Sustaining Maine's Green Infrastructure

A white paper prepared for the Governor's Steering Committee on Maine's Natural Resource-based Industry

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Editor's Note: By necessity, this paper does not contain new research. Given time and resource constraints, it attempts to pull together research and information contained in existing reports and from previous research efforts. Frequently, it reproduces exact text from a known report. Every effort was made to identify the report from which language is taken. We beg the forgiveness of the authors of these reports and hope that they subscribe to the maxim that imitation is the greatest form of flattery.

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Contents

Executive Summary

Maine people have a unique feeling for the land.

–The People of Maine: A Study of Values

Maine is blessed with an exceptional and diverse natural environment that in many ways drives the state's economy. Communities, businesses, and residents rely on our landscapes and working lands for jobs, recreation, and peace of mind. Often it is public infrastructure that keeps the lands and waters accessible and supports their use. State-funded conservation and recreation lands, waters, and facilities are key components of this public infrastructure, which comprise Maine's green infrastructure. Maine needs to take care of this green infrastructure to support our natural resource-based economy and maintain a way of life for our citizens.

The Governor's Steering Committee on Maine's Natural Resource-based Industry finds:

- Maine's natural resource industry depends on our green infrastructure, that is the availability of and access to our rural lands and natural resources;
- There has been considerable state investment to support green infrastructure;
- State funding for this green infrastructure has been scaled back or in many cases eliminated;
- The state's green infrastructure needs are currently viewed in isolation from one another with little coordinated planning and diffuse constituencies; and
- Today, much of this green infrastructure is threatened or in disrepair.

Maine's Green Infrastructure

The Steering Committee hopes to understand the diverse threads that comprise the state's green infrastructure, the extent of need to manage these resources into the future, and the degree of support for developing funding proposals to sustain them.

Green infrastructure includes the very lands and waters themselves, as well as the constructed facilities that allow their use –from piers and boat ramps, to parks and trails. Four our purposes, we focus primarily on the following state investments in green infrastructure:

- ✓ State Facilities: state parks and historic sites
- ✓ Recreation Lands and Trails: state-administered trails, public reserve lands, state eased lands and trails, private landowner agreements and accommodations, and state nature tourism infrastructure
- ✓ Coastal and Inland Waters: lakes, rivers, ponds, estuaries, and beaches along with working waterfront access, fish hatcheries, and state boat access
- ✓ Working Lands: farmlands and forests
- ✓ Other State Conservation Lands: habitats, prime physical features, ecological reserves, river corridors, and scenic landscapes

We also examine the role of private lands that have traditionally been available for recreation by permission of the landowner.

Economic Contribution of Maine's Natural Resource-based Industry

Public investment in our green infrastructure strengthens Maine's economy. The economic impact of the combined natural resource industry is compelling. In addition to the stalwarts (forestry –$10.2 billion, agriculture –$1.2 billion, and fishing –$800 million), the estimated direct spending on outdoor recreation could be as high as $3 billion, contributing to a $6.2 billion tourism economy.[1] A 2001 survey shows that Maine's wildlife-related economic contribution is fifth in the nation in terms of the percentage of gross state product.[2]

Land and water for recreation and conservation is important to Maine's economy. The Maine Economic Growth Council points to it as one of its indicators of our state's economic health. They say, "Access to public and private lands contributes to the high quality of life enjoyed by Maine people. Residents use these lands for all types of recreational activities, which provide jobs and draw tourists."[3]

Maine people's use and enjoyment of the state's abundant resources is part of our heritage that needs to be upheld. Maine residents' participation in and spending on outdoor recreation tops that of visitors in hunting, fishing, snowmobiling, all terrain vehicle (ATV) riding, and state park use. The economic impact of hunting by Maine residents is more than double that of nonresidents.[4] Of the more than four million fishing days during 1996, resident anglers went fishing 3,275,000 days and nonresidents 832,000 days.[5] There are more Maine resident saltwater anglers than nonresident (207,183 residents and 173,349 nonresidents in 2005).[6] In 2005 there were 48,408 resident snowmobile registrations; four times more than the 11,026 nonresident ones.[7] Nearly all ATV registrations are for Maine riders; only 6% are registered to nonresidents.[8] About two-thirds of the people who use our state parks are Maine residents.[9]

Public investment, and more particularly state spending, helps not only to retain our outdoor traditions, but also to fortify our natural resource economy. A 2004 study conducted jointly by the University of Southern Maine and University of Maine concludes that public investment in land conservation is akin to building rail and highway systems; that is it is basic infrastructure to

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[1] Note: This includes direct and indirect spending reported as follows: state parks and historic sites ($80 million-2005), snowmobiling ($400 million-est. 2005), ATV riding ($200 million-2004), hunting ($325 million-2003), inland fishing ($300 million-1996), recreational marine fishing ($28 million-2005-personal daily expenditures only), wildlife watching ($332 million-1996), and recreational uses of Great Ponds ($1.7 billion-1997). Some or all of these dollars are included in the $6.2 billion reported for tourism and there is likely to be overlap between some of the numbers reported for outdoor recreation. See the recommendations at the end of the paper regarding the need for a better, consistent calculation of spending by outdoor recreationists in Maine.

[2] International Association of Fish and Wildlife Agencies, Management Assistance Team. Maine Department of Inland Fisheries and Wildlife 2003/2004 Review. National Conservation Training Center: Shepherdstown, WV, May 2004, p. 2.

[3] Maine Economic Growth Council. Measures of Growth 2006. Maine Development Foundation, Augusta ME, January 2006, p. 24.

[4] Teisel, Mario F. and Kevin J. Boyle. The Economic Impacts of Hunting, Inland Fishing, and Wildlife-associated Recreation in Maine. Department of Resource Economics and Policy, University of Maine: Orono, ME. November 1998, p.4.

[5] Teisel and Boyle, p.4.

[6] National Marine Fisheries Service. Marine Recreational Fishery Statistics Survey, 2005.

[7] Maine Snowmobile Association. Web site: http://www mesnow.com/TheMSA html.

[8] Margaret Chase Smith Policy Center, University of Maine and Maine Department of Conservation. Economic Contributions of ATV-related Activities in Maine, March 2005, p. iii.

[9] Data from Maine Department of Conservation.

support our economy.[10] Preserving open space and working lands helps revitalize communities and mitigate local property taxes. Public infrastructure spending not only provides access to lands and waters on which many of our natural resource businesses rely; it also stimulates private investment in commercial operations that support them.

Pressures on the State's Green Infrastructure

The state's green infrastructure is under pressure in multiple ways:

- State parks and historic sites attract 2.2 million visitors each year and include some of the state's most valuable assets; too many of them are not adequately maintained and are in disrepair.
- State government resources to fully manage its recreation lands and trails are spread too thin; this despite the generous efforts of many volunteers to maintain trails and other facilities.
- Damage from unmanaged, and in some cases, irresponsible use and a lack of repair and clean-up services threaten the continued use of traditionally available private lands for outdoor recreation.
- Outdoor recreational activities are growing in popularity, providing an economic benefit to the state; the increase in users must be balanced against impacts to sometimes fragile shorelines and natural resources.
- Our coastal beaches are eroding, putting at risk one of our most significant tourism attractions.
- Coastal development is displacing Maine's commercial fishing operations.
- Several of the state's nine fish hatcheries, which produce over 1 million trout and salmon a year to support Maine's lucrative sports fishing industry, do not meet wastewater treatment discharge standards.
- Even though Maine's coastal and inland lakes are state treasures, just a fraction of them have dedicated public access.
- Land prices make it very attractive for farmers to sell out, resulting in a loss of productive agricultural lands.
- Maine is losing key pieces of its incomparable landscape and wildlife habitat to development.

Current and Future Investment to Sustain Maine's Green Infrastructure

While various state funding sources for Maine's public green infrastructure are in place, they are uncertain or intermittent. In the past 35 years, voters have approved just $8.5 million for capital repairs for state parks and historic sites; the last bond was a decade ago. Before 2002, Maine had not upgraded its fish hatcheries in more than 50 years. It was 12 years between the first and second Land for Maine's Future bonds and six more years before another LMF bond was sent to voters last year.

For the most part, funding has been inadequate to keep pace with demand. Maine has seen increases in the rate conversion of farm and forest land to development and demand for

[10] Muskie School of Public Service, University of Southern Maine and Margaret Chase Smith Center for Public Policy, University of Maine. Land for Maine's Future Program: Increasing the Return on a Sound Public Investment, January 2004, p. 2.

additional trails and boat-launching sites, while bond requests for farm and forestland preservation and water access have been scaled back or eliminated.

Too often we have not adequately funded our maintenance and land management obligations. Parks and historic sites, public lands and trails, state-held conservation and working landscape easements, and other green infrastructure represent millions of dollars of public investment. This investment must be looked after.

The table below provides a summary of the Maine's green infrastructure and the funding needed to sustain it.

Table 1: Current and Future Funding Needs for Maine's Green Infrastructure

State Green Infrastructure Resources	Biennial Funding Needs July 1, 2007-June 30, 2009	Total Funding Needs
State Parks and Historic Sites	$8 million for capital repairs	$40 million over 5 years
	$10 million biennially for maintenance	$10 million biennially for maintenance
Recreation Lands and Trails	See Land for Maine's Future below	See Land for Maine's Future below
Nature Tourism	$1.2 million	$6 million for MDOT-related infrastructure over 4 years
Coastal Beaches	$7.1 million for beach nourishment	$143 million over 20 years
Working Waterfront Access	$2 million for working waterfront access	$2 million biennially for working waterfront access
	$1.5 million for Small Harbor Improvement Program	$1.5 million biennially for Small Harbor Improvement Program
Fish Hatcheries	$10 million	$22.6 million over 10 years
Water Access	See Land for Maine's Future below	See Land for Maine's Future below
Farmland	See Land for Maine's Future below	See Land for Maine's Future below
	$5 million for Farms for the Future	$5 million biennially for Farms for the Future
Forests	See Land for Maine's Future below	See Land for Maine's Future below
Land for Maine's Future Program	$40 million	$100 million over 5 years
Total	$85 million	

Learning from Other States

Research into green infrastructure investment measures used by other states suggests some innovative funding options, including:

- Increased general obligation bonding; perhaps something on the scale of a *Legacy Act*;[11]
- Enabling options for local governments such as property tax exemptions or a local option sales tax;
- A stable fee source such as real estate transfer fees or a targeted sales tax increase;
- Income tax credits for donated land or easements;
- Mitigation fees on development in unorganized territory dedicated to parks or public reserve lands;
- Creation of a semi-autonomous body to hold and manage state-owned conservation easements; or
- A major endowment or capital campaign.

Questions for the Governor's Steering Committee on Maine's Natural Resource-based Industry

The following questions are posed for consideration by the Governor's Steering Committee for developing a strategy for the sustainable management of Maine's green infrastructure.

- How should the upkeep and development of the state's green infrastructure be funded? How may it be sustained?
- What is the appropriate balance between fees, taxes, and bonding to support the state's green infrastructure?
- Are endowments or corporate sponsorships to support green infrastructure appropriate?
- Is there sufficient willingness among sectors to collaborate on a proposal for funding Maine's green infrastructure?
- What are the priorities for funding?

[11] Meaning historic in size; that would change the face of the landscape (see p.53).

I. Background

> **"Even the most cursory examination of Maine history reveals the profound role that fishing, farming, forestry, and outdoor recreation have played in shaping the culture and character of our state."**
>
> *— Governor's Steering Committee on Maine's Natural Resource-based Industry*

This white paper is prepared for the Governor's Steering Committee on Maine's Natural Resource-based Industry to inform its discussion on sustaining the state's green infrastructure.

Governor John Baldacci created the Steering Committee on Maine's Natural Resource-based Industry to oversee and monitor progress towards implementing the 2003 Blaine House Conference recommendations. More than 700 people, spanning the five industry sectors (aquaculture, agriculture, fishing, farming, and outdoor recreation), convened in Augusta to develop strategies for sustaining their industry. Chief among these was the overriding concern about loss of access to the resources on which they depend.

Conference participants held that increasing land value has driven fishermen away from waterfronts, forced farmers to sell off their pastures for development, fragmented vast tracks of forest land, and placed at risk traditional recreational places. They said, "If Maine's agricultural, fishing, forestry, and outdoor recreation businesses are to survive and prosper, it is essential for them to have effective and continuing access to the resources they use." [12]

The conference also found that the

> …challenges facing Maine's natural resource-based industry today are great and, in many cases, acute. They will not be addressed effectively except through strong, collaborative efforts among Maine's private, public, and nonprofit sectors. Only these partnerships –combined with imagination and boldness –will be sufficient to brighten the prospects of these industries.[13]

The Governor directed the Steering Committee to bring together the sectors that comprise Maine's natural resource industry and work toward common solutions. This white paper and accompanying forum supports the Steering Committee's charge.

Organization of this Paper

The goal of this paper is to understand the resources that comprise the state's green infrastructure and what is needed to sustain them. In Section I, we describe the Steering Committee's purpose. Section II defines Maine's public green infrastructure. In Section III, we briefly inventory each element of the state's green infrastructure and its contribution to our economy. We also describe the threats to its continued use. Finally, we outline existing state stewardship of the green infrastructure resource and enumerate the state capital funding needs to sustain it. Section IV of

[12] Governor's Steering Committee on Maine's Natural Resource-based Industry. Blaine House Conference on Maine's Natural Resource-based Industry: Conference Report. Maine State Planning Office: Augusta, ME, February, 2004, p. 16.
[13] Blaine House Conference on Maine's Natural Resource-based Industry: Conference Report, p. 11.

the paper presents research regarding how other states fund their public green infrastructure. The paper concludes with a list of additional research questions in Section V. The appendices in Section VI provide background information used in assembling the paper.

II. Introduction

> **"It's a fundamental shift in thinking…to get governments to regard green infrastructure as they do other infrastructure investment."**
>
> *— John Griffin, former Secretary of Natural Resources, State of Maryland*

Definition of Green Infrastructure[14]

The Governor's Steering Committee on Maine's Natural Resources Industry defines green infrastructure as: 1) the natural capital and its sustainable management; 2) the physical capital associated with its efficient use and management; and 3) the private property rights and civic traditions surrounding human access to it.[15]

With this definition, green infrastructure includes: inland lakes and coastal waters, agricultural lands, forests, conservation lands, recreation lands and trails, scenic views, and beaches. It also includes parks and historic sites and their associated buildings and facilities, signage, visitors' centers, rest areas, boat access, trail bridges and trestles, and wharfs and piers. Finally, it includes hunting lands, fishing ponds, and snowmobile, all terrain vehicle, hiking, and cross-country ski trails on public and private property.

In this paper we identify the resources that comprise Maine's green infrastructure as follows:

- ✓ State Facilities: state parks and historic sites
- ✓ Recreation Lands and Trails: state-administered trails, public reserve lands, state eased lands and trails, private landowner agreements and accommodations, and state nature tourism infrastructure
- ✓ Coastal and Inland Waters: lakes, rivers, ponds, estuaries, and beaches along with working waterfront access, fish hatcheries, and state boat access
- ✓ Working Lands: farmlands and forests
- ✓ Other State Conservation Lands: habitats, prime physical features, ecological reserves, river corridors, and scenic landscapes

Focus on Green Infrastructure

The Steering Committee recognizes that traditional "black" or "built" infrastructure –roads, bridges, and air, ship, and rail freight lines –supports our natural resource businesses. Indeed, David Cole, Commissioner of the Maine Department of Transportation, states that his department strives to prioritize transportation projects in ways that best meet state objectives, including the support of natural resource businesses.[16]

However, for the purposes of this white paper and the public discussion forum it is intended to inform, the Steering Committee will focus on infrastructure that is unique to the state's natural

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[14] Typically the term green infrastructure refers to the land and water that support natural life. See Appendix A for more information.

[15] Barringer, Richard. Co-chair, Governor's Steering Committee on Maine's Natural Resource Industry, E-mail. March 22, 2006.

[16] Cole, Commissioner David. Maine Department of Transportation. Presentation. Meeting of the Governor's Steering Committee on Maine's Natural Resource-based Industries, Augusta, ME, December 9, 2004.

resource industry. For the moment, we will focus on just the green infrastructure, which typically is less considered and more fragmented and reactive in its management.

As the Green Infrastructure Network says,

> A city, county, or state would never build a road, water and electrical system piece by piece, with no advanced planning or coordination between different system components and jurisdictions. These built infrastructure systems are planned, designed, and invested in far in advance of their actual use. We should plan, design and invest in our green infrastructure following the same principles and approaches that are used for built infrastructure.[17]

Developing a planned, proactive, sustainable approach to managing the state's green infrastructure is the purpose of the Steering Committee's work at this time.

Focus on State Investments

Here too, we focus on state investments in green infrastructure. We recognize there are significant public and private investments in green infrastructure throughout the state. Under our definition, green infrastructure could conceivably also include inns, restaurants, and commercial tourist services, productive forestland or farmland in private ownership, or even commercial fishing infrastructure. It could also include land and easements held by private statewide conservation organizations, municipalities, and local land trusts. These resources are clearly important to our state's overall natural resource economy. However, for purposes of this effort, local and private lands and businesses *are not included* in the green infrastructure examined in this paper. There are two exceptions. Eased land (that is private land on which the state holds easements) and private lands and trails that have traditionally been available for recreation by permission of the landowner. This paper will examine both of these resources as part of the state's green infrastructure needing to be sustainably managed.

Focus on Capital Investments

This paper concentrate s on the capital investments needed to sustain the state's green infrastructure. This is not to say that ongoing programmatic funding is not important. The state's landowner relations program is critical to maintaining the goodwill that helps ensure public recreation access to private lands. Yet its funding has been cut in recent years. State enforcement programs such as monitoring conservation easements and intervening on behalf of operators under right-to-farm and right-to-fish laws are not adequately funded. Need continues to exceed the available funding for grant programs for trail maintenance, boating facility improvements, and pedestrian and bicycle path development. Throughout the paper, we describe state programs that protect our green infrastructure and the funding requirements of them. But these operational needs are not what we give attention to at this time.

[17] The Green Infrastructure. Web site: www.greeninfrastructure net.

III. Maine's Public Green Infrastructure Resources

"I am proud that we have conserved more land for traditional uses, opened more multi-use trails, and provided more recreational opportunities for Maine sportsmen than any administration in the last 50 years."

