

Maine's Public Estate and Conservation Lands: Brief History and Assessment

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APPENDIX

Remarks on the Data

In this article, I use the figure of 19,739,000 acres as Maine's total land area, based on USDA Forest Service, 2012 RPA Tables. Other estimates can be found in other sources cited in this paper, and the differences are not always slight. In particular areas, water is a significant part of the landscape, and its area may be included in area estimates for some land units. I have made no effort here to sort this out.

The summaries do not include the 400,000 acres of Public Reserved Lands until the 1988 estimates. This is because, as noted in the text, they were effectively invisible until the 1970s. These lands had remained in state ownership although the timber and grass rights had been sold (see Schepps 1974). These lots were scattered across much of the wildlands, 1,000 acres or so per township; some were not even located on the maps, but were common and undivided. Given limited development of roads until the 1970s, few of these lots were accessible to visitors. In the trading program of the 1970s and 1980s, the total acreage actually increased due to favorable acreage balances in many trades. In the pocket part of Wilkins (1963), there are excellent maps showing public and private ownership as of the early 1960s. The Department of Conservation's 1976 "Map of Public Reserved Lands" drawn by V. Parker shows the extent of undivided and located public lots as well as the earliest tracts assembled through trades (copy in author files).

US Department of Defense (DOD) lands are not noted specifically in this article; Gorte et al. (2012) estimate there are 23,000 acres of DOD land, which consists mostly of a Navy survival training area in Redington Township in western Maine. The DOD transferred lands associated with now-closed military bases to other state or federal agencies. An example is the small National Wildlife Refuge on former Loring Air Force Base land. Several training areas operated by military agencies are on land managed by state conservation agencies. Gorte et al. (2012) also provide convenient capsule descriptions of the federal agencies.

The dates I have used in the article refer to years when listings of areas could be found and do not readily correspond to key years in the historical development of the public estate and conservation lands. One can find other estimates for public landownership that differ somewhat from individual numbers used here.

In 1929, Harris Reynolds of the Massachusetts Forestry Association compiled a region-wide listing of New England's public forests and parks. For Maine, he listed 45,000 acres of federal lands, consisting of Acadia National Park and the White Mountain National Forest. He also listed 270 acres of state parks and 1,300 acres of town forests. School lands totaling 55,000 acres were managed by the state forester, these being public lots in plantations. College and academy lands totaled 12,000 acres, and it was noted that the Appalachian Mountain Club had three small tracts as well (Reynolds 1929).

At the outset of the New Deal, the US Forest Service assembled a massive assessment of the nation's forests, issued as a two-volume congressional document in 1933 (USDA Forest Service 1933). This was the so-called Copeland Report. This report listed state lands in 1932 as 400,000 acres of the public lots and the initial 5,700 acres of Baxter State Park, then known as the Katahdin Wildlife Refuge. It also listed 1,284 acres of town forests. Separately, the Statistical Abstract of the United States for that year shows 33,781 acres of land in the White Mountain National Forest (<https://www.census.gov/library/publications/1933/compendia/statab/55ed.html>).

The *Report on the Public Reserved Lots* (Wilkins 1963) summarizes the history of state lands from 1603 and is the source of the information through the nineteenth century in the article. I also relied on a map dated 1973, which locates all the public reserved lands and shows the many unlocated lots, along with the 1976 map discussed previously.

During the nineteenth century, Indian Township was considered a state forest, despite its name. Well into the twentieth century, there were some 20,000 acres of tribal lands in the Indian Township. The early 1980s land settlement increased the total to some 268,000 acres in a mix of federal trust and tribal fee lands. The legal status of these lands is complex, and some changes may have occurred since then. Much of this land is open to public use, under rules established by the tribes, for hunting and fishing. No current summary of these ownerships exists. For a quick introduction, see the *Historical Atlas of Maine*, edited by Stephen J. Hornsby and Richard W. Judd (2015) and published by the University of Maine Press, particularly Plate 23 (maps to 1794) and Plate 75 on recent native land claims. The classic reference is Paul Brodeur's *Restitution: The Land Claims of the Mashpee, Passamaquoddy, and Penobscot Indians of New England* published in 1985 by Northeastern University Press.

The data point for 1935 is based on data extracted from Maine State Planning Board (1936).

