Maine and the country.

Another consideration is how to best capitalize upon existing conservation lands to establish large conservation reserves. Wildlands and Woodlands, a program developed at the Harvard Forest, has identified a New England-wide strategy through which regional prioritizations are used to identify targeted areas for aggregation where conservation lands already exist and can be built upon. Aggregation can increase the benefits of conservation by helping to minimize the likelihood that conserved land will be isolated from other protected areas. It can also lead to conserving more of what is already conserved and should be considered along with conservation priorities for underrepresented areas.

Strategic conservation efforts include evaluation of conservation outcomes and prioritization and aggregation of new conservation projects. These efforts are being readily applied to existing land conservation efforts in Maine, in part by the many land trusts operating in the state. Coordinating and deciding upon conservation priorities among the many actors in the state will be critical to achieving strategic conservation outcomes that best serve Maine and its residents.

References

Meyer, S.M., Johnson, M.L., Lillieholm, R.J., and C.S. Cronan. In press. Development of a Stakeholder-driven Spatial Modeling Framework for Strategic Landscape Planning using Bayesian Networks across two Urban-Rural Gradients in Maine, USA. *Ecological Modelling*.

About the Maine Development Foundation (MDF)

The Maine Development Foundation (MDF) is a private, non-partisan membership organization that drives sustainable, long-term economic growth for the State of Maine. MDF's strategic focus is a productive workforce. We believe that a productive worker is one that is educated, healthy, innovative, and engaged in their community and the economy.

About the University of Maine's School of Economics (SOE)

The SOE serves as the University's hub of economics research and teaching while also embracing broader social science perspectives through its primary and affiliated faculty in law, social psychology and human-ecology. The faculty works closely with stakeholder groups to generate information and policy recommendations to help solve Maine and national needs. SOE offers both undergraduate and graduate programs (such as resource economics and policy, financial economics, and international economics) that train students to think analytically and critically about social, environmental, and economic issues, and lead to careers in economics, law, public service, business, and other applied policy fields. Explore SOE's website (<http://www.umaine.edu/soe/>) to learn more about their academic and research programs, and their faculty, staff, and students.

Acknowledgements

MDF would like to thank SOE Director and Professor Mario Teisl for his oversight of this project, and Michelle Johnson, previously a SOE graduate student, the author of this report. Michelle recently received her doctorate in Ecology and Environmental Sciences from the University of Maine, focusing on land use change modeling and planning. She currently is an Interdisciplinary Scientist with the U.S. Forest Service's New York City Urban Field Station. MDF Program Director Ryan Neale (rneale@mdf.org) oversees the development and production of this report series.