— Governor John E. Baldacci

State Facilities

A. State Parks and Historic Sites

From Lily Bay to Sebago Lake, the state's unique state park system offers swimming, fishing, boating, camping, snowmobiling, and hiking in some of Maine's most beautiful spots. Maine's historical resources include North America's oldest woolen mill, the nation's oldest blockhouse, the first ship ever built in North America, and Bible Point State Historic Site in Island Falls, where Teddy Roosevelt's conservationist views were inspired.[18]

State Parks and Historic Sites

- ✓ 32 state parks
- ✓ 12 historic sites
- ✓ 200 buildings
- ✓ 2 river corridors
- ✓ 99,000 acres

The Maine Department of Conservation manages more than 32 state parks, two river corridors, and 12 historic sites with over 200 buildings and scores of facilities and 99,000 acres of lands. These sites draw more than 2 million visitors per year. [19]

Some of these properties are the jewels in Maine's crown:

- ✓ Cobscook Bay State Park is surrounded on three sides by the salt waters of Cobscook Bay. It has more than 100 campsites, many at the water's edge where visitors can spy whales and dolphins frolicking. There are more than 200 different species of birds, including the American bald eagle, in the area.[20]
- ✓ The Penobscot River Corridor with more than 67 miles of river and 70 miles of lake frontage provides outstanding opportunities for remote canoe trips, fishing excursions, and whitewater rafting.[21]
- ✓ Fort Knox, Maine's largest historic fort, features stunning military architecture and master granite craftsmanship. Strategically located on the narrows of the Penobscot River, the fort was designed to protect the river valley from naval attack during the Civil and Spanish American wars.[22]

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[18] Maine Department of Conservation. Web site.
[19] Data from Maine Department of Conservation.
[20] Maine Department of Conservation. Web site.
[21] Maine Department of Conservation. Web site.
[22] Maine Department of Conservation. Web site.

"The state parks and historic sites are destinations for residents and tourists that showcase Maine's spectacular natural features. They are the public face of Maine."[23]

Economic Impact of State Parks and Historic Sites

A study just released by the Maine Department of Conservation, conducted by the Margaret Chase Smith Policy Center at the University of Maine,[24] estimates that, in 2005, visitors to state parks generated nearly $80 million dollars for Maine's economy, supported 1,180 jobs, and contributed $6.1 million of tax revenues for state and local governments in Maine.[25]

Economic Impact of State Parks and Historic Sites

- ✓ $80 million in direct and indirect spending

Pressures on State Parks and Historic Sites

Today, Maine's parks and historic sites host 2.2 million each year. Over 20 years, more than 40 million people have visited state properties. Offsetting the wear and tear from that much use requires a large investment. Yet the state's investment has been inadequate to maintain its facilities. In a recent study, the state ranked last in spending on parks and recreation (per capita). For capital expenditures on its park system, Maine ranks in the bottom ten compared to other states.[26]

Pressures on State Parks and Historic Sites

- ✓ Visitor wear and tear
- ✓ Inadequate facilities
- ✓ Neglect and weather
- ✓ Lack of capital funds for repairs and upgrades
- ✓ Budget cuts

Maine's parks and historic sites are irreplaceable. Their properties and buildings are valued at hundreds of millions of dollars.[27] Yet, many of them have been left to molder. They need septic systems, water supplies, handicapped accessibility, siding and roofing work, asbestos removal, repointing, painting, paving, playgrounds, signs, and more. Facilities are below standards and reflect poorly on Maine's tourism image. For example, some heavily visited areas still lack running water. One recent visitor complained of the toilets saying, "This is Third World stuff."[28]

Also, neglect and weather have taken a toll. For example, Fort Popham now poses a safety hazard to visitors and is closed. Built in the 1840s, Maine's only iron-making facility, Katahdin Iron Works, near Brownville is literally crumbling into ruin. Dangerous playground equipment in state parks has had to be removed, leaving obsolete facilities.[29] The repairs are critical.

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[23] Department of Conservation.

[24] Morris, Charles E., Robert Roper, and Thomas Allen. The Economic Contribution of Maine State Parks: A Survey of Visitor Characteristics, Perceptions, and Spending. Margaret Chase Smith Policy Center, University of Maine: Orono, ME. May 2006, pp. 32-34.

[25] Note: Does not include state park admissions fees paid by visitors.

[26] Maine Department of Conservation. Powerpoint Presentation*:* "Investing in Maine's State Parks and Historic Sites, The Face of Maine," undated.

[27] Investing in Maine's State Parks and Historic Sites.

[28] Investing in Maine's State Parks and Historic Sites.

[29] Investing in Maine's State Parks and Historic Sites.

Because the parks system receives most of its funding from the General Fund, it has taken its share of budget cuts. Further cuts will force the de-staffing of some parks. The continued operation and maintenance of parks and historic sites needs stable and adequate funding sources.[30]

Programs that Support State Parks and Historic Sites Stewardship

State general appropriations and entrance and camping fees pay for a portion of the operations of parks and historic sites. These funds cover costs of staffing, operations, and routine maintenance. Revenues from user fees cover approximately 40% of the annual costs to run the parks and historic sites.[31]

Investments in State Parks and Historic Sites

- ✓ General appropriations
- ✓ User fees
- ✓ Loon conservation plate revenues
- ✓ Water extract royalties
- ✓ Volunteers
- ✓ Donations
- ✓ General Purpose Bonds

Sixty percent of the funds from the sale of Maine's loon conservation license plates help defray the costs of maintaining state parks and historic sites. Revenue from loon plates, for example, equipped Camden Hills, Mt. Blue, and Lamoine state parks with hot showers that are handicapped accessible with modern components including motion sensors, high efficiency lights, and automatic faucets.[32] Currently, one in nine passenger vehicles in Maine sports a loon plate and more than $7 million has been invested by the departments of Conservation and Inland Fisheries and Wildlife since the loon conservation license plate fund was established in 1993.[33] However, new lobster and chickadee plates divert sales of loon plates, which peaked around 1999 and have since declined.[34] The department estimates that approximately 60,000 plates will be registered in 2006, generating a little more than $500,000.[35]

The Department of Conservation has been able to leverage partnerships and outside funding for some renovations. For example, restoration of the old maintenance shed into a modern visitor and education center at Fort Knox cost $1.1 million. The state's contribution to this project was only $100,000. [36] The remaining came from grants and donations. At Range Pond State Park in Poland, the Poland Spring Bottling Company paid for $425,000 in improvements including a group shelter, an educational center, new playgrounds, and a new wheelchair ramp (the first beach-to-water wheelchair ramp in Maine's state park system). An agreement to allow the company to extract water from park property funded the improvements. The state receives royalties from the sale of water, which

[30] Department of Conservation.
[31] Morrison, Tom. Maine Department of Conservation, May 2, 2006.
[32] Maine Department of Conservation. Web site: http://www maine.gov/doc/parks/volunteer/loonplates.html.
[33] Maine Department of Conservation. Web site.
[34] Edwards, Keith. Maine Sunday Telegram. "Meeting state park challenge requires vision," July 20, 2003. (News Interview with Steve Curtis, Regional Park Manager)
[35] Ibid.
[36] Investing in Maine's State Parks and Historic Sites.

has amounted to $4 million since 1999, for upkeep and maintenance of parks and historic sites throughout Maine.[37]

Citizens have stepped forward to help preserve Maine's cultural and historical heritage. Friends of Colonial Pemaquid, Friends of Fort Knox, and Friends of Peary's Eagle Island are examples of groups that recruit volunteers to serve on boards of directors, staff gift shops, provide interpretive tours, lead special events, and clean up litter and debris. For example, in 2004, Friends of Fort Knox volunteers contributed over 6,960 hours of effort.[38]

These volunteer groups help finance the maintenance and operation of state facilities. They collect gate fees, secure grants, and raise funds. In 1996, the Friends of Fort Knox raised $314,759 in private donations to repair the fort's roof. During 1997-98, the Friends of Colonial Pemaquid spearheaded a major capital fund campaign that raised $225,000 to preserve and renovate the historic Fort House.[39]

The state has also used bond funds for its upkeep of state parks. In the past 35 years, voters have approved just $8.5 million for capital repairs for state parks and historic sites, less than $250,000 a year. The last bond approved for state parks was a decade ago.

Table 2: State Park Bond Issues Since 1970[40]

Year	Bond Proposal	Amount
1971	Failed Bond Attempt - $2.5 million	
1981	Approved Bond - Capital improvements: Poland, Peaks-Kenny, Ferry Beach, Damariscotta Lake, Tyler Pond, Popham Beach, Sawn Lake Saco River, Community Recreation Fund	$2,392,500
1983	Failed Bond Attempt - $3 million	
1985	Failed Bond Attempt - $3 million	
1991	Failed Bond Attempt - $3.5 million	
1993	Approved Bond - Potable water systems, sanitary systems, water-borne restrooms	$3,150,000
1996	Approved Bond - Churchill Dam, Fort Knox, handicapped access	$3,000,000
Total		$8,542,500

[37] Maine Department of Conservation. Press Release. "Range Ponds State Park Improvements Celebrated; First Beach-to-Water Wheelchair Ramp in Maine's State Park System," August 2, 2001: http://www maine.gov/doc/press/range html.
[38] Friends of Fort Knox. Web site: http://fortknox maineguide.com/thenews html and Friends of Colonial Pemaquid. Web site. http://www friendsofcolonialpemaquid.org/index html.
[39] Ibid.
[40] Data from Maine Department of Conservation.

State Green Infrastructure Capital Needs for State Parks and Historic Sites

The Department of Conservation completed an architectural and engineering study in October 2004 that identifies a $33 million backlog of needed repairs to existing parks and historic sites.[41] In addition, regularly updating and renovating property is critical. Typically, businesses set aside 10-20% of their property value for maintenance and renovations. Since park facilities have a value of more than $100 million, the Department of Conservation estimates that $5-10 million should be set aside annually for upkeep.[42]

Capital Needs for State Parks and Historic Sites

- ✓ $40 million over 5 years for repairs and upgrades
- ✓ $8 million for FY08-09
- ✓ $10 million biennially for maintenance

B. Recreation Lands and Trails

Maine's recreation lands include an array of publicly owned lands and trails, eased lands and trails, and private lands, which are open for public use by permission of the landowner.

Maine's public lands total over 900,000 acres and are managed for a variety of resource values including recreation, wildlife, and timber. These lands provide camping, hiking, hunting, fishing, and other recreational opportunities in some of Maine's most outstanding natural areas.[43]

Ninety-nine percent of the state's public lands is open to hunting, fishing, and trapping.[44] As one report says

> Hunting is woven through the history, economy and lifestyle of Maine. At times, it's been a survival skill and at times a sport. But many hunters say they cherish it most because it brings the generations together –grandfathers, fathers, and sons –all sharing the same experience. Hunters also enjoy the challenge, take pride in their skills, and treasure the opportunity to be out in the Maine woods.[45]

State Recreation Lands and Trails

- ✓ 622,000 acres of public land held in fee and easement by Bureau of Parks and Land
- ✓ 90,000 acres held in fee and easement by other agencies for wildlife management
- ✓ 205,000 acres at Baxter State Park
- ✓ 350 miles of trail (167 miles of shared use trail)
- ✓ Pedestrian and bicycle rail trails
- ✓ Lands and trails open to public use by landowner permission

[41] Note: Department staff indicates that this analysis was done 18 months ago. The figure is now $40 million.

[42] Investing in Maine's State Parks and Historic Sites.

[43] Data from Land for Maine's Future Program and Maine Department of Conservation. Web site: http://www.maine.gov/doc/parks/programs/prl html.

[44] Maine Department of Conservation. Brochure. "Providing Outdoor Recreation Opportunities for Everyone." Note: Use is more restricted at Baxter State Park.

[45] Department of Inland Fisheries and Wildlife, Sportsman's Alliance of Maine, Maine Bowhunters Association, Presque Isle Fish and Game Club, Rangeley Region Guides and Sportsmen's Association, Windham-Gorham Rod and Gun Club, and Associated Sportsman's Clubs of York County. Why Maine Needs Hunters: A media guide for the 2004 season, undated, p. 2.

Recreation lands and trails in Maine provide access for this cherished tradition.

Another important aspect of Maine recreational lands is its trails. "There are 13,500 miles of snowmobile trails and over 4,500 miles of ATV trails in Maine (many of which are on private lands). There are also many hiking trails, ski trails, water trails, and multiple-use trails that cross public and private lands."[46] The Department of Conservation maintains 350 miles of multi-use trails on state-owned, public reserve lands. It has designated *Shared Use* status on 167 miles of trails on public reserve lands to provide opportunities for ATV riding, snowmobiling, bicycling, and horseback riding.[47] The Department of Transportation owns or is acquiring abandoned rail beds for bicycle and pedestrian trails and has constructed off-road bicycle/pedestrian paths like the popular Androscoggin River Bikeway in Brunswick and Kennebec River Rail Trail in Augusta and Hallowell.[48]

Economic Impact of Recreation Lands and Trails

- ✓ Hunting: $325 million
- ✓ Snowmobiling: $400 million
- ✓ ATVs: $200 million
- ✓ Wildlife-watching: $332 million

Economic Impact of Recreation Lands and Trails

"Outdoor recreation is a virtual Mother Lode for the state, economically speaking." [49]

"In 2003, hunters spend about $200 million on retail sales in Maine, according to a national study for the International Association of Fish and Game Agencies. That spending ripples through the Maine economy, supporting 3,643 jobs and creating an estimated $325 million in economic activity. Much of that economic activity takes place in the state's rural areas, where the impact is far greater than it would be in Maine's cities."[50]

Snowmobiling has become a favorite pastime for thousands and Maine's snowmobile recreation industry is important to the economies of rural areas in the state.[51] According to university research conducted for the Maine Snowmobile Association, snowmobilers spent $176.3 million in 1997-98, and their total impact was estimated at $261 million.[52] Due to the growth in the sport and higher costs, estimates of economic impact today reach $400 million, supporting 3,100 full-time jobs.[53] The Maine

[46] Governor Baldacci's Task Force on Traditional Uses and Public Access to Lands in Maine, Final Draft Report, December 20, 2005, p. 5.
[47] Maine Department of Conservation. State Comprehensive Outdoor Recreation Plan (SCORP), October 2003, p. 13.
[48] SCORP, p 12.
[49] Maine Department of Inland Fisheries and Wildlife 2003/2004 Review, p. 2.
[50] Why Maine Needs Hunters, p. 18.
[51] Maine Department of Conservation.
[52] SCORP, p. 12.
[53] Investing in Maine's State Parks and Historic Sites and Data from Maine Department of Conservation.

Snowmobile Association includes 32,000 individual members, 2,200 business members, and 282 clubs.[54]

ATVs directly and indirectly contribute $200 million to the Maine economy, including 1,975 jobs and $42.7 million of income attributable to spending by ATV riders. During 2003-04, there were 59,057 ATVs registered in Maine.[55]

Wildlife-watching recreation is becoming more popular. During 1996, there were 754,500 individuals participating in some form of wildlife-watching such as observing or photographing wildlife (compared to 195,200 individuals hunting in the same year and 100,000 snowmobilers last year). Their total economic output was $332 million.[56]
A collaborative study conducted by the Muskie School of Public Service and the Margaret Chase Smith Center for Public Policy attempts to better understand the economic impact on the state and local communities from conservation and recreations lands. In a series of case studies, it examines acquisitions in Aroostook and Washington counties. Researchers find that the conversion of portions of the Aroostook Valley and the Bangor and Aroostook railroads into a year-round, multi-use trail system has revitalized the economy of a number of towns in northern Maine. Several acquisitions in Washington County around Spendic Lake and along the upper St. Croix River "have helped secure the continued existence of the sporting lodge and guide service industry." Residents recognize that protecting this land "is a tool for protecting their economic existence and cultural heritage."[57]

Pressures on Recreation Lands and Trails

- ✓ Loss of access to traditionally available private lands
- ✓ Fragmented corridors
- ✓ Damage from unmanaged use
- ✓ Reliance on volunteers
- ✓ Lack of funding for maintenance

Pressures on Recreation Lands and Trails

In Maine, private lands provide a significant portion of the state's outdoor recreational opportunities. While some limited access rights are assured through Maine laws such as the Great Ponds Act (which allows access over unimproved land to Great Ponds), the availability of private land is primarily the result of the good will of landowners.[58]

But Maine could see diminish the long-standing tradition of access to private lands. Landowners, tired of damage and litter, concerned about liability, and desiring privacy, have begun to reconsider public access. Currently, in the southern and central parts of the state, where smaller land ownerships predominate, there is a trend toward posting land and limiting

[54] SCORP, p 12.
[55] Margaret Chase Smith Policy Center, Economic Contributions of ATV-related Activities in Maine, University of Maine: Orono, ME, March 2005, p. ii.
[56] The Economic Impacts of Hunting, Inland Fishing, and Wildlife-associated Recreation in Maine, p. 6.
[57] Increasing the Return on a Sound Public Investment, pp. 35-39 and 40-44.
[58] Land Acquisition Priorities Advisory Committee (LAPAC). Final Report and Recommendations, 1997, p 8.

public use.[59] As lands are fragmented and developed, the likelihood that they will not be available for public access grows.[60] At the same time, changes in large land ownership and landowner investment objectives in northern Maine have resulted in new requirements for continued public access, such as liability insurance requirements, liability indemnification, environmental permitting compliance assurances, safety and construction standards, and numerous other conditions. Some large landowners would like the state to help enforce these conditions or to provide clean-up, repair, or maintenance services. There is not sufficient state capacity to take on these responsibilities.[61]

The Muskie-Smith report found that

> Threats to the continuity of undeveloped corridors or trail systems exemplify the high stakes of some ownership changes [of land in Maine]. When a piece of land that forms part of an undeveloped corridor is lost, the value of the entire corridor, for both recreational use and wildlife habitat, may diminish. When public access to one segment of a trail is restricted, the value of the entire trail system may be threatened. These examples illustrate the need to respond nimbly to opportunities as they arise, and to think about the broader impact of ownership changes on individual tracts of land.[62]

The state has acquired trails as essential connectors for multiple use recreation, including ATVing and snowmobiling. These trails, however, come with maintenance and land management obligations. There are thousands of adjoining landowners and hundred of miles of infrastructure, such as rail bed, culverts, and crossings. The state lacks sufficient resources to manage these new acquisitions on a continuing basis.[63]

The use of ATVs for recreation and touring has grown exponentially in recent years. But ATVs are capable of a great deal of damage to land. The unmanaged use of ATVs and damage to private property has caused many landowners to restrict access to their property. This landowner reaction has caused a crisis in the ATV community and it has affected not only ATV opportunities, but also snowmobiling, hunting and fishing, and other public uses as well. Riders and landowners have asked the state to assume a more active role in developing clubs and trails and to address problems arising out of the burgeoning sport.[64] However, the state has limited

[59] LAPAC, p 8.
[60] LAPAC, p. 7.
[61] Maine Department of Conservation.
[62] Increasing the Return on a Sound Public Investment, pp. 11-12.
[63] Maine Department of Conservation.
[64] Maine Department of Conservation.

resources to put towards this effort.