The Outdoor Recreation Resources Review Commission, 1958–1962, issued a series of major reports, but the volume listing outdoor recreation areas as of 1960 cannot be located in the Maine State Library's government documents collection. Copies no doubt exist elsewhere in Maine.

For 1966 data, I relied on Maine Parks and Recreation Commission and University of Maine (1967). For 1988, I used the report by Kelley (1989).

More recent state comprehensive outdoor recreation plans (SCORPs) supply details on particular topics. For 2016, I used estimates from the 2015–2020 SCORP, supplemented by more up-to-date information supplied by Dave Publicover and based on updating data in the US Geological Survey Protected Areas Database (PAD). Because of the many changes in ownerships over time, and the difficulty of tracking small acquisitions, we can expect these numbers to differ from those in other sources. Cross-state comparisons given here are based on this PAD data.

For state lands managed by the Department of Conservation, annual reports by the Bureau of Parks and Lands are valuable and detailed (see Maine BPL 2017).

For all these reasons, I state numbers in round terms so that readers will not expect high precision. To make a graphic picture of change over time, I had to use assumptions; so many specific past data points—other than state and federal ownership—should be taken with a grain of salt.

Understandably, given the numerous municipalities and local NGOs in Maine, there is no comprehensive inventory of lands owned by them that are used for recreational purposes. Reluctantly, I have had to ignore these entirely, due to the wide variances in estimates that have been published in the past. Here, we use the estimate of 45,000 acres as developed from the Maine GIS system in spring 2017. This estimate does not include specialized spaces such as local parks and baseball fields and omits lands that are important to conservation, habitat, quality of life, and recreation in local areas. I have not found a good source detailing the history of the state's wildlife management areas, mostly funded by Pittman-Robertson funds, wildlife refuges, or state parks. To piece the story together, one would have to review specialized collections at the individual federal and state agencies.

Information on these lands is contained and occasionally updated in the Maine GIS system, as well as in several NGO systems. The Nature Conservancy maintains its own database, and the US Geological Survey maintains PAD as well. Not all sources identify the date for which they apply. Some sources are missing

occasional items or contain important omissions and outright errors. Unfortunately, despite multiple GIS systems, many published maps are not current, but are occasionally assembled by researchers (see Meyer et al. 2015). Information is available in the Maine GIS system, but it is not well suited for use by persons who are not skilled in, nor equipped for, using GIS systems (such as this writer). For some available maps, the date to which the data apply is not indicated, it is hard to retrieve numerical summaries of the areas noted, or difficult to recover the metadata.

A number of smaller properties are held by NGOs or government agencies and are also covered by conservation easements. When using GIS estimates of areas, these are probably not counted twice, but they cause confusion when building lists from primary data.

The alert reader will note that state totals in Figure 1 and Table 1 do not match precisely. Further, when these numbers are matched against the statewide sum used in the SCORP for 2015, adjusted for Katahdin Woods and Waters National Monument, yet another minor discrepancy appears. This seems to be par for the course when using multiple data sources for research on land use and ownership.

An interesting footnote to the story of Maine public and conservation lands is supplied by William H. Beardsley (2003), then president of Husson College, who later served as Commissioner of Conservation. This depicts the situation as of the late 1990s and presents results of forecasts of a panel of 17 people who gave their views as to the outlook for public ownership by 2020 (this author was one of them).

An attempt to update and extend the Highstead report on conservation funding would be a major undertaking (Buchanan 2016).

I know of no census of private and philanthropic funding of land conservation in Maine, not even one covering the major projects. Because of the multiple actors in many projects and different ways of tracking annual activity, years may pass between initiation of a project and filing all legal documents. Along the way, details may change. Press, newsletter, and other accounts may give different figures for the same project. In more than a few instances, valuation of donation components and in-kind contributions is not publicly available or is difficult to interpret.

Several forest tracts in Maine are managed primarily for research and education. No full inventory of such properties, which might include properties of private colleges or other nonprofits, is known to exist. These lands include the University of Maine's Demeritt Forest adjacent to campus and its Holt and Howland Forests, and the USDA Forest Service's Penobscot Experimental Forest (which is on land owned by the University of Maine Foundation) and Massabesic Experimental

Forest. Any Research Natural Areas in the Bethel District, White Mountain National Forest, are already included in the gross area tallied. A larger property, the 1,000 acre Hidden Valley Nature Center, is managed by a land trust. Areas listed here total just above 11,000 acres. The Scientific Forestry Management Area in Baxter Park is counted in the total area of the park.