The health and continued growth of the snowmobile recreation industry depends upon the quality of trails. The quality of trails depends directly on the viability of snowmobile clubs, who donate thousands of hours of labor constructing, maintaining, and grooming Maine's trails. The health of the snowmobile recreation industry is balanced on the backs of volunteers.[65]

Programs that Support Recreation Land and Trails Stewardship

Preserving Access to Private Lands

The state has long recognized that public access to private lands depends on the good will of landowners. It works hard to educate users about responsible behavior. The Department of Inland Fisheries and Wildlife's Landowners Relations Program reminds guests that, "Access to private land is a privilege, not a right." The program provides advice to hunters for working with landowners and helps maintain positive relationships with landowners. Revenues from the sale of special *Supersport* licenses support the Landowner Relations Program. Unfortunately, other funding cuts have curtailed the program.

Governor Baldacci's Task Force on Traditional Uses and Public Access to Lands calls for "an appropriately-funded, vigorous, comprehensive, and expanded landowner relations program."[66] The Department of Inland Fisheries and Wildlife estimates $120,000 is needed annually to enhance and sustain this program.

Local clubs also work to maintain positive landowner relations. The stated purpose of ATV Maine, the statewide association of ATV clubs, for example, is to "To *tread lightly* and to encourage the use of ATVs and establishment of ATV trails in a manner that will result in a minimum effect on the environment."[67] Local clubs provide information on trail closures, model landowner agreements, and rider training.

"Of considerable importance to securing public access is the Land for Maine's Future Program. As a general principle, public access easements are sought on all LMF projects for hunting, fishing, trapping, and recreation."[68] The program protects miles of recreational trails including vital snowmobile routes.

Programs that Support Recreation Lands and Trails

- ✓ IFW Landowner Relations Program
- ✓ Work of local clubs
- ✓ Land for Maine's Future Program
- ✓ Recreational Trails Program
- ✓ Bureau of Public Lands trail development efforts
- ✓ MaineDOT's Transportation Enhancements
- ✓ Maine Outdoor Heritage Fund

[65] Maine Department of Conservation.
[66] Governor Baldacci's Task Force on Traditional Uses and Public Access to Lands in Maine, p. 2.
[67] ATV Maine. Web site: http://www.atvmaine.org/
[68] Land for Maine's Future. Biennial Report to the Legislature's Agriculture, Conservation, and Forestry Committee, January 2006.

The Department of Conservation has also identified a growing need for publicly-funded trail easements for snowmobiles and ATVs. The Task Force on Traditional Uses recommends the use of flexible easements. Flexible easements

> allow for a permanent trail to cross a parcel of land, but the landowner would have the discretion as to where the exact trail is located on the ground and it could move over time. This approach specifically addresses the needs that a forest landowner might have regarding forestry operations over time, as well as provide security and stability to user groups and businesses that a trail system is reliable.[69]

The task force urges the Land for Maine's Future Program to provide information to state agencies, land trusts, recreational partners, landowners, and others who may be interested in the tool.[70]

Trail Maintenance

By far the greatest number of miles of trail is managed by local clubs. To this point, the state has acted in a supporting role for them. It administers grants to clubs and municipalities for equipment purchases and trail maintenance. In a typical year, Maine registers 100,000 snowmobiles, yielding $1.8 million in snowmobile registration income and $1.4 million in gas tax revenues. These funds, on average, cover only about two-thirds of local trail maintenance efforts.[71]

Trail Acquisition and Development

The Bureau of Parks and Lands funds trail development on public lands through timber harvesting revenue (for non-motorized trails only), dedicated state gas tax revenues, and off-road vehicle registration fees. The funding needs for acquisition and maintenance of trails far outstrip available resources. Trails includes complex structures such as bridges and trestles, which can cost hundreds of thousands (or even millions) of dollars to maintain, fix, and replace.[72]

The Bureau also administers federal gas tax funds for trail development. A percentage of federal gasoline taxes paid on off-highway recreational vehicles is deposited in the Recreational Trails Program (RTP). Thirty percent of the funds is reserved for projects related to non-motorized trail recreation; 30% for motorized; and 40% for recreational projects that facilitate diverse trail use.[73] RTP funding varies from year to year, ranging from $600,000 to $900,000 in recent years. Overall the need for

[69] Governor Baldacci's Task Force on Traditional Uses and Public Access to Lands, p 3.
[70] Governor Baldacci's Task Force on Traditional Uses and Public Access to Lands, p 6.
[71] Maine Department of Conservation.
[72] Maine Department of Conservation.
[73] Maine Department of Conservation Web site: "Maine Trails Funding Program."

trails funding exceeds available resources. In 2006, application requests for RTP funding amounted to $2.2 million.[74]

MaineDOT's Transportation Enhancement Program, a federal-aid program, supports the development of pedestrian and bicycleways, among other community enhancement projects. The state must allocate 10% of its federal Surface Transportation Program funds or $3.5 million in grants per year to transportation in enhancements. Grants are matched, at a minimum, by 20% local funds, increasing the worth of projects in Maine to $5-6 million per year. Still the department turns down 50% of applications each year because funding runs out.[75]

In 1996, the Maine Outdoor Heritage Fund, which distributes revenues from the sale of wildlife lottery tickets, began allocating 35% of its grants for public land acquisition and management projects. In its initial two years of operation (1996-97), fund administrators spent approximately $590,000 on land acquisition projects.[76] Over the years, they have funded a number of trail projects, but the amount of funding is small.

State Green Infrastructure Capital Needs for Recreational Lands and Trails

Most trail acquisition has been undertaken by the Department of Conservation, in cooperation with the Land for Maine's Future Program. Recent acquisitions include the Newport-to-Dover 4-Season Trail (29 miles), the Katahdin Ironworks Trail (6 miles), and the Bangor & Aroostook Trails in Aroostook County (approximately 45 miles). In all, the Land for Maine's Future has funded fifteen projects that provide a variety of trail opportunities.[77] As of this writing, however, all available funds for the Lands for Maine's Future Program have been obligated.

Capital Needs for Recreation Land and Trail Acquisition

- ✓ Continued investment in Land for Maine's Future Program

As off-road vehicle use increases, and its economic importance increases, in the midst of changing land ownership and use patterns, acquisition of critical connector trails is becoming necessary to preserve trail systems.[78]

The Task Force on Traditional Uses recommends consistent, steady funding of the Land for Maine's Future Program, as "importan[t]…[for] the acquisition and long-term protection and stability of public access for outdoor recreation. In particular, the program's focus on acquiring access to water, lands, trails, and other important recreational and natural features is a key component to a comprehensive approach to maintaining public access to Maine's woods and waters."[79]

[74] Maine Department of Conservation.
[75] Scott, Duane. Maine Department of Transportation.
[76] LAPAC, p. 4.
[77] Increasing the Return on a Sound Public Investment, p. 92.
[78] Maine Department of Conservation.
[79] Governor Baldacci's Task Force on Traditional Uses and Public Access to Lands in Maine, p. 2.

C. Nature Tourism Infrastructure

Since Thoreau first visited and wrote about them, the Maine woods have been a draw for sportsmen, naturalists, and those seeking peace and solitude.

Recently, the numbers of travelers looking for outdoor experiences – birding and other wildlife viewing, hiking, camping, fishing, and nature photography –has increased. Research shows that vacationers want to learn about unique local history and culture, enjoy the sights and sounds of nature, and see and do something authentic (as opposed to constructed venues). Maine's unique natural, historical, and cultural experiences offer tremendous potential to attract this growing segment of the tourist population and to grow our local, rural economies.[80]

On behalf of the state, FERMATA, Inc., a nationally-known experiential tourism development consulting firm, assessed the opportunities to profit from nature tourism in three pilot regions: the Western Maine Mountains, the Highlands of Greenville and Millinocket, and Downeast Washington County. They inventoried each region's assets from the well-known gems (Moosehead Lake, Rangeley Lakes, Cobscook Bay, and Quoddy Head Lighthouse) to the well-kept secrets:

State Nature Tourism Pilots

- ✓ Western Maine Mountains
- ✓ Highlands of Greenville and Millinocket
- ✓ Downeast Washington County

- ✓ The Nature Conservancy's Debsconeag Lakes Holdings; 41,000 untouched acres southwest of Baxter State Park where white pine trees over 12 feet in diameter tower above moss-covered ground and huge boulders left standing along by the last retreating glacier are covered in lichens, moss, and ferns.[81]

- ✓ Fish watching at Rangeley Lakes; where in the fall hundreds of large, adult salmon move into tributaries and begin their fight upstream to spawn. Locals know the few places around the lake to watch the spectacle.[82]

- ✓ The Ice Age Trail in the Downeast Region;[83] a series of mapped touring trails linking natural features that are almost two billion years old. "It follows the margins of the last great North American continental ice sheet and coincides with many Downeast tourist attractions," such as Cadillac Mountain, Acadia National Park, Somes Sound, and other sites in Lubec and Ellsworth.[84]

[80] Maine Department of Economic and Community Development. Strategic Plan for Implementing Maine's Nature Tourism Initiative. FERMATA, Inc: Poultney, September, 2005, pp. 4-5.
[81] Nature Tourism Strategic Plan, p. 9.
[82] Nature Tourism Strategic Plan, p. 10.
[83] Nature Tourism Strategic Plan, p. 13.
[84] Ice Age Trail Web site: http://iceagetrail.umaine.edu/ and UMaine Today. "On the Trail of Maine's Ice Age," July/August 2003.

FERMATA concludes, "The nature resources that have been identified [in the pilots] are substantial enough to serve as a foundation for a successful strategy" to grow Maine' nature tourism economy.

As some resources are fragile, FERMATA, Inc. offers a warning. Nature tourism presents tremendous potential for growth in Maine's tourist sector. Yet, Maine must determine the number of visitors it is able or is willing to accept, assess the impact on sensitive natural areas, and put in place mitigation tactics to protect the resources.

Economic Impact of Nature Tourism

- ✓ $330 per visitor per day
- ✓ This sector has growth potential

Economic Impact of Nature Tourism

Research conducted by FERMATA, Inc. offers some insights on the economic benefit of investing in tourism infrastructure. With a multiplier of just 2.4,[85] the effects of spending nationally are over $330 per day per nature tourist. Currently in Maine, the average spent is $200 less per day than in other areas.[86] In addition to attracting new visitors, there is potential to increase spending on upscale meals and lodging and authentic local products and foods.

Programs that Support Nature Tourism

- ✓ Recreation lands and sites owned, managed, or acquired by Maine departments of Conservation and Inland Fisheries and Wildlife and Land for Maine's Future Program
- ✓ MaineDOT infrastructure
- ✓ Maine Office of Tourism promotion

Programs that Support Nature Tourism Stewardship

As described throughout this paper, much of the state's nature tourism resources are publicly-owned and publicly-maintained or situated on eased or private lands accessible through landowner agreements. Resources from the departments of Conservation and Inland Fisheries & Wildlife and the Land for Maine's Future Program support them. The Maine Department of Transportation maintains a significant portion of the infrastructure that supports nature tourism such as signage, parking lots, scenic turnouts, and rest areas. The Maine Office of Tourism invests in tourism promotion and marketing.

A cross-agency implementation team for the nature tourism strategic plan identified funding needs of $1.2 million to carry out the plan's recommendations, including completing site assessments in the pilot areas, designing and printing guidebooks and maps, fabricating and installing directional, wayfinding, and interpretative signage, and finishing the ground work to replicate the pilots statewide.

[85] Note: The multiplier accounts for the direct, indirect, and induced impacts of spending. In addition to the effect of initial spending on goods and services, there is an indirect effect on the economy as other businesses change their spending in response. In addition, the wages earned by households as a result of the initial change induces further consumption. Taken together, the increase in spending and wages creates a multiplier effect, producing a larger economic impact than the initial spending.

[86] Packer, Mary Jeanne. FERMATA, Inc. Powerpoint Presentation*:* "Strategic Plan for Implementing Maine's Nature Tourism Initiative," September 2005.

State Green Infrastructure Capital Needs for Nature Tourism Infrastructure

In their analysis, FERMATA, Inc. reports that many of the sites in the pilot areas need major improvements. To capture its share of the nature tourist market, Maine will need to invest in and develop its tourism green infrastructure. Six million dollars over four years is needed to fund DOT-related infrastructure such as roads, bike lanes, scenic turnouts, parking, and visitor centers.[87]

Capital Needs for Nature Tourism Infrastructure

- ✓ $6 million over 4 years for DOT-related infrastructure

[87] Data from Maine Office of Tourism.

Coastal and Inland Waters

A. Coastal Beaches

Maine's beaches are among our most prized natural resources and an integral part of our green infrastructure. They provide unsurpassed recreational activities; protect the shoreline from storm damage; and sustain habitat for shorebirds, plants, and animals, including critical habitats for the piping plover and least tern –endangered and threatened species. "Maine's beaches are also desirable places to live. Real estate along Maine's beaches is some of the most highly-valued property in the state, contributing to local revenues in coastal communities."[88]

State Coastal Beaches

- ✓ 19 miles of sand beach
- ✓ Beaches open to public use by landowner permission

Beaches comprise only about two percent or 75 miles of Maine's coastline. Sand beaches account for less than 40 of the 75 miles, with coarser gravel and boulder beaches comprising the remainder. Most large sandy beaches occur along the southern coast between Kittery and Cape Elizabeth.[89]

Economic Impact of Coastal Beaches

Tourism is a large and vital component of Maine's coastal economy. The Southern Maine coast is Maine's most important tourism region and the ocean and its beaches are the key attractions for visitors to the region.[90] The Maine Coastal Program indicates that 80% of Maine tourist-generated dollars is spent at the coast.[91]

Economic Impact of Coastal Beaches

- ✓ 80% of Maine tourist-generated dollars is spent at the coast

The Maine Coastal Program provides an economic "snapshot" of Maine's beaches. In fall 2005, they compared economic activity in beach vs. non-beach towns and economic data from the off-season compared to peak beach tourism season.[92] "Both of these analyses reveal that beach tourism has a significant, positive impact on the [local] economy."[93]

A recent report by the Beach Stakeholder's Group, created by the state departments of Conservation and Environmental Protection in response to a legislative directive (PL 2003, Resolve 130), calls for an economic study to identify the value of Maine's beaches. "Intuitively, the economic values of Maine's beaches are large, but so are the potential costs for undertaking

[88] Beach Stakeholder's Group. Protecting Maine's Beaches for the Future: A Proposal to Create an Integrated Beach Management Program, February 2006, pp. 4-5.
[89] Beach Stakeholder's Group, p.4.
[90] Beach Stakeholder's Group, p.4.
[91] SurfRider Foundation. State of Beaches 2005. "Maine Beach Access." https://www.surfrider.org/stateofthebeach/05-sr/state.asp?zone=NE&state=me&cat=ba
[92] Note: Secondary data are existing data collected on a routine basis to record market-based transactions. A thorough economic analysis would include both primary and secondary data. Primary data would comprise a survey of beach visitors for example. (Source: Beach Stakeholder's Group, p 69.)
[93] Beach Stakeholder's Group, p. 69.

beach restoration…"[94] In order to guide the allocation of resources, Maine needs to understand the costs and benefits of different beach management techniques and assess which locations warrant the most attention. The recommended research would cost $150,000 over two years. [95]

Pressures on Coastal Beaches

Public access to beaches is restricted. Only about 19 miles of sand beaches are publicly-owned. In areas that are not publicly-owned, there has been a strong tradition of public recreational uses. Yet, that tradition is being challenged. Recent court cases have upheld landowners' rights to close beaches and post *no trespassing* signs. "Public use of privately-owned beach areas is dependent on the informal consent of landowners in exchange for good visitor-behavior on the part of the public."[96]

Pressures on Coastal Beaches

- ✓ Restricted Access
- ✓ Development and Erosion

Many Maine beaches face significant erosion issues. Erosion is the result of natural forces, but human activities, such as public and private development, exacerbate it. Erosion compromises the ability of beaches to buffer storms and flooding and destroys vital natural habitat. The loss of beach area threatens recreation and tourism.[97]

Programs that Support Coastal Beach Stewardship

The Maine Coastal Program, a federally-funded program, funds the departments of Environmental Protection and Marine Resources for regulation and enforcement to protect Maine's beaches. It also provides grants to municipalities to monitor swim beach water quality. And it administers a right-of-way discovery grant program that helps communities find and assert public rights-of-way to the shore, which may have been lost by changing ownership and the passing of generations. Approximately $10,000 annually is available for this program.[98]

Programs that Support Coastal Beaches

- ✓ Maine Coastal Program
- ✓ Enforcement programs
- ✓ Right-of-Way Discovery Grant Program
- ✓ Land for Maine's Future Program
- ✓ Some federal grants

The Land for Maine's Future Program funds coastal access and beach acquisition within its resources. Some examples include: Pettegrow Beach on Buck's Harbor, Sandy Point Beach in Stockton Springs, and Scarborough Beach on Prout's Neck. Grants from the Maine Outdoor Heritage Fund also assist with coastal land acquisition. Due the high cost of beach property, however, land acquisition has been difficult. In addition, the primary objectives of these funding programs are public access and conservation of natural resources, rather than restoration or hazard mitigation.[99] The Beach Stakeholders' Group recommends funding

[94] Colgan, Charles, S. Estimating the Economic Value of Maine's Beaches: Issues Options, Costs. Muskie School for Public Service, University of Southern Maine, September 2003.
[95] Beach Stakeholder's Group, p. 39.
[96] Beach Stakeholder's Group, p. 39.
[97] Beach Stakeholder's Group, p. 6.
[98] Maine Coastal Program. Web site: http://www maine.gov/spo/mcp/projects/getting_to_shore.php.
[99] Beach Stakeholders' Group, p. 23.

of $500,000 from the Land for Maine's Future Program for 1-2 beach acquisition or easement projects per year.[100]

Some federal funds are also available; primarily for habitat restoration, flood hazard mitigation, and endangered species protection. The Coastal and Estuarine Land Conservation program funds coastal land conservation projects and some limited funds are available for outdoor recreation facilities through the Land and Water Conservation Fund (both federal programs). Maine takes advantage of these federal funds to the greatest extent possible.