Glossary

The terms public lands and conservation lands have their own meanings in Maine. These lands are managed by several state, federal, and private entities. In addition, the field of land-use studies has its own vocabulary. To aid readers less familiar with them, here is a short glossary. The coastal submerged lands, questions of access to the foreshore, beds of Great Ponds, and developed urban and suburban parks and recreational facilities are not within the scope of this article.

- **Baxter State Park**—With 200,000 acres surrounding Katahdin, Maine's tallest peak and terminus of the Appalachian Trail, Baxter is not a part of the state park system. It is a freestanding property given to the state in trust with its own endowment and finances. It is governed, however, by the Baxter State Park Authority, which consists of the state attorney general, the state forester, and the commissioner of the Department of Inland Fisheries and Wildlife.
- **Conservation Easement**—A conservation easement is a legally enforceable restriction on the future uses of property, which can be sold or granted as a gift by the land's current owners. Granted in the form of a deed to a governmental entity or qualified conservation land trust, it preserves and protects the land's conservation values over time, while leaving the land in private ownership and on the tax rolls. The holders of the easement have the right to enforce the restrictions on the land. Conservation easements can be designed to keep a property in an essentially wild state, or to allow limited residential uses, farming, and forestry. Some conservation easements grant public access on or over the private lands. All future owners of the land take it subject to the easements' restrictions. Conservation easements are authorized under state and federal law and must meet certain requirements to make them legally binding and, in the case of federal law, to make them deductible as a charitable gift. Experienced legal and accounting advice is essential to the landowner in making a decision to grant a permanent conservation easement (see M.R.S., Title 33, §476, et. seq.) (http://www.maine.gov/dacf/about/commissioners/conservation_easement_registry/).
- **Conservation Lands**—Conserved lands are public lands, plus areas owned in fee by non-profits (NGOs) and conservation easements.
- **Ecological Reserves**—To date, 50 locations with a total area of approximately 175,000 acres make up Maine's Ecological Reserve System. On ecological reserves, timber harvesting is generally prohibited and natural disturbance events are allowed to proceed without significant human influence. Most ecological reserves are on public lands (Kuehne, Puhlick, and Weiskittel 2018).
- **Federal Agencies**—Principal federal agencies holding forested or rural lands in Maine include the US Forest Service (White Mountain National Forest); US Fish and Wildlife Service (several wildlife refuges); and the National Park Service (Acadia National Park, KWW). With the donation of the KWW, the National Park Service became the largest holder of federal lands in Maine. The DOD owns tracts for training purposes, the largest being in Redington Township, near Sugarloaf, used for survival training for aviators. Other branches of the DOD lease small properties as well. A portion of former Loring Air Force base was transferred to the US Fish & Wildlife Service. Without a detailed canvass of the agencies, it is difficult to locate specifics on areas owned by DOD.
- **Fee Ownership**—Fee ownership is title to the complete bundle of rights that a private owner can hold, extending from the center of the earth to the sky, as the expression holds. Such ownerships can be encumbered by minor rights-of-way, as for telephone lines or sidewalks, for maintenance or leases with terms for such uses as hunting or grazing. They are still considered fee simple ownerships.
- **Forest Legacy Program**—The Forest Legacy Program is a federal program, administered by the US Forest Service, applicable to several states, which assist states in acquiring ownership or easements of lands of conservation importance (started in 1990). These funds were critical in accomplishing several of the most important conservation achievements in recent decades.
- **LMF**—The Land for Maine's Future Program was established in 1987 to consolidate and fully fund conservation land acquisitions by the state, replacing separate programs by several agencies. LMF has supported many municipal projects as well as large easement and fee acquisitions in the Maine North Woods. An extraordinary success, it has enjoyed strong public support. The largest LMF projects have often been multi-actor efforts, with work extending over several years.