State Green Infrastructure Capital Needs for Coastal Beaches

The report of the Beach Stakeholder's Group assesses the management needs of Maine's beaches. It says

> Without active management and increased attention and future investment on the part of the state, Maine's beaches will continue to suffer from chronic erosion, thus diminishing public recreation opportunities, storm buffering capabilities, habitat, and property values and eventually affecting the quality of our tourism industry.[101]

Capital Needs for Coastal Beach Restoration

- ✓ $143 million over 20 years
- ✓ $7 million for FY08-09

The report outlines an integrated approach for managing Maine's beaches that includes: regulatory changes, beach nourishment in selected locations, dune restoration in selected locations, acquisition of properties from willing sellers, and improved wildlife habitat measures.[102]

The stakeholders specifically call for public investments for beach nourishment, where appropriate. Beach nourishment refers to the introduction of sand into the beach to help reduce erosion. It is often called a "soft approach" to beach management in contrast to "hard approaches," such as constructing jetties and seawalls in an attempt to hold back the sea. While beach management may not be appropriate for all beaches, the report identifies a significant number of beaches that would benefit from such a strategy.[103]

Preliminary numbers to fund a comprehensive beach management program are placed at $142.8 million, with an annualized cost of $7.1 million over 20 years.[104]

[100] Beach Stakeholders' Group, p. 77.
[101] Beach Stakeholder's Group, p 1.
[102] Beach Stakeholder's Group, p. 8.
[103] Beach Stakeholder's Group, pp. 11.
[104] Beach Stakeholder's Group, pp. 61.

B. Working Waterfront Access

Working waterfronts cover a mere 25 miles along Maine's 5,300-mile coastline yet they supply the lifeblood of many coastal communities, enriching the regional economy and sustaining cherished cultural traditions.[105]

Working waterfronts are those portions of the shore used to support commercial fishing activities. In addition, a diverse array of commercial fishing businesses –including marinas, seafood harvesters and processors, freight and fuel companies, and boat builders and ship chandleries – depend upon access to the water and shorefront infrastructure.[106]

Maine Working Waterfronts

- ✓ Working waterfronts cover a mere 25 miles of Maine's 5,300 mile coastline

Economic Impact of Working Waterfront Access

"[The] coastline is one of the most important resources in the Maine economy."[107] Commercial fishing and marine trades in Maine contribute more than $800 million annually to the state's economy and employ about 30,000 people, giving fishermen and others both a livelihood and a valued way of life.[108]

Economic Impact of Working Waterfronts

- ✓ $800 million in direct and indirect spending

In his report, *Contribution of Working Waterfronts to the Maine Economy*, economist Charles Colgan compares the economic contribution of coastal residential construction and working waterfront activities, finding that the working waterfront contributes anywhere from $15 million to $168 million more per year to our gross state product than does coastal residential construction.[109]

Pressures on Working Waterfront Access

Nowhere is development more pervasive than along Maine's coast.

> All along the coast, land values are skyrocketing due to second-home ownership and gentrification. Faced with increases in property assessment of as much as 300%, many fishermen are simply unable to pay the resulting taxes, and are being forced inland. Some must drive miles back to the coast where, if they are lucky enough to find an access point with sufficient parking, they often have to wait in line to load and unload their gear and catch.[110]

Pressures on Working Waterfront Access

- ✓ Development and rising land values
- ✓ Lack of access to the coast for fishing operations

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[105] Maine Coastal Program. Web site: http://www maine.gov/spo/mcp/wwi/index.php.
[106] Colgan, Charles. Contribution of Working Waterfronts to the Maine Economy. Muskie School for Public Service, University of Maine, February 2004, p.1 and Maine Coastal Program, Web site.
[107] Colgan, Contribution of Working Waterfronts to the Maine Economy p 1.
[108] Maine Coastal Program. Web site: http://www maine.gov/spo/mcp/wwi/index.php.
[109] Colgan, Contribution of Working Waterfronts to the Maine Economy, p i.
[110] Maine Working Waterfront Coalition. Web site. "Threatened: a livelihood for many, a heritage for all." http://www.islandinstitute.org/programs.asp?section=workingwaterfront

Not only is access being restricted, but the facilities necessary to support these businesses are at risk. Commercial wharves, piers, and docks disappear as land is converted to residential housing. "Rockland's working waterfront, for example, once geared to service fishing and fish processing, has largely made the transition from industrial enterprises to more recreational harbor services."[111]

State Green Infrastructure Capital Needs for Working Waterfront Access

In 2005, voters approved $2 million as part of the Land for Maine's Future bond to protect strategically-significant working waterfront properties. The Maine Department of Marine Resources expects to launch the program in June 2006. Grants will fund up to 50% of the acquisition costs for properties that provide permanent access to fishing waters by commercial fishermen. Eligible applicants include: private businesses, cooperatives, municipalities, and organizations qualified to hold conservation easements. The Land for Maine's Future Board will select the projects to be funded.

Capital Needs for Working Waterfront Access

- ✓ $2 million biennially for LMF Access Program
- ✓ $2 million for FY08-09 for LMF Access Program
- ✓ $1.5 million biennially for SHIP
- ✓ $1.5 million for FY08-09 for SHIP

Given the limited funding available, the board will be able to fund only a few projects over the next two years. The pilot will help identify the types of projects needed and demonstrate how successful projects work. It will also help gauge "pent-up" demand for funds as grant administrators assess the type and amount of grants funds sought. For purposes of this white paper, it is assumed that another cycle of funding equal to the $2 million that is currently available will be needed.

The Maine Department of Transportation administers the Small Harbor Improvement Program (SHIP) to promote public access and economic development and to preserve infrastructure along the coast. Since 1995, MaineDOT has dispersed $4.9 million to 59 different coastal municipalities totaling 93 projects. Examples of projects funded include pier reconstruction, float installations, boat ramp rehabilitation, and new hoist installations or gangway replacements. In November 2005, voters approved $1.5 million in funds to replenish the program as the demand for access continues to grow.[112] Given past experience, generally there is a need of about $1.5 million per biennium for projects among the state's 139 coastal cities and towns.[113]

[111] Moore, Bob. The Working Waterfront. "Coastal Character: On the Maine coast, working waterfronts set the tone," August 2005.
[112] Data from Maine Department of Transportation.
[113] Rousseau, Kevin. Maine Department of Transportation.

C. Fish Hatcheries

Maine has some of the best fishing in the eastern United States. Its 6,000 lakes and ponds, coupled with 32,000 miles of streams and rivers winding through expansive forests, are a national treasure. Examples of these include:

- ✓ Magalloway River in Wilsons Mills with trophy-size wild brook trout and wild landlocked salmon;
- ✓ Roach River in Kokadjo with wild salmon and brook trout;
- ✓ Twitchell Pond in Greenwood known for its largemouth and smallmouth bass; and
- ✓ Fish River Chain of Lakes in Aroostook County for trophy-size salmon and brook trout.[114]

State Fish Hatcheries

- ✓ Nine fish hatcheries
- ✓ 700 ponds stocked
- ✓ 1 million trout and salmon stocked per year

Over 600 ponds in Maine have naturally-sustaining native populations, but many ponds do not. With the construction of just two fish hatcheries, the state started stocking its ponds more than a century ago. Today, the Department of Inland Fisheries and Wildlife operates nine coldwater hatcheries, placing over a million trout and salmon in rivers, brooks, lakes, and ponds throughout the state each year.[115]

Economic Impact of Fishing

Recreational sport fishing is not only an important part of Maine's outdoor heritage, it is an important part of Maine's economic vitality.[116] According to a 1998 study by the University of Maine, fishing contributes nearly $300 million to the Maine economy, including over $5,000 jobs and over $24 million in sales and income tax.[117]

Economic Impact of Inland Fishing

- ✓ $300 million of direct and indirect spending

Over 266,000 people fish in Maine each year; a number equivalent to fully one quarter of the state's population.[118]

Pressures on Fishing Waters and Hatcheries

Like other outdoor recreational activities, many of Maine's fisheries can only be reached by using private lands. Concerns about the impact of posted lands and loss of access on the recreational fishing economy are paramount (see related discussion p. 20). Pollution, invasive plant and animal species, loss of habitat, and other environmental concerns impact

[114] Maine Department of Inland Fisheries and Wildlife. Web site.
[115] Maine Department of Inland Fisheries and Wildlife. Comprehensive Statewide Fish Hatchery System Engineering Study. Fishpro, Inc: Springfield, IL, November 2002, p. 2.
[116] Commission to Study the Needs and Opportunities Associated with the Production of Salmonid Sport Fish in Maine. Final Report. November 2002, p. i.
[117] Maine Department of Inland Fisheries and Wildlife. Press Release. "Coffin Pond, stocked today again with trout, ready for young anglers," May 10, 2006.
[118] Data from the Maine Department of Inland Fisheries and Wildlife.

the fisheries. Over the years, Maine has seen many of her natural fish populations decline, especially the trophy size fish so attractive to anglers.[119] According to the Department of Inland Fisheries and Wildlife, over 60% of the state's landlocked salmon waters have inadequate spawning habitat.

As a result, in recent years, greater reliance has been placed on the department's fish stock to sustain recreational fishing. Yet the state's fish production infrastructure is aging. The facilities currently operated by the state were constructed between 1857 and 1958. In total the nine hatcheries have been in operation for the equivalent of 500 production years and have an average age of 58 years. According to the department's consultant, many components of these facilities are reaching the end of their useful life. In addition several of the hatcheries require upgrades to meet wastewater treatment discharge license standards.[120]

Programs that Support Fishing Waters Stewardship

Funding for the state's fisheries comes from a variety of sources: general state tax revenues, license fees, excise taxes on fishing equipment, and a portion of the tax on motorboat fuel. Hunters and anglers contribute a 64% of the Department of Inland Fisheries and Wildlife's budget.[121]

A 2002 law requires boaters to purchase lake and river protection stickers with their watercraft registrations ($10 for residents; $20 for nonresidents) to combat invasive aquatic species. The Department of Inland Fisheries and Wildlife receives 40% of the revenue for enforcement and boater instruction. The Maine Department of Environmental Protection receives the rest to inspect selected launching sites and develop educational programs to inform the public of the risks posed by these plants.[122]

State Green Infrastructure Capital Needs for Fish Hatcheries

In 2002, voters approved borrowing $7 million for improvements the state's fish hatcheries. $3.5 million was used to renovate the Emden Hatchery. A new 25,000 square foot building holds 30 round tanks, each 20 feet in diameter and 3½ feet deep. Water is gravity fed and drawn from Emden Pond. Special equipment ensures that water entering the facility is disease-free and that effluent meets water quality discharge standards. The newly-improved Emden Hatchery will produce 100,000 pounds of fish a year, increasing the number of fish the department stocks throughout the state.[123] This was the first time in over 50 years that the state made major renovations to any of its hatcheries. The department again sought bond funding in 2005, but their proposal was not approved.

Programs that Support Inland Fishing

- ✓ General Fund, excise taxes, fuel taxes, license fees
- ✓ Lake and River Protection stickers

Capital Needs for Fish Hatcheries

- ✓ $23 million over 10-15 years
- ✓ $10 million for FY08-09

Pressures on Inland Fishing

- ✓ Lack of access to traditionally available private lands
- ✓ Loss of natural habitat and species
- ✓ Aging fish hatchery infrastructure
- ✓ Lack of funding for maintenance of hatcheries

[119] Salmonid Sport Fish Protection, p. 5.
[120] Salmonid Sport Fish Production, p. 5-7.
[121] Maine Department of Inland Fisheries and Wildlife 2003/2004 Review, p 23.
[122] Data from Maine Department of Inland Fisheries and Wildlife.
[123] Maine Department of Inland Fisheries and Wildlife.

A 2002 legislative commission found that

> Maine's fish production facilities form the backbone of the sport fishing industry in Maine and, if the state hopes to successfully compete on a national and international level for angler dollars, these facilities must be upgraded and maintained to produce significantly more salmonid fish.[124]

The commission suggests that the passage of the November 2002 bond was a first step towards improving Maine's recreational fisheries, which increasingly are no longer meeting the expectations of many anglers. Upgrades are needed to stem the lost of recreational fishing commerce to Canada and other New England states.[125]

A comprehensive statewide engineering study of Maine's fish hatchery system puts the total cost of improvements needed at $22.6 million over a 10-15 year period.[126]

D. Boating Access

Boating is another recreational sport enjoyed by many residents and visitors alike. Recreational fishermen, boaters, sailors, canoeists, kayakers, and others enjoy some of the most pristine waters in the world in Maine.

State Boating Access

- ✓ 166 inland boat launches
- ✓ 12 coastal launching areas
- ✓ Emerging water trails

The Bureau of Parks and Lands owns and manages 78 boat-launching areas across the state, including 12 on coastal waters.[127] The Department of Inland Fisheries and Wildlife has built and maintained over 100 boating access sites.[128] State funding also has helped develop 230 public boat access sites (owned and managed by municipalities) of which 62 are on coastal waters.[129]

In addition, coastal and inland water trails are becoming more popular. As Maine residents, "[rediscover] historic travel routes first blazed by native tribes and early settlers…they're turning these corridors into recreational waterways. The surge in activity places Maine at the forefront of a broader movement, which is creating dozens of modern water trails from Florida to British Columbia."[130]

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[124] Salmonid Sport Fish Production, p. ii.
[125] Salmonid Sport Fish Production, p. i.
[126] Fishpro, p. 9.
[127] Maine Coastal Program/State Planning Office and Maine Department of Marine Resources. Coastal Water Access Priority Areas for Boating and Fishing, undated, p. C29.
[128] Maine Department of Inland Fisheries and Wildlife
[129] Coastal Water Access Priority Areas for Boating and Fishing, p. C29.
[130] Turkel, Tux. Portland Press Herald. "Maine is leader in effort to create new water trails," 1997.

The Maine Department of Conservation manages two river trails for recreational use: the Allagash Wilderness Waterway and the Penobscot River Corridor. Local commissions that receive state funding manage two others, the Saco and St. Croix River waterways.[131] The Bureau of Parks and Lands assisted with the development of the nation's first modern water trail; the Maine Island Trail, a privately-managed coastal water trail that stretches 325 miles from Portland to Machias and includes about 100 public and private islands.[132] Projects funded through the Land for Maine's Future Program include a water trail along the Machias River and another on Spednic Lake and the upper St. Croix River.[133]

Economic Impact of Boating

The previous section describes recreational fishing on Maine's inland waters amounting to four million fishing days per year and $300 million in direct and indirect spending added to the state's economy (see p. 33).

Economic Impact of Boating

- ✓ $300 million inland fishing
- ✓ $28 million for recreational saltwater fishing
- ✓ $1.7 billion for recreational uses of Great Ponds

Boating access also supports recreational salt water fishing in Maine; a sport growing in popularity. Almost 400,000 saltwater anglers made over 1,000,000 fishing trips in Maine in 2005. Last year, recreational saltwater fishermen spent $26 million on daily personal expenditures alone.[134]

In addition, University of Maine resource economics professor, Kevin Boyle, examined spending by lake users in 1997 and found that the total expenditures for recreational uses of Maine's Great Ponds at that time were $1.7 billion.[135]

Pressures on Boating Access

"Even though Maine's coast and inland lakes are state treasures, just a fraction of those have dedicated public access."[136] As water recreation becomes more popular, there is demand for greater access to Maine waters. "This is occurring at the same time that traditional access sites and affordable shorefront lands suitable for access diminish."[137]

For coastal access in particular

[131] SCORP, p 14.
[132] Note: the Maine Island Trail Association manages this trail.
[133] Increasing the Return on a Sound Public Investment, p 92.
[134] Marine Recreational Fisheries Statistics Survey. Note: this includes expenditures related to the fishing trip on the day of the trip, including: gas, tolls, parking, bait, and meals. It does not include marina or docking fees, boat purchases, boat/engine repair, insurance, fishing tackle, overnight accommodations, or other related costs.
[135] Boyle, Kevin and Jennifer Schuetz and Jeffrey Kahl. Great Ponds Play an Integral Role in Maine's Economy. Water Research Institute, University of Maine: Orono, ME, April 1997.
[136] Baldacci, Governor John. Maine Department of Inland Fisheries and Wildlife. Web site.
[137] Maine Department of Conservation and Department of Inland Fisheries and Wildlife. Strategic Plan for Providing Public Access to Maine Waters for Boating and Fishing, 1995.

> When viewed in context of its size, its draw for visitors and residents, and its recreational and commercial value, the Maine coast offers little access, particularly boat access sites. When all its bays, inlets, and tidal rivers are included, the Maine coastline is approximately 5,300 miles long. Less than 5% of the total land area in the coastal zone is publicly-owned, and there are only [74] state and municipal boat ramps along the entire coast.[138]

Increased use raises concerns as well. Just as with recreational lands and trails, access to water often crosses private properties and fragile shorelines and unique island habitats. Private property owners and state officials both are weighing the potential for increased use.[139]

"People are becoming more aware that the water is a public resource and they want to take advantage of it."[140] But with more use comes conflict. Recreational boaters sometimes clash with local residents. The rapid growth of coastal kayaking is causing heavy use of some islands, which concerns landowners of these privately-owned islands. Timber owners are concerned about restrictions on harvesting, as public use of waterways becomes more prevalent.[141]

Pressures on Boating Access

- ✓ Lack of access sites for boat launches
- ✓ Increased popularity of water recreation and pressure on fragile habitats
- ✓ Conflicts between users and property owners

Programs that Support Boating Access

The Maine departments of Conservation, Economic and Community Development, Inland Fisheries and Wildlife, Marine Resources, and Transportation and the Maine Coastal Program work with local communities to improve shoreline public access.