- **LWCF**—The Land and Water Conservation Fund was created in 1960, funded from revenues from the sale of oil and gas leases on the Federal Outer Continental Shelf. These funds have been used in Maine for a variety of land acquisition and recreation programs at state, federal, and local levels.
- **Pittman Robertson Act**—This act from the late 1930s raises funds from taxes on sporting equipment and fuels and provides them to states for aid in wildlife habitat restoration and acquisition.
- **Public Lands**—Lands owned in fee by public agencies, whether state, federal, county, or municipal.
- **Public Reserved Lands**—Public reserved lands are created as a public trust under the Massachusetts Colonial Ordinances and the Maine State Constitution. They represent what remains of the original heritage of public lands retained by the state after the disposal era ended. By the 1880s, this included only 400,000 acres, plus unalienated coastal islands and islands in Great Ponds.
- **Tribal Lands**—In Maine, lands are held by the tribes under several forms of tenure. In past federal reports, these areas have not been fully reported. Some land is held in fee simple by the tribes, and some is held by the federal government in trust for the tribes (the “trust lands”).

The fee lands may be sold, leased, or otherwise alienated at the tribe’s discretion, but not the trust lands.

- **Unorganized Territories (UT)**—There are more than 10 million acres—or half the state—in the UT, where no local government exists (hence unorganized in the sense of never organized into self-governing townships). In this region, often referred to as “the jurisdiction,” land-use planning is provided by the Land Use Planning Commission (LUPC), successor to the Land Use Regulation Commission (LURC). Public recreation here is almost entirely on private land and uses privately owned and maintained roads. A landowner organization called North Maine Woods manages campsites, water access points, and roads on a total of 3.5 million acres in the most remote areas of this region. Its activities are funded in part by fees paid by public users. In 2010, the year-round population of this region was 12,000, up from 8,000 in 1970, but barely changed from 2000. The 2010 Census counted 10,300 seasonal housing units in the jurisdiction, up from about 8,000 in 1990. In the past, the UT were often referred to as “the Wildlands.”
- **Wildlife Management Areas (WMA)**—WMA are managed by the Maine Department of Inland Fisheries and Wildlife to enhance habitat and to keep the lands open to outdoor sports.

APPENDIX TABLE 1: Conservation Lands Schematic, 1935–2016

Year	Federal and state fee acres	Federal and state easement acres	NGO fee acres	NGO easement acres	Total conservation acres
1935	52,000	0	0	0	52,000
1965	270,000	0	5,000	0	275,000
1988	937,000	20,000	10,000	20,000	987,000
1999	937,000	20,000	205,000	750,000	1,912,000
2016	1,342,000	442,000	388,000	1,857,000	4,029,000
Change 1965 to 2016	1,072,000	442,000	383,000	1,857,000	3,754,000
Increase (%)	29	12	10	49	100
Distribution 1935 (%)	100	0	0	0	
Distribution 1988 (%)	95	2	1	2	100
Distribution 2016 (%)	33	11	10	46	100

Note: 400,000 acres of public lots not picked up in these data until 1988.

APPENDIX TABLE 2: Land for Maine's Future Board Projects, Entire State, 1987–2016

Maine counties	No. of projects	Total acres	Fee acres	Easement acres	County total as percentage of state total
Androscoggin	7	2,927	2,843	84	0.5
Aroostook	8	6,669	3,642	3,026	1.1
Cumberland	32	7,886	4,247	3,640	1.3
Franklin	11	40,323	34,576	5,747	6.8
Hancock	14	47,175	23,320	23,855	8.0
Kennebec	5	7,250	7,250	0	1.2
Knox	9	669	669	0	0.1
Lincoln	11	1,304	1,299	5	0.2
Oxford	15	11,260	7,454	3,806	1.9
Penobscot	12	17,072	14,223	2,849	2.9
Piscataquis	8	271,290	39,538	231,752	45.9
Sagadahoc	8	2,728	2,382	346	0.5
Somerset	7	73,744	72,101	1,643	12.5
Waldo	8	2,368	2,368	0	0.4
Washington	32	84,142	53,059	31,083	14.2
York	24	14,318	5,668	8,650	2.4
Total	211	591,125	274,639	316,486	100.0

Source: LMF (2017).

Note: Total acres are rounded. The totals do not add to sums shown because some projects appear in more than one county. See Appendix 6 of the LMF *Biennial Report* (LMF 2017) for full list that includes water access, working waterfront, and farmland projects.

APPENDIX TABLE 3: Land for Maine's Future Projects in Southern Maine, to Year End 2016

Southern Maine counties	No. of projects	Total acres	Fee acres	Easement acres
York	24	14,318	5,668	8,650
Cumberland	32	7,886	4,247	3,640
Androscoggin	7	2,927	2,843	84
Kennebec	5	7,250	7,250	0
Knox	9	669	669	0
Lincoln	11	1,304	1,299	5
Sagadahoc	8	2,728	2,382	346
Waldo	8	2,368	2,368	0
Southern Maine total	104	39,450	26,726	12,725
Percentage of state	49	7	10	4
Average size in acres		383	259	124

Source: LMF (2017).

APPENDIX TABLE 4. **Data for the Cross-State Comparisons in Figure 4—Federal and State Fee and Easement Ownership, 2016**

States	Fee acres	Easement acres	Federal & State		Federal and state fee (%)
			Total acres	All land area acres	
AL	1,093,382	42,390	1,135,772	32,413,000	3.4
CT	223,400	38,083	261,483	3,099,000	7.2
DE	117,224	119,432	236,656	1,247,000	9.4
FL	5,930,106	774,678	6,704,784	34,447,000	17.2
GA	1,950,142	89,023	2,039,165	36,809,000	5.3
KY	1,134,169	73,230	1,207,399	25,271,000	4.5
MA	587,110	162,080	749,190	4,992,000	11.8
MD	527,717	287,294	815,011	6,252,000	8.4
ME	1,115,753	414,741	1,530,494	19,739,000	5.7
MS	1,531,147	191,206	1,722,353	30,031,000	5.1
NC	2,563,226	64,875	2,628,101	31,115,000	8.2
NH	928,636	394,263	1,322,899	5,730,000	16.2
NJ	786,144	114,274	900,418	4,707,000	16.7
NY	1,428,526	887,753	2,316,279	30,161,000	4.7
OH	781,803	29,466	811,269	26,151,000	3.0
PA	4,397,304	39,719	4,437,023	28,635,000	15.4
RI	3,350	65,874	69,224	662,000	0.5
SC	1,308,953	94,117	1,403,070	19,239,000	6.8
TN	1,328,463	101,072	1,429,535	26,390,000	5.0
VA	2,447,069	850,058	3,297,127	25,274,000	9.7
VT	726,417	96,751	823,168	5,899,000	12.3
WV	1,568,821	7,438	1,576,259	15,384,000	10.2

Source: US Geological Survey PAD database as visited June 2017 by David Publicover, Appalachian Mountain Club.