Funded by the portion of the state gasoline tax attributable to motorboat use, the departments of Conservation and Inland Fisheries and Wildlife have, in total, about $2.5 million available to maintain boating access programs, including acquisition and development of new sites, maintaining existing sites, and marking lakes and rivers for navigational hazards. The amount available for direct acquisition and development is about $1.5 million.[142]

Programs that Support Boating Access

- ✓ Efforts by Maine Bureau of Parks and Lands and Inland Fisheries and Wildlife
- ✓ Boating Facility Grant Program
- ✓ Right-of-way Discovery Grant Program
- ✓ Boating Infrastructure Grant Program

The Bureau of Parks and Lands administers both the Boating Facility Grant Program and the federal Land and Water Conservation Fund to help acquire, develop, and maintain public boating facilities on both coastal and inland waters. Every year, the Maine Coastal Program awards ten $1,000 grants to municipalities or local land trusts to research forgotten or

[138] SurfRider Foundation.
[139] SCORP, p. 14.
[140] Turkel, quoting David Getchell Sr. of Appleton, president of North American Water Trails.
[141] SCORP and Turkel.
[142] Maine Department of Conservation.

overlooked public rights-of-way to the shore.[143] MaineDOT receives $100,000 annually from the U.S. Fish and Wildlife Service for the Boating Infrastructure Grant program, which provides grants for the construction, renovation, or maintenance of tie-up facilities for recreational boats.[144]

State Green Infrastructure Capital Needs for Boating Access

"To improve access, Maine needs to buy coastal and inland lake shorefront and provide access or easements for the public, and invest in associated infrastructure to accommodate people without causing serious environmental degradation to the shoreline and coastal waters."[145] Two reports, *Maine's Coastal Water Access Priority Areas for Boating and Fishing* and *Strategic Plan for Providing Public Access to Maine Waters for Boating and Fishing* contain comprehensive, prioritized lists of coastal and freshwater lakes, ponds, and rivers in need of public access.

According to the Muskie-Smith report, however, the list of water access needs identified by state agencies is long and the funding limited. "Funding boat access sites is also complicated by the extreme high cost of suitable sites in a highly competitive marketplace," the controversial nature of some acquisitions, and the lack of development resources.[146] Unlike land conservation, local land trusts and others who might generate water access projects for state funding typically have conservation missions and do not actively advance water access projects. In addition, opposition to these projects frequently surfaces due to localized concerns. In order for the state to acquire additional water access for boating and other water recreation activities, it will need to dedicate staff to seek out projects, address local concerns, and bring forward funding proposals. There are currently insufficient state staff resources to put towards this kind of effort.[147]

Capital Needs for Boating Access

- ✓ Continued investment in Land for Maine's Future Public Access to Maine Waters Program

In response to the growing demand for access and the need to act quickly when shorefront property becomes available, the Legislature created the Public Access to Maine Waters Fund in 1993 and funded it for the first time in 1999 out of Land for Maine's Future bond proceeds. Since its inception, the Fund has financed 25 boat launch sites with seven more under negotiation.[148] To continue to expand public water access, the Public Access to Maine Waters Fund will need to be replenished.

[143] Maine Coastal Program. Web site.
[144] Maine Department of Transportation. Web site.
[145] SurfRider Foundation.
[146] Increasing the Return on a Sound Public Investment, p. 84.
[147] Glidden, Tim. Director, Land for Maine's Future Program. Interview, May 26, 2006.
[148] Data from Land from Maine's Future Program and Land for Maine's Future Program. 2005 Proposal Workbook, p 48.

Working Lands

A. Farmland

Represented by the farmer on the state seal, agriculture has a long and close association with the Maine way of life. Maine farmers are the stewards of one million acres of cropland, pasture, and woods.[149]

Economic Impact of Farming

Maine's farms and food processors provide over 65,000 jobs and contribute $1.2 billion annually to Maine's economy.[150]

Maine farms are also integral to the state's tourism industry. The thousands of acres of orchards, hay, and cropland are the backdrop for much of the state's scenic countryside and rural character that draws tourists to Maine.[151] Some farms offer bed and breakfast amenities. They also provide year-round opportunities for family outings, like apple- and berry-picking, cross-country skiing, bird-watching, hayrides, and maple-sugaring. In 2002, Maine farms generated $433,000 from these recreational services; an average of $5,926 per farm.[152]

Pressures on Farmland

A viable agriculture depends on a productive land base. Yet, land prices make it very attractive for farmers to "cash out;" that is sell their land and get out of farming. In 2003, the value of farmland per acre was $1,750. At the same time, the value of farm income per acre was just $60.[153]

As a result, sprawl and development take agricultural lands out of production. Since 1964, the acres of farmland in Maine declined by 50% to 1.2 million acres in 1997. The portion of farmland that supports crops declined from 900,000 acres to 534,000 acres in the same time period.[154] The loss of cropland acres for hay and forage to produce feed for livestock has been much faster than other kinds of cropland.[155] In regions of Maine today, there is an inadequate supply of productive hay and forage land to ensure the future of livestock farming.[156]

Maine Agriculture

- ✓ 1 million acres
- ✓ 65,000 jobs
- ✓ $1.2 billion to Maine's economy
- ✓ Provides tourism opportunities

Pressures on Farmland

- ✓ Rising land prices
- ✓ Declining farm income
- ✓ Sprawl and development
- ✓ Attractiveness of farmland for development

[149] Governor's Steering Committee on Maine's Natural Resource-based Industry. Indicators of Health, November 2004, p. 19.
[150] Maine Department of Agriculture and American Farmland Trust. Brief. "Planning for Agriculture: Information and Tools for Citizen Planners," GrowSmart Maine: Portland: www.growsmartmaine.org.
[151] Maine Department of Agriculture. Saving Maine's Farmland: A Collaborative Action Plan, June 2003, p 6.
[152] Indicators of Health, p. 21.
[153] Indicators of Health, p. 24.
[154] Smith, Stewart. Maine Agriculture: A Natural Resource Based Industry Constantly Adapting to Change. Department of Resource Economics and Policy: University of Maine, October 2003, p. 3.
[155] Maine State Planning Office, Background Paper. "Agricultural Land Loss," 1999.
[156] SPO, Agricultural Land Loss, pp. 4-5.

Of all of the land types in peril of conversion, open farmland is among the most at risk. The type of land suitable for farming is attractive to developers; it is accessible, cleared, flat with good soils drainage, and within easy commuting distance of jobs and services.[157] Most recently, orchards have become attractive sites for developing upscale subdivisions.[158]

More importantly, people do not appreciate the role that land plays in farming. Hay fields in particular are viewed as "vacant," "unused," or "empty" and these views contribute to farmland conversion."[159]

Economic Impacts of Farmland Conservation

Keeping land in agricultural production can be a good investment. Although higher-value, developed land may bring in more property tax revenues, farm production income typically generates more taxes overall. In addition, the cost to service new homes puts more pressure on municipal budgets than farmland. National data show that residential uses require an average of $1.15 in municipal services for every dollar paid in property taxes; farmland requires only $0.36 per dollar.[160]

Economic Impact of Farmland Conservation

- ✓ $1.2 million in direct and indirect spending for all of agriculture
- ✓ Fewer municipal services required for productive farmland than developed land
- ✓ A strategy for farmers to be able to afford to keep farmland

According to the Muskie-Smith report, the purchase of development rights for Lakeside Orchards reduced municipal tax revenue by $6,000 per year in Manchester. Although it is too soon to see a trend, researchers suggest that this loss may be offset by a corresponding increase in value of neighboring properties and by increased production and processing at the orchard. They also cite the social and community benefits that the orchard's preservation offers.[161]

In Cape Elizabeth, area residents cherish the Jordan Farm; "a local landmark where they go to buy fresh produce and enjoy scenic vistas out over the farm fields to Spurwink Marsh and the historic Spurwink Church. The Jordan family wanted to maintain this farming tradition, but as area land values soared, the pressures to sell for development increased. Three nearby farms all sold and were built out, the most recent one into a 97-lot subdivision." The Jordans chose to sell development rights on key portions of their farm as a strategy to lower their property value, making it more affordable to keep their farm.[162]

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[157] SPO, Agricultural Land Loss, p.1.
[158] Maine State Planning Office. Fishing, Farming, and Forestry: Resources for the Future, March 2001, p.24.
[159] SPO, Agricultural Land Loss, p. 5.
[160] Maine Department of Agriculture. Saving Maine's Farmland: A Collaborative Action Plan, June 2003, p. 6.
[161] Increasing the Return on a Sound Public Investment, pp. 48-53.
[162] Land for Maine's Future. Web site: http://www maine.gov/spo/lmf/projects/project_detail.php?project=1602.

Programs that Support Farmland Stewardship

The Department of Agriculture's *Saving Maine's Farmland: A Collaborative Action Plan* provides a long-term plan to protect farmland as an integral part of Maine's green infrastructure. Strategies include: expanding right-to-farm laws, increasing landowner understanding and enrollment in Maine's Farm and Open Space current-use taxation program, encouraging local land use planners to save farmland, and growing consumer support for local agriculture.[163] The department estimates that it will cost an additional $300,000 biennially to implement the programs in the plan.

Programs that Support Farmland Conservation

- ✓ Right-to-farm laws
- ✓ Farm and Open Space Program
- ✓ Land use planning
- ✓ Efforts to grow local agriculture

State Green Infrastructure Capital Needs for Farmland Conservation

Over the past decade, acquisition dollars from the Land for Maine's Future Program have contributed to purchasing agricultural conservation easements on family farms, cropland, and orchards. For example, the Department of Agriculture has acquired conservation easements on Lakeside Orchards in Manchester, the Meserve Farm in Scarborough, the N.L. Lorio Farm on the Blue Hill peninsula, and the Hiatt Farm in Dresden. These projects will prevent future development while protecting productive farm soils, valuable wildlife habitat, and open space.[164]

In 1999, the Legislature set aside 10% of Land for Maine's Future funds for farmland conservation. To date, the Land for Maine's Future Program has contributed $7 million for 18 farmland projects, comprising almost 6,000 acres. Another $1 million worth of projects (fee and easement) is in the pipeline.[165]

Capital Needs for Farmland Conservation

- ✓ Continued investment in Land for Maine's Future Program
- ✓ $5 million biennially for Farms for the Future

Farmland conservation funds can also provide state match to access federal USDA Farm and Ranchland Protection Program funds. To date Maine has leveraged a bit more than $1 million per year from its match.[166]

Maine's goal is to permanently conserve 250,000 acres of working farmland by 2025. Depending on the cost per acre, the department estimates it will cost $10 million per year for 20 years to achieve it.

The Maine Farms for the Future program also works to conserve farmland through loans and business planning assistance. A farmer participating in the program enters into a farmland protection agreement, promising that no non-agricultural development will take place on the land until the agreement expires or the loan is repaid. In the pilot stage of the program, business plans were developed for 33 farms. $200,000 was awarded to ten farms to help them implement their plans. Over 6,000 acres was protected

[163] Saving Maine's Farmland, p 2.
[164] Land for Maine's Future. Web site.
[165] Data from Land from Maine's Future Program.
[166] Data from Maine Department of Agriculture.

from development.[167] Voters approved an additional $2 million in funding for the program in 2002, but that is running out. In January 2006, the Governor's Steering Committee on Maine's Natural Resource-based Industry called for new funding for the Farms for the Future Program. An additional $5 million is needed biennially to replenish and sustain the program.

B. Forests

Maine citizens have a special connection with their forests. They care about the forests and how they are managed.[168] Maine's forests are unique in the eastern U.S., comprising the largest contiguous block of undeveloped forestland east of the Mississippi. Ninety percent of the state remains forested. The resilience and diversity of our forest ecosystems contribute to an outstanding forest resource.[169]

Maine's Forests

- ✓ 90% of the state is forested

Economic Impact of Forestry

The forest products industry is a staple of the state's economy. Its direct annual contributions amount to $6.2 billion and, with indirect contributions, the industry's total impact is more than $10 billion per year. The industry provides 18,000 jobs for Maine people. Forest products represent 36% of the state's total manufacturing output. In addition to a diverse timber resource, Maine's forests support many public resources, including lakes, ponds, rivers, and streams, recreational trails, and abundant fish and wildlife resources.[170]

Economic Impact of Forests

- ✓ $10.2 billion in direct and indirect spending

Pressures on Forests

Maine has experienced significant changes in forest ownership since the mid-1990s. A mix of corporate structures collectively known as timberland investment management organizations has replaced most of Maine's large industrial forest landowners. Investor-owners now hold at least 3.75 million acres in Maine.[171]

Pressures on Forest Conservation

- ✓ Landownership changes and changes in forest land management objectives
- ✓ Development and conversion of forest land
- ✓ Parcelization

In general, these investors seek to maximize returns. They often break lands into multiple holdings, a trend referred to as parcelization. For example, the 2.3 million-acre Great Northern Paper ownership of 1989 now resides among at least 15 different landowners.[172] Even if they remain forested, smaller parcels reduce economies of scale making land

[167] Coastal Enterprises, Inc. Web site: http://www.ceimaine.org/content/view/119/171/.
[168] Maine Forest Service. 2005 Biennial Report on the State of the Forest and Progress Report on Forest Sustainability Standards, December 29, 2005, p. vii.
[169] 2005 Biennial Report on the State of the Forest, p. vii.
[170] 2005 Biennial Report on the State of the Forest, p. 7 and p. 9.
[171] 2005 Biennial Report on the State of the Forest, p. 10.
[172] Hagan, J.M., L.C. Irland, and A.A. Whitman. 2005. Changing timberland ownership in the Northern Forest and implications for biodiversity. Manomet Center for Conservation Sciences, Report # MCCS-FCP-2005-1, Brunswick, Maine, p iii.

management less efficient and profitable. In addition, owners of smaller parcels are generally less interested in timber management, biodiversity practices, and forest certification than former forest products industry landowners.[173]

Parcelization is also the result of lands being developed into house lots or commercial development. Conversion of forest land to development is a significant issue in southern and central Maine.[174] Analysis by the U.S. Forest Service indicates that by 2030 increased housing density could result in significant conversion of forests in New England.[175]

The Land for Maine Future's Board, in response to the 1997 *Land Acquisition Priorities Report*, acknowledged the need to put resources towards forest conservation. The report concludes that,

> The state has both the opportunity and the responsibility to work cooperatively with forest landowners and other interests to develop workable acquisition models that protect the economic, ecological, and recreational values of [the northern forest] region. Conservation easements should play an important role in this effort.[176]

Programs that Support Forest Conservation

- ✓ Maine Forest Certification Program

Programs that Support Forest Stewardship

The stewardship of private forest landowners is essential to maintaining Maine's working forests. Effective forest management assures the long-term stability of the land. The Maine Forest Service promotes several private forest certification programs; the goal of which is to sustain healthy forests that support jobs, recreation, and rich plant and animal resources. Governor Baldacci established a goal to certify 10 million acres of Maine's forest lands by 2009. To date, forest owners in Maine have achieved over 7 million certified acres.[177] In 2006, the Department of Conservation received the first budgetary appropriation to staff this program; an ongoing, annual appropriation of $75,000.

State Green Infrastructure Capital Needs for Forest Conservation

The Land for Maine's Future Program is the primary publicly-funded mechanism for helping to keep forest lands in productive use. Perhaps the best example is the West Branch project bordering the Penobscot River. At 329,000 acres, it is the largest contiguous tract of land ever protected in Maine –an area 1.5 times the size of Baxter State Park. Through a

[173] Hagen, p iii and 2005 Biennial Report on the State of the Forest, p. 10 and Maine Department of Conservation. Complementary Solutions to Liquidation Harvesting. January 2004, p. 23.
[174] 2005 Biennial Report on the State of the Forest, p. 9.
[175] USDA Forest Service. Forest Legacy Program: 5-year Strategic Direction, December 2005, p.1. http://www fs fed.us/spf/coop/library/flp_strategicdir.pdf
[176] LAPAC, p 13.
[177] Maine Forest Service. Web site: http://www.state me.us/doc/mfs/certification/.

combination of fee and easements, the project ensures that forestlands will be managed for forest products. The Land for Maine's Future program acquired 47,000 acres in fee. The Forest Society of Maine raised the $12 million of private funds needed to match LMF funds and contributions from the federal Forest Legacy Program, which provided more than $19 million in federal funds with the strong support of Maine's Congressional delegation.[178] In addition, seven other Land for Maine's Future projects concentrate on forest conservation lands.

Capital Needs for Forest Conservation

- ✓ Continued investment in Land for Maine's Future Program

It is not realistic, nor is it warranted that all of Maine's forest lands be sheltered by conservation easements. The approach taken by the Land for Maine's Future Program is to use working forest easements, with limited use of fee acquisitions.[179] It targets lands most vulnerable to development or those with treasured natural resources.

Nevertheless, funding for the Land for Maine's Future program has been depleted. Recently, in their legislative report, *Recommendations to Maintain and Enhance Maine's Forests*, the Maine Forest Service called for increased funding for acquisition of forest conservation easements through the Land for Maine's Future Program.[180]

[178] Land for Maine's Future. Web site: http://www maine.gov/spo/lmf/projects/project_detail.php?project=1579.
[179] Increasing the Return on a Sound Public Investment, p. 90.
[180] Maine Forest Service. Recommendations to Maintain and Enhance Maine's Forests, January 2006.

Other Conservation Lands

Mainers have a unique relationship to the land. In a landmark study of the values of Maine people in 1989, "Four Mainers in five agreed that the natural beauty of Maine should be preserved, even if it means spending more public money or interfering with private investment decisions."[181]

Many Maine lands have immense ecological and environmental value. Often they comprise a landscape that is incomparable to any place in the world, which Mainers want to see and use. For example:

- ✓ The lands around the Ducktrap River buffer spawning and rearing habitat in one of the last eight rivers in Maine with runs of native Atlantic salmon. Public trails parallel the river as it tumbles past boulders and glides under trees on its way to Penobscot Bay.[182]
- ✓ In late summer, the Kennebunk Plains turn purple with the blooming of the Northern blazing star, an extremely rare flower (90 percent of its global population lies in the Kennebunk Plains). Summer visitors can fish and swim in the Mousam River; in winter, snowmobilers and skiers traverse the extensive trails of the plains.[183]
- ✓ The unusual geological formation of Mount Kineo's 700-foot cliffs, which rise straight up from Moosehead Lake, is home to peregrine falcons and an assemblage of rare plants. Lake frontage includes hiking trails with spectacular views.[184]

The Muskie-Smith report concludes that land conservation "presents a singular opportunity to shape the character of the Maine landscape and the quality of life for generations to come."[185]

Maine's Other Conservation Lands

- ✓ Plant and wildlife habitat
- ✓ Prime physical features
- ✓ Ecological reserves
- ✓ Whole islands and mountains
- ✓ River corridors
- ✓ Undeveloped coast lines
- ✓ Scenic landscapes

Pressures on Other Conservation Lands

- ✓ Development sprawl and fragmentation and loss of habitat

Pressures on Other Conservation Lands

Maine's diverse assemblage of wildlife, plants, and natural communities is threatened. Over two-thirds of the state's rare and endangered species are in danger of extinction because of habitat loss. Habitats for wildlife in Maine have been seriously fragmented by development sprawl. In southern Maine, nesting sites for endangered birds, such as the piping plover and least tern, have been lost to development. 200 Maine lakes have already been harmed by development, and another 300 are at risk if current trends continue.[186]

[181] Market Decisions, Inc. The People of Maine: A Study in Values. South Portland, ME, 1989.
[182] Land for Maine's Future. Web site.
[183] Land for Maine's Future. Web site.
[184] Land for Maine's Future. Web site.
[185] Increasing the Return on a Sound Public Investment, p. 2.
[186] Beginning with Habitat. Program Overview. "A Landscape approach to habitat conservation," p. 1.