APPENDIX TABLE 5. Data for Figure 5—Maine Total Conservation Acres by County

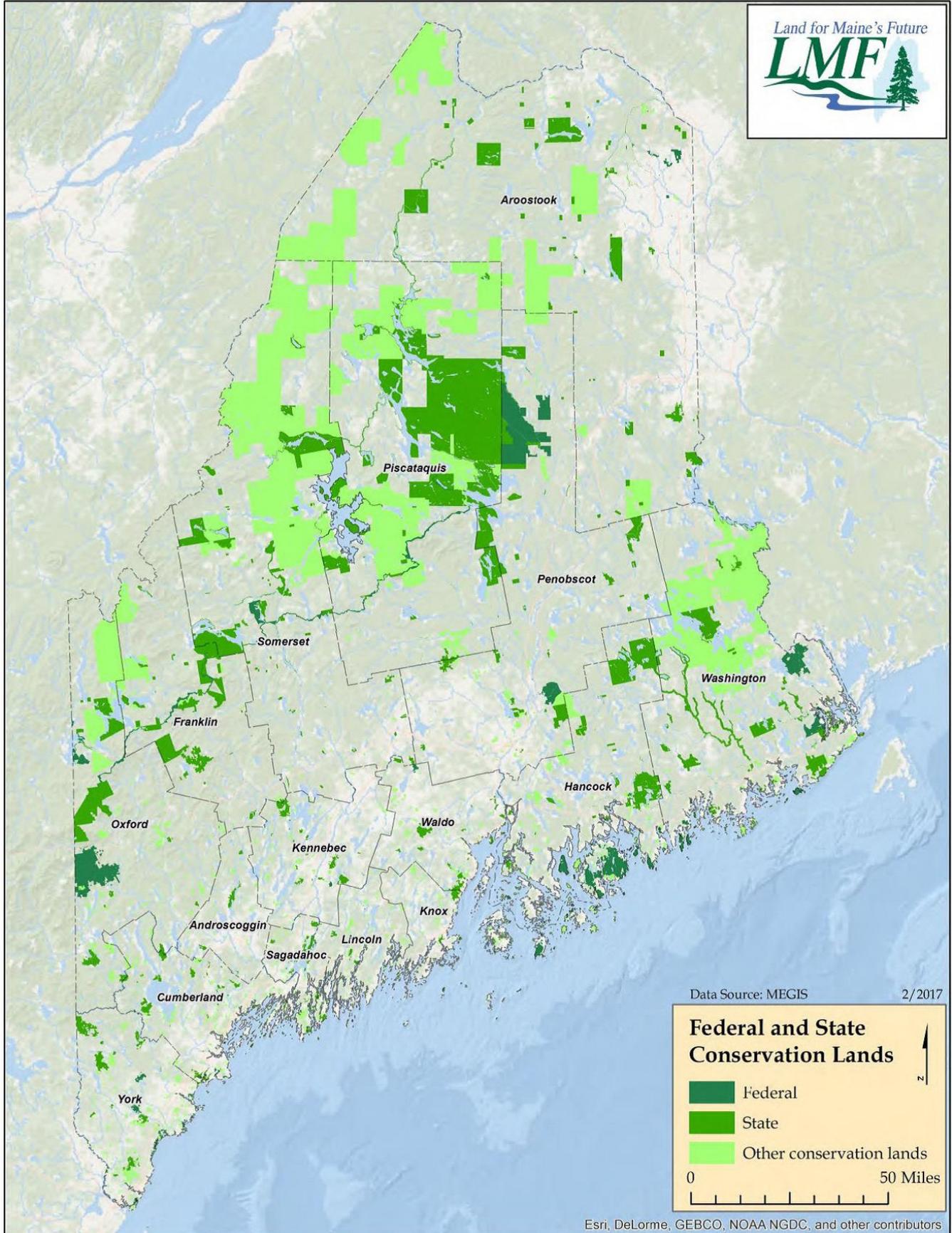
Counties	Conservation acres	County acres	Pct county acres conserved	Acres in class	Percentage conserved acres
Piscataquis	1,076,557	2,795,178	38.5		
Somerset	818,325	2,613,713	31.3		
Washington	506,953	1,759,877	28.8		
Oxford	263,786	1,389,533	19.0	2,665,620	66
Hancock	178,759	1,080,477	16.5		
Aroostook	581,132	4,358,238	13.3		
Franklin	142,649	1,113,551	12.8		
Sagadahoc	18,502	163,855	11.3		
Penobscot	241,309	2,271,263	10.6	486,559	12
York	65,559	646,670	10.1		
Knox	18,540	240,535	7.7		
Cumberland	38,163	587,558	6.5	56,704	1
Lincoln	12,895	304,792	4.2		
Waldo	22,831	544,619	4.2		
Kennebec	22,363	607,422	3.7		
Androscoggin	9,189	317,531	2.9	67,279	2
Total	4,017,511	19,739,000	20.4		

Source: Maine Bureau of Parks and Lands (pers. comm.)

Note: The bureau's numbers show a total state land area that seems high. In this table, the US Forest Service estimate is used.

APPENDIX TABLE 6: Major Conservation Easements in Maine

Easement	Year	Acres
Penobscot River (GNP)	1981	6,500
Attean Pond	1984	20,000
Pierce Pond	1996	6,400
Nicatous Lake	2000	21,700
Pingree heirs	2001	766,500
Tumbledown/Mt. Blue	2002	6,000
Katahdin Timberlands	2002	189,600
Debsconeag Lakes	2002	36,200
Farm Cove/McLellan Cove	2003	21,000
Leavitt Plantation	2003	8,900
West Branch of Penobscot River	2003	281,500
Machias River—phase I	2003	5,700
Machias River—phase II	2004	17,900
West Grand Lake	2004	21,900
Tumbledown/Mt. Blue	2004	7,600
Sunrise	2005	307,400
Lower West Branch of Penobscot	2007	12,800
Katahdin Iron Works	2007	19,200
Robinson Peak Forest	2008	6,800
Roach Ponds	2009	28,300
Moosehead Lake	2009	359,000
Boundary Headwaters	2012	21,800
Orbeton Stream	2014	5,800
Corner Pond	2014	6,400
Reed Forest	2016	32,500
Gulf Hags-Whitecap	2016	7,100
Total		2,224,500



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