Local land use planning has not been effective in protecting habitat and open space. A recent study by the State Planning Office concluded that "municipal comprehensive planning as currently practiced has not directed growth into locally-designated growth areas as intended. Local planners say that on average, about 70% of the growth in the last fifteen years has occurred in rural areas, places local residents say they want to protect."[187]

Programs that Support Stewardship of Other Conservation Lands

The Beginning with Habitat program is aimed at protecting animal and plant habitat systems. It helps local decision-makers understand wildlife and plant conservation needs and the impacts of fragmentation of habitat. The program provides each Maine town with maps and information about valuable habitats in its town, which help guide land use decisions to protect them.[188] The Maine Department of Inland Fisheries and Wildlife administers Beginning with Habitat assisted by a broad coalition of state and federal agencies. Currently three full-time and three part-time positions staff the program. Resources are very limited. To fully fund the program would cost $500,000 annually.[189]

Programs that Support Other Conservation Lands

- ✓ Beginning with Habitat
- ✓ Maine Outdoor Heritage Fund

Two of the Maine Outdoor Heritage Fund's priorities help protect conservation lands. Thirty-five percent of their funding is reserved for fisheries and wildlife habitat conservation and 15% for endangered and threatened species conservation projects. Each year, about $1.5 million is distributed to innovative projects that support a broad range of conservation initiatives.[190]

State Green Infrastructure Capital Needs for Other Conservation Lands

The Land for Maine's Future Program has led state land conservation in Maine. Additional funding is needed to preserve valuable plant and wildlife habitat, ecological reserves, whole islands and mountains, river systems, and undeveloped coast lines.

Capital Needs for Other Conservation Lands

- ✓ Continued investment in Land for Maine's Future Program

[187] Maine State Planning Office. An Evaluation of the Growth Management Program, March 2006, p. 11.
[188] Beginning with Habitat. Web site: http://www.beginningwithhabitat.org/about_bwh/index html.
[189] Data from Department of Inland Fisheries and Wildlife.
[190] Maine Outdoor Heritage Fund. Web site: http://www maine.gov/ifw/outdoorheritage/homepage htm

Land for Maine's Future Program

In 1987, citizens voiced their desire to have Maine's most special places held forever in the public trust for all to enjoy. The Maine Legislature created the Land for Maine's Future Program (LMF) to secure "the traditional Maine heritage of public access to Maine's land and water resources [and] the continued quality and availability of natural resources important to the interests…of Maine people."[191]

Currently, Maine holds 1.38 million acres of land for conservation and recreation purposes, or about 6.75% of total land in the state. There are 1.25 million acres acquired outright ("in fee") and just over 120,000 acres of conservation easements on private lands.[192] Since its inception, the Land for Maine's Future Program has committed $88 million to acquire 240,000 acres in fee and conservation easement with an estimated 250,000 acres of conservation projects still under negotiation.

Economic Impact of Land for Maine's Future Program

The economic return from the Land for Maine's Future Program investment has many facets. Public dollars invested for recreation and conservation lands, public access to waters, and preservation of working lands leverage considerable funding from other sources, including private and federal funds (a more than 2:1 return on public dollars since 1999). This brings increased economic activity to the state. The investment helps prevents sprawl and the associated duplicative government services that it entails. It keeps working lands productive; strengthening natural resource-based industries and their associated jobs and tax revenues. It preserves outdoor recreational opportunities and enhances the economic position of tourism businesses.

While land acquisition may, in some cases, reduce property tax revenues to local governments by reducing or removing the lands' development potential, preserved lands can also increase property values. According to Muskie-Smith, "…proximity to open space has been shown to have a significant positive impact on the sale prices of residential homes."[193] The same report suggests that undeveloped land requires fewer municipal services than residential or commercial property; a benefit to local tax payers.[194] Additionally, working conservation easements help ensure that extractive values are maintained while protecting the land's natural and experiential values.[195]

Land for Maine's Future Program

- ✓ $88 million committed
- ✓ 240,000 acres in fee and easement
- ✓ 250,000 acres under negotiation

Economic Impact of Land for Maine's Future Program

- ✓ Leverage outside money
- ✓ Reduces sprawl and need for duplicative government services
- ✓ Keeps working lands productive
- ✓ Enhances outdoor recreation and tourism
- ✓ Enhances property values and mitigates property taxes

[191] Land for Maine's Future. Web site.
[192] Increasing the Return on a Sound Public Investment, p. 23.
[193] Increasing the Return on a Sound Public Investment, p 74.
[194] Increasing the Return on a Sound Public Investment, p. 73.
[195] Increasing the Return on a Sound Public Investment, p. 60.

Programs that Support Land for Maine's Future Stewardship

With conservation comes the responsibility to manage these public lands, and, in particular, the capacity to monitor and enforce the terms of public easements.

A conservation easement

> typically consists of permanently enforceable rights held by a land trust or government agency by which a landowner promises to use property only in ways permitted by the easement. The landowner retains ownership and may convey it like any other property, subject to the easement's restrictions.[196]

A working landscape conservation easement

> seeks to protect the land's open space and certain natural values while allowing continued forestry, ranching, or farming uses. It restricts other uses that are incompatible with these objectives.[197]

Programs that Support Land for Maine's Future

- ✓ Monitoring and oversight of conservation easements

According to Maine Assistant Attorney General Jeff Pidot, who has studied extensively the legal framework for conservation easements nationally, "No recent happening in land conservation rivals the rapid deployment from coast to coast of conservation easements." Their popularity is driven, "by the perception that conservation easements are a win-win strategy in land protection, by which willing landowners work with private land trusts or government agencies to provide lasting protection of the landscape …without regulation, without adversity, and…without government."[198]

In reality conservation easements are public assets and require enforcement to avoid encroachment problems or illegal crossings and so that their terms are not forgotten, overlooked, or lost. Some also need to be physically maintained (grooming of trails, cleaning up debris and litter, or repairing ramps and bridges). And they need to be consistently documented, mapped, and recorded so that future landowners know of, understand, and abide by their terms.

Pidot stresses that nationally conservation easements tend to lack effective design, methodical tracking and monitoring, clear valuation and other taxation standards, legal stewardship requirements, and ways to assess

[196] Pidot, Jeff. Reinventing Conservation Easements: A Critical Examination and Ideas for Reform. Cambridge, MA: Lincoln Institute of Land Policy, 2005, p. 3.
[197] Pidot, p. 3.
[198] Pidot, p 1.

public benefits, among other concerns. While conservation easements are a valuable land protection tool in Maine and elsewhere, Pidot argues, that without reforms, "We may simply leave to future generations a legal chaos involving many thousands of conservation easements whose terms, holders, and locations may difficult to determine, and whose public benefits ultimately could be lost."[199]

In Maine, the number of conservation easements, negotiated by both the state and private land trusts, is soon likely to exceed the amount of lands held in fee.[200] Recently, the state has moved to standardize the design of landscape scale conservation easements and has improved its stewardship of the easements that it holds. The Department of Conservation now raises funds for stewardship endowments as part of their major easement acquisitions. The Land for Maine's Future Program is developing baseline documentation for older easements. The challenge is to raise the necessary funds to endow the general stewardship of older easements or to seek ongoing budget support for that effort.[201]

State Green Infrastructure Capital Needs for Land for Maine's Future

In 1999, voters approved by a wide margin $50 million for the Land for Maine's Future Program. By 2004, those funds had been exhausted, but the threat to treasured lands had not abated.[202] Against this backdrop, the Muskie School of Public Service and the Margaret Chase Smith Center for Public Policy collaborated to review program. They sought to understand the effect of the Land for Maine's Future Program and whether it continued to be an appropriate use of public dollars. Their 2004 report concludes that, "there continues to be urgent need for a state-funded land conservation effort in Maine…" and that, "…new state funding is needed at this time to continue this critical effort."[203]

The Maine Economic Growth Council calls for an increase in the amount of conservation land intended for public use to enhance the vibrancy of Maine's economy. Their benchmark of 1.8 million acres by 2010 translates into 300,000 acres in the next four years or 75,000 acres per year over that time. [204]

In 2004 and 2005, Governor Baldacci called for $60 and $40 million respectively to replenish the Land for Maine's Future Program. During the debate on the Governor's LMF bond proposal, individual legislators and coalitions of legislators called for funding for as much as $100 million for the program. At the time, the Legislature's Agriculture, Conservation, and

[199] Pidot, p. 1.
[200] Brooke, Steve, Land for Maine's Future Program. Interview. April 28, 2006.
[201] Glidden, Tim, Land for Maine's Future Program. Interview. May 26, 2006.
[202] Data from Land for Maine's Future Program.
[203] Increasing the Return on a Sound Public Investment, pp. 13 and 15.
[204] Measures of Growth 2006, p. 24.

Forestry Committee endorsed a $45 million bond request. In the end the Legislature sent a modest $12 million proposal to Maine voters in 2005, which was heartily approved in all counties. Most observers agree that voters would have approved a substantially larger amount.

Based on its past activity and the trends of the real estate market, the Land for Maine's Future program estimates that the level of need continues to escalate, as follows:

- **Purchasing power**: Widespread and rapid increases in land prices have significantly eroded the buying power of the $50 million authorized in 1999. To have the same purchasing power today would require a bond of between $80-100 million.

- **Funding requests**: Between 1999 and 2004, LMF has held four funding rounds in addition to the ongoing water access program. Funding requests routinely exceed available funds. Through 2005, LMF was only able to meet approximately 70% of the funding requests. In 2006, LMF did not meet even 50% of the requested conservation funds.[205]

- **Ongoing inquiries and public interest**: Despite the widespread coverage of the limited LMF bond funds available, the program and its sister agencies continue to receive a steady stream of inquiries from landowners, towns, land trusts, and general citizens seeking support for important land conservation opportunities.

- **Need for multi-year commitment**: Land conservation transactions require lengthy negotiations. Many play out over 3-5 years. Project fundraising takes time (LMF is often not the only funding partner) and there are frequently technical and legal issues to resolve. Most landowners need to be assured that the core funding is available before they will start serious negotiations. This means that LMF must have the ability to commit funds a year or more in advance of closure.[206]

Capital Needs for Land for Maine's Future Program

- ✓ $100 million over 5 years
- ✓ $40 million for FY08-09

Taken together, these factors provide ample justification for an annual commitment of between $15-20 million for a minimum of five years.[207] This figure simply maintains the existing level of commitment for recreational lands and trails, public access to Maine waters, farmland preservation, working forest easements, and other conservation lands and keeps pace with inflation in today's competitive land market.

[205] Note: In the winter 2006, LMF received requests for project funds exceeding $21 million with only $10 million available.
[206] Glidden, T. William. Presentation to the Legislature's Agriculture, Conservation, and Forestry Committee, Augusta ME, March 2005.
[207] Glidden.

IV. Learning from Other States

> **If no one thinks of it, it certainly won't happen; if someone does think hard enough, it just might.**
>
> – *Rachel Carson*

Funding of land conservation and other public green infrastructure in the US is accomplished through a variety of means including bonding, donations, fees, and tax incentives.[208]

Maine already has a number of strategies for funding portions of its green infrastructure such as:

- General purpose bonds
- Loon conservation plates for state parks, fisheries, and wildlife
- Lake and river protection sticker for watercrafts for fighting invasive aquatic species
- Water extraction revenues for state parks
- Historic and scenic preservation local option property tax reimbursement for historic preservation[209]
- Gasoline taxes
- Lottery proceeds through the Maine Outdoor Heritage Fund
- License fees and user fees

Nevertheless, these revenues have not been sufficient to keep pace with demand for access to Maine's green infrastructure. This section looks at state bonding trends and how Maine compares. It also reports on conservation finance measures used by other states, including, among others, fees and taxes, local financing incentives, corporate sponsorships, conservation banks, and endowments.

A. General Obligation Bonds

"…in robust and challenging economic times alike, American voters strongly support finance measures that preserve natural lands, create parks, and protect farmland." Over the past 12 years, more than 77% of the conservation finance ballot measures put to voters were approved, generating a total of $30.6 billion across the US.[210]

Interestingly, bonding is the least used means of land conservation funding by state governments. Since 1996 there have been 573 bonds on government ballots for land conservation of which only 23 were state proffered.[211]

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[208] Trust for Public Land.
[209] 30-A MRSA §5730
[210] Trust for Public Land. LandVote Database. http://www.tpl.org/tier3_cdl.cfm?content_item_id=15266&folder_id=2607
[211] Trust for Public Land. LandVote Database.

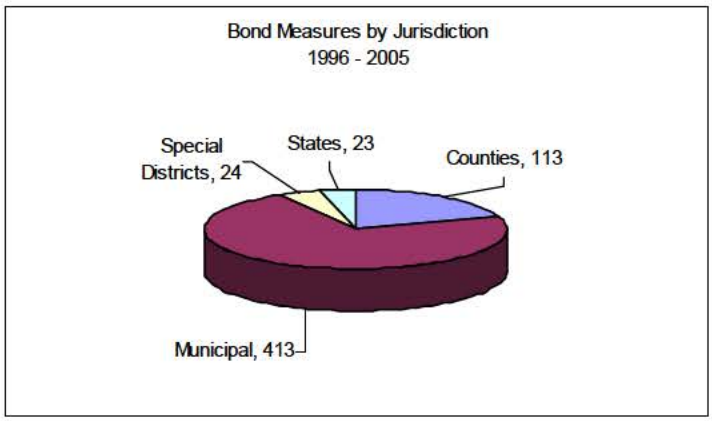

Figure 1: Bond Measures by Jurisdiction, 1996-2005 (Source: Trust for Public Lands)

The majority of bonding is done at the local level. According the Trust for Public Lands, communities are approving conservation funding measures in record numbers. [212] New trends in local land use planning are driving these efforts.[213] They say that

> Communities are getting ahead of the development curve...Land conservation is used as a tool for managing growth and protecting a community's most significant land and water resources. Growth is accommodated where it makes sense –near existing infrastructure –and conservation is used where it matters most –for the farmland, waterways, wildlife habitat, and open spaces that sustain and define a community.[214]

Historically, federal and state governments worked to preserve landscapes and habitats and, in contrast, local governments responded to growth pressures in more traditional ways. As growth and development transform the landscape however local governments are more proactive and strategic.[215] And, in recent years, states have developed strategies to encourage local governments' conservation efforts.[216] Section C below explores some of ways that states that support local conservation funding.

Legacy Acts

Several states have earmarked an amount of funding for conservation that could be considered a *legacy*; that is, it is historic in size and will change the face of the landscape. For example:

Garden State Preservation Trust Act – New Jerseyans approved by a 2-1 margin $98 million for 10 years to preserve one million acres of open space, farmland, and historic sites. Through a constitutional amendment, the Act dedicates one-tenth cent from state sales tax to the trust. Governor Christine Todd-Whitman signed this act into law in 1999.

[212] Hopper, Kim and Ernest Cook. Conservation Finance Handbook. Trust for Public Land: San Francisco, CA, 2004, p. iv.
[213] Hopper, p. 1.
[214] Hooper, p. 1.
[215] Hopper, pp. 1 and 3.
[216] Hopper, p. 7.

Florida Forever – Authorized by voters and approved by the Legislature in 1999, this initiative dedicates $3 billion over 10 years for the acquisition, restoration, and improvement of recreation and conservation lands.

California Farmland Conservancy Program – Voters have approved three statewide bond measures since 2000 totaling $65 million for acquiring agricultural easements to protect California's farmland and open space.

Pennsylvania's Growing Greener – Governor Rendell's $625 million environmental bond, approved by voters in 2005, is aimed at returning contaminated industrial sites and other polluted sites to productive use, protecting farmland and open space from development, cleaning up polluted streams, reclaiming abandoned mines, improving state and community parks and fish and wildlife infrastructure, revitalizing communities, cleaning up environmental hazards, and promoting the use of clean energy.

Maine's Use of Bonds Compared to Other Jurisdictions

Since 1996, the Maine Legislature has sent seven conservation-related bond measures, totaling $79.9 million to voters. These include bonds for land conservation and working waterfront access, state parks, fish hatcheries, rail trails, and farmland protection.

Table 3: Bond Funding Approved by Maine Voters, 1996-2005[217]

Green Infrastructure Type	Amount	Year
Rail Trails	$2.4 million	2000, 2002, 2005
Fish Hatcheries	$7 million	2002
Farms for Maine's Future	$2 million	2003
Land for Maine's Future	$62 million*	1999, 2005
Small Harbor Improvement	$6.5 million	1995, 2005
Total	$79.9 million	

*includes $2 million for working waterfront access

The Land for Maine's Future Program consistently garners strong voter support.

Table 4: Voter Approval of Land Bonds in Maine, 1987-2005[218]

Year	Amount	% YES
2005	$12 million	65%
1999	$50 million	69%
1987	$35 million	65%

Since 1987, Mainers have approved $97 million in bonds for the Land for Maine's Future Program. In addition, in 2000, the Legislature appropriated $3 million for LMF from general fund revenues, bringing the total for LMF over the last two decades to $100 million.[219]

[217] Maine State Legislature. Web site.
[218] Maine Department of Secretary of State. Election Results, 1988, 1999, 2005.
[219] Note: Subsequently, $1 million of the LMF general fund appropriation was cut to cover budget shortfalls.

Over the past 10 years, eight Maine municipalities also have approved bonds locally for conservation.

Table 5: Conservation Funding Measures approved by Maine governments, 1996-2005[220]

Jurisdiction	Date	Description	Conservation Funds Approved
Freeport	1996	Bond for specified land parcel for recreation	$450,000
Falmouth	1997	Bond for recreation, open space	$1 million
State	1999	Bond for open space, water access, recreation, wildlife habitat, farmland, easements	$50 million
Scarborough	2000	Bond for parks and land conservation	$1.5 million
Freeport	2000	Bond issue to fund town land bank for acquisition of open space, wildlife habitat and farmland preservation	$500,000
Falmouth	2001	Special Referendum: Bond for land acquisition and open space preservation	$1.5 million
Saco	2002	Bond for parks and recreation	$1.5 million
Scarborough	2003	Bond for natural areas, environmentally-sensitive areas, recreation	$2.5 million
York	2003	Advisory measure to dedicate funds for land acquisition, conservation easements	
State	2005	Bond to purchase land to protect water fronts, habitat, farmland, recreation and conservation	$12 million
Total			$70,950,000

Compared to the rest of New England, Maine ranks in the middle of the pack for bonds for conservation generally, but lags far behind Massachusetts, whose state and local governments have authorized funding more than four times greater than Maine.

Table 6: Conservation Bonds for Maine Compared to New England States, 2004-05[221]

Summary of Measures by NE States 1996 through 2005	
State	Amount Approved
MA	439,816,976
CT	123,571,000
ME	70,950,000*
NH	48,927,000
VT	7,500

*includes funds for Land for Maine's Future and a number of municipal bond votes

[220] Trust for Public Lands.
[221] Trust for Public Lands.

Over the same period, Maine ranks near the bottom for state-issued bonds for land conservation.

Table 7: Land Conservation Bonds for Maine Compared to Other US States, 1996-2005[222]

State Bonding for Land Conservation 1996-2005		
State	**Conservation Funds Approved**	**Date**
CA	$4,000,000,000	96,02
OH	$400,000,000	2000
PA	$297,500,000	2005
AZ	$220,000,000	1998
NJ	$150,000,000	2003
NY	$150,000,000	1996
CO	$115,000,000	2001
RI	$113,640,000	96,98,00,02,04
AL	$110,000,000	1998
NV	$89,500,000	2002
ME	$62,000,000	99,05
MI	$50,000,000	1998
VA	$36,500,000	2002
Total	$5,794,140,000	

Amount of Publicly-owned Conservation Land

Currently, Maine has slightly less than 1.4 million acres of land protected for conservation, or about 6.75% of total land in the state. There are 1.25 million acres acquired outright ("in fee") and just over 120,000 acres of conservation easements on private lands. Maine ranks 33rd in the US for the amount public land held in fee or easement for conservation.[223]

Putting Maine on Par with Other States

Maine's $100 million for land bonds over an 18-year period (1987-2005) translates into approximately $5 million per year. Based on Table 7, an annual land bond of $15 million per year for 10 years would put Maine on par with the rest of the country.[224]

[222] Trust for Public Lands, includes state-issued bonds only.
[223] Note: In addition, Maine's private land trusts have acquired some 300,000 acres of conservation lands in fee and just over 1 million acres in conservation easements. Increasing the Return on a Sound Public Investment, p 23.
[224] This calculation is an average of total state spending annualized over 10 years, excluding California.

B. Fees and Taxes

Rather than bonding, most states with an active land conservation program have opted for more stable, ongoing sources of funding. States also use a variety of fees and taxes to support parks and other green infrastructure.

A common revenue source is a real estate transfer or deed recording fee, which is used by Maryland, Virginia, New York, Tennessee, Massachusetts, and South Carolina to name a few. In Maryland, when a person buys a house or land, a percentage of the state real estate transfer tax goes into a special fund for open space. In this way homebuyers help improve the quality of their neighborhoods and the entire state. Maryland has acquired more than 234,000 acres of open space for state parks and natural resource areas and more than 31,000 acres of local park land with these fees.[225]

Examples of funding mechanisms that other states use include:

- Colorado uses proceeds from the state lottery.[226]
- Maryland sells bear stamps and directs the proceeds to help citizens offset their bear-induced losses.[227]
- Under Massachusetts' Land Stamp program, each individual who buys a hunting, fishing, or trapping license pays five dollars into the Land Stamp Fund for open space acquisition.[228]
- The portion of sales tax in Texas attributable to sporting goods is set aside for state parks infrastructure repair and maintenance[229]
- Florida charges a $2.00 per day surcharge on car rentals a portion of which goes to tourism promotion. [230]
- California collects park mitigation fees on new residential construction in unincorporated areas to fund the acquisition and construction of new park facilities or renovation of older facilities.[231]

Credits against state personal and corporate income taxes are used by many states as an incentive to donate conservation lands, including Georgia, New Mexico, Massachusetts, North Carolina, and Virginia. These laws allow taxpayers to claim a credit against their state income tax liability for the fair market value of donated conservation land. In most cases, states set maximum levels on the value of land or the percentage of value that donors can claim.

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[225] State of Maryland, Department of Natural Resources. Web site: http://www.dnr.state.md.us/rurallegacy/pos/pos_101.html.
[226] Trust for Public Land. Web site. "Funding Profile: Colorado," http://www.tpl.org/tier3_cdl.cfm?content_item_id=875&folder_id=706
[227] Barton, Rick. The State of State Parks. "Implications of Sponsorship for State Park Management," Vol 17, No. 3, 2000, p.42.
[228] Massachusetts Department of Fisheries, Wildlife & Environmental. Web site: http://www mass.gov/dfwele/com/comhp1.htm.
[229] Trust for Public Land. Web site. "Funding Profile: Texas," http://www.tpl.org/tier3_cdl.cfm?content_item_id=11469&folder_id=706
[230] Mohl, Bruce. Boston Globe. "Car rental bills come laden with taxes, fees," February 8, 2004.
[231] Sonoma County. Draft Outdoor Plan. "Financing Options," March 2003: http://www.sonoma-county.org/PARKS/outdrpln/pdf/orp_vol1-chap7.pdf

C. Local Financing Incentives

Some states provide incentives to encourage local conservation finance measures.

Local option sales tax. Local option taxes are generally sales taxes. Another local option tax is the hotel/motel occupancy tax. States like Texas, New Jersey, California, and Missouri permit local jurisdictions to assess taxes on lodging. In Texas, for example, cities may adopt a hotel occupancy tax of up to seven percent of the cost of a hotel room. Texas counties are authorized to adopt a tax amount between two and seven percent of the amount paid for a hotel room. The state of Texas also imposes a hotel occupancy tax of six percent. In 1999, 379 Texas cities and 13 Texas counties levied the local hotel occupancy tax. This tax generated more than $278 million in revenue for these cities and counties. The tax revenue must be used to directly enhance and promote tourism and the convention and hotel industry.[232]

Property taxes dedicated to open space. In 1989, New Jersey passed landmark legislation that enables counties and municipalities to assess an open space preservation tax with voter approval. While local governments already had general taxing authority, the state legislation prompted many communities to raise additional taxes. The special tax (typically a penny or two per $100 in value) must be set aside in local trusts dedicated to open space preservation. From 1989-1997, in New Jersey, a total of 13 counties and 53 municipalities passed referendums to create open space trust funds. The state also makes competitive awards to those counties and municipalities that have created these trusts.[233]

Similarly, the Massachusetts Community Preservation Act, signed into law in September 2000, authorizes cities and towns to impose a surcharge (of up to 3 percent) on local property taxes to be used for open space, affordable housing, and historic preservation. State matching funds of up to 100% are provided to communities that have adopted the surcharge. The source of state funds is a $20 surcharge on recorded documents such as deeds of conveyance and mortgages.[234]

Property tax exemptions for open space. New Jersey enacted the Tax Exemption Act (1976) to encourage the dedication of privately-owned open space for public use. The Act provides a complete exemption from local property taxes for nonprofit organizations that own recreation or conservation land. As a result, 35,000 acres of privately-owned lands have been opened to the public for a variety of conservation and recreational uses. Administered by the Bureau of Green Trust Management, over 50 organizations currently participate in the tax exemption program, protecting 195 sites in 115 municipalities throughout New Jersey.

Payment in lieu of property taxes. So municipalities do not suffer a loss of taxes due to state acquisition of recreation and conservation lands, the Garden State Preservation Trust Act (1999) extends payment in lieu of taxes to municipalities in which lands are purchased.

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[232] State of Texas, Office of the Governor Economic Development & Tourism. Tourism Tip Sheet: Hotel and Motel Occupancy Tax. March 2004: http://travel.state.tx.us/documents/hoteltax_01274027074402910 08.pdf.
[233] Trust for Public Land. Web site. http://www.tpl.org/tier3_cdl.cfm?content_item_id=882&folder_id=706
[234] Massachusetts Community Preservation Coalition. Web site: www.communitypreservation.org

Planning to protect open space. Massachusetts rates municipalities on their implementation of effective land use practices such as open space preservation. Each community receives a *Commonwealth Capital Score*. Communities with high scores receive preference for state discretionary grants.

Grants and loans. A number of states provide direct grants or loans to municipalities to protect natural resources and open space, purchase lands for outdoor recreation, or acquire land for its environmental importance or scenic beauty. Many of these are funded through general obligation bonds, state taxes, or other revenue sources. In Michigan, for example, annual revenue from oil, gas, and mineral production on state lands supports the local grant program.[235]

[235] Trust for Public Land. Web site. "Funding Profile: Michigan," http://www.tpl.org/tier3_cdl.cfm?content_item_id=11425&folder_id=706

D. Corporate Sponsors

Increasingly states are looking to corporate sponsors to help fund their operations or to fund the acquisition or upkeep on conserved lands. The corporations, in turn, receive recognition and publicity for their donations. It has its detractors, but several state park systems have been able to tastefully incorporate product or company advertising in a number of ways.

Corporations as Patrons

Corporations actively seek natural resource causes to support through grant and donation programs.

L.L. Bean, for example, has a nationwide charitable giving program focused on conservation and outdoor recreation. In the last three years, L.L. Bean has contributed nearly $5 million to organizations that promote conservation and stewardship of natural resources. They place a priority on proposals that include activities directly linked to their product line, such as camping, hiking, bicycling, canoeing, kayaking, fly fishing, snowshoeing, and cross-country skiing.[236]

The Corporate Wetlands Restoration Partnership (CWRP) originated in Massachusetts in 1999 under the leadership of The Gillette Company, the Massachusetts Executive Office of Environmental Affairs, and the U.S. Environmental Protection Agency. Under CWRP, private companies make voluntary donations to non-profit organizations to fund marsh and aquatic habitat restoration, fish passage improvements, invasive species control, threatened/endangered species protection, and research and monitoring projects. Now in its fifth year, CWRP has over 225 corporate partners and 100 public or nonprofit partners in 13 states. 50 projects are complete with another 60 in the works.[237]

States With Corporate Partners

In other areas, states are taking on corporate sponsors, particularly for state parks.

In the 1990s, New Hampshire became the first state park system in the US to accept a single beverage provider as the "official soft drink" of the state parks. The parks received a large cash payment and other benefits for agreeing to sell the chosen product.[238]

Maryland state parks, faced with no funding for their statewide brochure, sought out a corporate partner. Gore Industries, manufacturer of Gortex, bought space on the brochure where it described how to best prepare for the outdoors, featuring the types of equipment and clothing to bring along.[239] Similarly, Toyota provided funds to publish the *Texas State Park Guide* through a sponsorship with the Texas Parks & Wildlife Foundation. This is the third year the automaker has provided funding to help make the guide available free to the public.[240]

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[236] L.L. Bean. Web site. http://www.llbean.com/customerService/aboutLLBean/charitable_giving html
[237] Corporate Wetlands Restoration Partnership. Web site. http://www.coastalamerica.gov/text/cwrp html
[238] Barton, Rick. The State of State Parks. "Implications of Sponsorship for State Park Management," Vol 17, No. 3, 2000, p. 44.
[239] Barton, pp. 43-44.
[240] Texas Parks and Wildlife Department. Press Release. "New Edition of Texas State Park Guide Available," April 3, 2006. http://www.tpwd.state.tx.us/newsmedia/releases/?req=20060403a

Other states are following suit:

- The California Park, system faced with shrinking budgets and decreased general funding, developed partnerships with corporate sponsors to provide valuable "free" advertising to pay for support services for the parks.[241]

- Chicago Parks, the largest city park agency in the nation, created a marketing division to seek sponsorships and promotions, particularly for their very marketable lakefront parks. In the first year, 1997, these sponsorships generated almost a million dollars. The Park District regulates the number, size, and location of any advertising in parks.[242]

- Another possibility under consideration in Indiana is to have companies pay for bird seed at feeding stations in state parks.[243]

- The Governor of Illinois asked agency directors to look at all of the state's assets with an eye toward marketing them. Businesses might be encouraged to donate materials or money in exchange for displaying logos inside a state facility or to sponsor a particular event or attraction. [244]

- In Tennessee, where budget problems forced 14 state parks to close in 2001-2002, a partnership between the Tennessee Ready Mixed Concrete Association, which promotes the use of ready mixed concrete, and the Tennessee Parks and Greenways Foundation, a nonprofit conservation organization, will pay for enhancements to state parks.[245]

[241] The Rhode Island Parks and Beach System Study and Asset Management Plan, January 2001, p 40
[242] City of San Francisco. Private Financing Mechanisms. "Private Financing Mechanism for Public Parks." http://www.sfgov.org/site/uploadedfiles/recpark/section5(1).pdf
[243] Chase, John Chase and Ray Long. Chicago Tribune. "Illinois: Brought to You by Sponsors; Blagojevich Plan Could Turn State into Land of Logos," September 4, 2003
[244] Chase.
[245] Scavongelli, Sara, Special to Stateline.org. "Budget Cuts Take Toll On State Parks," Wednesday, August 06, 2003.

E. Conservation Banks

On March 31, 2005, the first ecosystem marketplace was launched, trading ecosystem assets, such as endangered species habitats, water quality, and biodiversity credits. While conservation or mitigation banks have existed previously, for wetlands for example, trading these resources as commodities is a new trend, most recently used for carbon sequestration credits.

There are currently 76 properties identified as conservation banks in the United States; 35 officially established under a conservation banking agreement approved by the U.S. Fish and Wildlife Service. These official conservation banks cumulatively cover 15,987 hectares and shelter more than 22 species listed under the U.S. Endangered Species Act.[246] In California, about 50 banks are set up. [247]

Typical conservation banks establish "banks" of suitable habitat for protected species. Landowners pay a credit for the species found on the land they want to develop. The payment helps purchase the habitat and funds the relocation and care of the species there. Another option is where a property owner agrees to preclude development on a sensitive tract of land in exchange for a cash payment from the species bank. The bank then collects payments from companies who wish to develop sensitive land elsewhere, under government-sanctioned guidelines.[248]

International Paper established a conservation bank in their Southlands Forest in Bainbridge, GA to benefit the endangered red-cockaded woodpecker. In 1999, IP's lands contained 18 breeding pairs of woodpeckers in five different southern states. Many of them were isolated from larger populations, threatening the birds' long-term survival. The company relocates woodpeckers from their other land holdings to their conservation bank at Southlands. Today, Southlands has nearly 50 birds, comprising 12 breeding pairs. Under their conservation plan, International Paper is required to maintain suitable habitat for 25-30 breeding pairs. Once there is the requisite number of birds, IP will be able to sell woodpecker credits to other landowners whose development might impact woodpeckers elsewhere. Woodpecker credits are estimated to be worth as much as $250,000 per credit.[249]

[246] Fox, Jessica and Anamaria Nino-Murcia. Conservation Biology. "Status of Species Conservation Banking in the United States." Volume 19 Page 996, August 2005
[247] Guterl, Fred. Newsweek. "Investing in Green." June 6, 2005.
[248] Guterl
[249] Bonnie, Robert. Ecosystem Marketplace. "Banking on Endangered Species Conservation," November 16, 2004.

F. Fundraising

Private funds from foundations, nonprofit land trusts, corporations, and individuals are also used by other states and can be a good way to leverage federal funds.

Fundraising
One innovative example of fundraising is the Great Texas Birding Classic. This statewide bird watching event pairs teams of birders with corporate sponsors. Registration fees and corporate sponsors fund the effort. Teams compete to identify the greatest number of bird species. The winners receive cash prizes that they donate to avian habitat conservation projects of their choice. In the past decade, the Great Texas Birding Classic has raised close to a half million dollars to conserve wildlife habitat on the Texas coast.[250]

Endowment or Capital Campaigns
Endowment or capital campaigns are also used to fund green infrastructure. An endowment fund is similar to a savings account, which generates interest on the money deposited. However, an endowment is different than a savings account because only the interest may be withdrawn.[251] Capital campaigns are usually targeted to a single, large effort such as a new building or site or major renovations.

Since 1991, the Texas Parks and Wildlife Foundation has served as the designated non-profit funding partner for the Texas Parks and Wildlife Department. With a tag line of *How to be a Great Texan*, the Foundation actively solicits funding from companies, corporations, communities, and individuals. It has raised over $43 million to date. Their efforts include the Lone Star Legacy Endowment Fund providing funds for every state park, wildlife area, historical site and fish hatchery in the state; and, more recently, a $15 million capital campaign to address critical maintenance, conservation, and improvement needs at five specific parks.[252]

The Tennessee Parks and Greenways Foundation is a statewide 501(c)(3) nonprofit organization, established in 1997, which solicits donations from and seeks partnership initiatives with the private sector to protect lands, build trails, and help others with conservation projects. In 2002, it helped create the Tennesseans for State Parks Coalition, a 33-member coalition of conservation groups organized to 'save our state parks.' Through emails, legislative briefings, press announcements, and "calls to action" the Foundation helped orchestrate financial support to reopen parks that had been closed.[253]

[250] Great Texas Birding Classic. Web site: http://www.tpwd.state.tx.us/newsmedia/releases/?req=20060317b.
[251] Texas Parks and Wildlife Foundation. Web site: http://www.tpwf.org/.
[252] Texas Parks and Wildlife Foundation. Web site: http://www.tpwf.org/.
[253] Tennessee Parks and Greenways Foundation. Web site: http://www.tenngreen.org/.

G. Other

Conservation Easements Foundation
In Virginia, a semi-autonomous state agency holds conservation easements in trust for its citizens. The Virginia Outdoors Foundation holds more conservation easements than any other private or public land trust in the U.S. It was established in 1966 and is managed by a board of trustees appointed by the Governor. The Foundation's operating expenses are state-supported through a one-dollar recording fee on real estate deeds.

The Foundation evaluates each proposed donation or conveyance of an easement before agreeing to accept it. Guidelines for accepting the easement include: its public benefit, conservation values, and compliance with governmental policies. It also administers an Open Space Lands Preservation Trust Fund to assist landowners with the costs of conveying conservation easements and to purchase all or part of the value of easements. The trust fund receives funding from general fund moneys, interest, gifts, endowments, and grants.[254]

Trust Land Transfer Program
The Washington Statehood Act of 1899 established a system of lands, now encompassing 1.8 million acres, held in trust to generate income for the school construction. Construction funds are acquired partially through cutting and selling trees on the trust land.

In 1989, the state initiated a transfer program to protect environmentally-sensitive lands in exchange for better timber-producing lands elsewhere in order to generate long-term revenue for school construction. Of the lands held in trust, the state Department of Natural Resources identifies land with high ecological, scenic, or recreational features. The department appraises the land for both its timber value and its land value. The timber value of the land (typically 80-90% of the total appraisal) is deposited into the school construction account. The identified lands are transferred to the state and protected as local parks, state parks, and natural wildlife areas. An amount equal to the remaining land value portion of the appraisal is used to purchase replacement trust lands, typically lands these are lands that are easier to manage for timber production, which will increase income for the trust in the future.

Since its inception, more than 80,000 acres of land have been preserved as parks or natural areas and almost $400 million has been targeted to school construction.[255]

Entrepreneurial Budgeting
Recently, a number of states have adopted budget rules that encourage park managers to seek out new revenues. California and Texas allow park managers or district managers to keep a percentage of the new revenues they generate and give them discretion for spending it. The remaining goes to the General Fund to support other park needs. These states have seen an increase in the type and amount of revenues collected for state parks.[256]

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[254] Virginia Outdoors Foundation. Web site. http://www.virginiaoutdoorsfoundation.org/.
[255] The Nature Conservancy. Fact Sheet. "The Washington State Trust Land Transfer Program."
[256] The Rhode Island Parks and Beach System Study and Asset Management Plan, January 2001, p 40 and Leal, Donald, R. and Holly Lippke Fretwell. Property and Environment Research Center. Parks in Transition: A Look at State Parks, 1997, http://www.perc.org/perc.php?id=213#IN.

Special Programs and Product Marketing

Special programs and concessions also provide new revenue. In Texas, visitors to state parks can participate in programs varying from cattle drives to desert survival courses, wildlife safari rides, or a two-hour nocturnal journey into the world of owls, dubbed "owl prowl" and pay handsomely for them.[257]

Many states offer park souvenirs, concessions, and promotional products for sale. California sells exclusive state park merchandise that helps promote the programs offered by the parks department. Although the initial revenues for the store are modest, the marking value for promoting the parks is significant.[258]

[257] Parks in Transition.
[258] Parks in Transition and The Rhode Island Parks and Beach System Study and Asset Management Plan, p 40.

V. Recommendations for Further Research

The following are recommendations that would assist the Governor's Steering Committee on Natural Resource-based Industries with better understanding the need for and return on investment in green infrastructure. This research would help build support for proposals to sustain Maine's green infrastructure on a broader, planned scale.

1. What is needed for green infrastructure in Maine in the future?

Maine needs to prioritize its green infrastructure, placing funding emphasis where there is the greatest possibility to both protect the asset and generate economic activity for the state.

While some planning has been undertaken individually by sector (DOC's *Statewide Comprehensive Outdoor Recreation Plan,* DMR's *Coastal Access Strategic Plan,* and DECD's *Strategic Plan for Implementing Maine's Nature Tourism Initiative,* and LMF's *Land Acquisition Priorities Advisory Report*), the state lacks an overall master plan of how to strategically invest its public investments for green infrastructure. We need to understand how much green infrastructure and of what type exists and what will be needed in the future to support our natural resource-based industries. This information would provide guidance in directing public investment toward the green infrastructure having the greatest impact on the state's future.

Maryland's GreenPrint Program, for example, identifies the state's most important unprotected natural lands using computer mapping techniques; links these lands through a system of corridors or connectors; and then targets them for acquisition and easement.

2. What is the economic impact of outdoor recreation?

Individual outdoor recreation groups tend to develop their own economic impact studies. Some of these studies are 10 years old. Some include both direct and indirect spending, some only direct. The studies overlap. It would be useful to have an updated, consistent report of all spending to understand the full economic impact of these recreational users of Maine's green infrastructure.

2. What are the economic returns of state investment in green infrastructure?

Similar to the economic study proposed for Maine's beaches, there is a need to understand the direct return from public green infrastructure investment. There is considerable information on the economic impact of spending by tourists and other users of our state's resources, but not on the direct relationship between state spending on public green infrastructure and the resulting revenue to state coffers. Will direct investment in green infrastructure stimulate sufficient economic return to justify the expenditure?

4. What is the status of other strategies to protect Maine's green infrastructure?

A number of studies have been conducted in Maine that makes recommendations for protecting

Maine's green infrastructure. These include regulatory, statutory, or programmatic strategies. It would be helpful to revisit these reports to determine which of the recommendations have been implemented, understand their effect, and ascertain whether additional revisions are necessary. These reports include:

- *Fishing, Farming, and Forestry: Resources for the Future*, State Planning Office, March 2001
- *Report on the Use of Incentives to Keep Land In Productive Farming, Fishing, and Forestry Use***,** Land and Water Resources Council, February 2001
- *Saving Maine's Farmland: A Collaborative Action Plan*, ME Department of Agriculture, June 2003
- *Blaine House Conference on Natural Resource-based Industries: Report to the Governor*, Governor's Steering Committee on Maine's Natural Resource-based Industry, February 2004
- *Final Report of the Task Force on the Planning & Development of Marine Aquaculture in Maine*, ME Department of Marine Resources, January 2004
- *Final Report of the Local Agriculture Development Task Force*, ME Department of Agriculture, December 2004
- *Final Report of the Governor's Council on the Sustainability of the Forest Products Industry*, March 2005
- *Maine Future Forest Economy Report*, ME Department of Conservation, March 2005

5. To what extent can strengthening Maine's picturesque villages and attractive downtowns help preserve green infrastructure?

Strengthening downtowns can help prevent development sprawl to outlying rural areas; sprawl that results in the loss of natural resource-based lands, which suggests a two-prong strategy – protecting green infrastructure and investing in downtown enhancements. It would be helpful to quantify the impact of efforts to revitalize Maine's downtowns on Maine's working landscape. This would include the work of the Maine Downtown Center, GrowSmart, and the State Planning Office's land use planning program, among others.

6. What is the appropriate balance between capital investment and the exercise of existing government authority?

Maine's state and local governments have a great deal of authority through which it can manage green infrastructure resources (regulatory powers, incentive-based initiatives, and educational strategies). Some of these are:

- local land use regulations and land use strategies (including impacts of local regulations that inhibit natural resource-based industries) and technical assistance to communities;
- legal protections and informational programs such as Right-to-Farm and Right-to-Fish;
- planning and protection programs such as Beginning with Habitat;
- environmental regulations such as shoreland zoning and sand dune regulations; and educational, assistance, and enforcement strategies such as forest certification and invasive species inspections.

We should understand how much can be accomplished within the existing framework before investing large sums of public dollars for acquisition.

VI. Appendices

Appendix A - Evolution of Green Infrastructure

The concept of "green infrastructure" arose out of community planning and conservation efforts. Common usage of the term appeared during the 1990s as states and communities began to view conservation in context of land use planning to prevent sprawling patterns of development. As green infrastructure thinking emerged, it began to take an integrated approach to land conservation; tending complete ecosystems and natural "resource sheds," rather than fragmented, community-by-community tracks of land. "Green infrastructure is a strategic approach to conservation that addresses the ecological, social, and economic impacts of sprawl and the accelerated consumption and fragmentation of open land."[259]

For example, Maryland "moved to link growth management and conservation in 1997 with passage of then-Governor Parris Glendening's smart-growth legislative package. The initiative designates priority areas where growth and conservation should occur. It was followed in 2001 by Maryland's *GreenPrint* program, which funds the protection of large tracts of priority land—identified as green infrastructure."[260]

In Maine, then-Governor Angus King established an action plan, *Smart Growth: The Competitive Advantage*, which began to make the links between land use planning and land conservation. Communities with comprehensive plans that are consistent with state law are given a number of preferences for state grants that fund growth-related capital investments. This includes land conservation funding.

Traditional Definition of Green Infrastructure

According to the Green Infrastructure Network, sponsored by the Conservation Fund and USDA Forest Service, *green infrastructure* is

> …our nation's natural life support system –an interconnected network of protected land and water that supports native species, maintains natural ecological processes, sustains air and water resources and contributes to the health and quality of life for America's communities and people.[261]

Here, green infrastructure focuses on the land –woodlands, wildlife habitat, conservation lands, parks, and working lands –instead of bricks and mortar, the terms in which we typically think about infrastructure.

[259] The Green Infrastructure Network. Web site. www.greeninfrastructure.net.
[260] Hopper, Kim and Ernest Cook. Conservation Finance Handbook. The Trust for Public Lands: San Francisco, CA, 2004, p.7.
[261] The Green Infrastructure Network. Web site. www.greeninfrastructure.net.

Appendix B - Summary of State Conservation Finance "Best Practices"

Conservation Finance Handbook, excerpted and reprinted with permission from the Trust for Public Land. For more information about TPL, and to obtain a complete copy of the book, please visit www.tpl.org or call (415) 495-4014.

With state support, a local government has the tools and funding to realize its greenprinting [land conservation] vision. Without state support, local options are limited. While each state has its own unique history, laws, and approach to conservation funding, there are ways to evaluate a state's conservation finance landscape—the funding and the tools that provide the foundation for effective programs at the local level. The following framework was developed by the Trust for Public Land to encourage effective statewide support for local land conservation.

SUBSTANTIAL, DEDICATED STATE FUNDING SOURCE(S). A stable state revenue source is the foundation upon which effective conservation programs are built. States with dedicated funding sources (lotteries, sales taxes, general obligation bonds, and so on) are better able to foster program development and provide long-term conservation vision. Along with funding, states should establish time frames, demographic priorities, and targets for the number of acres to be protected. For example, the Florida Forever program provided $3 billion in state revenue bonds over ten years backed by the documentary stamp (real-estate transfer) tax. When the program was renewed by the legislature in 1999 and rechristened Florida Forever, funding for local governments and urban areas was greatly increased.

SIGNIFICANT LOCAL ENABLING OPTIONS. Federal and state governments cannot meet all local conservation needs. Therefore, states need to provide local governments with the legal authority to tax and dedicate revenues for land conservation (using property taxes, sales taxes, transfer taxes, bonding authority, and so on). In the process, local dollars and local control are expanded. Massachusetts, for instance, passed a law in 2000 that permits local referenda for the adoption of a property tax surcharge dedicated to open space protection, historic preservation, and affordable housing. Voters in 22 out of 45 communities approved Community Preservation Act measures in 2002.

A PROGRAM OF INCENTIVES FOR LOCAL GOVERNMENTS. State incentives, often in the form of matching grants and low-interest loans, encourage local governments and nonprofit partners to generate local dollars while strengthening partnerships. New Jersey allows counties and towns to enact property tax–backed open space trust funds with voter approval. This funding is required for Green Acres matching funds from the state. As of 2002, 19 of New Jersey's 21 counties and 144 of the state's 566 municipalities have established trust funds.

PURCHASE-OF-DEVELOPMENT-RIGHTS (PDR) PROGRAMS. PDR programs are a voluntary approach to conservation that allow for protection of the land combined with continued private ownership. To support the purchase of development rights, states can pass PDR enabling legislation, work cooperatively with local governments to purchase easements, appropriate funds to local governments and nonprofits, and create PDR programs that are administered at the state level.10 California, Colorado, Maryland, Massachusetts, New Jersey, Pennsylvania, and Vermont all have state PDR programs.

PUBLIC-PRIVATE PARTNERSHIPS. Encouraging local governments to partner with private, nonprofit organizations can promote greenprinting goals, leverage conservation resources, and increase support for land conservation. Potential partners include land trusts, neighborhood and community groups, foundations, national conservation organizations, and landowner groups.

CONSERVATION TAX CREDITS. State tax credit laws are becoming an increasingly popular tool to encourage the donation of private land or easements to public or nonprofit entities for conservation. Such tax credits often receive strong support from private landowners and from those wary of outright public expenditures. Tax credit laws should be targeted to achieve state-specific conservation objectives—such as farmland conservation—without competing with broader funding sources. In 2001–02, new tax credit legislation was enacted in California, Colorado, Maryland, South Carolina, and Virginia.

Appendix C - Reports Used for this White Paper

Beach Stakeholder's Group. Protecting Maine's Beaches for the Future: A Proposal to Create an Integrated Beach Management Program, February 2006.

Boyle, Kevin and Jennifer Schuetz and Jeffrey Kahl. Great Ponds Play an Integral Role in Maine's Economy. Water Research Institute, University of Maine: Orono, ME, April 1997.

Colgan, Charles. Contribution of Working Waterfronts to the Maine Economy. Muskie School for Public Service, University of Maine, February 2004.

Commission to Study the Needs and Opportunities Associated with the Production of Salmonid Sport Fish in Maine. Final Report. November 2002.

Governor Baldacci's Task Force on Traditional Uses and Public Access to Lands in Maine, Final Draft Report, December 20, 2005.

Governor's Steering Committee on Maine's Natural Resource-based Industry. Blaine House Conference on Maine's Natural Resource-based Industry: Conference Report. Maine State Planning Office: Augusta, ME, February, 2004.

Governor's Steering Committee on Maine's Natural Resource-based Industries. Natural Resource-based Industries: Indicators of Health, November, 2004.

Hopper, Kim and Ernest Cook. Conservation Finance Handbook. Trust for Public Land: San Francisco, CA, 2004.

International Association of Fish and Wildlife Agencies, Management Assistance Team. Maine Department of Inland Fisheries and Wildlife 2003/2004 Review. National Conservation Training Center: Shepherdstown, WV, May 2004.

Land Acquisition Priorities Advisory Committee (LAPAC). Final Report and Recommendations, 1997.

Land for Maine's Future Program. Proposal Workbook, 2005.

Land for Maine's Future. Biennial Report to the Legislature's Agriculture, Conservation, and Forestry Committee, January 2006.

Maine Coastal Program, State Planning Office and Maine Department of Marine Resources. Coastal Water Access Priority Areas for Boating and Fishing, undated.

Maine Department of Agriculture. Saving Maine's Farmland: A Collaborative Action Plan, June 2003.

Maine Department of Conservation and Department of Inland Fisheries and Wildlife. Strategic Plan for Providing Public Access to Maine Waters for Boating and Fishing, 1995.

Maine Department of Conservation. Complementary Solutions to Liquidation Harvesting, January 2004.

Maine Department of Conservation. Powerpoint Presentation*:* "Investing in Maine's State Parks and Historic Sites, The Face of Maine," undated.

Maine Department of Conservation. State Comprehensive Outdoor Recreation Plan (SCORP), October 2003.

Maine Department of Economic and Community Development. Strategic Plan for Implementing Maine's Nature Tourism Initiative. FERMATA, Inc: Poultney, September, 2005.

Maine Department of Inland Fisheries and Wildlife. Comprehensive Statewide Fish Hatchery System Engineering Study. Fishpro, Inc: Springfield, IL, November 2002.

Maine Department of Inland Fisheries and Wildlife, Sportsman's Alliance of Maine, Maine Bowhunters Association, Presque Isle Fish and Game Club, Rangeley Region Guides and Sportsmen's Association, Windham-Gorham Rod and Gun Club, and Associated Sportsman's Clubs of York County. Why Maine Needs Hunters: A media guide for the 2004 season, undated.

Maine Forest Service. 2005 Biennial Report on the State of the Forest and Progress Report on Forest Sustainability Standards, December 29, 2005.

Maine Forest Service. Recommendations to Maintain and Enhance Maine's Forests, January 2006.

Maine State Planning Office, Background Paper: Agricultural Land Loss, 1999.

Maine State Planning Office. An Evaluation of the Growth Management Program, March 2006.

Maine State Planning Office. Fishing, Farming, and Forestry: Resources for the Future, March 2001.

Margaret Chase Smith Policy Center, University of Maine and Maine Department of Conservation. Economic Contributions of ATV-related Activities in Maine, March 2005.

Morris, Charles E., Robert Roper, and Thomas Allen. The Economic Contribution of Maine State Parks: A Survey of Visitor Characteristics, Perceptions, and Spending. Margaret Chase Smith Policy Center, University of Maine: Orono, ME. May 2006.

Muskie School of Public Service, University of Southern Maine and Margaret Chase Smith Center for Public Policy, University of Maine. Land for Maine's Future Program: Increasing the Return on a Sound Public Investment, January 2004.

Pidot, Jeff. Reinventing Conservation Easements: A Critical Examination and Ideas for Reform. Cambridge, MA: Lincoln Institute of Land Policy, 2005.

Smith, Stewart. Maine Agriculture: A Natural Resource Based Industry Constantly Adapting to Change. Department of Resource Economics and Policy: University of Maine, October 2003.

Teisel, Mario F. and Kevin J. Boyle. The Economic Impacts of Hunting, Inland Fishing, and Wildlife-associated Recreation in Maine. Department of Resource Economics and Policy, University of Maine: Orono, ME. November 1998.

Appendix D - Links to Other States' Conservation Initiatives

California Farmland Conservancy Program: http://www.consrv.ca.gov/dlrp/qh_bond_funds.htm

Florida Forever: http://www.dep.state.fl.us/lands/acquisition/FloridaForever/

Garden State Preservation Trust - New Jersey:
http://www.state.nj.us/dep/greenacres/preservation.htm

Georgia's Tax Credits for Land Conservation:
http://www.galandtrust.org/PDF%20files/ConservationTaxCreditFactSheet.pdf

Maryland Program Open Space: http://www.dnr.state.md.us/rurallegacy/pos/pos_101.html

Massachusetts Community Preservation Act: www.communitypreservation.org

Pennsylvania's Growing Greener: http://www.growinggreener2.com/

Texas Parks and Wildlife Foundation: http://www.tpwf.org

Texas Parks and Wildlife Department: http://www.tpwd.state.tx.us

Texas Parks and Wildlife Department. Texas Outdoors: A Vision for the Future, 1998:
http://www.tpwd.state.tx.us/publications/nonpwdpubs/media/tx_outdoors_vision_for_future.pdf

Texas Office of the Governor Economic Development & Tourism. Tourism Tip Sheet: Hotel and Motel Occupancy Tax. March 2004:
http://travel.state.tx.us/documents/hoteltax_0127402707440291008.pdf

Trust for Public Land LandVote Database:
http://www.tpl.org/tier3_cdl.cfm?content_item_id=12010&folder_id=2386

Virginia Outdoors Foundation: http://www.virginiaoutdoorsfoundation.org/